Oracle® Fusion Applications

Upgrade Guide

11*g* Release 8 (11.1.8)

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Documentation for installers and system administrators that describes how to use Upgrade Orchestrator to upgrade Oracle Fusion Applications software between major releases.

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Oracle Fusion Applications Upgrade Guide, 11*g* Release 8 (11.1.8)

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Contents

5 Upgrading to Oracle Fusion Applications Release 8

6 Running Post-Upgrade Tasks for Oracle Fusion Applications

7 Monitoring and Troubleshooting the Upgrade

A Additional Information About Upgrade Orchestrator

B Upgrade Orchestrator Properties Files

C Stopping and Starting Identity Management Related Servers

Preface

This guide provides information about to use Upgrade Orchestrator to upgrade your Oracle Fusion Applications software.

Audience

This guide is intended for system administrators who are responsible for performing Oracle Fusion Applications upgrade tasks.

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Related Documents

For more information, see the following documents:

- *Oracle Fusion Applications Administrator's Guide*
- *Oracle Fusion Applications Installation Guide*
- *Oracle Fusion Applications Patching Guide*
- *Oracle Fusion Applications Installing and Managing in an Oracle VM Environment*
- *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*

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 This Guide

The following topics introduce the new and changed features of the Oracle Fusion Applications upgrade process and other significant changes that are described in this guide, and provide pointers to additional information.

New and Changed Features for 11*g* Release 8 (11.1.8)

Oracle Fusion Applications 11*g* Release 8 (11.1.8) includes the following new and changed upgrade features for this document:

- You run pre-downtime checks as a separate step, before you start the upgrade. See Chapter 4, "Running Pre-Downtime Checks."
- Upgrade Orchestrator provides support for the Oracle Identity Management upgrade when you are running Oracle Fusion Applications on an environment that meets the following requirements:
  - Is a Linux environment
  - Uses a SINGLE, 3-NODE, or 4-NODE Oracle Identity Management configuration
  - Is a Release 7 IDM provisioned environment

  See Section 5.1.11.1, "Release 7 IDM Provisioned, SINGLE, 3-NODE, or 4-NODE, Linux Platform."
- You perform the Oracle Identity Management upgrade on AIX and Solaris platforms that use a SINGLE, 3-NODE, or 4-NODE Oracle Identity Management configuration, by running a script. See Section 5.2.4, "Run `idmUpgrade.pl` to Upgrade Oracle Identity Management."

Other Significant Changes in this Document for 11*g* Release 8 (11.1.8)

For 11*g* Release 8 (11.1.8), no other significant changes have been made to this guide.

1

Introduction to the Oracle Fusion Applications Upgrade

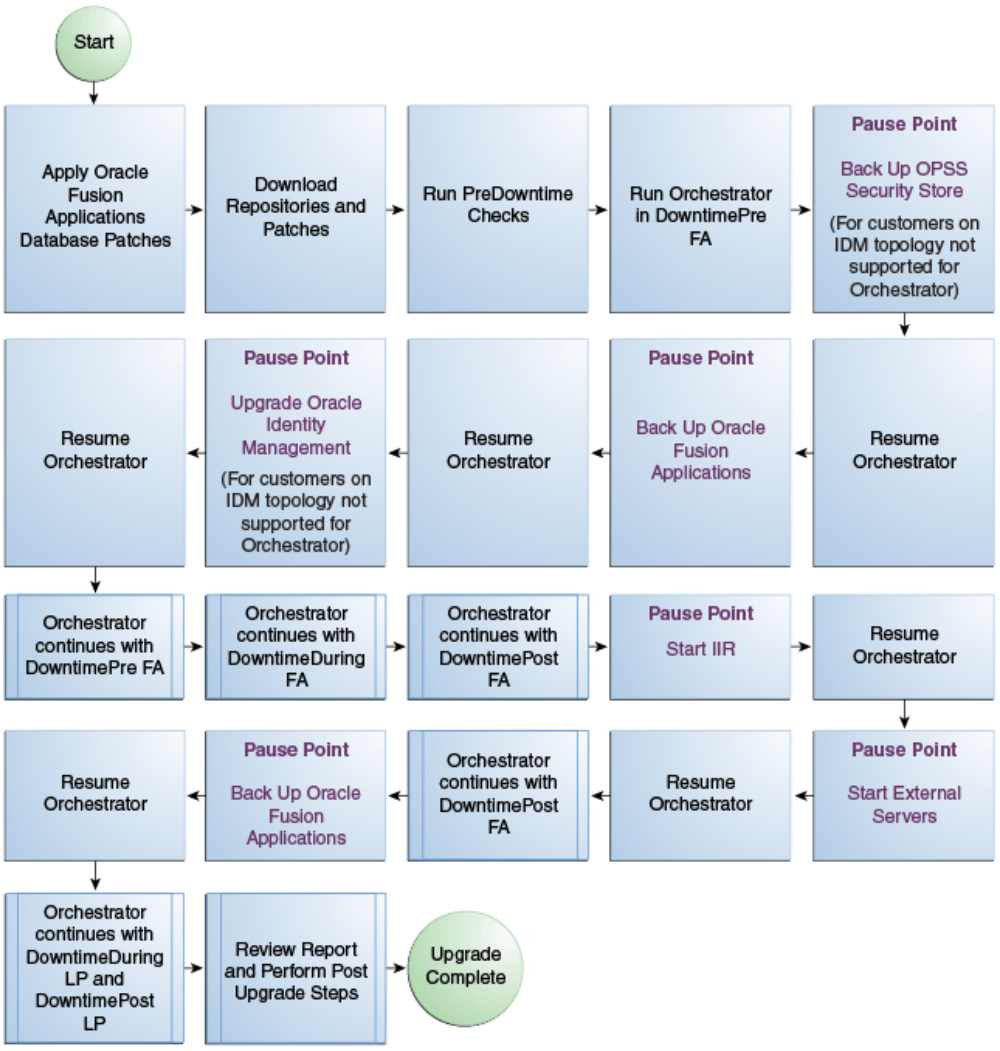
This chapter provides an introduction to the process of upgrading Oracle Fusion Applications to 11*g* Release 8 (11.1.8).

This chapter contains the following topics:

1.1 Upgrade Process Overview

Upgrading to Oracle Fusion Applications 11*g* Release 8 (11.1.8) requires that you run Oracle Fusion Applications Upgrade Orchestrator (Upgrade Orchestrator) on an Oracle Fusion Applications 11*g* Release 7 (11.1.7) environment. The following figure depicts the upgrade process flow.

Figure 1–1 Upgrade Process Flow



For more information about the tools and utilities called by Upgrade Orchestrator, see Appendix A, "Additional Information About Upgrade Orchestrator".

1.2 Hosts, Directories, and Files Required by Upgrade Orchestrator

Familiarize yourself with the following information before proceeding with the upgrade:

- Host Types
- Directories and Files Required by Upgrade Orchestrator

1.2.1 Host Types

The Release 8 upgrade must be performed on the following host types:

- **Primordial host**: The location of the Common domain, specifically the Administration Server of the Common domain. Only one primordial host exists in each environment.

- **IDM host:** A combination of hosts which hosts OID, OIM, OAM, IDM OHS, and IDM Database services.
- **OHS host:** The host where the Oracle HTTP Server (OHS) software is installed and configured.
- **DB host:** The host where the Oracle Fusion Applications database is installed and configured.
- **Mid tier hosts**:
  - **Primary host**: The host on which the Administration Server of a domain runs. Only one primary host exists in a domain.
  - **Secondary host:** The location of the managed servers for any application when they are not on the same host as the administration server of the same domain. Typically used when a domain spans two physical servers.
  - **BI host:** The host where the Oracle Business Intelligence (Oracle BI) software is installed and configured.

Note that all of these host types can be scaled out to multiple hosts, and Upgrade Orchestrator must be run on each scaled out host for all host types, with the exception of DB hosts. For more information, see "Scaling Out Oracle Fusion Applications" in the *Oracle Fusion Applications Administrator's Guide*.

1.2.2 Directories and Files Required by Upgrade Orchestrator

The following directories and files are referenced in this guide and are required by Upgrade Orchestrator:

- SHARED_LOCATION: You create this directory in a shared location, which is accessible to all hosts in the environment, including scaled out hosts. For more information, see Section 2.3.2, "Create Directories in a Shared Location."
- REPOSITORY_LOCATION: You create this directory in a shared location. For more information, see Section 2.3.5.1, "Download and Unzip the Release 8 Repository."
- ORCHESTRATION_CHECKPOINT_LOCATION and ORCHESTRATION_CHECKPOINT_ARCHIVE_LOCATION: You create these directories under SHARED_LOCATION, where orchestration checkpoint related files are saved. For more information, see Section 2.3.3.1, "Create Orchestration Checkpoint Locations." These directory locations are stored as properties in the `pod.properties` file. For more information, see Table B–1, " pod.properties".
- SHARED_UPGRADE_LOCATION: You create this temporary directory to copy files and perform write operations. For more information, see Section 2.3.3.2, "Create the Shared Upgrade Location."
- ORCH_LOCATION: This directory is created when you unzip `orchestration.zip` and is referred to as the orchestration directory. For more information, see Section 2.3.7, "Unzip Orchestration.zip."
- POD_NAME: You can create this directory under ORCH_LOCATION. The name of the directory created is referred to as *`POD_NAME`* throughout this guide.
- Manifest files: Manifest files are .xml type distribution files that are required by both Health Checker and Upgrade Orchestrator. They are used throughout this guide to define specific tasks performed during the upgrade process.

1.3 Back Up Strategy

Before you start the upgrade process, you should have a clear understanding of the backup requirements, as there are multiple components involved in an Oracle Fusion Applications environment. An effective and accurate backup strategy helps to restore from the point of failure without having to restart from the beginning.

Note that backups are manual steps and can be automated outside of Upgrade Orchestrator based on your IT requirements and processes. For detailed information about required backups, see Section 5.2.1, "Back Up the OPSS Security Store" and Section 5.2.2, "Back Up Oracle Fusion Applications".

The following components must be backed up:

- Oracle Fusion Applications, including:
  - Oracle Fusion Applications database
  - *APPLICATIONS_BASE*
  - *APPLICATIONS_CONFIG*
  - Oracle Identity Management database
  - Upgrade Orchestration directories
  - OHS and /etc/hosts files
  - Central Inventory
- OPSS Security Store

You must back up your Oracle Fusion Applications upgrade at multiple stages during the upgrade process. It is recommended to back up your entire Fusion Applications environment, including your databases, at the following points:

- Before the upgrade
- After the upgrade
- Before the language pack upgrade starts, if you have additional languages installed

For additional back up steps that are specific to Windows, refer to Section 5.2.3, "Back Up Oracle Fusion Applications on Windows".

Upgrade Orchestrator provides default pause points to perform these back up steps, depending on your upgrade path. For more information, see Section 5.1.8, "Pause Point 3 - Back Up Oracle Fusion Applications".

1.4 Planning Your Downtime

Consider the following suggestions when planning your downtime for the upgrade:

- Perform pre-downtime steps ahead of time. For more information, see Chapter 2, "Preparing to Perform the Release 8 Upgrade".
- Perform your database patching in a separate maintenance window. For more information, see Chapter 3, "Updating the Oracle Fusion Applications and Oracle Identity Management Databases".
- Perform steps to check system reliability in pre-downtime mode after all prerequisites are met. For more information, see Chapter 4, "Running Pre-Downtime Checks".

1.5 Directories Structure Overview

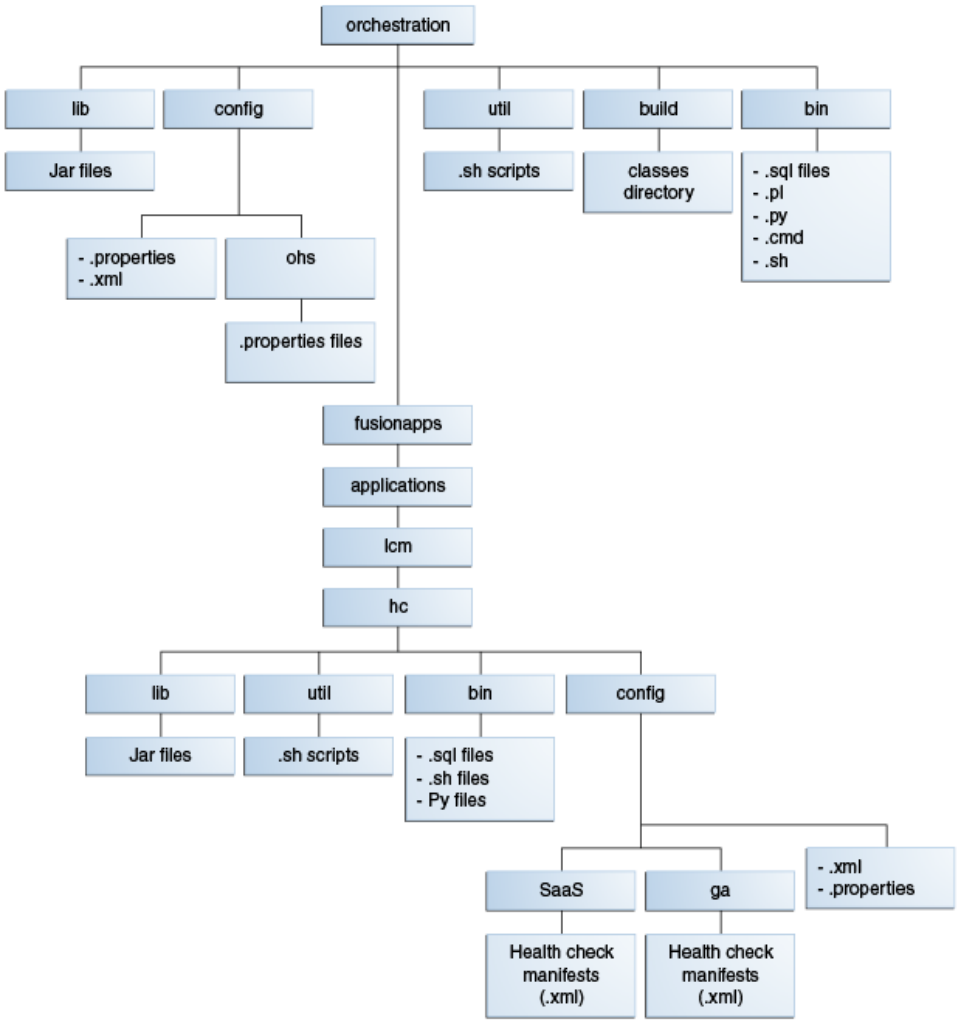
Upgrade Orchestrator references and uses the following directories:

- Directories Used by Upgrade Orchestrator
- Download Directories
- Relationship of Home Directories

1.5.1 Directories Used by Upgrade Orchestrator

The following figure shows the directory structure that is created when the `Orchestration.zip` file is unzipped, and is referred to as *ORCH_LOCATION*. For more information, see Section 2.3.7, "Unzip Orchestration.zip".

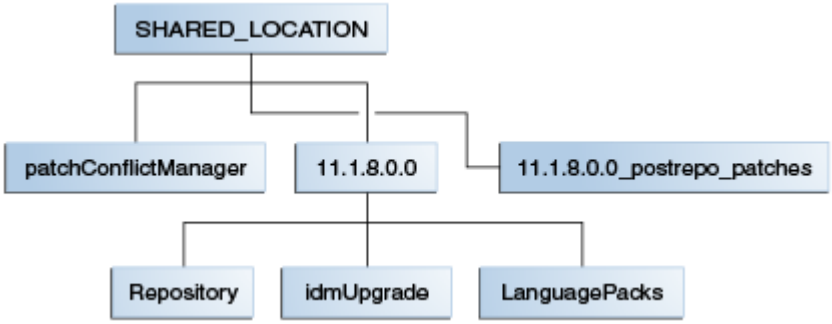
Figure 1–2 Directory Structure of Upgrade Orchestrator



1.5.2 Download Directories

The following figure shows the directory structure that you create during the preparation of your environment for the upgrade. There are specific files that must be downloaded into each of these directories. For more information, see Section 2.3.2, "Create Directories in a Shared Location".

Figure 1–3 Directory Structure of Downloaded Patches and Repositories



1.5.3 Relationship of Home Directories

The following home directories are referenced during the upgrade steps:

- ***APPLICATIONS_CONFIG***: The root directory for the Oracle Fusion Applications configuration and instance files.
- ***APPLICATIONS_BASE***: The root directory for the Oracle Fusion Applications product binary files.
- ***FA_ORACLE_HOME***: The Oracle Fusion Applications Oracle home directory. This directory is located under the *APPLICATIONS_BASE*`/fusionapps` directory (`net/mount1/appbase`). The `/fusionapps` directory is an Oracle Fusion Applications Middleware home (*APPLICATIONS_BASE*`/fusionapps`).

For more information, see "Oracle Fusion Applications Shared Directory Structure" in the *Oracle Fusion Applications Installation Guide*.

1.6 Checklist for Performing the Upgrade

The following checklist provides the list of tasks to perform the upgrade to Release 8.

Table 1–1 Checklist of Upgrade Tasks

Task Name	Task Description	Reference Link
Before You Begin the Upgrade	Information about the resources you must have access to before you start the upgrade.	Section 2.1, "Before You Begin"
System Requirements	System requirements that must be met for the system to be upgraded.	Section 2.2, "System Requirements"
Create Directories and Stage the Software	Details about the directories you must create and the software and patches you must download and stage before you start the upgrade.	Section 2.3, "Create Upgrade Directories and Obtain Software"
Set Up Upgrade Orchestrator	Steps to set up the orchestrator software, to prepare the system for RUP Lite for OVM and to prepare the properties files.	Section 2.4, "Set Up Upgrade Orchestrator"
Update the properties file for automated IDM upgrade	Steps to update the patchAutomation.properties file if your IDM upgrade is automated.	Section 2.5, "Update the `patchAutomation.properties` File for the IDM Upgrade"
Verify Environment before proceeding with downtime	Steps to verify your environment before you start the upgrade.	Section 2.6, "Verify Your Environment Before Proceeding to Downtime"

Table 1–1 (Cont.) Checklist of Upgrade Tasks

Task Name	Task Description	Reference Link
Update Oracle Fusion Applications and Oracle Identity Management Databases	Steps to update your databases.	Chapter 3, "Updating the Oracle Fusion Applications and Oracle Identity Management Databases"
Run steps to ensure system reliability	Steps to run checks to ensure system reliability.	Chapter 4, "Running Pre-Downtime Checks"
Run Upgrade Orchestrator during Downtime	Steps to run Upgrade Orchestrator during downtime.	Section 5.1.1, "Run Upgrade Orchestrator During Downtime"
Pause Point 1 - Back up OPSS Security Store	Steps to back up the OPSS Security Store, followed by steps to update the status of the pause point task to proceed with the upgrade. This pause point is conditionally supported by orchestration.	Section 5.1.2, "Pause Point 1 - Back Up the OPSS Security Store"
Pause Point 2 - Stop Informatica IR Servers	Steps to stop Informatica IR servers, followed by steps to update the status of the pause point task to proceed with the upgrade.	Section 5.1.5, "Pause Point 2 - Stop Informatica IR (IIR) Servers"
Pause Point 3 - Back Up Oracle Fusion Applications	Steps to back up Oracle Fusion Applications, followed by steps to update the status of the pause point task to proceed with the upgrade.	Section 5.1.8, "Pause Point 3 - Back Up Oracle Fusion Applications"
Pause Point 4 - Upgrade Oracle Identity Management	Steps to upgrade Oracle Identity Management, followed by steps to update the status of the pause point task to proceed with the upgrade. This pause point is conditionally supported by orchestration.	Section 5.1.11, "Pause Point 4 - Upgrade Oracle Identity Management to Release 8"
Pause point 5 - Start External Servers	Steps to start external servers, followed by steps to update the status of the pause point task to proceed with the upgrade. This pause point is conditionally supported by orchestration.	Section 5.1.14, "Pause Point 5 - Start External Servers"
Pause Point 7 - Back Up Oracle Fusion Applications (Language Pack Only)	Steps to back up Oracle Fusion Applications before proceeding with the language pack upgrade, followed by steps to update the status of the pause point task to proceed with the upgrade.	Section 5.1.17, "Pause Point 6 - Back Up Oracle Fusion Applications Before Language Pack Upgrade (Language Pack Only)"
Run Upgrade Orchestrator in the DowntimeDuringLP phase	Steps to run orchestration to perform language pack upgrade tasks.	Section 5.1.19, "Resume Upgrade Orchestrator (Language Pack Only)"
Run Post Upgrade Tasks	Required post upgrade tasks that you must perform after Upgrade Orchestrator runs to successful completion.	Chapter 6, "Running Post-Upgrade Tasks for Oracle Fusion Applications"
Troubleshoot the Upgrade	Possible failure and error scenarios that may occur during the upgrade, including possible solutions or workarounds.	Chapter 7, "Monitoring and Troubleshooting the Upgrade"

2

Preparing to Perform the Release 8 Upgrade

This chapter describes the preparation steps for upgrading to Release 8, all of which can be performed before your scheduled downtime.

This chapter contains the following topics:

2.1 Before You Begin

Follow the steps in this section before you begin the upgrade.

1. Ensure you perform all Release 8 Pre-upgrade steps from Oracle Fusion Applications release notes.
2. If you have installed any languages in addition to US English, ensure you perform all Release 8 Pre-upgrade steps from the Oracle Fusion Applications NLS Release Notes.
3. Ensure `sendmail` is configured and working on all hosts where Upgrade Orchestrator will run by sending a test mail from the hosts. `Sendmail` must be working properly before running the upgrade so you can effectively monitor the upgrade status.

2.2 System Requirements

Ensure that your environment meets the following system requirements:

2.2.1 Memory Requirements

During the pre-downtime phase, Upgrade Orchestrator reports if your environment does not meet the following memory requirements. For Oracle VM memory requirements, see "Suggested Memory (in GB) and Number of vCPUs" in *Oracle Fusion Applications Installing and Managing in an Oracle VM Environment*.

Table 2–1 Memory Requirements for Non-Oracle VM Environments

Memory Specifics	Upgrade From Release 7 to Release 8
Memory per Managed Servers	2GB multiplied by the number of managed servers in your environment, plus 4GB
Memory Per Administration Servers	1GB multiplied by the number of administration servers in your environment

Table 2–2 Memory Requirements for Oracle VM Environments in OVM Memory (MB)

Topology	FA	Primary	Secondary	BI	AppOHS	IDM3OID	IDM3MW	IDM3OHS
HCM	14336	32768	62464	13312	2048 Free, 3072 Total	2048 Free, 4096 Total	3072 Free, 11264 Total	256 Free, 1536 Total
CRM	19456	29696	60416	13312	2048 Free, 3072 Total	2048 Free, 4096 Total	3072 Free, 11264 Total	256 Free, 1536 Total
FSCM-H	17920	31744	65536	13312	2048 Free, 3072 Total	2048 Free, 4096 Total	3072 Free, 12288 Total	256 Free, 1536 Total

Table 2–3 Memory Requirements for Oracle VM Global Single Instance (GSI) Environments (MB)

Topology	FA	Primary	Secondary	BI	AppOHS	IDM3OID	IDM3MW	IDM3OHS
GSI	27593	61440	87040	13312	3072	4096	12288	1536

All free memory for IDM nodes is the recommended memory requirement when no IDM processes are running. To check for free memory availability, first shut down the servers and then measure the free memory.

In addition to memory requirements, ensure you meet the swap requirements on all topologies, as depicted in the following table.

Table 2–4 Memory Swap Requirements for All Oracle VM Topologies (MB)

IDM3OID	IDM3MW	IDM3OHS	FA	Primary	Secondary	BI	AppOHS
4000	4000	4000	4000	4000	4000	4000	4000

2.2.2 Free Disk Space Requirements

The disk space requirements in the following table are recommendations for how much disk space should be added on each host type. During the pre-downtime phase, Upgrade Orchestrator reports if your environment does not meet these requirements. The disk space check is not checking for total space. It is checking only for usable disk space, which is defined as free space, with respect to quotas and permissions. All recommendations and requirements assume non-shared access to the disk space. Therefore, if you have multiple hosts or processes running against the same physical

disk, the size of this disk needs to be determined with respect to all sharing tenants. The requirements in the following table do not consider disk sharing scenarios.

Table 2–5 Free Disk Space Requirements

Host Name	Upgrade From Release 7 to Release 8
Primordial	100GB + 4GB for /tmp
DB	36GB + 4GB for /tmp + 4GB for flash recovery area (if configured)
OHS	8GB + 4GB for /tmp
Mid tier	5GB + 4GB for /tmp

2.2.3 Set LBR_PRESENT to True on the Primordial Host

If you have LBR configured, ensure that the following `LBR_PRESENT` properties are set to true on all Administration Servers on the primordial host:

```
APPLICATIONS_BASE/instance/fapatch/ATGPF_env.properties:LBR_PRESENT=true
APPLICATIONS_BASE/instance/fapatch/FUSION_env.properties:LBR_PRESENT=true
APPLICATIONS_BASE/instance/fapatch/FUSION_prov.properties:LBR_PRESENT=true
```

2.3 Create Upgrade Directories and Obtain Software

Perform the following steps to set up upgrade directories and obtain software required for the upgrade:

- Create a Common User Group and Permissions for Shared Directories
- Create Directories in a Shared Location
- Create Directories Common to One Environment
- Download and Unzip the Patch Conflict Manager Utility
- Download and Unzip the Repository and Patches
- Unzip Orchestration.zip
- Copy and Unzip idmUpgrade.zip

2.3.1 Create a Common User Group and Permissions for Shared Directories

The following steps outline the process for setting up permissions on directories that are shared across multiple hosts and are used by Oracle Fusion Applications Upgrade Orchestrator. These steps are required if you use different operating system (OS) users and groups to own Oracle Fusion Applications components (such as FA, FMW, and IDM) on the hosts in the Oracle Fusion Applications environment (such as, Primordial, OHS, and IDM). An OS user and group is considered to be the same across all hosts only if the corresponding IDs (User ID and Group ID) are also the same across the hosts. The minimum requirement for Upgrade Orchestrator is that the files in the *SHARED_LOCATION* must be owned by the same group. All OS users that own Oracle Fusion Applications components on various hosts must belong to the common group, in addition to other groups to which they already belong. Note that the *SHARED_LOCATION* must be exported with the `no_root_squash` option, or its equivalent, to allow root user access to files in the *SHARED_LOCATION* that are owned by the applications user. For more information about the *SHARED_LOCATION*, see Section 2.3.2, "Create Directories in a Shared Location".

1. Determine the OS group and Group ID that you want to use for owning the shared directories. As an example, you can use `orch` as the common group to be used across the hosts.
2. The following steps must be executed as a privileged OS user, such as `root`, on all hosts that participate in orchestration.
   a. Create the common group, if needed.

   ```
   (Linux) /usr/sbin/groupadd -g group_ID -f group_name

   (Solaris) /usr/sbin/groupadd -g group_ID group_name

   (AIX) /usr/bin/mkgroup id=group_ID group_name
   ```

   b. Add each distinct Oracle Fusion Applications component (FA, FMW, DB, IDM) OS owner on each host to the common group.

   ```
   (Linux) /usr/sbin/usermod -a -G group_name component_OS_owner

   (Solaris)  EXISTING_GROUPS=$(grep -w component_OS_owner /etc/group |awk -F:
   '{print $1}' |xargs echo | sed 's/ /,/g')
   /usr/sbin/usermod -G ${EXISTING_GROUPS},group_name component_OS_owner

   (AIX) lsgroup -a users group_name
   /usr/bin/chgroup users=list_of_existing_users,component_OS_owner group_name
   ```

   You must log out of any sessions that were open prior to this change for OS users being modified, and then log in again so the changes take effect.

   c. Mount the file system to be used for the shared directories on all hosts.

   d. Perform the following steps on one of the hosts, such as the primordial host.

   - Create a top-level directory that is passed to orchestration under which additional directories and files are created during orchestration. This directory is referred to as *SHARED_LOCATION* and is further described in Section 2.3.2, "Create Directories in a Shared Location".
   - Perform the following steps before any additional content is created in the shared directories. These steps are applicable to Linux and UNIX platforms, such as AIX, Solaris Sparc and Solaris X64.
     – Change the group ownership of the top-level directory to the common group, such as `orch`.

     ```
     (Linux and UNIX) chgrp common_group SHARED_LOCATION
     ```

     – Set permissions on the directory so that the group has read, write, and access privileges.

     ```
     (Linux and UNIX) chmod g+r,g+w,g+x SHARED_LOCATION
     ```

     – Set the Directory group ID bit for the top-level shared directory. This allows for any subdirectories and files created under this shared directory to be owned by the same group, regardless of the host from where they are created.

     ```
     (Linux and UNIX) chmod g+s SHARED_LOCATION
     ```

3. Perform the following steps on all hosts that participate in orchestration. You must be logged in as the OS user that owns the Oracle Fusion Applications content on the host when you run these steps.

a. Set the default mask for files so that the group has sufficient privileges on the files.

```
umask 0007
```

b. Confirm that the group changes are effective. The `groups` command displays all groups that the current OS user belongs to. You must confirm that the common group, `orch`, is one of them.

```
(Linux and UNIX) groups
```

c. Confirm that the permissions are set up correctly on each host. To do this, you can create a temporary file in the shared directory and confirm that the file is owned by the common group and that its permissions are correct. For directories, the group should have read, write, and execute privileges. For files, the group should have at least read and write privileges. Run the following commands after you create the temporary file.

The following command should show that the file is owned by the common group:

```
(Linux and Unix)) ls -ls file_name
```

The following command prints the group and group ID ownership for the file.

```
(Linux) stat --printf="%G %g\n" file_name

(Solaris) echo "group: `ls -ld file_name|awk '{print $4}'" "`"; echo
"groupid:`ls -dn file_name | awk '{print $4}'" "`"

(AIX) istat file_name | grep Group
```

Then remove the temporary file.

Note: When you unzip the contents of a ZIP archive into the shared folder, the group ownership can be lost on some folders and files. This issue is specific to the unzip utility. To work around the issue, run the following commands when you extract contents to the shared folder:

```
jar -xvf ZIP_archive
unzip -q -o ZIP_archive
```

---

4. Ensure file permissions are correct by performing the following steps, as a prerequisite to starting orchestration.

a. Change directory to *FA_ORACLE_HOME*/hcm/hrc/bin.

b. Run `chmod -R 755 *`.

c. During the running of RUP Installer, `patch_stage` directories are created in a location which is parallel to the *APPLICATIONS_BASE* directory. If the user ID who is running the upgrade does not have write permissions, the **Consolidating Repository and Downloaded Patches** configuration assistant will report a failure. To avoid this failure during the upgrade, ensure that the user who runs Upgrade Orchestrator has write permissions on the top level directory parallel to the *APPLICATIONS_BASE* directory, which is typically `/net/mount1`.

2.3.1.1 Create Shared Folders and Permissions on Windows

Perform the following steps for Windows on one of the hosts, for example, Host1.

1. Create a top-level folder, such as C:\Shared on Host1, that will be passed to orchestration, and under which additional folders and files are created during orchestration.
2. Perform the following steps before any additional content is created in the top-level folder. Repeat these steps to share the top-level folder to one or more Windows Domain users who will be accessing this top-level folder from the hosts in the Oracle Fusion Applications environment (Primordial, OHS, RDBMS, and IDM).
   a. In Windows Explorer, right click on the top-level folder and select Properties from the context menu.
   b. In the Properties window, click the Sharing tab, then click Share.
   c. In the File Sharing window, enter the domain user name using the format *DomainName**username*.
   d. Click **Add**. This adds the given domain user name to the list of users with whom the folder is shared.
   e. Select the domain user name that was added and change the permission level to Read/Write.
   f. Click **Share** and then click **Done** to save and close the File Sharing window.
   g. Click **Close** to close the Properties window.

   This shared folder can be accessed via the path `\\Host1\Shared`.
3. Perform the following steps on all hosts that participate in orchestration.
   a. Log in to the host using the *DomainName**username* you used in Step c.
   b. Create a symlink, such as C:\Shared, using following command:

   ```
   mklink /D C:\Shared  \\Host1\Shared
   ```

2.3.2 Create Directories in a Shared Location

Create the directories required for the upgrade in a shared location that is accessible to all host types, including scaled out hosts, in your Oracle Fusion Applications environment. This location is referred to as *SHARED_LOCATION* in this Upgrade Guide.

> **Note:** If you are upgrading more than one environment, those environments can be configured to access this *SHARED_LOCATION* to avoid duplicating the software downloads. These directories must also be available to all users and if different users create any of the directories, the users must belong to the same shared group.

The directory names in this section are suggested names and are referenced throughout the upgrade steps. You can choose to use your own naming conventions. See Figure 1–3, "Directory Structure of Downloaded Patches and Repositories" for more information.

Note: Avoid creating any repository in a deeply nested directory on Windows. The Windows PATH variable has a limited size, and long directory names may cause it to overflow. For example, `c:\work\my_repository` is a better choice than `c:\Work\WorkInProgress\FusionApps\FusionAppsv1\Nov2012\tempfiles\my_repository`.

2.3.2.1 Create Release 8 Repository Directories

Create the following directories for Release 8 repositories:

- *SHARED_LOCATION*`/11.1.8.0.0/Repository`
- *SHARED_LOCATION*`/11.1.8.0.0_post_repo_patches`
- *SHARED_LOCATION*`/11.1.8.0.0/idmUpgrade`
- *SHARED_LOCATION*`/11.1.8.0.0/LP` (required only if you have installed languages other than US English)

2.3.2.2 HCM Workforce Reputation Directory

This section is applicable only if you plan to use the Human Capital Management (HCM) Workforce Reputation Management product packaged with Workforce Development product offerings.

Confirm that the following directory exists for HCM Workforce Reputation Management. Also confirm the permissions on this directory. The directory should be accessible from the host where `HWR app` is provisioned. In an Oracle VM environment, `WorkforceReputationServer_1` is allocated to the secondary node in the OVM template for Release 8, therefore this directory needs to exist only on the secondary node. If the directory does not exist, perform the following steps:

- `(Unix) mkdir /mnt/hwrrepo`

  `(Windows) mkdir \mnt\hwrrepo`

- Use the following command to grant directory permission to the user and group who own the Oracle Fusion Applications WLS domains.

  chown *user_id*:*group_name* `/mnt/hwrrepo`

- Use the following command to set the correct read and write permission to the directory.

  `chmod 750 /mnt/hwrrepo`

2.3.3 Create Directories Common to One Environment

Create the directories described in this section in shared storage that is available to all users and all host types within the environment that is getting upgraded. Although not mandatory, these directories can also be configured to be shared across other environments.

2.3.3.1 Create Orchestration Checkpoint Locations

Create the following directories for storing checkpoint information:

- ORCHESTRATION_CHECKPOINT_LOCATION

  This is a shared location available to all hosts in the environment where orchestration checkpoint related files are saved. Ensure that you select a shared

mount point that has high disk I/O performance, especially for writing. Orchestration framework automatically creates *POD_NAME* under the directory you specify. This location is stored in the ORCHESTRATION_CHECKPOINT_LOCATION property in the pod.properties file. It is a best practice not to use *ORCH_LOCATION*/config as a value for this property.

- ORCHESTRATION_CHECKPOINT_ARCHIVE_LOCATION

  This is a shared location available to all hosts in the environment where orchestration checkpoint related files are archived. Ensure that you select a shared mount point that has high disk I/O performance, especially for writing. Orchestration framework automatically archives the checkpoint file stored under the *POD_NAME* directory in the directory specified by the ORCHESTRATION_CHECKPOINT_LOCATION property. This location is stored in the ORCHESTRATION_CHECKPOINT_ARCHIVE_LOCATION property in the pod.properties file. It is a best practice not to use *ORCH_LOCATION*/config as a value for this property.

2.3.3.2 Create the Shared Upgrade Location

Create a directory referred to as *SHARED_UPGRADE_LOCATION*. This is a temporary directory required by the upgrade to copy files and perform write operations. Ensure that you select a shared mount point that is shared across all hosts for a given environment that has high disk I/O performance, especially for writing. This area can be cleaned up after all of your environments have been successfully upgraded to Release 8.

Also create the following directory:

SHARED_UPGRADE_LOCATION/healthchecker/common

Grant write access to the group that you created in Section 2.3.1, "Create a Common User Group and Permissions for Shared Directories", as well as the checkpoint location and shared upgrade directories that you created in this section.

2.3.4 Download and Unzip the Patch Conflict Manager Utility

Download and unzip the latest version of patch 18164004 from My Oracle Support into the *SHARED_LOCATION* directory, which creates the PatchConflictManager directory. Ensure that you unzip this patch as the same user that runs the upgrade.

2.3.5 Download and Unzip the Repository and Patches

Download the following repositories and patches for upgrading to Release 8:

- Download and Unzip the Release 8 Repository
- Download and Unzip Release 8 Language Packs
- Download and Unzip Mandatory Post-Release 8 Patches

2.3.5.1 Download and Unzip the Release 8 Repository

The Release 8 repository contains all patches that are required to upgrade to Release 8 in an existing Oracle Fusion Applications environment. Perform the following steps to download the repository from the Oracle Fusion Applications Product Media Package:

1. Go to http://edelivery.oracle.com.
2. Complete the Export Validation process by entering basic identification information using the online form.

3. On the Media Pack Search page, select Oracle Fusion Applications as the product pack and then select your platform to identify the media pack you want to download.
4. Choose the appropriate media pack from the search results, such as Release 8 (11.1.8) for your platform, and download the Release repository (in zipped format) to *SHARED_LOCATION*/11.1.8.0.0/Repository.
5. Extract the contents of all zipped files to the same target directory, *SHARED_LOCATION*/11.1.8.0.0/Repository. This directory is referred to as *REPOSITORY_LOCATION* in this guide.

For more information, see "Obtain the Software" in the *Oracle Fusion Applications Installation Guide*.

2.3.5.2 Download and Unzip Release 8 Language Packs

For each language installed in your environment, download the Release 8 language pack from http://edelivery.oracle.com to the *SHARED_LOCATION*/11.1.8.0.0/LP directory. The location of where you download the language packs is recorded in the REL8_LP_REPOSITORY_LOCATION property in the Primordial host properties file, as described in Table B–2, " PRIMORDIAL.properties".

You can run the following query to find all installed languages in your environment:

```
select LANGUAGE_TAG, ISO_LANGUAGE, ISO_TERRITORY from FND_LANGUAGES where
INSTALLED_FLAG in ('I', 'B')
```

2.3.5.3 Download and Unzip Mandatory Post-Release 8 Patches

> **Note:** If there are no post-release patches in Release 8 Oracle Fusion Applications release notes when you upgrade, there is no action required for this step and you can proceed to Section 2.3.6, "Download the Invalid Objects Patch for Exclusion List."

Upgrade Orchestrator can apply mandatory post-release patches that are required by Oracle Fusion Applications if you download the patches from My Oracle Support before you start the upgrade. Note that this feature relates only to patches that are documented in Oracle Fusion Applications release notes and that are specifically required for 11*g* Release 8 (11.1.8).

Perform the following steps to download patches for Release 8:

1. Unzip *SHARED_LOCATION*/11.1.8.0.0/Repository/installers/pre_install/PostRepoPatchDirs.zip, which is part of the repository you downloaded in Section 2.3.5.1, "Download and Unzip the Release 8 Repository", in the 11.1.8.0.0_post_repo_patches directory to create the directory structure for the patches you download.
2. Review the README file that was created when you unzipped PostRepoPatchDirs.zip, to learn how the subdirectories under the 11.1.8.0.0_post_repo_patches directory map to the corresponding components, such as Oracle Fusion Middleware, database client, and database server components.
3. Refer to the section titled "Upgrade Known Issues, Pre-Upgrade Known Issues, Mandatory Patches to be Downloaded" in Oracle Fusion Applications release notes for Release 8 to find any additional patches to be downloaded from My Oracle Support. Note that if you stage a patch which contains translated content

and is translatable, you will also need to stage the corresponding translated patches for the active languages.

The following table describes the types of patches that you download and where to find the list of patches in Oracle Fusion Applications release notes.

Table 2–6 Mandatory Post-Release Patches to be Downloaded

Type of Patches	Location in Oracle Fusion Applications Release Notes, under Upgrade Known Issues, Pre-Upgrade Known Issues, Mandatory Patches to be Downloaded	Orchestrator Step or Utility That Applies the Patches
Oracle Database	Oracle Database	RUP Lite for RDBMS
Oracle Fusion Middleware	Oracle Fusion Middleware	Apply Pre-PSA Middleware Patches and Apply Post-PSA Middleware Patches
Oracle HTTP Server (OHS)	Oracle HTTP Server (OHS)	Upgrade Oracle Fusion Applications Web Tier (RUP Lite for OHS)
Oracle Fusion Applications	Oracle Fusion Applications	Apply Downloaded Patches
Oracle Fusion Applications Release 8 Installer	Installer	Oracle Fusion Applications Upgrade Installer
Oracle Fusion Applications LCM Tools	Oracle Fusion Applications Patch Manager	Update LCM Tools
Oracle Fusion Applications LCM Tools for Oracle VM	Oracle Fusion Applications Patch Manager	Install Oracle Fusion Applications LCM Tools for Oracle VM

4. Download and unzip the patches listed in theOracle Fusion Applications release notes, into the appropriate subdirectory under the `11.1.8.0.0_post_repo_patches` directory, based on the mapping information in the README file described in Step 2. Downloading a patch to the incorrect directory could result in failure.

   If your database tier runs on a different platform from Oracle Fusion Applications or Oracle Fusion Middleware, you must download RUP Lite for RDBMS specifically for the platform on which your database tier runs.

5. This step assumes that you have downloaded the patches as described in Step 4. Create a patch plan by running the Perl script, `adGenerateFAPatchPlan.pl`, for Oracle Fusion Applications patches.

   Note: This step is only applicable for Oracle Fusion Applications patches using Oracle Fusion Applications Patch Manager.

   The `adGenerateFAPatchPlan.pl` script is typically located in *`SHARED_LOCATION`*`/11.1.8.0.0/Repository/installers/farup/Disk1/upgrade/bin`. If the latest LCM patch bundle is included in the downloaded LCM Tools patches, then `adGenerateFAPatchPlan.pl` is located in `download_location_for_lcm_patches_only/`*`patch_bundle_patch_number`*`/files/lcm/ad/bin`.

To run this script, use the Perl executable from *APPLICATIONS_BASE*/dbclient/perl/bin for UNIX platforms and *APPLICATIONS_BASE*\dbclient\perl\5.8.3\bin\MSWin32-x64-multi-thread for Windows.

Use the following command syntax to create the patch plan file:

```
(UNIX)
setenv PATH /u01/APPLTOP/dbclient/perl/bin:$PATH
setenv PERL5LIB APPLICATIONS_BASE/dbclient/perl/lib/5.8.3:APPLICATIONS_
BASE/dbclient/perl/lib/site_perl/5.8.3/:
APPLICATIONS_BASE/dbclient/perl/lib/site_perl

$APPLICATIONS_BASE/dbclient/perl/bin/perl
SHARED_
LOCATION/11.1.8.0.0/Repository/installers/farup/Disk1/upgrade/bin/adGenerateFAP
atchPlan.pl SHARED_LOCATION/11.1.8.0.0_post_repo_patches

(Windows)
set PATH /u01/APPLTOP/dbclient/perl/bin;PATH
SET PERL5LIB=APPLICATIONS_BASE\dbclient\perl\5.8.3;APPLICATIONS_
BASE\dbclient\perl\site\5.8.3\;APPLICATIONS_BASE\dbclient\perl\site

%APPLICATIONS_BASE%\dbclient\perl\5.8.3\bin\MSWin32-x64-multi-thread\perl
%SHARED_
LOCATION%/11.1.8.0.0/Repository\installers\farup\Disk1\upgrade\bin\adGenerateFA
PatchPlan.pl SHARED_LOCATION/11.1.8.0.0_post_repo_patches
```

An excerpt from a sample patch plan follows:

```
- <fapatchexecplan>
  <generated_date>20130531</generated_date>
  <fapatchutilversion>1.1</fapatchutilversion>
- <group_list>
- <group>
- <patch>
  <id>33001</id>
  <description />
  <artifact_type>BIP</artifact_type>
  <language>US</language>
  </patch>
  </group>
- <group>
- <patch>
  <id>9912345</id>
  <description />
  <artifact_type>SOA</artifact_type>
  <language>US</language>
  </patch>
  </group>
  </group_list>
  </fapatchexecplan>
```

2.3.6 Download the Invalid Objects Patch for Exclusion List

Sets of validations are performed at various stages of the upgrade. One such validation is the check for database objects in an invalid state. In certain scenarios, a set of objects gets into an invalid state during intermediate stages of an upgrade and can be safely ignored. The list of objects to be ignored is delivered as a file through a downloadable patch.

Download patch 17051994 for Release 11.1.8.0.0 from My Oracle Support and copy all files named as `FA*overrides.xml`, from the patch to the *`SHARED_UPGRADE_LOCATION`*`/healthchecker/common` directory. You may need to create this directory if it does not already exist.

2.3.7 Unzip Orchestration.zip

Perform the following steps to download and unzip the latest versions of `Orchestration.zip` and the Health Checker framework.

1. The latest version of the `Orchestration.zip` file is uploaded to patch 17375678 on My Oracle Support after Release 8 is released. To ensure you have the latest version of `Orchestration.zip`, download patch 17375678 from My Oracle Support. The patch contains `Orchestration.zip`, `readme.txt`, and `validateOrchVersion.py` scripts. Extract the patch contents to a temporary location.

   Note: Do not download the patch while Orchestration is running or while upgrade orchestration exits due to a pause point or a failure. This patch can be downloaded and used only in case of restoring the environments to the original state. For this case, the upgrade must be started from the beginning.

   If you do not find patch 17375678, no new version of `Orchestration.zip` was released yet, so use the `Orchestration.zip` file that is delivered in the Release 8 Repository, located at *`SHARED_LOCATION`*`/11.1.8.0.0/Repository/installers/farup/Disk1/upgrade/orchestration`.

2. Unzip the `Orchestration.zip` file from the appropriate location, as described in Step 1, to *`SHARED_LOCATION`*. Unzip the `Orchestration.zip` file as the same operating system user that was used to set up the Oracle Fusion Applications environment. If you unzip the file as a different user, refer to Section 2.3.1, "Create a Common User Group and Permissions for Shared Directories".

   When you unzip `Orchestration.zip`, a directory named `orchestration` is created. This directory is referred to as *`ORCH_LOCATION`*. For more information, see Section 1.5.1, "Directories Used by Upgrade Orchestrator".

3. If you did not download the patch in Step 1, proceed to Step 4. If you downloaded the latest `Orchestration.zip` file from the patch in Step 1, run `validateOrchVersion.py` to validate the version of `Orchestration.zip`. This confirms that the correct `Orchestration.zip` file was unzipped to the shared storage location:

   ```
   validateOrchVersion.py ORCH_LOCATION
   ```

   If the script finishes with errors, ensure that the *`ORCH_LOCATION`* argument passed to the command is correct and that it points to the location where the latest `Orchestration.zip` file was unzipped. If the argument is correct, contact Oracle support for further assistance.

4. `Orchestration.zip` contains the Health Checker framework. After unzipping `Orchestration.zip`, ensure you have the latest version of Health Checker by downloading patch 17375744 from My Oracle Support. If this patch is not available, use the Health Checker packaged with `Orchestration.zip`.

5. If available, unzip patch 17375744. Then copy the contents of the `17375744/files/lcm/hc` directory to the *ORCH_LOCATION*`/fusionapps/applications/lcm/hc` directory. Overwrite the contents in this directory. If this patch is not available, there are no newer versions of Health Checker and you can proceed to Section 2.3.8, "Copy and Unzip idmUpgrade.zip."

2.3.8 Copy and Unzip idmUpgrade.zip

If you are running Oracle Fusion Applications on a SINGLE, 3-NODE, or 4-NODE IDM configuration on a Linux, Solaris, or AIX platform that is a Release 7 IDM provisioned environment, follow the steps in this section to stage the latest `idmUpgrade.zip` file.

1. The latest version of the `idmUpgrade.zip` file is available in patch 17444252. Ensure that you always uptake the latest version of `idmUpgrade.zip` from the patch.

   Note: To use a new version of the `idmUpgrade.zip` file downloaded from the patch, after you have started the upgrade, terminate any running orchestration instances, perform Cancel and Restore steps, and start the upgrade from the beginning.

   If you do not find patch 17444252, no new version of `idmUpgrade.zip` has been released yet, and you can use the file that is delivered in the Release 8 repository, in the following location: *REPOSITORY_LOCATION*`/installers/farup/Disk1/upgrade/idmupgrade`.

2. Unzip `idmUpgrade.zip`, using the unzip -K option, to any temporary location, referred to as temporary_unzip_location.

3. Copy the contents of *temporary_unzip_location*`/rel8/idmUpgrade` to *SHARED_LOCATION*`/11.1.8.0.0/idmUpgrade`.

2.4 Set Up Upgrade Orchestrator

Perform the following steps to set up Upgrade Orchestrator:

- Set Up Upgrade Orchestrator on a Shared Location
- Select a Master Orchestration Password
- Prepare RUP Lite for OVM
- Update Orchestrator Properties Files
- Update `PCM_config.properties`

2.4.1 Set Up Upgrade Orchestrator on a Shared Location

Perform the following steps to set up Upgrade Orchestrator on a shared location.

1. Perform this step only if you are on Windows.

   Install python from
   `http://www.python.org/ftp/python/2.7.3/python-2.7.3.msi`

2. Run the `orchsetup` script on the primordial host:

```
(UNIX)
cd ORCH_LOCATION/bin
./orchsetup.py -r SHARED_LOCATION/11.1.8.0.0/Repository --appbase APPLICATIONS_
```

```
BASE

(Windows)
cd ORCH_LOCATION\bin
orchsetup.py -r SHARED_LOCATION\11.1.8.0.0\Repository --appbase APPLICATIONS_
BASE
```

3. Create a subdirectory to contain setup files for the environment that you are upgrading, using a name that you define, in the *ORCH_LOCATION*/config directory.

   This location can be configured to be shared across multiple environments that are being upgraded. In this case, this location is referred to as *POD_NAME*. For example, you could use this location for your test, production, and development environments, if you are upgrading all three environments to Release 8.

   ```
   cd ORCH_LOCATION/config
   mkdir POD_NAME
   ```

4. Copy the following template files to the directory you created in Step 3, without using the template extension, as shown in the following examples:

   ```
   cd ORCH_LOCATION/config/
   cp MIDTIER.properties.template POD_NAME/MIDTIER.properties
   cp PRIMORDIAL.properties.template POD_NAME/PRIMORDIAL.properties
   cp IDM.properties.template POD_NAME/IDM.properties
   cp OHS.properties.template POD_NAME/OHS.properties
   cp pod.properties.template POD_NAME/pod.properties
   cp silent.rsp.template POD_NAME/silent.rsp
   ```

2.4.2 Select a Master Orchestration Password

Select a password at this time, which is referred to as the "Master Orchestration Password" in this documentation. Note that this password is referenced by Upgrade Orchestration but it is not used during the upgrade to Release 8, so it does not have to be a secure password. This password can be anything, such as "welcome123", for example.

2.4.3 Prepare RUP Lite for OVM

Note: Perform the steps in this section only if you are running Oracle Fusion Applications in an Oracle VM environment that was created from official releases of Oracle VM templates for Oracle Fusion Applications Release 2 (11.1.2) and higher. This content is not applicable for any Oracle VM environments that are created using other methods.

To determine if the Oracle VM environment was created from official releases of Oracle VM templates for Oracle Fusion applications Release 2 and higher, you can verify if the /assemblybuilder directory is present in the Oracle VM environment. This confirms that the environment is an OVAB. To confirm the release version, you must review the .labelinfo.txt and .misclabels.txt files in the u01/APPLTOP/ovabext directory to check the rehydration labels that correlate to the release version. Also check if there is a /u01/ovmext directory to determine if it is an Oracle VM IDM instance.

Perform the following steps to install the Oracle Fusion Applications 11.1.8.0.0 Lifecycle Management Tools for Oracle VM Installer repository on the Oracle VM hosts. This repository includes RUP Lite for OVM.

1. The latest version of the `fasaaslcmtools.zip` file, after Release 8 is released, will be uploaded to patch 17976770 on My Oracle Support. To ensure that you have the latest version of `fasaaslcmtools.zip`, download patch 17976770 from My Oracle Support. The patch contains `fasaaslcmtools.zip`, `readme.txt`, `validate.py`, and `validate.label`. Extract the contents of the patch to a temporary location.
2. If you do not find patch 17976770, no new version of `fasaaslcmtools.zip` was released yet, and you can obtain `fasaaslcmtools.zip` from the Release 8 *`OVAB_HOME`*. *`OVAB_HOME`* is the top-level directory for the Oracle Virtual Assembly Builder that contains all software needed to deploy Oracle Fusion Applications as an Oracle VM instance.
3. Unzip `fasaaslcmtools.zip` to a temporary location and ensure that you specify this *`temporary_location`*`/fasaaslcmtools` location in the `REL8_SAAS_LCM_INSTALLER_DIR` property in the `pod.properties` file. For more information, see Section 2.4.4, "Update Orchestrator Properties Files".
4. Copy the entire contents of the *`REL8_SAAS_LCM_INSTALLER_DIR`*`/Disk1/preupg/rupliteovm` directory to *`SHARED_LOCATION/ORCH_LOCATION/config/POD_NAME`*`/11.1.8.0.0/rupliteovm`.
5. Run `validate.py`, from the location where the patch was downloaded in step 1, to ensure that the correct `fasaaslcmtools` is used for the upgrade, using the following command syntax:

   ```
   validate.py fasaaslcmtools_SHIPHOME_LOCATION
   ```

   The value for *`SHIPHOME_LOCATION`* is the value for the `REL8_SAAS_LCM_INSTALLER_DIR` property from Step 3. If the script finishes with errors, confirm that the command and the argument passed to it are correct. If both values are correct, contact Oracle support for further assistance.
6. Update the `env.properties` file under the *`SHARED_LOCATION/ORCH_LOCATION/config/POD_NAME`*`/11.1.8.0.0/rupliteovm/metadata` directory with the required property values for the following plug-ins:
   - **ApplyMemorySettings** (runs in offline mode)

     ```
     ovm.plugin.ApplyMemorySettings.enabled=true
     ```

   - **GenerateOptimizedQueryPlans** (runs in offline mode)

     ```
     ovm.plugin.GenerateOptimizedQueryPlans.enabled=true
     ```

   - **DeployECSF** (runs in online mode)

     ```
     ovm.plugin.DeployECSF.enabled=true
     ovm.plugin.DeployECSF.connection_timeout_seconds=300
     ```

   - **UpdateODIUnicastConfiguration** (runs in offline mode)

     ```
     ovm.plugin.UpdateODIUnicastConfiguration.enabled=true
     ```

   - **FixReferenceProperties** (runs in offline mode)

     ```
     ovm.plugin.FixReferenceProperties.enabled=true
     ```

   - **UpdateFusionIIRScripts** (runs in offline mode)

```
ovm.plugin.UpdateFusionIIRScripts.enabled=true
```

- Confirm that the OVM_STORAGE_MOUNT and APPLTOP properties in the env.properties file are set correctly, for example, OVM_STORAGE_MOUNT=/u01 and APPLTOP=/u01/APPLTOP.

Refer to Section A.3.3, "RUP Lite for OVM Utility" to see the overall flow of running RUP Lite for OVM during the upgrade.

2.4.4 Update Orchestrator Properties Files

Update the properties files which are located in the *ORCH_LOCATION*/config/*POD_NAME* directory. Note that if any property values are updated while orchestration is running, the new values do not take effect until you start a new orchestration session. For a detailed list of properties, see Appendix B, "Upgrade Orchestrator Properties Files".

Note: The following HOSTNAME properties must contain a host name: HOSTNAME_PRIMORDIAL, HOSTNAME_MIDTIER, HOSTNAME_PRIMARY, HOSTNAME_SECONDARY, HOSTNAME_BIINSTANCE, HOSTNAME_OSN, HOSTNAME_OHS, HOSTNAME_IDMOID, HOSTNAME_IDMOIM, and HOSTNAME_IDMOHS. Note that on Windows, the host name is case sensitive and can be obtained from the Control Panel, under System, then Full computer name.

2.4.5 Update PCM_config.properties

Edit the *SHARED_LOCATION*/PatchConflictManager/PCM_Config.properties file and set the IS_SAAS_ENV property to false.

2.5 Update the patchAutomation.properties File for the IDM Upgrade

Perform the steps in this section only if you are running Oracle Fusion Applications on a SINGLE, 3-NODE, or 4-NODE IDM configuration on a Linux, Solaris, or AIX platform that is a Release 7 IDM provisioned environment. If your environment does not meet these requirements, this section is not applicable, and the IDM upgrade is manual, for which the IDM_SETUP_TYPE property in the IDM.properties file must be set to MANUAL.

Set the following properties in the *SHARED_LOCATION*/11.1.8.0.0/idmUpgrade/patchAutomation.properties file:

- IDM_DB_SYS_PWD: Password for the sys user on the OIM database.
- DB_ADMIN_PASSWORD: Password for the sys user on the OID database.
- OID_PASSWORD: Admin password for the OID domain (for cn=orcladmin).
- OIM_USER_PWD: Admin password for the OIM domain admin password (for xelsaysdm).
- OAM_ADMIN_PWD: Admin password for the OAM domain (for oamadminuser).
- OID_ADMIN_PWD: Admin password for the OID domain (for oimadminuser).
- IDSTORE_READ_ONLY_PWD: Password for the identity store read only user.
- IDSTORE_READ_WRITE_PWD: Password for the identity store read/write user.

- ACCESS_CLIENT_PASSPHRASE_PWD: Password for the access client pass phrase. You can leave this field empty if you are running on AIX, because OAM is configured on OPEN mode.
- OVD_PASSWORD: Admin password for OVD (for `cn=orcladmin`).
- PATCHCONFLICT_TOOL_INSTALLER_LOC: Location of the extracted Patch Conflict Manager utility. For more information, see Section 2.3.4, "Download and Unzip the Patch Conflict Manager Utility."
- LOG_DIR: Location of the log directory for the IDM upgrade The default is `/u01/logs`.
- TOPOLOGY_XML_FILE_LOC: Location of `topology.xml`. You can use the default if you chose `/u01/IDMTOP/config` while provisioning.
- IDM_LCM_LIB_PATH: Location of IDM `lcm` libraries. You can use the default if you installed IDM in `/u01`.
- IDMLCM_HOME: Location of IDMLCM home. You can use the default if you chose `/u01/idmlcm/` while provisioning.
- START_STOP_SCRIPT_WORKING_DIR: Location of the start/stop script. You can use the default if you chose `/u01/IDMTOP/config` while provisioning.
- OID_DOMAIN_DIR: Location of the OID domain. You can use the default if you chose `/u01/IDMTOP/config/domains/IDMDomain` while provisioning.
- OIM_DOMAIN_DIR: Location of the OIM domain. You can use the default if you chose `/u01/IDMTOP/config/domains/IDMDomain` while provisioning.
- OHS_HOME: Location of OHS home. You can use the default if you chose `/u01/IDMTOP/products/ohs/ohs` while provisioning.
- IDMCONTROL_SCRIPT_LOC: Location of the IDM control start/stop script.
- WALLET_DIR: Location of the directory relative to the `patchAutomation.properties` file. The default value is `./patchAutomation`. On the first run of `prevalidate.pl` or `idmUpgrade.pl`, the `WALLET_DIR/cwallet.sso` file is created if it does not exist, and any passwords that you have specified in `patchAutomation.properties` are moved out of the properties file and into this wallet file. This wallet file will contain sensitive passwords, so you may want to edit this property if you want to store the wallet in a separate location.
- OIM_ADMIN_USER: Admin user for the OIM domain, required only for a SINGLE NODE environment.
- OIM_ADMIN_PWD: Admin password for the OIM domain, required only for a SINGLE NODE environment.
- NODE_MANAGER_PWD: Password for the node manager user, required only for a SINGLE NODE environment.
- IDSTORE_OIMADMINPWD: Admin password for the OIM identity store OIM, required only for a SINGLE NODE environment.

2.6 Verify Your Environment Before Proceeding to Downtime

Perform the following steps to verify your environment before you proceed to downtime steps:

- Confirm Database Settings
- Confirm JDeveloper Customizations Can Be Merged

- Maintain Versions of Customized BI Publisher Reports
- Remove Distributed Order Orchestration Customizations
- Verify the FUSION User Quota on FUSION_TS* Tablespaces
- Validate Domain Directories
- Verify the Node Manager Configuration is Correct
- Verify the Default Realm Name is `myrealm`
- Verify That `etc/hosts` Entries Are Correct
- Verify the Version of `/bin/bash` on All Hosts (Unix Platforms)
- Confirm `nfslock` is Up and Running on IDM Nodes
- Confirm Oracle Enterprise Manager Agents are Shut Down
- Register Oracle Homes in Central Inventory (Windows Only)
- Install the MKS Toolkit (Windows Only)

2.6.1 Confirm Database Settings

Refer to Release Notes for Oracle Fusion Applications 11*g* Release 8 (11.1.8) to verify that your database and Sql*Net tuning parameters are set properly to avoid time out errors during the upgrade.

2.6.2 Confirm JDeveloper Customizations Can Be Merged

If you performed JDeveloper customizations to a SOA composite and then you deployed the composite to the SOA runtime, you must perform manual steps to merge your customizations during the upgrade. To ensure that your customizations can be merged successfully, review the recommendations in "Merging Runtime Customizations from a Previously Deployed Revision into a New Revision" in the *Oracle Fusion Applications Extensibility Guide for Developers* before you start Upgrade Orchestrator.

You will merge your customizations after the **SOA Preverification** configuration assistant fails during the upgrade. For more information, see Section 7.16.6, "Merging SOA Composite JDeveloper Customizations During SOA Preverification".

2.6.3 Maintain Versions of Customized BI Publisher Reports

Ensure that you have your own versions of any customized BI Publisher reports. If an upgrade includes an update to a catalog object that was delivered with an Oracle Fusion application, the patch will overwrite any customizations applied to the original report

Related Link

The following document provides additional information related to subjects discussed in this section:

- For more information, see "Reports Customization" in the "Customizing Reports and Analytics" chapter of the *Oracle Fusion Applications Extensibility Guide*.

2.6.4 Remove Distributed Order Orchestration Customizations

If you are using Extended Flexfields and you have customized the DOO SOA composites for mapping between EBO and DOO SDO, you can remove these

customizations before you upgrade to Release 8 and use the new automap feature. For more information see "Preserving SOA Composite JDeveloper Customizations Before Applying a Patch" in the *Oracle Fusion Applications Patching Guide*. For more information about the automap feature in Release 8 that allows you to avoid using SOA composite customizations by setting up Oracle Fusion Distributed Order Orchestration Extensible Flexfields, see the *Oracle Fusion Applications Order Orchestration Implementation Guide*.

2.6.5 Verify the FUSION User Quota on FUSION_TS* Tablespaces

The FUSION user must have an unlimited quota on all FUSION_TS* tablespaces. Run the following query to verify that the FUSION user has an unlimited quota on all FUSION_TS* tablespaces:

```
select tablespace_name, max_bytes from dba_ts_quotas where username = 'FUSION';
```

The FUSION user must have a value of -1 for max_bytes on all FUSION_TS* tablespaces. If any tablespace does not have the correct value or does not have an entry, you must grant the unlimited quota by running the following command:

```
alter user FUSION quota unlimited on tablespace_name;
```

2.6.6 Validate Domain Directories

Run the `validatedomains` script to confirm that all Administration Server domain locations are detectable.

If you followed steps to scale out hosts, you may have added the Administration Server of the scaled out host to a new machine. This section provides the steps to temporarily add the Administration Server back to the originally provisioned machine so that all domain directories can be found by Upgrade Orchestrator. During post-upgrade steps, you add the Administration Server back to the machine that was created during scaleout.

Whether are or not you have scaled out hosts, perform the following steps to run the validation for domain locations and to temporarily update the machine for Administration Servers, if needed.

1. Unzip `domainvalidate.zip` from the *SHARED_LOCATION*`/11.1.8.0.0/Repository/installers/farup/Disk1/upgrade/validate` directory into any directory on the primordial host.

   a. If *FA_MW_HOME* is *APPLICATIONS_BASE*`/fusionapps`, run the following command.

   ```
   (UNIX)
   ./validatedomains.sh APPLICATIONS_BASE

   (Windows)
   set JAVA_HOME=c:\AT\fusionapps\jdk6
   set PATH=%PATH%;%JAVA_HOME%\bin
   validatedomains.bat APPLICATIONS_BASE
   ```

   Example:

   ```
   validatedomains.sh /u01/APPLTOP
   ```

   b. If *APPLICATIONS_CONFIG* is *APPLICATIONS_BASE*`/instance`, run the following command.

   ```
   (UNIX) ./validatedomains.sh FA_MW_HOME APPLICATIONS_CONFIG
   ```

```
(Windows)
set JAVA_HOME=c:\AT\fusionapps\jdk6
set PATH=%PATH%;%JAVA_HOME%\bin
validatedomains.bat FA_MW_HOME APPLICATIONS_CONFIG
```

Example:

```
validatedomains.sh /u01/APPLTOP/fusionapps /u01/APPLTOP/instance
```

2. If `validatedomains.sh` reports any domains that failed the validation, and if you have scaled out hosts, then perform the following steps on the Administration Server of each of the reported domains.

   If `validatedomains.sh` reports any domains that failed the validation, and if you do not have scaled out hosts, then skip to Step 3.

   a. Log in to the WebLogic console for the domain.

   b. Navigate to Environment, then Machines.

   c. Find the machine that corresponds to the host name for which the Administration Server was initially provisioned.

   d. Click on the machine and go to the Servers tab. Note that the Administration Server should not appear on the list of servers. If it does appear on the list, either this domain passed validation or this is not the originally provisioned machine for the Administration Server.

   e. Click **Lock & Edit** to make changes.

   f. Click **Add**.

   g. Select the AdminServer and click **Finish**.

   h. Click **Activate Changes** to apply the changes.

   i. Skip Step 3 of this procedure.

3. If `validatedomains.sh` reports any domains that failed the validation, and if you do not have scaled out hosts, then perform the following steps:

   a. Download the patch 18062458 to a local directory.

   b. Run the extracted script against each domain directory under `APPLICATIONS_CONFIG`.

   ```
   For Unix:
   FA_MW_HOME/oracle_common/common/bin/wlst.sh fixadminconfig.wlst
   APPLICATIONS_CONFIG/domains/<HOST>/<DOMAIN NAME>

   For Windows:
   FA_MW_HOME\oracle_common\common\bin\wlst.cmd fixadminconfig.wlst
   APPLICATIONS_CONFIG\domains\<HOST>\<DOMAIN NAME>
   ```

   c. Run the `validatedomains` script again, to ensure that all Administration Server domain locations are detectable.

2.6.7 Verify the Node Manager Configuration is Correct

Perform the following steps on the `admin-apps/PRIMORDIAL` host to verify that the node manager configuration is correct.

1. Review the `config/config.xml` file in each domain directory and check the `MACHINE_NAME` entries. Ensure that for each machine entry, the `node-manager` child

element has its own name element that matches the name element of the machine. Refer to the following example:

```
<machine>
  <name>MACHINE_NAME</name>
  <node-manager>
    <name>MACHINE_NAME</name>
    ...
  </node-manager>
</machine>
```

2. If any of the `node-manager` elements are missing child name elements, then the configuration must be fixed by using the offline WLST command as described in the following steps:

   a. Run the WLST utility to fix the configuration in each domain directory:

      FMW_ORACLE_HOME`/oracle_common/common/bin/wlst.sh`

   b. Open the domain in offline mode:

      `readDomain('`*PATH_TO_DOMAIN*`')`

   c. Run the following commands for each impacted machine:

      ```
      cd('/Machine/MACHINE_NAME/NodeManager/NodeManager')
      set('Name', 'MACHINE_NAME')
      ```

   d. Save the domain and exit WLST:

      ```
      updateDomain()
      closeDomain()
      exit()
      ```

3. Review the `config.xml` file for each of the impacted domain directories and ensure that the name elements are now present.

2.6.8 Verify the Default Realm Name is `myrealm`

Upgrade Orchestrator expects the default realm name to be `myrealm` for the Common Domain. Perform the following steps to verify that you have not changed this value to any other name, because changing the name to anything other than `myrealm` causes Upgrade Orchestrator to fail.

1. Log in to the WLS Console for the Common Domain.
2. Click **Security Realms** on the domain structure pane.
3. A list of realms displays in the **Summary of Security Realms** window.
4. Verify there is an entry for `myrealm` and that "true" displays in the Default Realm column.

2.6.9 Verify That `etc/hosts` Entries Are Correct

Review `/etc/hosts` on all hosts to confirm that the entries are correct, including the following requirements.

1. For example, ensure that the `oam-admin.oracleoutsourcing.com` entry is in `/etc/hosts` for APPOHS.
2. Ensure that there are no duplicate IPs in `/etc/hosts`. Duplicate entries registered in DNS may cause failures during the **Starting All Servers** tasks.

2.6.10 Verify the Version of `/bin/bash` on All Hosts (Unix Platforms)

Upgrade Orchestrator uses "Bash" as the default shell on Unix platforms. Ensure that the `/bin/bash` shell version 3.2 or higher is installed on all hosts.

2.6.11 Confirm `nfslock` is Up and Running on IDM Nodes

The IDM upgrade uses `flock` to obtain shared locks and update the `patchAutomation.properties` file. Ensure that the `nfslock` daemon is up and running before beginning the upgrade. If the daemon is down, restart it as the root user, as shown in the following example.

```
# service nfslock restart
```

2.6.12 Confirm Oracle Enterprise Manager Agents are Shut Down

Ensure that all Oracle Enterprise Manager agents are shut down to prevent the creation of `/tmp/*pki*` files during the upgrade. You can skip this step if you are not using Oracle Enterprise Manager.

2.6.13 Register Oracle Homes in Central Inventory (Windows Only)

Oracle Provisioning records installation information about the following Oracle homes separately from information about other products: Oracle Business Intelligence (Oracle BI), Oracle Global Order Processing (GOP), Web Tier, and Web Tier Common Oracle home. RUP Installer expects information about all products to be recorded in the same place. For more information about home directories, see "Provisioned Oracle Fusion Applications Home Directories" in the *Oracle Fusion Applications Administrator's Guide*.

The following steps describe how to manually register the all missing Oracle homes in central inventory.

1. Verify that the default Inventory Pointer file points to the central inventory on the primordial host on which RUP Installer runs. The default Inventory Pointer is located in the registry key, `\\HKEY_LOCAL_MACHINE\\Software\Oracle\inst_loc`.
2. Run `attachHome` from the BI Oracle home, for example, *`APPLICATIONS_BASE`*`\fusionapps\bi`.

   `(Windows)` *`BI_HOME`*`\oui\bin\attachHome.bat -jreLoc` *`JAVA_HOME_LOCATION`*

3. Run `attachHome` from the GOP Oracle home, for example, *`APPLICATIONS_BASE`*`\fusionapps\gop`.

   `(Windows)` *`GOP_HOME`*`\oui\bin\attachHome.bat -jreLoc` *`JAVA_HOME_LOCATION`*

4. Run `attachHome` from the Web Tier Oracle home, for example, *`APPLICATIONS_BASE`*`\webtier_mwhome\webtier`.

   `(Windows)` *`WEBTIER_HOME`*`\oui\bin\attachHome.bat -jreLoc` *`JAVA_HOME_LOCATION`*

5. Run `attachHome` from the Web Tier Common Oracle home, for example, *`APPLICATIONS_BASE`*`\webtier_mwhome\oracle_common`.

   `(Windows)` *`WEBTIER_COMMON_HOME`*`\oui\bin\attachHome.bat -jreLoc` *`JAVA_HOME_LOCATION`*

6. Run `attachHome` from the Web Tier Webgate Oracle home, for example, *`APPLICATIONS_BASE`*`\webtier_mwhome\webgate`.

   `(Windows)` *`WEBTIER_WEBGATE_HOME`*`\oui\bin\attachHome.bat -jreLoc` *`JAVA_HOME_LOCATION`*

7. Run `attachHome` from the Oracle Common Oracle home, for example, *APPLICATIONS_BASE**fusionapps**oracle_common*.

   ```
   (Windows) COMMON_HOME\oui\bin\attachHome.bat -jreLoc JAVA_HOME_LOCATION
   ```

8. Register the dependency between the BI Oracle home and Oracle Common Oracle home.

   Run Oracle Universal Installer with the -updateHomeDeps option and pass a dependency list. The syntax for the dependency list is:

   ```
   HOME_DEPENDENCY_LIST={ORACLE_HOME:DEPENDENT_ORACLE_HOME}
   ```

   Example for Business Intelligence:

   ```
   (Windows) BI_HOME\oui\bin\setup.exe -updateHomeDeps "HOME_DEPENDENCY_LIST=
   {APPLICATIONS_BASE\fusionapps\bi:APPLICATIONS_BASE\fusionapps\oracle_common}"
   -jreLoc JAVA_HOME_LOCATION
   ```

9. Register the dependency between Web Tier Oracle home and Web Tier Common Oracle home.

   ```
   (Windows) WEBTIER_HOME\oui\bin\setup.exe -updateHomeDeps "HOME_DEPENDENCY_LIST=
   {APPLICATIONS_BASE\webtier_mwhome\webtier:APPLICATIONS_BASE\webtier_
   mwhome\oracle_common}"
   jreLoc JAVA_HOME_LOCATION
   ```

10. Verify that the central inventory now contains the correct GOP, BI, and Web Tier information. Open the `inventory.xml` file from the `ContentsXML` subdirectory in your central inventory directory using a text editor. You can find your central inventory directory by looking in the default Oracle Inventory pointer file mentioned in Step 1. Verify that there are entries for GOP and for BI, and that the BI entry lists the Oracle Common dependency you specified in Step 6. Do the same for Web Tier information. Ensure that you do not modify `inventory.xml` in any way, as this may corrupt your system.

    Example entries in `inventory.xml`:

    ```
    <HOME NAME="OH1109401105" LOC="APPLICATIONS_BASE/fusionapps/gop" TYPE="O"
    IDX="11">
    <HOME NAME="OH198367808" LOC="APPLICATIONS_BASE/fusionapps/bi" TYPE="O"
    IDX="12">
       <DEPHOMELIST>
          <DEPHOME LOC="APPLICATIONS_BASE/fusionapps/oracle_common"/>
       </DEPHOMELIST>
    </HOME>
    <HOME NAME="OH987588708" LOC="APPLICATIONS_BASE/webtier_mwhome/webtier"
    TYPE="O" IDX="13">
       <DEPHOMELIST>
          <DEPHOME LOC="APPLICATIONS_BASE/webtier_mwhome/oracle_common"/>
       </DEPHOMELIST>
    </HOME>
    <HOME NAME="OH1271096710" LOC="APPLICATIONS_BASE/webtier_mwhome/oracle_common"
    TYPE="O" IDX="14">
       <REFHOMELIST>
          <REFHOME LOC="APPLICATIONS_BASE/webtier_mwhome/webtier"/>
       </REFHOMELIST>
    </HOME>
    ```

Note: Rerunning the `ATTACH_HOME` command does not cause any issues.

2.6.14 Install the MKS Toolkit (Windows Only)

Perform the following steps to install the MKS Toolkit on Windows 64 before upgrading:

1. Download and install version MKS Toolkit 9.4p1 (or higher) from http://www.mkssoftware.com.
2. Confirm that c:\mksnt is present in the global PATH variable.

2.7 What To Do Next

To proceed with the upgrade, follow the steps in Chapter 3, "Updating the Oracle Fusion Applications and Oracle Identity Management Databases".

3

Updating the Oracle Fusion Applications and Oracle Identity Management Databases

This chapter describes how to update your Oracle Fusion Applications database and Oracle Identity Management database before an upgrade.

This chapter contains the following topics:

- Apply Exadata Patches for Release 8
- Run RUP Lite for RDBMS

If you use Oracle Exadata Database Machine, run only the steps in Section 3.1, "Apply Exadata Patches for Release 8". If you do not use Oracle Exadata Database Machine, start with Section 3.2, "Run RUP Lite for RDBMS".

Note: This is a downtime activity and can be planned and performed in a separate downtime window prior to the upgrade.

Note: It is a best practice to apply these patches on Identity Management databases to keep both the Oracle Fusion Application database and Identity Management database synchronized. It is also a best practice to back up both of these databases before patching. For more information, see "Backing Up and Recovering Oracle Fusion Applications" in the *Oracle Fusion Applications Administrator's Guide*.

3.1 Apply Exadata Patches for Release 8

If you are on Linux64, Solaris Sparc64, or Solaris86-64 platforms and use the Oracle Exadata Database Machine, download and apply the generic patches in the following list, and the list of specific patches for your platform from My Oracle Support.

3.1.1 Quarterly Database Patches

Apply the quarterly database patch (Patch 16474946 - QUARTERLY DATABASE PATCH FOR EXADATA (APR 2013 - 11.2.0.3.17) for your platform.

- Linux: p16474946_112030_Linux-x86-64.zip
- Solaris Sparc64: p16474946_112030_SOLARIS64.zip
- Solaris86-64: p16474946_112030_Solaris86-64.zip

3.1.2 Generic Exadata Patches

Apply all of the following generic patches, which are not platform-specific:

- p12317925_112030_Generic.zip
- p13470616_112030_Generic.zip
- p13498243_112030_Generic.zip
- p13508115_112030_Generic.zip
- p13992953_112030_Generic.zip
- p14802958_1120317ExadataDatabase_Generic.zip
- p16287905_112030_Generic.zip
- p16763016_112030_Generic.zip

3.1.3 Linux Exadata Patches

Apply the following Exadata patches if you are on the Linux64 platform:

- p10255235_112030_Linux-x86-64.zip
- p12552578_1120317ExadataDatabase_Linux-x86-64.zip
- p12646746_112030_Linux-x86-64.zip
- p12738119_1120317ExadataDatabase_Linux-x86-64.zip
- p12977501_112030_Linux-x86-64.zip
- p12985184_112030_Linux-x86-64.zip
- p13014128_112030_Linux-x86-64.zip
- p13078786_112030_Linux-x86-64.zip
- p13365700_112030_Linux-x86-64.zip
- p13404129_112030_Linux-x86-64.zip
- p13429702_112030_Linux-x86-64.zip
- p13632653_112030_Linux-x86-64.zip
- p13741583_1120317ExadataDatabase_Linux-x86-64.zip
- p13743357_1120317ExadataDatabase_Linux-x86-64.zip
- p13863932_1120317ExadataDatabase_Linux-x86-64.zip
- p13989379_1120317ExadataDatabase_Linux-x86-64.zip
- p14015403_1120317ExadataDatabase_Linux-x86-64.zip
- p14029429_112030_Linux-x86-64.zip
- p14058884_112030_Linux-x86-64.zip
- p14164849_112030_Linux-x86-64.zip
- p14343501_1120317ExadataDatabase_Linux-x86-64.zip
- p14373728_1120317ExadataDatabase_Linux-x86-64.zip
- p14555370_1120317ExadataDatabase_Linux-x86-64.zip
- p14571027_112030_Linux-x86-64.zip

- p14632583_1120317ExadataDatabase_Linux-x86-64.zip
- p14679292_112030_Linux-x86-64.zip
- p14734989_1120317ExadataDatabase_Linux-x86-64.zip
- p15826962_1120317ExadataDatabase_Linux-x86-64.zip
- p15866520_1120317ExadataDatabase_Linux-x86-64.zip
- p15933374_1120317ExadataDatabase_Linux-x86-64.zip
- p16100861_1120317ExadataDatabase_Linux-x86-64.zip
- p16196536_1120317ExadataDatabase_Linux-x86-64.zip
- p16664800_1120317ExadataDatabase_Linux-x86-64.zip
- p16744704_1120317ExadataDatabase_Linux-x86-64.zip
- p16751621_1120317ExadataDatabase_Linux-x86-64.zip
- p16809786_1120317ExadataDatabase_Linux-x86-64.zip
- p16832587_1120317ExadataDatabase_Linux-x86-64.zip
- p16853054_1120317ExadataDatabase_Linux-x86-64.zip
- p16870100_1120317ExadataDatabase_Linux-x86-64.zip
- p17036973_112030_Linux-x86-64.zip
- p17284817_1120317ExadataDatabase_Linux-x86-64.zip
- p17444940_1120317ExadataDatabase_Linux-x86-64.zip

3.1.4 Solaris Sparc64 Exadata Patches

Apply the following Exadata patches if you are on the Solaris Sparc64 platform:

- p10255235_112030_SOLARIS64.zip
- p12552578_1120317ExadataDatabase_SOLARIS64.zip
- p12646746_112030_SOLARIS64.zip
- p12738119_1120317ExadataDatabase_SOLARIS64.zip
- p12977501_112030_SOLARIS64.zip
- p12985184_112030_SOLARIS64.zip
- p13014128_112030_SOLARIS64.zip
- p13078786_112030_SOLARIS64.zip
- p13365700_112030_SOLARIS64.zip
- p13404129_112030_SOLARIS64.zip
- p13429702_112030_SOLARIS64.zip
- p13632653_112030_SOLARIS64.zip
- p13741583_1120317ExadataDatabase_SOLARIS64.zip
- p13743357_1120311ExadataDatabase_SOLARIS64.zip
- p13863932_1120317ExadataDatabase_SOLARIS64.zip
- p13989379_1120317ExadataDatabase_SOLARIS64.zip

- p14015403_1120317ExadataDatabase_SOLARIS64.zip
- p14029429_112030_SOLARIS64.zip
- p14058884_112030_SOLARIS64.zip
- p14164849_112030_SOLARIS64.zip
- p14343501_1120317ExadataDatabase_SOLARIS64.zip
- p14373728_1120317ExadataDatabase_SOLARIS64.zip
- p14555370_1120317ExadataDatabase_SOLARIS64.zip
- p14571027_112030_SOLARIS64.zip
- p14632583_1120317ExadataDatabase_SOLARIS64.zip
- p14679292_112030_SOLARIS64.zip
- p14734989_1120317ExadataDatabase_SOLARIS64.zip
- p15826962_1120317ExadataDatabase_SOLARIS64.zip
- p15866520_1120317ExadataDatabase_SOLARIS64.zip
- p15933374_1120317ExadataDatabase_SOLARIS64.zip
- p16100861_1120317ExadataDatabase_SOLARIS64.zip
- p16196536_1120317ExadataDatabase_SOLARIS64.zip
- p16664800_1120317ExadataDatabase_SOLARIS64.zip
- p16744704_1120317ExadataDatabase_SOLARIS64.zip
- p16751621_1120317ExadataDatabase_SOLARIS64.zip
- p16809786_1120317ExadataDatabase_SOLARIS64.zip
- p16832587_1120317ExadataDatabase_SOLARIS64.zip
- p16853054_1120317ExadataDatabase_SOLARIS64.zip
- p16870100_1120317ExadataDatabase_SOLARIS64.zip
- p17036973_112030_SOLARIS64.zip
- p17284817_1120317ExadataDatabase_SOLARIS64.zip
- p17444940_1120317ExadataDatabase_SOLARIS64.zip

3.1.5 Solaris 86 X64 Exadata Patches

Apply the following Exadata patches if you are on the Solaris X64 platform:

- p10255235_112030_Solaris86-64.zip
- p12552578_1120317ExadataDatabase_Solaris86-64.zip
- p12646746_112030_Solaris86-64.zip
- p12738119_1120317ExadataDatabase_Solaris86-64.zip
- p12977501_112030_Solaris86-64.zip
- p12985184_112030_Solaris86-64.zip
- p13014128_112030_Solaris86-64.zip
- p13078786_112030_Solaris86-64.zip

- p13365700_112030_Solaris86-64.zip
- p13404129_112030_Solaris86-64.zip
- p13429702_112030_Solaris86-64.zip
- p13632653_112030_Solaris86-64.zip
- p13741583_1120317ExadataDatabase_Solaris86-64.zip
- p13743357_1120311ExadataDatabase_Solaris86-64.zip
- p13863932_1120317ExadataDatabase_Solaris86-64.zip
- p13989379_1120317ExadataDatabase_Solaris86-64.zip
- p14015403_1120317ExadataDatabase_Solaris86-64.zip
- p14029429_112030_Solaris86-64.zip
- p14058884_112030_Solaris86-64.zip
- p14164849_112030_Solaris86-64.zip
- p14343501_1120317ExadataDatabase_Solaris86-64.zip
- p14373728_1120317ExadataDatabase_Solaris86-64.zip
- p14555370_1120317ExadataDatabase_Solaris86-64.zip
- p14571027_112030_Solaris86-64.zip
- p14632583_1120317ExadataDatabase_Solaris86-64.zip
- p14679292_112030_Solaris86-64.zip
- p14734989_1120317ExadataDatabase_Solaris86-64.zip
- p15826962_1120317ExadataDatabase_Solaris86-64.zip
- p15866520_1120317ExadataDatabase_Solaris86-64.zip
- p15933374_1120317ExadataDatabase_Solaris86-64.zip
- p16100861_1120317ExadataDatabase_Solaris86-64.zip
- p16196536_1120317ExadataDatabase_Solaris86-64.zip
- p16664800_1120317ExadataDatabase_Solaris86-64.zip
- p16744704_1120317ExadataDatabase_Solaris86-64.zip
- p16751621_1120317ExadataDatabase_Solaris86-64.zip
- p16809786_1120317ExadataDatabase_Solaris86-64.zip
- p16832587_1120317ExadataDatabase_Solaris86-64.zip
- p16853054_1120317ExadataDatabase_Solaris86-64.zip
- p16870100_1120317ExadataDatabase_Solaris86-64.zip
- p17036973_112030_Solaris86-64.zip
- p17284817_1120317ExadataDatabase_Solaris86-64.zip
- p17444940_1120317ExadataDatabase_Solaris86-64.zip

3.2 Run RUP Lite for RDBMS

Run the RUP Lite for RDBMS utility to perform the tasks required to update your Oracle Fusion Applications database before you upgrade to Release 8. RUP Lite for RDBMS can be run in the following modes:

- **Validate mode:**
  - Validates database parameters as described in Table 3–1.
- **Set database parameters mode:**
  - Sets database parameters to the values described in Table 3–1, if required.
  - Restarts the database instance, if requested.
- **Apply mode:**
  - Stops the listener and shuts down the database instance. (optional)
  - Configures Oracle Configuration Manager (OCM) in disconnected mode, if required.
  - Unzips Opatch, if it is available in *REPOSITORY_LOCATION*.
  - Applies patch set updates (PSUs) and one-off patches in *REPOSITORY_LOCATION*.
  - Applies downloaded one-off patches in the `11.1.8.0.0_post_repo_patches` directory.
  - Starts the listener and the database instance. (optional)
  - Runs `catbundle.sql` if any PSUs were applied. (optional)
  - For each patch applied, runs the post installation script, `postinstall.sql`, if it exists. (optional)
  - Runs `catmetx.sql`. (optional)
- **Apply Post Changes mode:**
  - Runs `catbundle.sql` if any PSUs exist.
  - For each patch, runs the post installation script, `postinstall.sql`, if it exists.
  - Runs `catmetx.sql`.

The following table displays the recommendations for tuning the database parameters. The `validate` mode of RUP Lite for RDBMS verifies whether these parameters contain the recommended value. The `setdbparameter` mode of RUP Lite for RDBMS updates the parameters to the recommended value.

Table 3–1 Recommended Values for Database Parameters

Parameter	Type	Location	Recommendation
DISK_ASYNCH_IO	Disk IO	Spfile/pfile	true
FILESYSTEMIO_OPTIONS	Disk IO	Spfile/pfile	unset so the database chooses a default value based on the platform
INBOUND_CONNECT_TIMEOUT_listener_name	Connection timeout	*TNS_ADMIN*/listener.ora	120
SQLNET.INBOUND_CONNECT_TIMEOUT	Connection timeout	*TNS_ADMIN*/sqlnet.ora	130

Table 3–1 (Cont.) Recommended Values for Database Parameters

Parameter	Type	Location	Recommendation
_ACTIVE_SESSION_LEGACY_ BEHAVIOR	Initialization	Spfile/pfile	true

RUP Lite for RDBMS uses non-interactive OPatch calls to apply RDBMS patches. OPatch tries to install and configure Oracle Configuration Manager (OCM) if OCM has not already been installed and configured. This causes non-interactive OPatch calls to fail in some cases. To avoid this issue, Oracle recommends that you install OCM prior to running RUP Lite for RDBMS. If you plan to use OCM, you should configure it after you install it. If you do not plan to use OCM, you can either configure it in disconnected mode or let RUP Lite for RDBMS configure it. If you install OCM and do not configure it, RUP Lite for RDBMS will automatically configure it in disconnected mode.

If you do not use Oracle Exadata Database Machine, run RUP Lite for RDBMS to automatically apply the mandatory Oracle Database patches mentioned in the "Oracle Database" section of Oracle Fusion Applications release notes. This step applies Oracle Database patches that reside in both the *REPOSITORY_LOCATION* and the `11.1.8.0.0_post_repo_patches` directories, which you downloaded in Section 2.3.5, "Download and Unzip the Repository and Patches". Follow the steps in Section 3.2.1, "Run RUP Lite for RDBMS".

If you use Oracle Exadata Database Machine, do not run RUP Lite for RDBMS.

Related Links

The following document provides additional information related to subjects discussed in this section:

- For more information about installing and configuring OCM, see "Installing Oracle Configuration Manager Using the Command Line Interface" in the *Oracle Configuration Manager Installation and Administration Guide*.

3.2.1 Run RUP Lite for RDBMS

If you are running Oracle Fusion Applications on a RAC database, follow the steps in Section 3.2.2, "Run RUP Lite for RDBMS in a RAC Database".

Perform the following steps to run RUP Lite for RDBMS in three modes: `validate`, `setdbparameters`, and `apply`:

1. Apply the version of OPatch that is delivered in the repository. It is available at *REPOSITORY_LOCATION*`/installers/database/opatch/p6880880_112000_Linux-x86-64.zip`.
2. Copy the `TPBundler.zip` file to any temporary directory, such as *work_dir* in the following example:

   ```
   cp REPOSITORY_LOCATION/installers/pre_install/TPBundler.zip work_dir
   ```

3. Unzip `TPBundler.zip` in the *work_dir* directory, which contains the following files after unzipping:

   ```
   createTPBundle.jar
   createTPBundle.cmd
   createTPBundle.sh
   ojdl.jar
   tpBundleConfig_DB.xml
   ```

```
tpBundleConfig_IDM.xml
tpBundleConfig_OHS.xml
tpBundleConfig_OVM.xml
README.txt
```

4. The `createTPBundler` utility creates the RDBMS patch bundle, `DBPatches.zip`, and RUP Lite for RDBMS. This patch bundle contains the mandatory prerequisite patches that are delivered in *`REPOSITORY_LOCATION`*, as well as any patches you may have downloaded.

   Use the following command syntax to run `createTPBundler`, which creates `DBPatches.zip` in a temporary directory, referred to as *`work_dir`* in the example. Note that *`work_dir`* must have read/write permissions.

   ```
   (UNIX)
   sh createTPBundle.sh -shiphomelocation REPOSITORY_LOCATION -tempdir work_dir
   -target DB [-patchdownloadloc location_of_downloaded_patches]

   (Windows)
   createTPBundle.cmd -shiphomelocation REPOSITORY_LOCATION -tempdir work_dir
   -target DB [-patchdownloadloc location_of_downloaded_patches]
   ```

   The following options are available for `createTPBundler`:

   – `-shiphomelocation`: Location of the `createTPBundler` repository.

   – `-tempdir`: Destination directory to which the generated zip file was copied.

   – `-target`: Target against which the copy should be initiated. Use the value, `DB`.

   – `-patchdownloadloc`: Location of the patch directory where you downloaded the patches in Section 2.3.5, "Download and Unzip the Repository and Patches". Use this option only if you downloaded patches to a directory other than the default patch download directory, which is `11.1.8.0.0_post_repo_patches`.

   – `-logfile`: Full path of the `createTPbundle` log file. The default is `createTPBundle.log` in the current directory.

   – `-loglevel`: Log level for the `createTPbundler` utility. Valid values are SEVERE, WARNING, INFO, CONFIG, FINE, FINER, FINEST. The default value is INFO.

5. Copy `DBPatches.zip` to any temporary directory on the database server host.

6. Log in to the database server host.

7. Unzip `DBPatches.zip` to any temporary directory on the database server host. The following subdirectories and files exist after unzipping.

   ```
   |-- DB_timestamp
       -- db_server_bundle
           |-- README.txt
           |-- bin
           |   |-- ruplite.bat
           |   |-- ruplite.sh
           |-- metadata
           |   |-- env.properties
           |   |-- installer.properties
           |   |-- plugin-metadata.txt
           |-- custom_db_server
           |    -- database
           |        -- patch
   ```

```
|            -- downloaded one-off patches
|-- db_server
|   |-- database
|       |-- opatch
|       |    -- OPatch zip file
|       |-- patch
|       |    -- One-off patches in repository
|       |-- psu
|       |    -- Patch Set Updates in repository
|-- db
|   |--RUP Lite related files
|-- lib
|   |--RUP Lite related files
|-- ruplite
|   |--RUP Lite related files
|-- techpatch
|   |--TPU related files
```

8. Perform this step only if you are running RUP Lite for RDBMS on an Oracle VM environment.

   As the root user, change the permissions on the DB_*timestamp* subdirectory:

   ```
   chmod -R 777 DB_timestamp
   ```

   Exit out of root user to ensure that you do not perform the remaining steps as root.

9. Set executable permissions on `ruplite.sh`. (UNIX only)

   ```
   chmod -R 755 DB_timestamp/db_server_bundle/bin/ruplite.sh
   ```

10. Set the `JAVA_HOME` environment variable as shown in the following example:

    ```
    (UNIX)
    setenv JAVA_HOME java_home_location (must be jdk6)

    (Windows)
    set JAVA_HOME=java_home_location (must be jdk6)
    ```

11. Update the following properties in the *work_dir*`/DB_`*timestamp*`/db_server_bundle/metadata/env.properties` file. Example values are shown.

    - ORACLE_SID=Use an instance name that belongs to the `fusionapps` database.
    - ORACLE_HOME=Use an Oracle home directory on which patches must be applied, such as `/u01/db/11.2.0.3`. Ensure that you do not include any trailing characters after this directory path, such as a "/".
    - TNS_ADMIN=Use a valid location that contains SQL*Net configuration files for the database.
    - LISTENER_NAME=Use a listener name.
    - PFILE=`/u01/db/11.2.0.3/dbs/init.ora`, for example. Update PFILE if your database is started using pfile. You can retrieve this value by running the following query:

      ```
      select NAME, VALUE from v$parameter where NAME like '%file%';
      ```

    - DBSERVER_RESTART=true or false

      To minimize downtime, you can use "false" for `setdbparameters` mode, and "true" for `apply` mode.

If DBSERVER_RESTART is set to "false", the database server, listener and other related services must be manually stopped before running RUP Lite in apply mode. Then after running RUP Lite in apply mode, you must run Step 21.

If the value for this property is set to "true", RUP Lite automatically stops the listener and database before applying patches. In addition, RUP Lite automatically performs the following actions after applying patches when DBSERVER_RESTART=true:

a. Start the database instance.

b. Start the listener.

c. Run catbundle.sql with arguments "psu apply" on non-Windows and "winbundle apply" on Windows.

```
(UNIX)
$ORACLE_HOME/rdbms/admin/catbundle.sql psu apply

(Windows)
%ORACLE_HOME%\rdbms\admin\catbundle.sql winbundle apply
```

For a list of catbundle.sql errors that can be ignored, see Section 7.19.11, "Ignorable Errors Reported by catbundle.sql".

d. For each patch applied, run the post installation script, postinstall.sql, if it exists.

e. Run *ORACLE_HOME*/rdbms/admin/catmetx.sql.

```
(UNIX)
$ORACLE_HOME/rdbms/admin/catmetx.sql

(Windows)
%ORACLE_HOME%\rdbms\admin\catmetx.sql
```

12. Verify that the java version is 1.6 or above by using the following command:

```
(UNIX)
$JAVA_HOME/bin/java -version

(Windows)
%JAVA_HOME%\bin\java -version
```

If your version is lower, download 1.6 or a higher version from My Oracle Support.

13. Stop all user applications.

14. Change directory to the following location:

```
DB_timestamp/db_server_bundle/bin
```

15. Run RUP Lite for RDBMS in validate mode. The database instance and listener must be up.

```
(UNIX) ruplite.sh validate
(Windows) ruplite.bat validate
```

16. Review the log file, output/logs/ruplitevalidate.log, to confirm whether the database parameters contain the values you set in Step 11 and the values displayed in Table 3–1, " Recommended Values for Database Parameters", and to review any errors that may have occurred.

If any of the parameters do not contain the recommended value, proceed to the next step to run RUP Lite for RDBMS in `setdbparameters` mode. If all parameters are correct, proceed to Step 19 to run RUP Lite for RDBMS in `apply` mode.

17. Run RUP Lite for RDBMS in `setdbparameters` mode. The database instance and listener must be up.

```
(UNIX) ruplite.sh setdbparameters
(Windows) ruplite.bat setdbparameters
```

18. Review the log file, `output/logs/ruplitesetdbparameters.log`, to confirm whether the database parameters contain the values displayed in Table 3–1, " Recommended Values for Database Parameters", and to review any errors that may have occurred.

19. Running RUP Lite for RDBMS in `apply` mode starts and stops only the Fusion Applications database listener and the database server. You must stop any other applications or processes that are running from the Oracle Fusion Applications home directory, except the OPSS Security Store, before you run RUP Lite for RDBMS. For more information, see "Starting and Stopping" in the *Oracle Fusion Applications Administrator's Guide*. Also confirm that the BI presentation servers are shut down.

    You can set the parameter `DBSERVER_RESTART` (available in `metadata/env.properties`) to "false" if you want to manually shut down the database, stop the listener before patching, and start it up after applying the patches. For Windows, if you set `DBSERVER_RESTART` to "false", follow the steps in Section 3.2.3, "Stop Services on Windows Before Running RUP Lite For RDBMS".

    > **Note:** To avoid an issue with active files while patching, ensure that no applications or processes are running from the `ORACLE_HOME` that is referenced in `metadata/env.properties`. If `DBSERVER_RESTART`=true, you can ignore the database instance and listener processes because RUP Lite brings them down.

    Run RUP Lite for RDBMS in `apply` mode.

```
(UNIX) ruplite.sh
(Windows) ruplite.bat
```

20. Review the following log files located under the `output/logs` directory if any errors occurred:

```
ruplitedb.log
tp_property_editor_timestamp.log
db_apply_repository_patches_timestamp.log
db_validate_repository_patches_timestamp.log
repository_patch_validate_results_timestamp.xml
post_db_restart_actions_timestamp.log
```

    If RUP Lite for RDBMS fails, resolve the issue reported in the log file. When you restart a failed session, RUP Lite for RDBMS ignores the successful actions, starts with the failed action, and proceeds from that point.

    The `post_db_restart_actions_timestamp.log` file includes the output from `catbundle.sql` and `catmetx.sql`. For a list of `catbundle.sql` errors that can be ignored, see Section 7.19.11, "Ignorable Errors Reported by catbundle.sql".

21. If you set `DBSERVER_RESTART` to "false", perform the following steps:

a. Start the database instance.

b. Start the listener.

c. Run RUP Lite for RDBMS in `applypostchanges` mode.

```
(UNIX) ruplite.sh applypostchanges
(Windows) ruplite.bat applypostchanges
```

d. Review the following log files, located under the `output/logs` directory, if any errors occurred:

```
ruplitedbapplypostchanges.log
post_db_restart_actions_timestamp.log
```

These log files are generated by running ruplite in `applypostchanges` mode. The `post_db_restart_actions_timestamp.log` file includes the output from `catbundle.sql` and `catmetx.sql`. For a list of `catbundle.sql` errors that can be ignored, see Section 7.19.11, "Ignorable Errors Reported by catbundle.sql".

22. You must manually execute any manual steps that are documented in the `README.txt` file of the patches you applied with RUP Lite for RDBMS. RUP Lite for RDBMS executes `postinstall.sql` if it is mentioned as a manual step. All other steps have to be run manually.

23. Proceed to Section 3.2.4, "Run Additional Post Database Start Scripts for Patches for Release 8".

3.2.2 Run RUP Lite for RDBMS in a RAC Database

Perform the following steps to run RUP Lite for RDBMS in a RAC database. You must run RUP Lite for RDBMS on all available file systems. This may involve multiple hosts and nodes. Note that a single Oracle home can be shared by multiple nodes, and in this case, running RUP Lite on a single node of such a group is sufficient.

1. Follow Steps 1 through 10 in Section 3.2.1, "Run RUP Lite for RDBMS".

2. Stop all user applications that use the Oracle home directory being patched.

3. Update the following properties in the *work_dir*`/DB_`*timestamp*`/db_server_bundle/metadata/env.properties` file. Example values are shown.

   - ORACLE_HOME=Use an Oracle home directory on which patches must be applied, such as `/u01/db/11.2.0.3`. Ensure that you do not include any trailing characters after this directory path, such as a "/".
   - ORACLE_SID=Use an instance name that belongs to the `fusionapps` database and is run against the Oracle home set in the previous property.
   - TNS_ADMIN=Use a valid `tns_admin` location, which is typically located under the grid infra and contains `listener.ora` and `sqlnet.ora` files.
   - LISTENER_NAME=Use a listener name.
   - PFILE=`/u01/db/11.2.0.3/dbs/init.ora`, for example.

     Update PFILE if your database is started using pfile.
   - DBSERVER_RESTART=false

     Note that the value of DBSERVER_RESTART must be "false".

4. Verify that the java version is 1.6 or above by using the following command:

```
(UNIX)
```

```
$JAVA_HOME/bin/java -version

(Windows)
%JAVA_HOME%\bin\java -version
```

5. Change directory to the following location:

   `DB_timestamp/db_server_bundle/bin`

6. Run RUP Lite for RDBMS in `validate` mode. The database instance and listener must be up.

   ```
   (UNIX) ruplite.sh validate
   (Windows) ruplite.bat validate
   ```

7. Review the log file, `output/logs/ruplitevalidate.log`, to confirm whether the database parameters contain the values you set in Step 3 and the values displayed in Table 3–1, " Recommended Values for Database Parameters", and to review any errors that may have occurred.

   If any of the parameters do not contain the recommended value, proceed to the next step to run RUP Lite for RDBMS in `setdbparameters` mode. If all parameters are correct, proceed to Step 10 to run RUP Lite for RDBMS in `apply` mode.

8. Run RUP Lite for RDBMS in `setdbparameters` mode. The database instance and listener must be up.

   ```
   (UNIX) ruplite.sh setdbparameters
   (Windows) ruplite.bat setdbparameters
   ```

9. Review the log file, `output/logs/ruplitesetdbparameters.log`, to confirm whether the database parameters contain the values displayed in Table 3–1, " Recommended Values for Database Parameters", and to review any errors that may have occurred.

10. Shut down all Oracle RAC databases on all nodes in the cluster, even those that are sharing the same host. Database instances that are running could cause issues that prevent patches from applying successfully or you could receive errors because the patches update files that are in use.

    To shut down an Oracle RAC database, enter the following command in a command window, where `CRS_home` is the location of the Grid home directory and `sales` is the name of the database in the following example:

    ```
    (UNIX)
    CRS_home/bin/srvctl stop database -d sales

    (Windows)
    CRS_home\bin\srvctl stop database -d sales
    ```

11. Stop the listener that is running from all Oracle homes in the cluster, using the following command:

    ```
    (UNIX)
    CRS_home/bin/srvctl stop listener [-l listener_name]

    (Windows)
    CRS_home\bin\srvctl stop listener [-l listener_name]
    ```

12. To avoid an issue with active files while patching, ensure that no applications or processes are running from the ORACLE_HOME that is referenced in `metadata/env.properties`.

13. Run RUP Lite for RDBMS in `apply` mode.

    ```
    (UNIX) ruplite.sh
    (Windows) ruplite.bat
    ```

14. Review the following log files located under the `output/logs` directory if any errors occurred:

    ```
    ruplitedb.log
    tp_property_editor_timestamp.log
    db_apply_repository_patches_timestamp.log
    db_validate_repository_patches_timestamp.log
    repository_patch_validate_results_timestamp.xml
    ```

    If RUP Lite for RDBMS fails, resolve the issue reported in the log files. When you restart a failed session, RUP Lite for RDBMS ignores the successful actions, starts with the failed action, and proceeds from that point.

15. RAC databases often share a single ORACLE_HOME for all RAC instances. If you have this configuration, continue to the next step.

    If you do not have this configuration, you must update the files in the other ORACLE_HOMEs for your RAC database. To update the other ORACLE_HOMEs, repeat Steps 4 through 8 in Section 3.2.1, "Run RUP Lite for RDBMS" for RAC instances with non-shared ORACLE_HOMEs. Then repeat Steps 3 through 15 in this section for all RAC instances. Note that this may involve multiple hosts and nodes.

16. Start the database.

17. Run RUP Lite for RDBMS in `applypostchanges` mode.

    ```
    (UNIX) ruplite.sh applypostchanges
    (Windows) ruplite.bat applypostchanges
    ```

18. Review the following log files, located under the `output/logs` directory, if any errors occurred:

    ```
    ruplitedbapplypostchanges.log
    post_db_restart_actions_timestamp.log
    ```

    These log files are generated by running ruplite in `applypostchanges` mode. The `post_db_restart_actions_timestamp.log` file includes the output from `catbundle.sql` and `catmetx.sql`. For a list of `catbundle.sql` errors that can be ignored, see Section 7.19.11, "Ignorable Errors Reported by catbundle.sql".

19. You must manually execute any manual steps that are documented in the `README.txt` file of the patches you applied with RUP Lite for RDBMS. RUP Lite for RDBMS executes `postinstall.sql` if it is mentioned as a manual step. All other steps have to be done manually.

    If there is more than one ORACLE_HOME in the RAC database, you do not need to run SQL scripts again when patching the 2nd through the *n*th ORACLE_HOME, but you do need to perform any manual steps that update ORACLE_HOME.

20. Start the listener from all Oracle homes in the cluster. For Windows, start the services described Section 3.2.3, "Stop Services on Windows Before Running RUP Lite For RDBMS".

21. Proceed to Section 3.2.4, "Run Additional Post Database Start Scripts for Patches for Release 8".

3.2.3 Stop Services on Windows Before Running RUP Lite For RDBMS

For a Windows platform, the following services should be stopped before you run RUP Lite for RDBMS:

> **Note:** You do not shut down services if `DBSERVER_RESTART=true` in `env.properties`, which is the default case. You must shut down services only if you set `DBSERVER_RESTART=false` in `env.properties`.

- OracleOraDb11g_home1TNSListenerLISTENER_<SID>
- OracleOraDb11g_home1ClrAgent
- OracleDBConsole<SID>
- OracleJobScheduler<SID>
- OracleService<SID>
- OracleMTSRecoveryService
- Windows Management Instrumentation
- Distributed Transaction Coordinator
- Oracle <SID> VSS Writer Service

If RUP Lite for RDBMS fails to stop or start a service, you can manually manage each service from the Control Panel. Select **Administrative Tools**, then **Services**. Right click on each service and choose the **Stop** or **Start** option.

3.2.4 Run Additional Post Database Start Scripts for Patches for Release 8

RUP Lite for RDBMS consolidates the README.txt files for all applied patches into one consolidated README.txt file, which is located in the *OUI_Component*`_readme.txt` directory. You must manually execute any manual steps that are documented in the consolidated README.txt file. RUP Lite for RDBMS executes `postinstall.sql` if it is mentioned as a manual step. All other steps have to be performed manually on the DB host by any user that has system privileges. Perform these steps on only one of the nodes in the case of a RAC setup.

Database patches can be found at the following locations:

SHARED_UPGRADE_LOCATION/POD_NAME/RELEASE_VERSION/DB/RUPLiteDB/DB_*TIME_STAMP*/db_server_bundle/db_server/database/psu (if exists)

SHARED_UPGRADE_LOCATION/POD_NAME/RELEASE_VERSION/DB/RUPLiteDB/DB_*TIME_STAMP*/db_server_bundle/db_server/database/patch

Example location:

```
/u01/shared_location/CRM/11.1.8.0.0/DB/RUPLiteDB/DB_2012-08-07_
03-43-22/db_server_bundle/db_server/database/patch/
```

4

Running Pre-Downtime Checks

This chapter describes the steps to ensure system reliability by running Pre-downtime checks.

This chapter includes the following topics:

- Run the Health Checker Utility
- Run the Pre-validation Check on IDM Hosts

4.1 Run the Health Checker Utility

Health Checker is a command line utility that performs a set of validation checks against an Oracle Fusion Applications environment to ensure that the environment meets recommended standards. When Health Checker runs, it uses a specific manifest file which performs the appropriate checks. Health Checker provides a list of corrective actions for any checks that fail validation. The suggested corrective actions must be run manually to fix the issue before proceeding with the upgrade.

This section contains the following topics:

- Pre-Downtime Health Checker Manifests
- Run Health Checker on the Primordial Host
- Run Health Checker on the Mid Tier Host
- Run Health Checker on the OHS Host
- Run Health Checker on the Database Host

4.1.1 Pre-Downtime Health Checker Manifests

When you run Health Checker, you specify a manifest file, depending on which checks you are running. During pre-downtime, you run the following manifests.

- `GeneralSystemHealthChecks.xml`: Run on the Primordial, Mid tier, OHS, and Database hosts
- `PreDowntimeUpgradeReadinessHealthChecks.xml`: Run on the Primordial, Mid tier, OHS, and Database hosts
- `DataQualityChecks.xml`: Run on the Primordial host only

For more information about the checks performed by Health Checker, see Section A.3.2.2, "Health Checker Plug-ins."

4.1.2 Run Health Checker on the Primordial Host

Perform the following steps to run Health Checker on the Primordial host.

1. Confirm that all Oracle Fusion Applications, database and Oracle Identity Management services are up and running.
2. Set the following environment variables:
   - *APPLICATIONS_BASE*: The directory that contains Oracle Fusion Applications. For example, if Oracle Fusion Applications is installed in `/server01/APPTOP/fusionapps`, then set the `APPLICATIONS_BASE` environment variable to `/server01/APPTOP`.
   - *REPOSITORY_LOCATION*: The directory where the repository is staged, *SHARED_LOCATION*`/11.1.8.0.0/Repository`.
   - *FA_SCRIPTS_DOWNLOAD_DIR*: The location of the `PatchConflictManager.py` utility, *SHARED_LOCATION*`/PatchConflictManager`, which you downloaded in Section 2.3.4, "Download and Unzip the Patch Conflict Manager Utility".
   - *DOWNLOAD_PATCH_DIR*: The location where you downloaded post-release patches, *SHARED_LOCATION*`/11.1.8.0.0_posw_repo_patches`, in Section 2.3.5.3, "Download and Unzip Mandatory Post-Release 8 Patches".
   - Note that the following environment variables are set in the primordial host but the values come from the OHS host. For example, `/u01/mw_home/Oracle_WT1/instances/CommonDomain_webtier` does not exist on the primordial host and this path is a path on the OHS host. However, Health Checker requires this environment variable on the primordial host.
     - *OHS_INSTANCE_ID*: The OHS instance id being upgraded, for example, `ohs1`.
     - *WT_CONFIG_HOME*: The web tier instance configuration directory, for example, `/APPTOP/instance/CommonDomain_webtier`.
     - *OHS_HOST_NAME*: The OHS host name, for example, `ohs_host.my.company.com`.
   - *HC_OVERRIDE_FILES:* The location of any Health Checker overrides that you may have created, as described in Section A.3.2.3.1, "Create Override Files." The default location is *SHARED_UPGRADE_LOCATION*`/healthchecker/`*POD_NAME*. You can skip this variable if you do not have Health Checker overrides.
3. Run Health Checker for each manifest. Note that this is one command.

```
(UNIX)
ORCH_LOCATION/fusionapps/applications/lcm/hc/bin/hcplug.sh -hostType PRIMORDIAL
-manifest
ORCH_
LOCATION/fusionapps/applications/lcm/hc/config/ga/GeneralSystemHealthChecks.xml
-DlogLevel=FINEST

ORCH_LOCATION/fusionapps/applications/lcm/hc/bin/hcplug.sh -hostType PRIMORDIAL
-manifest
ORCH_
LOCATION/fusionapps/applications/lcm/hc/config/ga/PreDowntimeUpgradeReadinessHe
althChecks.xml -DlogLevel=FINEST

ORCH_LOCATION/fusionapps/applications/lcm/hc/bin/hcplug.sh -hostType PRIMORDIAL
-manifest
ORCH_LOCATION/fusionapps/applications/lcm/hc/config/ga/DataQualityChecks.xml
-DlogLevel=FINEST
```

```
(Windows)
ORCH_LOCATION\fusionapps\applications\lcm\hc\bin\hcplug.cmd -hostType
PRIMORDIAL -manifest
ORCH_
LOCATION\fusionapps\applications\lcm\hc\config\ga\GeneralSystemHealthChecks.xml
-DlogLevel=FINEST

ORCH_LOCATION\fusionapps\applications\lcm\hc\bin\hcplug.cmd -hostType
PRIMORDIAL -manifest
ORCH_
LOCATION\fusionapps\applications\lcm\hc\config\ga\PreDowntimeUpgradeReadinessHe
althChecks.xml -DlogLevel=FINEST

ORCH_LOCATION\fusionapps\applications\lcm\hc\bin\hcplug.cmd -hostType
PRIMORDIAL -manifest
ORCH_LOCATION\fusionapps\applications\lcm\hc\config\ga\DataQualityChecks.xml
-DlogLevel=FINEST
```

4. If any health checks fail, refer to the Health Checker log files and reports to find the corrective actions to resolve the issue. The suggested corrective actions must be run manually to fix the issue before proceeding with the upgrade. Then rerun Health Checker to ensure all checks are successful. If the failure is a known issue and you want to exclude the check, refer to Section A.3.2.3, "Override Health Checks."

   The following table provides the location of log files and reports on the Primordial host. Note that Health Checker log directories are created with reference to version you are upgrading from during the pre-upgrade phase.

Table 4–1 Health Checker Log Files and Reports on the Primordial Host

Manifest File Name	Log File Location	Report Location
GeneralSystemHealthChecks.xml	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/PRIMORDIAL_*hostname*-GeneralSystemHealthChecks_*timestamp*.log	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/PRIMORDIAL_*hostname*-GeneralSystemHealthChecks_*timestamp*.html
PreDowntimeUpgradeReadinessHealthChecks.xml	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/PRIMORDIAL_*hostname*-PreDowntimeUpgradeReadinessHealthChecks_*timestamp*.log	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/PRIMORDIAL_*hostname*-PreDowntimeUpgradeReadinessHealthChecks_*timestamp*.html
DataQualityChecks	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/PRIMORDIAL_*hostname*-DataQualityHealthChecks_*timestamp*.log	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/PRIMORDIAL_*hostname*-DataQualityHealthChecks_*timestamp*.html

4.1.3 Run Health Checker on the Mid Tier Host

Perform the following steps to run Health Checker on the Mid tier host.

1. Set the following environment variables:

   - *APPLICATIONS_BASE*: The directory that contains Oracle Fusion Applications. For example, if Oracle Fusion Applications is installed in `/server01/APPTOP/fusionapps`, then set the `APPLICATIONS_BASE` environment variable to `/server01/APPTOP`.

- *REPOSITORY_LOCATION*: The directory where the repository is staged, *SHARED_LOCATION*/11.1.8.0.0/Repository.
- *IS_SECONDARY_NODE:* A value of yes or no, to indicate whether the Mid tier node is secondary.
- *HC_OVERRIDE_FILES:* The location of any Health Checker overrides that you may have created, as described in Section A.3.2.3.1, "Create Override Files." The default location is *SHARED_UPGRADE_LOCATION*/healthchecker/*POD_NAME*. You can skip this variable if you do not have Health Checker overrides.

2. Run Health Checker for each manifest. Note that this is one command.

```
(UNIX)
ORCH_LOCATION/fusionapps/applications/lcm/hc/bin/hcplug.sh  -hostType MIDTIER
-manifest
ORCH_
LOCATION/fusionapps/applications/lcm/hc/config/ga/GeneralSystemHealthChecks.xml
-DlogLevel=FINEST

ORCH_LOCATION/fusionapps/applications/lcm/hc/bin/hcplug.sh -hostType MIDTIER
-manifest
ORCH_
LOCATION/fusionapps/applications/lcm/hc/config/ga/PreDowntimeUpgradeReadinessHe
althChecks.xml -DlogLevel=FINEST

(Windows)
ORCH_LOCATION\fusionapps\applications\lcm\hc\bin\hcplug.cmd -hostType MIDTIER
-manifest
ORCH_
LOCATION\fusionapps\applications\lcm\hc\config\ga\GeneralSystemHealthChecks.xml
-DlogLevel=FINEST

ORCH_LOCATION\fusionapps\applications\lcm\hc\bin\hcplug.cmd -hostType MIDTIER
-manifest
ORCH_
LOCATION\fusionapps\applications\lcm\hc\config\ga\PreDowntimeUpgradeReadinessHe
althChecks.xml -DlogLevel=FINEST
```

3. If any health checks fail, refer to the Health Checker log files and reports to find the corrective action to resolve the issue. The suggested corrective actions must be run manually to fix the issue before proceeding with the upgrade. Then rerun Health Checker to ensure all checks are successful. If the failure is a known issue and you want to exclude the check, refer to Section A.3.2.3, "Override Health Checks."

   The following table provides the location of log files and reports on the Mid tier host.

Table 4–2 Health Checker Log Files and Reports on the Mid tier Host

Manifest File Name	Log File Location	Report Location
GeneralSystemHealthChecks.xml	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/MIDTIER_*hostname*-GeneralSystemHealthChecks_*timestamp*.log	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/MIDTIER_*hostname*-GeneralSystemHealthChecks_*timestamp*.html

Table 4–2 (Cont.) Health Checker Log Files and Reports on the Mid tier Host

Manifest File Name	Log File Location	Report Location
PreDowntimeUpgradeReadinessHealthChecks.xml	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/MIDTIER_*hostname*-PreDowntimeUpgradeReadinessHealthChecks_*timestamp*.log	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/MIDTIER_*hostname*-PreDowntimeUpgradeReadinessHealthChecks_*timestamp*.html

4.1.4 Run Health Checker on the OHS Host

Perform the following steps to run Health Checker on the OHS host.

1. Set the following environment variables:
   - *APPLICATIONS_BASE: ORCH_LOCATION*, which was created in Section 2.3.7, "Unzip Orchestration.zip".
   - *REPOSITORY_LOCATION*: The directory where the repository is staged, *SHARED_LOCATION*/11.1.8.0.0/Repository.
   - *JAVA_HOME*: The jdk6 location under APPLTOP, for example, /u01/APPLTOP/webtier_mwhome/webtier/jdk. Do not use the jdk under the orchestration directory. Note that you use this same location for the -jreloc argument when running the commands in this section.
   - *WT_MW_HOME*: Location of the web tier *MW_HOME*, for example, /oracle/work/*MW_HOME*.
   - *WT_ORACLE_HOME*: Location of the web tier directory, which is a subdirectory under *WT_MW_HOME*, for example, /APPTOP/webtier_mwhome, or /APPTOP/webtier_mwhome/webtier.
   - *WT_CONFIG_HOME*: Location of the web tier instance directory, for example, /oracle/work/*MW_HOME*/Oracle_WT1/instances/instance1.
   - *OHS_INSTANCE_ID*: The OHS instance ID on the host. Normally this is ohs1 and is the value for ias_component id in the opmn.xml file.
   - *UPGRADEOHS_PROP_FILE*: The location for the OHS env.properties file on each OHS host, which you created in Step 1.
   - *OHS_UPGRADE_BINARIES_HOSTNAME*: A comma separated list of your OHS host names which do not share binaries. For example, if you have a main OHS host and a scaled out OHS host, both pointing to the same binaries, this environment variable should list only the main OHS host, since the scaled out OHS host is using shared binaries. Note that this parameter is optional.
   - *CURRENT_FA_RELEASE_VERSION*: The current version on the environment before the upgrade, which is 11.1.7.0.0.
   - *FA_SCRIPTS_DOWNLOAD_DIR*: The location of the PatchConflictManager.py utility, *SHARED_LOCATION*/PatchConflictManager, which you downloaded in Section 2.3.4, "Download and Unzip the Patch Conflict Manager Utility".
   - *DOWNLOAD_PATCH_DIR*: The location of downloaded post-release patches, *SHARED_LOCATION*/11.1.8.0.0_post_repo_patches, which you downloaded in Section 2.3.5.3, "Download and Unzip Mandatory Post-Release 8 Patches".
   - *HC_OVERRIDE_FILES:* The location of any Health Checker overrides that you may have created, as described in Section A.3.2.3.1, "Create Override Files."

The default location is *SHARED_UPGRADE_LOCATION*/healthchecker/*POD_NAME*. You can skip this variable if you do not have Health Checker overrides.

2. Run Health Checker for each manifest. Note that this is one command.

```
(UNIX)
ORCH_LOCATION/fusionapps/applications/lcm/hc/bin/hcplug.sh -hostType OHS
-manifest
ORCH_
LOCATION/fusionapps/applications/lcm/hc/config/ga/GeneralSystemHealthChecks.xml
-DlogLevel=FINEST -jreLoc JDK6_LOCATION -logDir /u01/logs/OHS/

ORCH_LOCATION/fusionapps/applications/lcm/hc/bin/hcplug.sh -hostType OHS
-manifest
ORCH_
LOCATION/fusionapps/applications/lcm/hc/config/ga/PreDowntimeUpgradeReadinessHe
althChecks.xml -DlogLevel=FINEST -jreLoc JDK6_LOCATION -logDir /u01/logs/OHS/

(Windows)
ORCH_LOCATION\fusionapps\applications\lcm\hc\bin\hcplug.cmd -hostType OHS
-manifest
ORCH_
LOCATION\fusionapps\applications\lcm\hc\config\ga\GeneralSystemHealthChecks.xml
-DlogLevel=FINEST -jreLoc JDK6_LOCATION -logDir
C:\Shared\webgate\log\logs\healthchecker

(Windows)
ORCH_LOCATION\fusionapps\applications\lcm\hc\bin\hcplug.cmd -hostType OHS
-manifest
ORCH_
LOCATION\fusionapps\applications\lcm\hc\config\ga\PreDowntimeUpgradeReadinessHe
althChecks.xml -DlogLevel=FINEST -jreLoc JDK6_LOCATION -logDir
C:\Shared\webgate\log\logs\healthchecker
```

3. If any health checks fail, refer to the Health Checker log files and reports to find the corrective action to resolve the issue. The suggested corrective actions must be run manually to fix the issue before proceeding with the upgrade. Then rerun Health Checker to ensure all checks are successful. If the failure is a known issue and you want to exclude the check, refer to Section A.3.2.3, "Override Health Checks."

   The following table provides the location of log files and reports on the OHS host.

Table 4–3 Health Checker Log Files and Reports on the OHS Host

Manifest File Name	Log File Location	Report Location
GeneralSystemHealthChecks.xml	/u01/logs/OHS/logs/healthchecker/OHS_*hostname*-GeneralSystemHealthChecks_*timestamp*.log	/u01/logs/OHS/logs/healthchecker/OHS_*hostname*-GeneralSystemHealthChecks_*timestamp*.html
PreDowntimeUpgradeReadinessHealthChecks.xml	/u01/logs/OHS/logs/healthchecker/OHS_*hostname*-PreDowntimeUpgradeReadinessHealthChecks_*timestamp*.log	/u01/logs/OHS/logs/healthchecker/OHS_*hostname*-PreDowntimeUpgradeReadinessHealthChecks_*timestamp*.html

4.1.5 Run Health Checker on the Database Host

Perform the following steps to run Health Checker from the database host. Note that you run Health Checker from the Oracle Fusion Applications database host and not from the Oracle Identity Management database host.

1. Create a ZIP archive of the Health Checker framework that exists on the primordial host, by extracting the contents from the Release 8 Repository. You created this repository, *SHARED_LOCATON*/11.1.8.0.0/Repository, in Section 2.3.2.1, "Create Release 8 Repository Directories."

   Run the following commands. If you are on a RAC database, run the commands from both nodes.

   ```
   (UNIX)
   setenv APPLICATIONS_BASE APPLICATIONS_BASE
   cd REPOSITORY_LOCATION/installers/farup/Disk1/upgrade
   bin/hczip.py /any_scratch_directory/hc.zip --repoLoc $REPOSITORY_LOCATION

   (Windows)
   set APPLICATIONS_BASE=C:\AT
   cd REPOSITORY_LOCATION\installers\farup\Disk1\upgrade
   bin\hczip.py C:\any_scratch_directory\hc.zip
   ```

2. Use FTP or another method to transfer the `hc.zip` file to the DB host.

3. Create a directory where you want the Health Checker framework contents to reside. You must choose a separate directory that does not overlap with any provisioned components. This directory is referred to as *HC_TOP* in this section.

   ```
   mkdir /u01/hcframework
   cd /u01/hcframework
   cp hc.zip /u01/hcframework
   unzip hc.zip
   ```

4. Set the following environment variables. Note that all environment variables must reference the absolute path.

   - *APPLICATIONS_BASE* - The *HC_TOP* directory, where `hc.zip` was unzipped
   - *REPOSITORY_LOCATION*: The directory where the repository is staged, *SHARED_LOCATION*/11.1.8.0.0/Repository.
   - *JAVA_HOME*: The `jdk6` location under APPLTOP, for example, `/u01/APPLTOP/webtier_mwhome/webtier/jdk`. Do not use the `jdk` under the orchestration directory. Note that you use this same location for the `-jreloc` argument when running the commands in this section.
   - *ORACLE_HOME* - The Oracle Database Home directory
   - *PATH* - `$PATH:$ORACLE_HOME/bin`
   - *LISTENER_NAME* - The Oracle database listener name
   - *ORACLE_SID* - The Oracle database SID
   - *TNS_ADMIN* - `$ORACLE_HOME/network/admin`
   - *LD_LIBRARY_PATH* - `$ORACLE_HOME/lib`
   - *GRID_HOME* - On RAC configurations, set this to *GRID_HOME*, otherwise set to *ORACLE_HOME*

   On Windows, append *ORACLE_HOME*/bin to the current path, as follows:

```
Set PATH=%PATH%;ORACLE_HOME\bin
```

5. Run Health Checker for both manifests and specify `-hostType` and the `-jreLoc`.

```
(UNIX)
APPLICATIONS_BASE/fusionapps/applications/lcm/hc/bin/hcplug.sh -hostType DB
-jreLoc JDK_version_1.6_under_APPLTOP -manifest
APPLICATIONS_
BASE/fusionapps/applications/lcm/hc/config/PreDowntimeUpgradeReadinessHealthChe
cks.xml -DlogLevel=FINEST -logDir logfile_directory

APPLICATIONS_BASE/fusionapps/applications/lcm/hc/bin/hcplug.sh -hostType DB
-jreLoc JDK_version_1.6_under_APPLTOP -manifest
APPLICATIONS_
BASE/fusionapps/applications/lcm/hc/config/GeneralSystemHealthChecks.xml
-DlogLevel=FINEST -logDir logfile_directory

(Windows)
APPLICATIONS_BASE\fusionapps\applications\lcm\hc\bin/hcplug.cmd -hostType DB
-jreLoc JDK_version_1.6_under_APPLTOP -manifest
APPLICATIONS_
BASE/fusionapps\applications\lcm\hc\config\PreDowntimeUpgradeReadinessHealthChe
cks.xml -DlogLevel=FINEST -logDir logfile_directory

APPLICATIONS_BASE/fusionapps\applications\lcm\hc\bin\hcplug.cmd -hostType DB
-jreLoc JDK_version_1.6_under_APPLTOP -manifest
APPLICATIONS_
BASE/fusionapps/applications\lcm\hc\config\GeneralSystemHealthChecks.xml
-DlogLevel=FINEST -logDir logfile_directory
```

6. If any health checks fail, refer to the Health Checker logs files and reports to find the corrective actions to resolve the issue. The suggested corrective actions must be run manually to fix the issue before proceeding with the upgrade. Then rerun Health Checker to ensure all checks are successful. If the failure is a known issue and you want to exclude the check, refer to Section A.3.2.3, "Override Health Checks."

   The following table provides the location of log files and reports on the database host. Note that Health Checker log directories are created with reference to version you are upgrading from, 11.1.8.0.0.

Table 4–4 Health Checker Log Files and Reports on the DB Host

Manifest File Name	Log File Location	Report Location - html and xml formats
GeneralSystemHealthChecks.xml	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/DB_*hostname*-GeneralSystemHealthChecks_*timestamp*.log	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/DB_*hostname*-GeneralSystemHealthChecks_*timestamp*.html
PreDowntimeUpgradeReadinessHealthChecks.xml	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/DB_*hostname*-PreDowntimeUpgradeReadinessHealthChecks_*timestamp*.log	*APPLICATIONS_CONFIG*/lcm/logs/11.1.7.0.0/healthchecker/DB_*hostname*-PreDowntimeUpgradeReadinessHealthChecks_*timestamp*.html

4.2 Run the Pre-validation Check on IDM Hosts

If you are running Oracle Fusion Applications on a SINGLE, 3-NODE, or 4-NODE IDM configuration on a Linux, Solaris, or AIX platform that is a Release 7 IDM provisioned environment, follow the steps in this section. Otherwise, proceed to Chapter 5, "Upgrading to Oracle Fusion Applications Release 8" when you are ready to begin the upgrade.

4.2.1 Confirm Prerequisite Steps Are Complete

Ensure that you have completed the steps in Section 2.3.8, "Copy and Unzip idmUpgrade.zip" and Section 2.5, "Update the `patchAutomation.properties` File for the IDM Upgrade".

4.2.2 Set Environment Variables

The steps for setting the environment variables on each node vary by platform. Refer to the section that is appropriate for your platform:

- Environment Variables Required for Linux
- Environment Variables Required for AIX
- Environment Variables Required for Solaris

4.2.2.1 Environment Variables Required for Linux

On Linux, use the system perl, which is perl version 5.8.8 on Oracle Enterprise Linux version 5 and perl version 5.10.1 on Oracle Enterprise Linux version 6.

Set LD_LIBRARY_PATH as follows, only if Oracle Identity Management is not installed in the default location of `/u01/IDMTOP`.

- On OID and OIM nodes:

```
LD_LIBRARY_PATH=OID_ORACLE_HOME/lib
 export LD_LIBRARY_PATH
```

- On the OHS node:

```
 LD_LIBRARY_PATH=OHS_ORACLE_HOME/lib
 export LD_LIBRARY_PATH
```

4.2.2.2 Environment Variables Required for AIX

On AIX, use the perl that is part of the OID or OHS home, which is perl version 5.10.0.

- Set LIBPATH.
  - On OID and OIM nodes:

```
LIBPATH=OID_ORACLE_HOME/lib
 export LIBPATH
```

  - On the OHS node:

```
 LIBPATH=OHS_ORACLE_HOME/lib
 export LIBPATH
```

- Set PERL5LIB to the *ORACLE_HOME*`/perl` location.
  - On OID and OIM nodes:

```
PERL5LIB=OID_ORACLE_HOME/perl/lib/site_perl/5.10.0:OID_ORACLE_
HOME/perl/lib/5.10.0
export PERL5LIB
```

– On the OHS node:

```
PERL5LIB=OHS_ORACLE_HOME/perl/lib/site_perl/5.10.0:OHS_ORACLE_
HOME/perl/lib/5.10.0
export PERL5LIB
```

- Set PATH to *ORACLE_HOME*/perl/bin to use the 64-bit perl version 5.10.0.
  – On OID and OIM nodes:

```
PATH=OID_ORACLE_HOME/perl/bin:$PATH
 export PATH
```

  – On the OHS node

```
PATH=OHS_ORACLE_HOME/perl/bin:$PATH
 export PATH
```

4.2.2.3 Environment Variables Required for Solaris

On Solaris, use the perl that is part of the OID or OHS home, which is perl version 5.10.0.

- Set LD_LIBRARY_PATH
  – On OID and OIM nodes:

```
LD_LIBRARY_PATH=OID_ORACLE_HOME/lib
 export LD_LIBRARY_PATH
```

  – On the OHS node:

```
 LD_LIBRARY_PATH=OHS_ORACLE_HOME/lib
 export LD_LIBRARY_PATH
```

- Set PERL5LIB to the *ORACLE_HOME*/perl location.
  – On OID and OIM nodes:

```
PERL5LIB=OID_ORACLE_HOME/perl/lib/site_perl/5.10.0:OID_ORACLE_
HOME/perl/lib/5.10.0
export PERL5LIB
```

  – On the OHS node:

```
PERL5LIB=OHS_ORACLE_HOME/perl/lib/site_perl/5.10.0:OHS_ORACLE_
HOME/perl/lib/5.10.0
export PERL5LIB
```

- Set PATH to ORACLE_HOME/perl/bin to use the 64-bit perl version 5.10.0.
  – On OID and OIM nodes:

```
PATH=OID_ORACLE_HOME/perl/bin:$PATH
 export PATH
```

  – On OHS node

```
PATH=OHS_ORACLE_HOME/perl/bin:$PATH
 export PATH
```

4.2.3 Run preValidate.pl on Each Node

Run `preValidate.pl` on each node as follows. Note that the *REPOSITORY_LOCATION*`/installers,`*SHARED_LOCATION*`/11.1.8.0.0_post_repo_patches` argument is optional and if you include it, the patch conflict manager runs.

- On the OID node:

  `cd` *SHARED_LOCATION*`/11.1.8.0.0/idmUpgrade`

  `perl preValidate.pl OID` *REPOSITORY_LOCATION*`/installers,`*SHARED_LOCATION*`/11.1.8.0.0_post_repo_patches patchAutomation.properties`

- On the OIM node:

  `cd` *SHARED_LOCATION*`/11.1.8.0.0/idmUpgrade`

  `perl preValidate.pl OIM` *REPOSITORY_LOCATION*`/installers,`*SHARED_LOCATION*`/11.1.8.0.0_post_repo_patches patchAutomation.properties`

- On the AuthOHS node:

  `cd` *SHARED_LOCATION*`/11.1.8.0.0/idmUpgrade`

  `perl preValidate.pl OHS` *REPOSITORY_LOCATION*`/installers,`*SHARED_LOCATION*`/11.1.8.0.0_post_repo_patches patchAutomation.properties`

Confirm that the return code is successful on each node.

5

Upgrading to Oracle Fusion Applications Release 8

This chapter describes the steps required to upgrade to Oracle Fusion Applications 11*g* Release 8 (11.1.8).

This chapter contains the following topics:

5.1 Steps to Upgrade to Release 8

Perform the following steps to upgrade to Release 8:

- Resume Upgrade Orchestrator (Language Pack Only)
- Upgrade Orchestrator Completes Successfully

5.1.1 Run Upgrade Orchestrator During Downtime

Ensure you have successfully completed the steps in Chapter 2, "Preparing to Perform the Release 8 Upgrade," Chapter 3, "Updating the Oracle Fusion Applications and Oracle Identity Management Databases," and Chapter 4, "Running Pre-Downtime Checks."

Start Upgrade Orchestrator during downtime by running the following commands on all host types, including the respective scaled out hosts. Note that the value *POD_NAME*, for the `-pod` argument, refers to the directory you created in Section 2.3.7, "Unzip Orchestration.zip".

You are prompted for the Master Orchestration Password, for which you can enter any value.

If you are upgrading an instance of Oracle Fusion Applications that is the result of a clone, change the Node Manager password as described in Section 5.4, "Change the Node Manager Password (Cloned Environment Only)."

If you are running on an AIX platform, set the environment variables that are described in Section 4.2.2.2, "Environment Variables Required for AIX." Also perform the step in Section 5.3, "Set the `SKIP_ROOTPRE` Environment Variable (AIX Only).".

Note: If you set the DISPLAY variable, confirm it is accessible. If you do not set the DISPLAY variable, run `unset/unsetenv DISPLAY` before you run orchestration.

---

1. Run the following command to start orchestration on the Primordial host:

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh -pod POD_NAME -hosttype PRIMORDIAL [-DlogLevel=log_level]

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd -pod POD_NAME -hosttype PRIMORDIAL [-DlogLevel=log_level]
```

2. Run the following command to start orchestration on each Mid tier host that is listed in the `HOSTNAME_MIDTIER` property in the `pod.properties` file:

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh -pod POD_NAME -hosttype MIDTIER [-DlogLevel=log_level]

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd -pod POD_NAME -hosttype MIDTIER [-DlogLevel=log_level]
```

3. Run the following command to start orchestration on each OHS host that is listed in the `HOSTNAME_OHS` property in the `pod.properties` file:

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh -pod POD_NAME -hosttype OHS [-DlogLevel=log_level]

(Windows)
```

```
cd ORCH_LOCATION\bin
orchestration.cmd -pod POD_NAME -hosttype OHS [-DlogLevel=log_level]
```

4. Run the following command to start orchestration on each IDM host associated with the following properties in the `pod.properties` file:

   - `HOSTNAME_IDMOID`
   - `HOSTNAME_IDMOIM`
   - `HOSTNAME_IDMOHS`

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh -pod POD_NAME -hosttype IDM [-DlogLevel=log_level]

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd -pod POD_NAME -hosttype IDM [-DlogLevel=log_level]
```

Section A.2, "Additional Information About Upgrade Orchestrator Commands" provides a complete list of options for the `orchestration.sh` command.

Upgrade Orchestrator runs the tasks listed in the following table.

Table 5–1 Tasks Run During the DowntimePreFA Phase

Task Name	Task ID	Host Types
Stop Index Schedules and Deactivate Index Optimization	StopIndexSchedules	Primordial
Stop All Servers	StopAllServers	Primordial, OHS, Mid tier
Set CrashRecoveryEnabled Property to False	DisableCrashRecoveryEnabled	Primordial
Stop OPMN Control Processes	StopOPMNProcesses	Primordial, OHS, Mid tier
Stop Node Managers	StopNodeManager	Primordial, Mid tier

Upgrade Orchestrator can exit for either a failure, a pause point, or upon successful completion. When orchestrator exits on failure, review the log files and take the appropriate corrective action. Then resume Orchestrator using the commands specified in this section.

For information about monitoring the progress of the upgrade, see Section 7.3, "Monitoring Upgrade Orchestration Progress". For information about troubleshooting, see Chapter 7, "Monitoring and Troubleshooting the Upgrade".

> **Note:** If the orchestration command results in any hanging tasks on any host, do not use ctrl-C or ctrl-Z to exit. You must update the status of the task that is hanging by using the commands in Section 7.6.2, "Safely Exit Upgrade Orchestrator". After you exit and fix the issue that caused the hanging, restart Upgrade Orchestrator, using the commands specified in this section, on the hosts that were forced to exit.

5.1.2 Pause Point 1 - Back Up the OPSS Security Store

If your environment is a SINGLE, 3-NODE, or 4-NODE IDM configuration and is running on Linux and a Release 7 IDM provisioned environment, Upgrade Orchestrator runs the tasks listed in the following table and this pause point does not occur. Proceed to Section 5.1.5, "Pause Point 2 - Stop Informatica IR (IIR) Servers."

For other environments, orchestration pauses so that you can back up the OPSS Security Store on the IDM host. Perform the steps in Section 5.2.1, "Back Up the OPSS Security Store."

Table 5–2 Tasks Run During the DowntimePreFA Phase for IDM Upgrade

Task Name	Task ID	Host Types
Stop Oracle Identity Management - AUTHOHS	StopOHS	IDM
Stop Oracle Identity Management - OIM	StopOIM	IDM
Stop Oracle Identity Management - OID	StopOID	IDM
Back Up OPSS Security Store	BackupOPSS	IDM

5.1.3 Update Status to Success

After you successfully back up the OPSS Security Store, update the task status to "success" by running the `updateStatus` command.

Note: The `updateStatus` command must not be run on a host where orchestration is already running. If, for some reason you have to run `updateStatus` for a task on a running host, you must ensure that it is safe to exit orchestration first across the entire environment. Then follow the steps below:

1. Terminate orchestration by following the instructions in Section 7.4, "Terminating Upgrade Orchestration".
2. Update the task status using the `updateStatus` command.
3. Restart orchestration on all the hosts when ready.

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh updateStatus -pod POD_NAME -hosttype IDM -hostname host_name
-release REL8 -phase DowntimePreFA -taskid BackupOPSS  -taskstatus success

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd updateStatus -pod POD_NAME -hosttype IDM -hostname host_name
-release REL8 -phase DowntimePreFA -taskid BackupOPSS  -taskstatus success
```

5.1.4 Resume Upgrade Orchestrator

Resume orchestration on the IDM host using the command in Section 5.1.1, "Run Upgrade Orchestrator During Downtime", Step 4.

5.1.5 Pause Point 2 - Stop Informatica IR (IIR) Servers

Orchestration pauses if you have IIR installed on the Mid tier secondary host and configured in your environment, because you must stop IIR before performing any backups. Refer to the steps in "Informatica Identity Resolution Server Maintenance and Administration: Procedures" in the *Oracle Fusion Applications Installation Guide*.

If you do not have IIR installed, proceed to Section 5.1.8, "Pause Point 3 - Back Up Oracle Fusion Applications."

5.1.6 Update Status to Success

After you successfully stop IIR servers, update the task status to "success" by running the following command:

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh updateStatus -pod POD_NAME -hosttype MIDTIER -hostname host_
name  -release REL8 -phase DowntimePreFA -taskid StopIIRPausePointPlugin
-taskstatus success

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd updateStatus -pod POD_NAME -hosttype MIDTIER -hostname host_name
-release REL8 -phase DowntimePreFA -taskid StopIIRPausePointPlugin  -taskstatus
success
```

5.1.7 Resume Upgrade Orchestrator

Resume orchestration on the MIDTIER host using the command in Section 5.1.1, "Run Upgrade Orchestrator During Downtime", Step 4.

5.1.8 Pause Point 3 - Back Up Oracle Fusion Applications

Orchestration pauses so that you can back up the Oracle Fusion Applications environment. Perform the steps in Section 5.2.2, "Back Up Oracle Fusion Applications".

5.1.9 Update Status to Success

> **Note:** Ensure that you have backed up your Oracle Fusion Applications database and Oracle Identity Management database, as specified in Section 5.2.2, "Back Up Oracle Fusion Applications", before you run the commands in this section.

After you successfully perform the backups, update the task status to "success" on all hosts by running the following commands.

1. Update the task status on the Primordial host.

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh updateStatus -pod POD_NAME -hosttype PRIMORDIAL -hostname
host_name -release REL8 -phase DowntimePreFA -taskid
BackupOracleFAPausePointPlugin -taskstatus success

(Windows)
```

```
cd ORCH_LOCATION\bin
orchestration.cmd updateStatus -pod POD_NAME -hosttype PRIMORDIAL -hostname
host_name -release REL8 -phase DowntimePreFA -taskid
BackupOracleFAPausePointPlugin -taskstatus success
```

2. Update the task status on each Mid tier host that is listed in the `HOSTNAME_MIDTIER` property in the `pod.properties` file.

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh updateStatus -pod POD_NAME -hosttype MIDTIER -hostname host_
name -release REL8 -phase DowntimePreFA -taskid BackupOracleFAPausePointPlugin
-taskstatus success

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd updateStatus -pod POD_NAME -hosttype MIDTIER -hostname host_
name -release REL8 -phase DowntimePreFA -taskid BackupOracleFAPausePointPlugin
-taskstatus success
```

3. Update the task status on each OHS host that is listed in the `HOSTNAME_OHS` property in the `pod.properties` file.

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh updateStatus -pod POD_NAME -hosttype OHS -hostname host_name
-release REL8 -phase DowntimePreFA -taskid BackupOracleFAPausePointPlugin
-taskstatus success

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd updateStatus -pod POD_NAME -hosttype OHS -hostname host_name
-release REL8 -phase DowntimePreFA -taskid BackupOracleFAPausePointPlugin
-taskstatus success
```

4. Update the task status on each IDM host that is listed in following properties in the `pod.properties` file:

   - `HOSTNAME_IDMOID`
   - `HOSTNAME_IDMOIM`
   - `HOSTNAME_IDMOHS`

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh updateStatus -pod POD_NAME -hosttype IDM -hostname host_name
-release REL8 -phase DowntimePreFA -taskid BackupOracleFAPausePointPlugin
-taskstatus success

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd updateStatus -pod POD_NAME -hosttype IDM -hostname host_name
-release REL8 -phase DowntimePreFA -taskid BackupOracleFAPausePointPlugin
-taskstatus success
```

5.1.10 Resume Upgrade Orchestrator

Resume orchestration on all host types, including the respective scaled out hosts, using the commands in Section 5.1.1, "Run Upgrade Orchestrator During Downtime", Steps 1 through 4.

5.1.11 Pause Point 4 - Upgrade Oracle Identity Management to Release 8

Refer to the section for upgrading Oracle Identity Management (IDM) that is appropriate for your environment.

- Release 7 IDM Provisioned, SINGLE, 3-NODE, or 4-NODE, Linux Platform
- Release 7 IDM Provisioned, SINGLE, 3-NODE, or 4-NODE, AIX or Solaris Platform
- Other Configurations

5.1.11.1 Release 7 IDM Provisioned, SINGLE, 3-NODE, or 4-NODE, Linux Platform

If your environment is a SINGLE, 3-NODE, or 4-NODE IDM configuration and is running on Linux and a Release 7 IDM provisioned environment, Upgrade Orchestrator performs the IDM upgrade by running the tasks listed in the following table. This pause point does not occur and you can proceed to Section 5.1.14, "Pause Point 5 - Start External Servers."

Table 5–3 Tasks Run During the DowntimePreFA Phase

Task Name	Task ID	Host Types
Upgrade Oracle Identity Management - OID	OIDApplyPatches	IDM
Upgrade Oracle Identity Management - OIM	OIMApplyPatches	IDM
Upgrade Oracle Identity Management - AUTHOHS	OHSApplyPatches	IDM
Validate Oracle Identity Management Setup & Configuration	IDMPostValidate	IDM

5.1.11.2 Release 7 IDM Provisioned, SINGLE, 3-NODE, or 4-NODE, AIX or Solaris Platform

If your environment is a SINGLE, 3-NODE, or 4-NODE IDM configuration and is running on AIX or Solaris and a Release 7 IDM provisioned environment, you upgrade IDM by following the steps for running `idmUpgrade.pl` in Section 5.2.4, "Run `idmUpgrade.pl` to Upgrade Oracle Identity Management".

5.1.11.3 Other Configurations

If your environment does not meet the criteria in either Section 5.1.11.1 or Section 5.1.11.2, orchestration pauses so that you can perform the IDM upgrade by following the steps in Section 5.2.5, "Upgrade the Oracle Identity Management Domain to 11g Release 8 (11.1.8)".

5.1.12 Update Status to Success

After you successfully upgrade Oracle Identity Management, update the task status to "success" on the IDM host. Note that this section is not applicable if you upgrade IDM based on the information in Section 5.1.11.1, "Release 7 IDM Provisioned, SINGLE, 3-NODE, or 4-NODE, Linux Platform".

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh updateStatus -pod POD_NAME -hosttype IDM -hostname host_name
-release REL8 -phase DowntimePreFA -taskid UpgradeIDMPausePointPlugin  -taskstatus
```

```
success

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd updateStatus -pod POD_NAME -hosttype IDM -hostname host_name
-release REL8 -phase DowntimePreFA -taskid UpgradeIDMPausePointPlugin -taskstatus
success
```

5.1.13 Resume Upgrade Orchestrator

Resume orchestration on each IDM host that is listed in the following properties in the `pod.properties` file, using the command in Section 5.1.1, "Run Upgrade Orchestrator During Downtime", Step 4:

- `HOSTNAME_IDMOID`
- `HOSTNAME_IDMOIM`
- `HOSTNAME_IDMOHS`

Upgrade Orchestrator runs the tasks in the following table.

Table 5–4 Tasks Run During the DowntimePreFA Phase

Task Name	Task ID	Host Types
Run Upgrade Readiness (During Downtime) Checks	DuringDowntimeChecks	Primordial, OHS, Mid tier
Remove Conflicting Patches for Oracle Fusion Middleware Component Oracle Homes	RemoveConflictingPatches	Primordial
Upgrade JDK	UpgradeJDK	Primordial
Install Oracle Fusion Applications LCM Tools for Oracle VM	InstallFaSaasLcmTools	Primordial, OHS, IDM
Prepare for Oracle Fusion Applications LCM Tools for Oracle VM Upgrade	PrepareLCMToolsForOVMUpgrade	Primordial
Apply Oracle Fusion Applications LCM Tools for Oracle VM Patches	ApplyLCMToolsForOVMPatches	Primordial, OHS, IDM
Run RUP Lite for OVM in Offline Mode as Application User	RupLiteOvmOffline	Primordial, OHS, Mid tier, IDM
Run Oracle Fusion Applications RUP Installation Part 1 of 2	RunFirstRUPInstaller	Primordial
Run RUP Lite for Domain Configuration	RunRUPLiteForDomainsConfig	Mid tier
Start Node Managers	StartNodeManager	Primordial, Mid tier
Start OPMN Control Processes	StartOPMNProcesses	Primordial, OHS, Mid tier,
Run Oracle Fusion Applications RUP Installation Part 2 of 2	RunSecondRUPInstaller	Primordial
DowntimePostFA Phase		
Run Vital Signs Checks	VitalSignsChecks	Primordial
Invoke an Instance of UpdateSOAMDS SOA Composite	UpdateMDSSOAComposite	Primordial

Table 5–4 (Cont.) Tasks Run During the DowntimePreFA Phase

Task Name	Task ID	Host Types
Prepare for Oracle Fusion Applications WebTier Upgrade	CopyWebtierUpgradeToCentralLoc	Primordial
Stop Oracle Fusion Applications - APPOHS	StopOPMNProcesses	OHS
Remove Conflicting Patches for Oracle Fusion Applications WebTier Oracle Homes	RemoveConflictingPatches	OHS
Upgrade Oracle Fusion Applications OHS Binaries	UpgradeOHSBinary	OHS
Upgrade Oracle Fusion Applications OHS Configuration	UpgradeOHSConfig	OHS
Run RUP Lite for BI	RunRUPLiteForBI	Mid tier
Run RUP Lite for OVM in Online Mode as Application User	RupLiteOvmOnline	Primordial, OHS, Mid tier, IDM

5.1.14 Pause Point 5 - Start External Servers

Orchestration pauses on the Mid tier host so you can start the GOP server and IIR instance.

Perform the steps in Section 5.2.6, "Start External Servers".

5.1.15 Update Status to Success

After the GOP server and IIR instance start, set the task status to "success" on the Mid tier host.

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh updateStatus -pod POD_NAME -hosttype MIDTIER -hostname host_
name -release REL8 -phase DowntimePostFA -taskid
StartExternalServersPausePointPlugin -taskstatus success

(Windows)
cd ORCH_LOCATION\bin
.\orchestration.cmd updateStatus -pod POD_NAME -hosttype MIDTIER -hostname host_
name -release REL8 -phase DowntimePostFA -taskid
StartExternalServersPausePointPlugin -taskstatus success
```

5.1.16 Resume Upgrade Orchestrator

Resume orchestration on the Mid tier host using the command in Section 5.1.1, "Run Upgrade Orchestrator During Downtime", Step 2.

Upgrade Orchestrator runs the tasks in the following table.

Table 5–5 Tasks Run During the DowntimePostFA Phase

Task Name	Task ID	Host Types
Set CrashRecoveryEnabled Property to True	EnableCrashRecoveryEnabled	Primordial

Table 5–5 (Cont.) Tasks Run During the DowntimePostFA Phase

Task Name	Task ID	Host Types
Run Post Upgrade Health Checks	PostUpgradeChecks	Primordial, OHS, Mid tier
Run Data Quality Checks	DataQualityChecks	Primordial
Run Post Upgrade Cleanup Tasks	PostUpgradeCleanup	Primordial

Note: If you do not have language packs installed, proceed to Section 5.1.20, "Upgrade Orchestrator Completes Successfully.". If you have language packs installed, proceed to Section 5.1.17, "Pause Point 6 - Back Up Oracle Fusion Applications Before Language Pack Upgrade (Language Pack Only)".

5.1.17 Pause Point 6 - Back Up Oracle Fusion Applications Before Language Pack Upgrade (Language Pack Only)

If only the US English language is installed on your environment, proceed to Section 5.1.20, "Upgrade Orchestrator Completes Successfully".

If you have set the `SKIP_UPGRADE_FOR_LANGUAGE` option to skip languages, the upgrade for those languages will not be performed as part of orchestration. In this case, you must manually upgrade your installed languages after Upgrade Orchestrator completes successfully and proceed to Section 5.1.20, "Upgrade Orchestrator Completes Successfully" at this time. For more information, see "Installing and Maintaining Oracle Fusion Applications Languages" in the *Oracle Fusion Applications Administrator's Guide*.

If you have languages other than US English installed on your Oracle Fusion Applications environment, Upgrade Orchestrator pauses so you can back up your Oracle Fusion Applications environment before your languages are upgraded. Perform the steps in Section 5.2.2, "Back Up Oracle Fusion Applications".

5.1.18 Update Status to Success

After you successfully back up the Oracle Fusion Applications environment, update the task status to "success" on all hosts:

1. Update the task status on the primordial host:

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh updateStatus -pod POD_NAME -hosttype PRIMORDIAL -hostname
host_name -release REL8 -phase DowntimePostFA -taskid
BackupOracleFAPausePointPlugin -taskstatus success

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd updateStatus -pod POD_NAME -hosttype PRIMORDIAL -hostname
host_name -release REL8 -phase DowntimePostFA -taskid
BackupOracleFAPausePointPlugin -taskstatus success
```

2. Update the task status on each Mid tier host that is listed in the `HOSTNAME_MIDTIER` property in the `pod.properties` file:

```
(Unix)
```

```
cd ORCH_LOCATION/bin
./orchestration.sh updateStatus -pod POD_NAME -hosttype MIDTIER -hostname host_
name -release REL8 -phase DowntimePostFA -taskid BackupOracleFAPausePointPlugin
-taskstatus success

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd updateStatus -pod POD_NAME -hosttype MIDTIER -hostname host_
name -release REL8 -phase DowntimePostFA -taskid BackupOracleFAPausePointPlugin
-taskstatus success
```

3. Update the task status on each OHS host that is listed in the `HOSTNAME_OHS` property in the `pod.properties` file:

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh updateStatus -pod POD_NAME -hosttype OHS -hostname host_name
-release REL8 -phase DowntimePostFA -taskid BackupOracleFAPausePointPlugin
-taskstatus success

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd updateStatus -pod POD_NAME -hosttype OHS -hostname host_name
-release REL8 -phase DowntimePostFA -taskid BackupOracleFAPausePointPlugin
-taskstatus success
```

4. Update the task status on each IDM host that is listed in following properties in the `pod.properties` file:

   - `HOSTNAME_IDMOID`
   - `HOSTNAME_IDMOIM`
   - `HOSTNAME_IDMOHS`

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh updateStatus -pod POD_NAME -hosttype IDM -hostname host_name
-release REL8 -phase DowntimePostFA -taskid BackupOracleFAPausePointPlugin
-taskstatus success

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd updateStatus -pod POD_NAME -hosttype IDM -hostname host_name
-release REL8 -phase DowntimePostFA -taskid BackupOracleFAPausePointPlugin
-taskstatus success
```

5.1.19 Resume Upgrade Orchestrator (Language Pack Only)

Resume orchestration on all host types, including the respective scaled out hosts, using the commands in Section 5.1.1, "Run Upgrade Orchestrator During Downtime", Steps 1 through 4.

Upgrade Orchestrator runs the tasks in the following table. Note that the `LanguagePackInstall` task runs both the General System and pre-language pack readiness Health Checks and it runs for each installed language. The `PostLangPackChecks` task runs both the General System and post-language pack Health Checks.

Table 5–6 Tasks Run For the Language Pack Upgrade

Task Name	Task ID	Host Types
Upgrade All Installed Languages	LanguagePackInstall	Primordial
Stop All Servers	StopServersAfterLP	Primordial
Start All Servers	StartSeversAfterLP	Primordial
Run Post Language Pack Health Checks	PostLangPackChecks	Primordial

5.1.20 Upgrade Orchestrator Completes Successfully

Upgrade Orchestrator generates the Oracle Fusion Applications Orchestrator Upgrade Report upon successful completion of the upgrade, which you review as a post-upgrade task. To continue with the upgrade after all tasks complete successfully, proceed to Chapter 6, "Running Post-Upgrade Tasks for Oracle Fusion Applications".

5.2 Pause Point Steps

This section describes the detailed steps required by each of the following default pause points:

- Back Up the OPSS Security Store
- Back Up Oracle Fusion Applications
- Back Up Oracle Fusion Applications on Windows
- Upgrade the Oracle Identity Management Domain to 11g Release 8 (11.1.8)
- Start External Servers

5.2.1 Back Up the OPSS Security Store

The upgrade process upgrades all WLS domains to the 11gR1 PS5 MLR1 (11.1.1.6.1) level, so you must back up the OPSS Security Store and the Bootstrap Wallet, as described in this section. This section also includes information about restoring from a backup. Ensure you perform your backups in directories from which you can restore. You can use any directory to back up the data, as long as you know where to restore the backup from.

5.2.1.1 Back Up Data Under the Root Node of the OPSS Security Store

Perform the following steps to back up all data under the root node of the OPSS Security Store.

1. Using Fusion Applications Control, perform the following steps to identify the root node in the Oracle Internet Directory that hosts the OPSS Security store
   a. Open the Farm_CommonDomain.
   b. Open the WebLogic Domain.
   c. Open the CommonDomain.
   d. Find the domain name of the root node under Root Node Details, which is under the Edit Security Provider region. Note that in the case of an upgrade failure. you must restore this entire node.
2. Perform the following `ldifwrite` and `bulkload` operations on the system where the Oracle Internet Directory hosting the OPSS Security store resides. When

initiating `ldifwrite` and `bulkload`, Oracle Internet Directory requires the Oracle Internet Directory process and the database behind Oracle Internet Directory to be up and running.

a. Set the following environment variables.

```
(Unix)
setenv ORACLE_HOME  OID_ORACLE_HOME
setenv ORACLE_INSTANCE  OID_INSTANCE_HOME

(Windows)
set ORACLE_HOME=OID_ORACLE_HOME
set ORACLE_INSTANCE=OID_INSTANCE_HOME
```

Example:

```
(Unix)
setenv ORACLE_HOME /u01/oid/oid_home
setenv ORACLE_INSTANCE /u01/oid/oid_inst

(Windows)
set ORACLE_HOME=\u01\oid\oid_home
set ORACLE_INSTANCE \u01\oid\oid_inst
```

b. Create the backup. The backup is created in the *SHARED_UPGRADE_LOCATION/POD_NAME/release/* directory.

In the system where the Oracle Internet Directory is located, produce an LDIF file by running `ldifwrite` as illustrated in the following command. Note that you are prompted for the Operational Data Store (ODS) password.

```
OID_HOME/ldap/bin/ldifwrite connect="srcOidDbConnectStr"
basedn="cn=FAPolicies", "c=us" ldiffile="srcOid.ldif"
```

Example:

```
/u01/oid/oid_home/ldif/bin/ldifwrite connect="oidddb"
basedn="cn=FAPolicies" ldiffile="srcOid.ldif"
```

This command writes all entries under the node `cn=FAPolicies` to the file `srcOid.ldif`. After generated, move this file to the directory that was previously identified, to hold all backup data.

c. Perform the following steps if you need to restore the backup.

- Ensure Oracle Internet Directory is up and running.
- Perform a `bulkdelete` on Oracle Internet Directory nodes.
- In the Oracle Internet Directory system, verify that there are no schema errors or bad entries by running `bulkload`, as illustrated in the following command:

  ```
  OID_HOME/ldap/bin/bulkload connect="dstOidDbConnectStr" check=true
  generate=true restore=true file="fullPath2SrcOidLdif"
  ```

  If duplicate DNs (common entries between the source and destination directories) are detected, review them to prevent unexpected results.

- Load data into the Oracle Internet Directory by running `bulkload` as illustrated in the following command:

  ```
  OID_HOME/ldap/bin/bulkload connect="dstOidDbConnectStr" load=true
  file="fullPath2SrcOidLdif"
  ```

5.2.1.2 Back Up the Bootstrap Wallet

Back up the `cwallet.sso file` in the *`DOMAIN_HOME`*`/config/fmwconfig/bootstrap` directory for **each WLS domain** in an Oracle Fusion Applications installation. You must take backups of each `cwallet.sso` file for each domain and when you restore, you must be careful to restore the correct file. For example, if you back up `cwallet.sso` from the Common Domain, then you must restore it in the Common Domain upon failure. If you back up `cwallet.sso` from the BI domain, you must restore it to the BI Domain upon failure.

Proceed to Section 5.1.3, "Update Status to Success" to continue the upgrade.

Related Links

The following documents provide additional information related to subjects discussed in this section:

- For more information about identifying the root node in the Oracle Internet Directory hosting the OPSS Security store using Fusion Applications Control, see "Reassociating with Fusion Middleware Control" in the *Oracle Fusion Middleware Application Security Guide*.
- For more information about the `bulkload` command, see "Performing Bulk Operations" in the *Oracle Fusion Middleware Administrator's Guide for Oracle Internet Directory*.
- For more information about migrating Oracle Internet Directory, see "Migrating Large Volume Policy and Credential Stores" in the *Oracle Fusion Middleware Application Security Guide*.

5.2.2 Back Up Oracle Fusion Applications

Back up your entire Oracle Fusion Applications environment by following the steps for performing a full offline backup in "Backing Up and Recovering Oracle Fusion Applications" in the *Oracle Fusion Applications Administrator's Guide*. Include the following components in your backup:

- Back Up Your Database
- Back Up Upgrade Orchestrator Directories
- Back Up OHS Host and /etc/hosts
- Back Up the Central Inventory

For additional back up steps that are specific to Windows, refer to Section 5.2.3, "Back Up Oracle Fusion Applications on Windows".

5.2.2.1 Back Up Your Database

Database upgrade and patching is a prerequisite to the Oracle Fusion Applications Upgrade. You must backup your Oracle Fusion Applications database and Oracle Identity Management database before and after applying all prerequisite patches and before starting the Oracle Fusion Applications upgrade. For more information, see "Backing Up and Recovering Oracle Fusion Applications" in the *Oracle Fusion Applications Administrator's Guide*. Turn on Oracle Flashback Database as a best practice before taking a backup of the Oracle Fusion Applications database.

5.2.2.2 Back Up Upgrade Orchestrator Directories

Upgrade Orchestrator writes to work areas specified by properties in the `pod.properties` file. Ensure that you back up the work directories during all Oracle Fusion Applications backup pause points. During any restore of your environment, you must restore the orchestration work directories to the same backup point.

Backup directories are specified by the following properties in the `pod.properties` file:

- ORCHESTRATION_CHECKPOINT_LOCATION
- ORCHESTRATION_CHECKPOINT_ARCHIVE_LOCATION
- SHARED_UPGRADE_LOCATION

If these directories are shared among multiple environments then the backups of these directories must be specific to the environment (*POD_NAME*). The restore should also be specific to that environment (*POD_NAME*), as shown in the following examples:

- ORCHESTRATION_CHECKPOINT_LOCATION/*POD_NAME*
- ORCHESTRATION_CHECKPOINT_ARCHIVE_LOCATION /ARCHIVE/*POD_NAME*
- SHARED_UPGRADE_LOCATION/*POD_NAME*

> **Note:** When restoring the Oracle Fusion Applications environment from a backup, you must restore the orchestration directories if you want to continue using orchestration from the backup pause points in the orchestration flow.

5.2.2.3 Back Up OHS Host and /etc/hosts

On the OHS host, back up `/u01/APPLTOP` and `/u02/instance`.

Also back up the `/etc/hosts` file.

5.2.2.4 Back Up the Central Inventory

Upgrade Orchestrator upgrades and applies Oracle Fusion Middleware and Oracle Fusion Application patches to your Oracle Fusion Applications environment. As a best practice, back up your central inventory along with other Oracle homes before the upgrade. On the primordial host, the location of the central inventory can be obtained by looking at the inventory pointer file (`oraInst.loc` on Linux), located in *FA_ORACLE_HOME*.

After your backups are complete, and if you are performing the steps to upgrade to Release 8, proceed to Section 5.1.9, "Update Status to Success" to continue the upgrade.

If you are performing the steps to upgrade your installed languages, proceed to Section 5.1.18, "Update Status to Success."

5.2.3 Back Up Oracle Fusion Applications on Windows

Back up the Oracle Fusion Applications environment, including *APPLICATIONS_BASE*, inventory, registry entries, Oracle Identity Management, the database and the System environment PATH variable of the Oracle Fusion Applications host machine.

1. *APPLICATIONS_BASE* contains many files whose path is more than 256 characters. The Microsoft Windows Copy function is limited to copying only those files with a path of less than 256 characters. Therefore, many files fail to copy.

Use Robust File Copy (Robocopy), which is available as part of the Windows Resource Kit, to copy *APPLICATIONS_BASE*. Use the following command:

```
robocopy <source> <destination> /MIR > <file>
```

Sample output from the `robocopy` command:

	Total	Copied	Skipped	Mismatch	FAILED	Extras
Dirs:	112640	112640	0	0	0	
Files:	787114	787114	0	0	0	
Bytes:	63.822 g	63.822 g	0	0	0	
Times:	2:22:20	2:19:00			0:00:00	0:03:19

2. Back up the inventory.

   Back up the inventory location referenced in the registry `HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\inst_loc`.

3. Back up the registry.

   Use `Regedit.exe` to back up the following registries related to Oracle Fusion Applications.

   - HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services
     - Web Tier service
     - BI Service
     - Node Manager service
   - HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE
   - HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Oblix

4. Ensure that the System PATH has the following values:

   ```
   C:\<APPLICATIONS_BASE>\dbclient\bin
   C:\<APPLICATIONS_BASE>\webtier_mwhome\webtier\bin
   C:\<APPLICATIONS_BASE>\webtier_mwhome\webtier\\bin
   C:\<APPLICATIONS_BASE>\webtier_mwhome\webtier\opmn\lib
   C:\<APPLICATIONS_BASE>\webtier_mwhome\webtier\perl\bin
   C:\<APPLICATIONS_BASE>\fusionapps\bi\products\Essbase\EssbaseServer\bin
   C:\<APPLICATIONS_BASE>\fusionapps\bi\bin
   C:\<APPLICATIONS_BASE>\fusionapps\bi\opmn\bin
   C:\<APPLICATIONS_BASE>\fusionapps\bi\opmn\lib
   C:\<APPLICATIONS_BASE>\fusionapps\bi\perl\bin
   ```

   Add any of the previous values that are missing to the system PATH. Missing values cause failures in launching the OPMN services and BI Presentation Catalog deployment configuration assistants in RUP Installer.

5. Save the system PATH variable.

Proceed to Section 5.1.9, "Update Status to Success" to continue the upgrade.

5.2.4 Run `idmUpgrade.pl` to Upgrade Oracle Identity Management

Perform the following steps to run `idmUpgrade.pl`. The `idmUpgrade.pl` script requires the 64-bit perl version 5.10.0. Use the 64-bit perl from *OHS_ORACLE_HOME* or *OID_ORACLE_HOME*.

1. Perform the steps to set the environment variables on each node, as required for your platform. For more information, see Section 4.2.2, "Set Environment Variables."
2. Stop the servers and processes on each of the following nodes by executing *IDM_TOP*/config/scripts/stopall.sh in the following order.
   - AuthOHS Node
   - OIM Node
   - OID Node
3. Run idmUpgrade.pl on each node as follows:
   - On the OID node:

     cd *SHARED_LOCATION*/11.1.8.0.0/idmUpgrade

     perl idmUpgrade.pl OID *REPOSITORY_LOCATION*/installer,*SHARED_LOCATION*/11.1.8.0.0_post_repo_patches patchAutomation.properties
   - On the OIM node:

     cd *SHARED_LOCATION*/11.1.8.0.0/idmUpgrade

     perl idmUpgrade.pl OIM *REPOSITORY_LOCATION*/installer,*SHARED_LOCATION*/11.1.8.0.0_post_repo_patches patchAutomation.properties
   - On the AuthOHS node:

     cd *SHARED_LOCATION*/11.1.8.0.0/idmUpgrade

     perl idmUpgrade.pl OHS *REPOSITORY_LOCATION*/installer,*SHARED_LOCATION*/11.1.8.0.0_post_repo_patches patchAutomation.properties
4. After you complete the IDM upgrade, proceed to Section 5.1.12, "Update Status to Success" to continue the upgrade.

5.2.5 Upgrade the Oracle Identity Management Domain to 11*g* Release 8 (11.1.8)

Note: Before performing an upgrade to 11*g* Release 8 (11.1.8), check the *Technical Release Notes* for Oracle Fusion Applications 11g Release 8 (11.1.8) for the latest information on required patches.

Perform the following steps to upgrade the Oracle Identity Management domain to 11*g* Release 8 (11.1.8):

5.2.5.1 Overview

Oracle Identity Management for Oracle Fusion Applications 11*g*, Release 8 (11.1.8.0) includes patches for the following products that are installed in the Oracle Identity Management domain:

- Oracle Identity Manager
- Oracle IDM Tools
- Oracle Access Manager
- Oracle WebGate
- Oracle Internet Directory

The Oracle Fusion Applications Release 8 Identity Management software and patches for your appropriate platform are available in the Oracle Fusion Applications repository under *SHARED_LOCATION*/11.1.8.0.0/Repository/installers. Review the individual patch Readme files before applying them.

5.2.5.2 About Identity Management Domain, Nodes and Oracle homes

This section explains the various nodes and Oracle homes in the Identity Management domain for Oracle Fusion Applications 11g, Release 8 (11.1.8.0.0).

- Identity Management (IDM) Node
  - *WEBLOGIC_ORACLE_HOME*
    - Oracle WebLogic Server
  - *IDM_ORACLE_HOME*: This is also known as the *OID_ORACLE_HOME*. The following Oracle Identity Management products are installed in this Oracle home:
    - Oracle Internet Directory
    - Oracle Virtual Directory
    - Oracle Directory Services Manager
  - *IDM_ORACLE_COMMON_HOME*: The following Oracle Identity Management products are installed in this Oracle home:
    - Oracle Platform Security Services (OPSS)
    - Oracle Web Services Manager (OWSM)
- Identity and Access Management (IAM) Node
  - *WEBLOGIC_ORACLE_HOME*
    - Oracle WebLogic Server
  - *IAM_ORACLE_HOME*: This is also known as the *OIM_ORACLE_HOME*. The following Oracle Identity Management products are installed in this Oracle home:
    - Oracle Identity Manager
    - Oracle Access Manager
    - Oracle IDM Tools
    - Oracle Identity Federation
  - *SOA_ORACLE_HOME*: This is typically installed under the *IAM_ORACLE_HOME*. The following products are installed in this Oracle home:
    - Oracle SOA Suite
  - *IAM_ORACLE_COMMON_HOME*: The following Oracle Identity Management products are installed in this Oracle home:
    - OPSS
    - OWSM
- OHS Node
  - *OHS_ORACLE_HOME*: This is also known as the *WEB_ORACLE_HOME*. The following Oracle Identity Management products are installed in this Oracle home:
    - Oracle WebGate

  - *OHS_ORACLE_COMMON_HOME*: The following Oracle Identity Management products are installed in this Oracle home:
    * OPSS
    * OWSM

- Database Node
  - *RDBMS_ORACLE_HOME*: This is the *ORACLE_HOME* of the Oracle Database. You must apply mandatory database patches to this Oracle home.

5.2.5.3 Performing Pre-installation Tasks

Perform the following tasks before installation.

5.2.5.3.1 Verifying Prerequisites

Ensure that your environment meets the following requirements before you install or uninstall the patch:

- Review and download the latest version of OPatch 11.1.x via Patch 6880880 (OPatch version 11.1.0.8.2 or later).
  - Oracle recommends that you use the latest version of OPatch. Review the My Oracle Support note 224346.1-Opatch-Where Can I Find the Latest Version of Opatch?
- Verify the OUI Inventory

  OPatch needs access to a valid OUI inventory to apply patches. Validate the OUI inventory with the following command:

  ```
  opatch lsinventory
  ```

  If the command errors out, contact Oracle Support for assistance in validating and verifying the inventory setup before proceeding.
- Confirm the executables appear in your system `PATH`.

  The patching process uses the `unzip` and the `OPatch` executables. After setting the ORACLE_HOME environment, confirm whether the following executables exist, before proceeding to the next step.
  - `which opatch`
  - `which unzip`

5.2.5.3.2 Stop the Servers and Processes

Stop the servers and processes, as follows:

- In the Oracle Identity Management domain, stop all Oracle Identity Management services and processes using the following sequence. Do not stop the database.

  Note: Refer to Appendix C, "Stopping and Starting Identity Management Related Servers" for specific commands for stopping components.

  Stop the following servers and processes:
  - Oracle HTTP Server
  - Oracle Identity Manager managed servers

- Oracle SOA managed servers
- Oracle Identity Federation managed servers
- Oracle Access Manager managed servers
- Oracle Directory Services Manager
- Oracle WebLogic Administration Server for the Oracle Identity Management domain
- Oracle Virtual Directory
- Oracle Internet Directory

5.2.5.3.3 Create Backups

At a minimum, create the following backups:

- Middleware home directory (including the Oracle home directories inside the Middleware home)
- Local domain home directory
- Local Oracle instances
- Domain home and Oracle instances on any remote systems that use the Middleware home
- Back up your database and ensure the backup includes the schema version registry table, as each Fusion Middleware schema has a row in this table. The name of the schema version registry table is `SYSTEM.SCHEMA_VERSION_REGISTRY$`.
- Back up your Configurations and Stores—specifically, all data under the root node of the LDAP store.
- Back up any Oracle Identity Federation Java Server Pages (JSP) that you customized.

> **Note:** The patching process overwrites JSPs included in the `oif.ear` file. After you complete the patching process, restore your custom JSPs.

In addition to the preceding backups, Oracle recommends performing your organization's typical backup processes.

5.2.5.3.4 Patch the Database (RDBMS_ORACLE_HOME)

Ensure the patches listed in Chapter 3, "Updating the Oracle Fusion Applications and Oracle Identity Management Databases" are applied on the Identity Management database to keep both Oracle Fusion Applications and Identity Management databases synchronized. Follow the steps in Chapter 3 to apply the patches.

5.2.5.3.5 Patch the Database Clients

The Database Client patches are available under the *SHARED_LOCATION*`/11.1.8.0.0/Repository/installers/dbclient/patch` directory. Follow the patch `Readme` and apply all patches in the directory. Proceed as follows to apply all patches:

- Set your Oracle home to RDBMS_ORACLE_HOME, for example:

```
cd SHARED_LOCATION/11.1.8.0.0/Repository/installers/dbclient/patch
```

```
setenv ORACLE_HOME/u01/oid/oid_home
```

- Run `opatch` using the `napply` option.

5.2.5.3.6 Patch the WebLogic Server on the IDM Node

Oracle Fusion Applications 11*g* Release 8 (11.1.8) Identity Management continues to use Oracle WebLogic Server 10.3.6. However, there may be additional Oracle WebLogic Server patches that you must apply.

The WebLogic server patches are available under the *SHARED_LOCATION*`11.1.8.0.0/Repository//installers/smart_update/weblogic` directory. Follow the patch `Readme` and apply all patches in the directory. Use the following commands to apply all the patches on the *IDM NODE*:

```
cd SHARED_LOCATION/11.1.8.0.0/Repository/installers/smart_update/weblogic

ls *.jar
```

Take the list of jars from the output of the `ls` command and create a comma separated list without the file extension, for example:

```
setenv WLS_PATCH_LIST "1IHE,1PI6,BEJG,CM68,…"

chmod a+w /u01/oid/utils/bsu/cache_dir/patch-catalog.xml
java -jar SHARED_LOCATION/11.1.8.0.0/Repository/installers/smart_
update/suwrapper/bsu-wrapper.jar
-bsu_home=/u01/oid/utils/bsu/
-install -patchlist=$WLS_PATCH_LIST
-prod_dir=/u01/oid/wlserver_10.3/
-patch_download_dir=SHARED_LOCATION/11.1.8.0.0/Repository/installers/smart_
update/weblogic/
-meta=SHARED_LOCATION/11.1.8.0.0/Repository/installers /smart_
update/suwrapper/suw_metadata.txt
```

5.2.5.3.7 Patch the WebLogic Server on the IAM Node

Oracle Fusion Applications 11*g* Release 8 (11.1.8) Identity and Access Management continues to use Oracle WebLogic Server 10.3.6. However, there may be additional Oracle WebLogic Server patches that you must apply.

Use the following commands:

```
cd SHARED_LOCATION/11.1.8.0.0/Repository/installers/smart_update/weblogic

ls *.jar
```

Take the list of jars from the output of "ls" and create a comma separated list without the file extension, for example:

```
setenv WLS_PATCH_LIST "1IHE,1PI6,BEJG,CM69,…"

chmod a+w /u01/oim/utils/bsu/cache_dir/patch-catalog.xml
java -jar SHARED_LOCATION/11.1.8.0.0/Repository/installers/smart_
update/suwrapper/bsu-wrapper.jar
-bsu_home=/u01/oim/utils/bsu/
-install -patchlist=$WLS_PATCH_LIST
-prod_dir=/u01/oim/wlserver_10.3/
-patch_download_dir=SHARED_LOCATION/11.1.8.0.0/Repository/installers/smart_
update/weblogic/
-meta=SHARED_LOCATION/11.1.8.0.0/Repository/installers/smart_update/suwrapper/suw_
metadata.txt
```

5.2.5.3.8 Patch IDM_ORACLE_HOME

The patches for this Oracle home are available under the *SHARED_LOCATION*/11.1.8.0.0/Repository/installers/pltsec/patch directory for your appropriate platform. Follow the patch Readme and apply all patches in the directory as follows:

1. Set your Oracle home to *IDM_ORACLE_HOME*, for example:

```
cd SHARED_LOCATION/11.1.8.0.0/Repository/installers/pltsec/patch
setenv ORACLE_HOME /u01/oid/oid_home
```

2. Run opatch using the napply option.

5.2.5.3.9 Patch the Common Oracle homes on All Nodes

Your deployment should have at least the following, if not more, Oracle Common homes:

- *IDM_ORACLE_COMMON_HOME*
- *IAM_ORACLE_COMMON_HOME*
- *OHS_ORACLE_COMMON_HOME*

The patches for these Oracle homes are available under the *SHARED_LOCATION*/11.1.8.0.0/Repository/installers/oracle_common/patch directory for your platform. Follow the patch Readme and apply all patches in the directory to the Oracle Common homes as follows:

1. Set your Oracle home to *IDM_ORACLE_COMMON_HOME.*, for example:

```
cd SHARED_LOCATION/11.1.8.0.0/Repository/installers/oracle_common/patch
setenv ORACLE_HOME /u01/oid/oracle_common
```

2. Run opatch using the napply option.
3. Set your Oracle home to *ORACLE_COMMON_HOME*, for example:

```
setenv ORACLE_HOME /u01/oim/oracle_common
```

4. Run opatch using the napply option.
5. Set your Oracle home to *OHS_ORACLE_COMMON_HOME.*, for example:

```
setenv ORACLE_HOME /u01/ohsauth/oracle_common
```

6. Run opatch using the napply option.

> **Note:** You must apply all the patches to all the Common Oracle homes.

5.2.5.3.10 Patch IAM_ORACLE_HOME on the IAM Node

The patches for this Oracle home are available under the *SHARED_LOCATION*/11.1.8.0.0/Repository/installers/idm/patch directory for your platform. Follow the patch Readme and apply all patches in the directory as follows:

1. Set your Oracle home to *IAM_ORACLE_HOME.*, for example:

```
cd SHARED_LOCATION/11.1.8.0.0/Repository/installers/idm/patch
setenv ORACLE_HOME /u01/oim/oim_home
```

2. Run `opatch` using the `napply` option.

> **Note:** Some of the patches have post-patch steps mentioned in the README of the patch. Only apply the patches using `opatch napply` now, as you will run the post-patch steps later.

5.2.5.3.11 Patch OIF_ORACLE_HOME on the IAM Node

The patches for this Oracle home are available under the *SHARED_LOCATION*/11.1.8.0.0/Repository/installers/oif/patch directory for your platform. Follow the patch Readme and apply all patches in the directory as follows:

1. Set your Oracle home to *OIF_ORACLE_HOME*, for example:

```
cd SHARED_LOCATION/11.1.8.0.0/Repository/installers/idm/patch
setenv ORACLE_HOME /u01/oim/fmw_idm_home
```

2. Run `opatch` using the `napply` option.

5.2.5.3.12 Patch SOA_ORACLE_HOME on the IAM Node

The patches for this Oracle home are available under the *SHARED_LOCATION*/11.1.8.0.0/Repository/installers/soa/patch directory for your platform. Follow the patch Readme and apply all patches in the directory as follows:

1. Set your Oracle home to *SOA_ORACLE_HOME*, for example:

```
cd SHARED_LOCATION/11.1.8.0.0/Repository/installers/soa/patch
setenv ORACLE_HOME /u01/oim/soa_home
```

2. Run `opatch` using the `napply` option.

5.2.5.3.13 Patch OHS_ORACLE_HOME on the OHS Node

The patches for this Oracle home are available under the *SHARED_LOCATION*/11.1.8.0.0/Repository/installers/webtier/patch directory for your platform. Follow the patch Readme and apply all patches in the directory as follows:

1. Set your Oracle home to *OHS_ORACLE_HOME*, for example:

```
cd SHARED_LOCATION/11.1.8.0.0/Repository/installers/webtier/patch
setenv ORACLE_HOME /u01/ohsauth/ohsauth_home
```

2. Run `opatch` using the `napply` option.

5.2.5.3.14 Patch WEBGATE_ORACLE_HOME on the OHS Node

The patches for this Oracle home are available under the *SHARED_LOCATION*/11.1.8.0.0/Repository/installers/webgate/patch directory for your platform. Follow the patch Readme and apply all patches in the directory as follows:

1. Set your Oracle home to *WEBGATE_ORACLE_HOME.*, for example:

```
cd SHARED_
LOCATION/11.1.8.0.0/Repository/11.1.8.0.0/Repository/installers/webgate/patch
setenv ORACLE_HOME /u01/ohsauth/webgate
```

2. Run `opatch` using the `napply` option.

5.2.5.4 Post-Patch Procedures

Note: Some patches have online post-patch steps that must be completed. These are documented in the individual patch readme. Review and follow the post-patch steps.

Perform the procedures in the following sections:

5.2.5.4.1 Start the Servers and Apply Post-Patch Steps

Note: For information about starting the components, see Appendix C, "Stopping and Starting Identity Management Related Servers."

Start servers and processes in the following sequence:

1. Oracle Internet Directory (if not already started)
2. Oracle Virtual Directory
3. Oracle WebLogic Administration Server for the IDM node (if not already started)
4. Oracle Directory Services Manager (ODSM) managed servers
5. Oracle Access Manager managed servers (if not already started)
6. Oracle Identity Federation managed servers
7. Oracle SOA managed servers (if not already started)
8. Oracle Identity Manager managed servers (if not already started)
9. Oracle HTTP Server and Webgate (if not already started)

5.2.5.4.2 Verify the Oracle Identity Management Domain

To verify that the upgrades and patches to the Oracle Identity Management domain were applied correctly, perform the following steps:

- Confirm you can access and log in to the Oracle WebLogic Administration Server console at:

  `http://`*`HOST`*`:`*`ADMIN_SERVER_PORT`*`/console`
  `https://`*`HOST`*`:`*`SECURE_ADMIN_SERVER_PORT`*`/console`

- Confirm you can access and log in to Oracle Enterprise Manager Fusion Middleware Control at:

  `http://`*`HOST`*`:`*`ADMIN_SERVER_PORT`*`/em`

After you complete the IDM upgrade, proceed to Section 5.1.12, "Update Status to Success" to continue the upgrade.

5.2.6 Start External Servers

Perform the following steps:

- Start GOP Processes
- Start the Informatica IR (IIR) Instance

5.2.6.1 Start GOP Processes

Perform the following steps to start the GOP processes. Note that the `opmnctl` process for `gop_1` should be started only on the host machine which contains the `AdvancedPlanning` Managed Server. Do not start it on the primordial host.

1. Proceed to Step 2 if your GOP processes have been previously configured and have run before.

   If you are starting GOP processes for the first time, confirm that a datasource exists, in the form of XML files, under the *`APPLICATIONS_BASE`*`/instance/gop_1/GOP/GlobalOrderPromisingServer1/datastore` directory. Then run the `RefreshOpDatastore` ESS job by performing the following steps:

   a. Ensure that the `AdvancePlanning` Managed Server is running in the SCM domain.

   b. Invoke http://*scm - AdvancePlanning managedserver*:*port*/advancedPlanning/faces/MscCentralEssUi

   c. In the bottom list applet click on **Actions**, then **Schedule New Process**.

   d. Select **Search** under **Name**, and query for %Order%.

   e. Select **Refresh Order Promising Data** and click **OK**.

   f. Select all check boxes in the Process Details popup.

   g. You can customize some options in the **Advanced** pane, but this is not mandatory.

   h. Click **Submit** and note the process ID.

   i. After you confirm that the process is complete, you should see information from the log file that is similar to the following example:

   ```
   Running RefreshOpDatastore Job...
   Got service proxy successfully.
   Got callback url successfully.
   Getting the job-parameters in the Map.
   Added job parameters in the map
   Web service sucessfully invoked
   ***** callback received *****
   Return Status of job is SUCCESS
   ```

   j. Proceed to Step 2.

2. Log in to Fusion Applications Control. For more information, see "Accessing Fusion Applications Control" in the *Oracle Fusion Applications Administrator's Guide*.

3. Access GOP by navigating to **Oracle Fusion Supply Chain Management**, then **Global Order Promising**, then **GlobalOrderPromisingServer1**.

4. Click **GlobalOrderPromisingServer1** to open the GlobalOrderPromisingServer1 page.

5. Select **Control** from the menu, then **Start Up**.

5.2.6.2 Start the Informatica IR (IIR) Instance

If you have IIR installed and configured in your environment, you must start IIR before resuming with next steps. For more information, see "Informatica Identity Resolution Server Maintenance and Administration: Procedures" in the *Oracle Fusion Applications Installation Guide*.

Proceed to Section 5.1.15, "Update Status to Success."

5.3 Set the SKIP_ROOTPRE Environment Variable (AIX Only)

Set the SKIP_ROOTPRE environment variable before starting Upgrade Orchestrator on an AIX platform, as follows:

```
export SKIP_ROOTPRE=TRUE
```

5.4 Change the Node Manager Password (Cloned Environment Only)

When you upgrade a cloned instance, the upgrade process does not expect the Node Manager password to be different than the keystore password. This difference in passwords causes a failure during the upgrade which includes the following error text:

```
ERROR KEYSTORE WAS TAMPERED WITH, OR PASS...
```

To prevent this issue, change the Node Manager password to be the same as the keystore password before you start the upgrade. Essentially, you change it back to the original password that is used by the Node Manager in the source environment for your clone. Change the values for the Node Manager password and properties using the Administration Console.

After the upgrade, you can change the password back to what it was in your cloned environment after the clone was complete.

6

Running Post-Upgrade Tasks for Oracle Fusion Applications

This chapter describes the tasks you must perform after you complete the steps in Chapter 5, "Upgrading to Oracle Fusion Applications Release 8".

This chapter contains the following topics:

6.1 Confirm Database Artifact Deployments Were Successful

Confirm that the deployment of artifacts updated during the **Load Database Components** configuration assistant was successful by reviewing the Diagnostics report and log files. For more information, see "Diagnostics Report" in the *Oracle Fusion Applications Patching Guide*.

6.2 Review the Post RUP Installer Report

Review the Post RUP Installer report to check for any errors or warnings that require attention. The Post RUP Installer report provides an overview of the tasks that Upgrade Orchestrator ran when it called RUP Installer. It is generated in HTML and XML files and includes links to log files.

The Post RUP Installer report displays the following information:

- **Configuration Assistant:** The name of the configuration assistant.
- **Attempts:** The number of times the configuration assistant ran.
- **Time Taken:** The duration of the configuration assistant in minutes and seconds.
- **Result:** The result of the configuration assistant, such as PASSED or FAILED.
- **Errors:** Any errors that were reported during the configuration assistant.
- **Log Files:** Link to log files for the configuration assistant.

For Release 8, the Post RUP Installer report files are located here:

APPLICATIONS_CONFIG/lcm/logs/11.1.8.0.0/RUP:

PostRUPInstallerReport_*timestamp*.html
PostRUPInstallerReport_*timestamp*.log
PostRUPInstallerReport_*timestamp*.xml

For information about resolving errors, see Chapter 7, "Monitoring and Troubleshooting the Upgrade".

6.3 Review the Orchestrator Upgrade Report

Review the Oracle Fusion Applications Orchestrator Upgrade Report to check for any errors or warnings that require attention, to confirm whether the upgrade completed successfully. If there were previous failures during the upgrade, this report would have been generated each time there was a failure. The report name is FAOrchestrationUpgradeReport_*release_hosttype_hostname_timestamp*.html. The Upgrade Orchestrator report is generated for each pod and its location is defined in the mandatory ORCH_REPORT_LOCATION property in the *pod*.properties file. Previous reports are archived and available for troubleshooting purposes. For more information, see Section A.1.3, "Oracle Fusion Applications Orchestrator Upgrade Report".

6.4 Run the Post Validation Check on Oracle Identity Manager Hosts

Perform the steps in this section only if your Oracle Fusion Applications environment meets the following criteria:

- You run on a SINGLE, 3-NODE, or 4-NODE IDM configuration
- You are on a Solaris or AIX platform
- Your environment is a Release 7 IDM provisioned environment
- You upgraded Oracle Identity Manager using idmupgrade.pl

1. Perform the steps to set the environment variables on each node, as required for your platform. For more information, see Section 4.2.2, "Set Environment Variables."
2. Run postvalidate.pl on each node as follows:

- On the OID node:

  ```
  cd SHARED_LOCATION/11.1.8.0.0/idmUpgrade
  perl postvalidate.pl OID patchAutomation.properties
  ```

- On the OIM node:

  ```
  cd SHARED_LOCATION/11.1.8.0.0/idmUpgrade
  perl postvalidate.pl OIM patchAutomation.properties
  ```

- On the AuthOHS node:

  ```
  cd SHARED_LOCATION/11.1.8.0.0/idmUpgrade
  perl postvalidate.pl OHS patchAutomation.properties
  ```

6.5 Review Policy Store (JAZN) Analysis Reports

Review the JAZN Analysis reports for potential conflicts and deletions that are not patched automatically during the upgrade. The reports are located in the following directory:

APPLICATIONS_CONFIG/lcm/admin/11.1.8.0.0/fapatch/JAZN/s*tripe*/delta/report.txt

The *stripe* is crm, fscm, hcm, obi, soa, ucm or bpm.

Review the Modification section of the report to see the roles that were not updated during the upgrade. For each conflict that displays in this report, you must evaluate and manually patch the role by using Oracle Authorization Policy Manager (APM). For more information, see "Upgrading Oracle Fusion Applications Policies" in the *Oracle Fusion Applications Administrator's Guide*.

The following example shows a typical Application Role conflict that has been modified by both the patch and production, therefore it is not applied during the upgrade.

```
MODIFICATION CONFLICTS
Artifact type: Application Role
Artifact Name: OBIA_PARTNER_CHANNEL_ADMINISTRATIVE_ANALYSIS_DUTY
Description: This artifact is modified at attribute level in patch version and
also in production.
```

Note the location of the following files for reference when using APM:

- Location of baseline files, where stripe is crm, fscm, hcm, obi, soa, ucm or bpm:

  FA_ORACLE_HOME/admin/JAZN/*stripe*/baseline

- Location of patch files for fscm, crm, and hcm stripes:

  FA_ORACLE_HOME/stripe/deploy/system-jazn-data.xml

- Location of patch files for the obi, soa, ucm or bpm stripes:

  FA_ORACLE_HOME/com/acr/security/jazn/bip_jazn-data.xml

6.6 Reload Custom Templates for BI Publisher Reports

Perform this step if you have customized BI Publisher reports.

Reload custom templates for BI Publisher reports on Oracle-delivered BI Publisher reports by following the steps in "Upload the Template File to the Report Definition" in the "Customizing Reports and Analytics" chapter of the Oracle Fusion Applications Extensibility Guide.

6.7 Add Administration Servers to the Machine Created During Scale Out

Perform the steps in this section only if the steps in Section 2.6.6, "Validate Domain Directories" required you to temporarily add any Administration Servers back to the originally provisioned machine.

1. Log in to the WebLogic console for the domain.
2. Navigate to Environment, then Machines.
3. Find the machine that was created manually for the purposes of AdminServer high availability scaleout.
4. Click on the machine and go to the Servers tab.
5. Click **Lock & Edit** to make changes.
6. Click **Add**.
7. Select the AdminServer and click **Finish**.
8. Click **Activate Changes** to apply the changes.

6.8 Stop and Start Servers to Remove WebChat Connections

Note: Perform the step in this section only if you are running Oracle Fusion Applications in an Oracle VM environment that was created from the official releases of Oracle VM templates for Oracle Fusion Applications Release 2 (11.1.2) and higher. The content is not applicable for any Oracle VM environments that are created using other methods.

Stop and start the servers on the Common Domain and the CRM Managed Server to remove WebChat connections that were disabled by the DisableWebchatConnections plug-in when you ran RUP Lite for OVM. For more information, see "Starting and Stopping the Administration Servers and Managed Servers" in the *Oracle Fusion Applications Administrator's Guide*.

6.9 Confirm the IIR Server is Running

Confirm the IIR server is running. If it is not running, follow the steps in "Troubleshooting Oracle Fusion Data Quality Services and IIR Servers" in the *Oracle Fusion Applications Installation Guide* to manually check for files that need to be cleaned up and to retry the steps to start the server.

6.10 Perform Steps in Release Notes

Follow any post-upgrade steps mentioned in the Post-Upgrade Known Issues section of *Release Notes for Oracle Fusion Applications 11g Release 8 (11.1.8.0.0)*.

6.11 Resolve Conflicts That Occurred During Oracle BI Metadata Updates

Upgrade Orchestrator updates the applications policies for Oracle Business Intelligence during the **Apply Offline BI Metadata and Configuration Updates** configuration assistant. When Upgrade Orchestrator runs this configuration assistant, it updates the Oracle BI Applications metadata in the Oracle BI repository and the Oracle BI Presentation Catalog for Oracle Fusion Transactional Business Intelligence and Oracle Business Intelligence Applications.

> **Note:** This section refers to different Oracle BI directory paths. The BI Oracle home contains the binary and library files necessary for Oracle BI. *BI_ORACLE_HOME* represents the BI Oracle home in path names.

This section contains the following topics:

- Resolve Conflicts in the Oracle BI Presentation Catalog
- Resolve Conflicts in the Oracle Business Intelligence Policy Store

6.11.1 Resolve Conflicts in the Oracle BI Presentation Catalog

When you run Upgrade Orchestrator, the Oracle BI Metadata Update Tool overwrites all customizations to catalog objects in the Presentation Catalog with the new Oracle-supplied content and logs conflicts in a conflict report.

After Upgrade Orchestrator completes, you must review the conflict report and decide whether you want to retain the new content or re-apply your customizations using a manual process.

Points to Consider

- The folders, `/shared/backup/shared` and `/shared/backup/system`, are created in the updated Presentation Catalog during the Upgrade Orchestrator and the Metadata Update Tool process. You access these folders through the Folders pane of the Catalog page in the Oracle BI Enterprise Edition user interface, as described in the following procedure.

  Note: The `/shared/backup` folder should not exist before Upgrade Orchestrator runs, because the updated Presentation Catalog file will not be copied to this folder if it already exists.

  As a precaution, to ensure the `/shared/backup` folder does not exist before Upgrade Orchestrator runs, you can optionally create an environment variable called `webcat.force.restore`, which will overwrite the contents of an existing `/shared/backup` folder. This environment variable must be set in the shell prompt from where the orchestrator is going to be invoked, using the command, `setenv webcat.force.restore true`.

- Conflicts that arise during Upgrade Orchestrator and the Metadata Update Tool process are stored in the `/shared/backup/shared` folder in the updated Presentation Catalog. Object references that have conflicts are also stored in `/shared/backup/shared`.

To resolve conflicts in the Presentation Catalog:

1. Locate the conflict report named `update-conflict-report.txt`, which is stored in the folder *`BI_SHARED_DIR`*`/.biapps_patch_storage/update/`*`Run_ID`*.
2. Sign in to Oracle Business Intelligence Enterprise Edition (Oracle BI EE).

3. Click **Catalog** in the global header.
4. In the Folders pane, navigate to **Shared Folders**, **backup**, and then **shared folder**.
5. Open an object that has a conflict. This object depicts the state of the object before Upgrade Orchestrator and the Metadata Update Tool were run.
6. Open a second instance of Oracle BI EE and the Presentation Catalog.
7. Navigate to the **Shared Folders** folder.
8. Open the same object you opened in step 5. This object depicts the state of the object after Upgrade Orchestrator and the Metadata Update Tool were run (and after the metadata updates were applied).
9. Compare the two objects and decide whether you want to retain the Oracle-supplied updated content or re-apply your customization from the previous version of the Presentation Catalog.
10. To re-apply your customization to an updated object, manually edit the object.
11. Repeat steps 5 through 10 for all objects that have conflicts.

6.11.2 Resolve Conflicts in the Oracle Business Intelligence Policy Store

When you run Upgrade Orchestrator, the Oracle BI Metadata Update Tool performs a safe upgrade on the Oracle Business Intelligence policy store, which means it updates only the metadata content that does *not* conflict with your customizations. Updated content that conflicts with your customizations is not applied. Conflicts are listed in the Oracle BI Metadata Tool update report, located at *BI_SHARED_DIR*/.biapps_patch_storage/update/*Timestamp*/policystore_delta/report.txt.

This procedure provides instructions for overriding the customizations of the previous Oracle Business Intelligence policy store by applying the Oracle-supplied updated content. This procedure uses Oracle Authorization Policy Manager.

Note: You do not need to back up your existing policy store file, because the Metadata Update Tool process does not overwrite your customizations.

To resolve conflicts in the policy store:

1. Log in to the Authorization Policy Manager Administration Console.
2. Navigate to the **Home** tab of the Policy Upgrade Management page.
3. Click **Patch Application** in the upper-left corner of the page to display the Patch Application dialog.
4. Select the appropriate application from the **Application** list.
5. In the **Patch File** field, specify the new patch file name and location, for example, *BI_ORACLE_HOME*/bifoundation/admin/provisioning/biapps-policystore.xml.
6. In the **Baseline** field, specify the previous policy store that was backed up by the Oracle BI Metadata Update Tool, for example, *BI_ORACLE_HOME*/.biapps_patch_storage_*UPGRADE_from_VERSION*/OH_BACKUP/bifoundation/admin/provisioning/biapps-policystore.xml.
7. Navigate to the **Patch Details** tab to view the policy store conflicts.

Related Links

The following documents provide additional information related to subjects discussed in this section:

- For more information about the Fusion Middleware directory structure, see "Understanding Oracle Fusion Middleware Concepts" in *Oracle Fusion Middleware Administrator's Guide*.
- For more information about signing in and navigating in the Oracle BI EE user interface, see "Signing In to Oracle BI Enterprise Edition" and "Navigating Oracle BI Enterprise Edition" in *Oracle Fusion Middleware User's Guide for Oracle Business Intelligence Enterprise Edition (Oracle Fusion Applications Edition)*.
- For more information about logging in to the Authorization Policy Manager Administration Console, see "Managing Authorization Policies" in *Oracle Fusion Applications Administrator's Guide* for instructions.
- For more information about taking the appropriate action regarding conflicts, see the sections titled "Analyzing Patch Differences" and "Resolving Changes and Conflicts" in the *Oracle Fusion Applications Administrator's Guide*.
- For detailed information about upgrading Oracle Fusion Applications policies using Oracle Authorization Policy Manager, see "Upgrading Oracle Fusion Applications Policies" in the *Oracle Fusion Applications Administrator's Guide*.

6.12 Perform Upgrade Steps for Oracle BI Applications

If you are deploying Oracle Business Intelligence Applications, then you must perform the steps described in "Setting Up Oracle BI Applications" in the *Oracle Business Intelligence Applications Installation Guide*.

6.13 Upgrade Oracle Fusion Project Portfolio Management Integration with Primavera P6 or Later

If you have installed Oracle Fusion Project Portfolio Management and configured it to integrate with Primavera P6 Enterprise Project Portfolio Management, then you must upgrade the Fusion PPM Bridge and other related configurations in Primavera P6 or later version.

Related Links

The following document provides additional information related to subject discussed in this section:

- For information on upgrading and working with Oracle Fusion Project Portfolio Management, see "Updating Fusion PPM Bridge in WebLogic" in the *Primavera P6 EPPM Administrator's Guide for an Oracle Database*.

6.14 Allocate Memory for HCM Workforce Management

This section is applicable only if you plan to use the Human Capital Management (HCM) Workforce Reputation Management product packaged with the Workforce Deployment, or Workforce Development product offerings.

1. The physical machine hosting HCM Workforce Reputation Management (`WorkforceReputationServer_1`) managed server must have a minimum of 24 GB of memory. You need to allocate 8 GB of memory to the HCM Workforce Reputation Management (`WorkforceReputationServer_1`) managed server. The HCM Workforce Reputation Management externalization process may use up to 16 GB of memory.

Perform the following steps to specify memory allocation for HCM Workforce Reputation Management (`WorkforceReputationServer_1`) managed server:

- Edit the `fusionapps_start_params.properties` file located under *`APPLICATIONS_CONFIG`*`/domains/`*`host_name`*`/HCMDomain/config`.
- Locate the `# HCMDomain: Main Settings` section in the file. Replace the line:

  ```
  fusion.HCMDomain.WorkforceReputationCluster.default.minmaxmemory.main=-Xms512m -Xmx2048
  ```

  with:

  ```
  fusion.HCMDomain.WorkforceReputationCluster.default.minmaxmemory.main=-Xms4096m -Xmx8192m
  ```

- Save the `fusionapps_start_params.properties` file.

2. Restart the HCM Workforce Reputation Management (`WorkforceReputationServer_1`) managed server either from the WebLogic console or Enterprise Management for the HCM domain. For more information, see "Starting and Stopping" in the *Oracle Fusion Applications Administrator's Guide*.

6.15 Ensure High Watermark Patch Bundles Were Applied

Ensure you have applied the following high water mark patch bundles on your current environment prior to upgrading to next release:

- Fusion Middleware Patch Bundles for Fusion Applications
- Fusion Application Patch Bundles

To get more information about high watermark patch bundles, contact Oracle Support.

6.16 Remove the Contents of the `patch_stage` Directory (Optional)

To increase free disk space, you can remove the contents of the *`APPLICATIONS_BASE`*`/../patch_stage` directory. This step is optional.

7

Monitoring and Troubleshooting the Upgrade

This chapter provides information to assist you in troubleshooting upgrade issues.

This chapter contains the following topics:

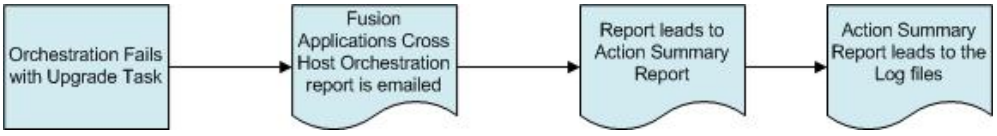
7.1 General Troubleshooting for Upgrade Orchestrator Failures

When Upgrade Orchestrator exits with a failure on any upgrade task, it sends an email to the recipients specified in the `EMAIL_TO_RECIPIENT` and `EMAIL_CC_RECIPIENT` properties in the `pod.properties` file. This email contains the Oracle Fusion Applications Orchestrator Upgrade Report as an attachment. The report file name is `FAOrchestrationUpgradeReport_`*release_hosttype_hostname_timestamp*`.html`. This report specifies the location to the Fusion Applications Orchestration Action Summary

report, which provides information about the failure, corrective action, and relevant log files. The orchestration log file is a good point to start for any troubleshooting, as it captures logs from different upgrade tasks as well as console messages. The orchestration log file is located in *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*host_name*-rel8_*hosttype*_*timestamp*.log.

The following figure depicts the high level flow for troubleshooting Upgrade Orchestrator failures.

Figure 7–1 Troubleshooting Flow



Previous reports are archived whenever a new report is generated, as described in Section 7.6.3, "Unable to Find the Orchestrator Upgrade Report After Failure". For more information about the report, see Section A.1.3, "Oracle Fusion Applications Orchestrator Upgrade Report".

Note that if an orchestration session exits due to an error, its status is "Failed". If an orchestration session exits as a result of the `exitOrchestration` command, its status is "Terminated".

7.2 Log Locations

The following types of log files are described in this section:

- Upgrade Orchestrator Log File Directories
- RUP Installer Log File Directories
  - Log Files for Configuration Assistants
  - Log Files for the Database Upload Configuration Assistant

7.2.1 Upgrade Orchestrator Log File Directories

The following table contains a list of log directories for Upgrade Orchestrator activities. For IDM and OHS log files, the location can be configured using the `LOG_LOCATION` property, in the `IDM.properties` and `OHS.properties` files. For more information, see Section 2.4.4, "Update Orchestrator Properties Files".

Table 7–1 Upgrade Tasks and Related Log Files

Task Display Name and ID	Log File Location
Stopping Index Schedules and Deactivating Index Optimization (StopIndexSchedules)	▪ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log

Table 7–1 (Cont.) Upgrade Tasks and Related Log Files

Task Display Name and ID	Log File Location
Stopping All Servers (StopAllServers)	Orchestration log files: ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log Control log file: ■ *APPLICATIONS_CONFIG*/lcm/logs/startstop/STOP_*date_time_hostname*.log
Setting CrashRecoveryEnbled Property to False (DisableCrashRecoveryEnabled)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log
Stopping OPMN Control Processes (StopOPMNProcesses)	Orchestration log files: ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log ■ /u01/logs/OHS/11.1.8.0.0/orchestration/*hostname*-rel8_ohs_*timestamp*.log OPMN log file: ■ *APPLICATIONS_CONFIG/DOMAIN_CONFIG* Example: BIInstance>/diagnostics/logs/OPMN/opmn/
Stopping Node Managers (StopNodeManager)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log
Stopping Oracle Identity Management - AUTHOHS (StopOHS) This log file is generated only for automated IDM upgrades.	Orchestration log files: ■ /u01/logs/IDM/11.1.8.0.0/orchestration/*hostname*-rel8_idm_*timestamp*.log IDM log file: ■ /u01/logs/IDM/logs_*node type*/stopIDM_*hostname_timestamp*.log
Stopping Oracle Identity Management - OIM (StopOIM) This log file is generated only for automated IDM upgrades.	Orchestration log files: ■ /u01/logs/IDM/11.1.8.0.0/orchestration/*hostname*-rel8_idm_*timestamp*.log IDM log file: ■ /u01/logs/IDM/logs_*node type*/stopIDM_*hostname_timestamp*.log

Table 7–1 (Cont.) Upgrade Tasks and Related Log Files

Task Display Name and ID	Log File Location
Stopping Oracle Identity Management - OID (StopOID) This log file is generated only for automated IDM upgrades.	Orchestration log files: ■ /u01/logs/IDM/11.1.8.0.0/orchestration/*hostname*-rel8_idm_*timestamp*.log IDM log file: ■ /u01/logs/IDM/logs_*node_type*/stopIDM_*hostname*_*timestamp*.log
Backing up OPSS Security Store (BackupOPSS) This log file is generated only for automated IDM upgrades on Linux.	Orchestration log file: ■ *APPLICATIONS*_*CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_IDM_*timestamp*.log IDM log file: ■ /u01/logs/IDM/logs_ALL/idmUpgrade_*hostname*_*timestamp*.log
Upgrading Oracle Identity Management - OID (OIDApplyPatches) This log file is generated only for automated IDM upgrades.	Orchestration log files: ■ /u01/logs/IDM/11.1.8.0.0/orchestration/*hostname*-rel8_idm_*timestamp*.log IDM log file: ■ /u01/logs/IDM/logs_*node_type*/IDMupgrade_*hostname*_*timestamp*.log
Upgrading Oracle Identity Management - OIM (OIMApplyPatches) This log file is generated only for automated IDM upgrades.	Orchestration log files: ■ /u01/logs/IDM/11.1.8.0.0/orchestration/*hostname*-rel8_idm_*timestamp*.log IDM log file: ■ /u01/logs/IDM/logs_*node_type*/IDMupgrade_*hostname*_*timestamp*.log
Upgrading Oracle Identity Management - AUTHOHS (OHSApplyPatches) This log file is generated only for automated IDM upgrades.	Orchestration log files: ■ /u01/logs/IDM/11.1.8.0.0/orchestration/*hostname*-rel8_idm_*timestamp*.log IDM log file: ■ /u01/logs/IDM/logs_*node_type*/IDMupgrade_*hostname*_*timestamp*.log
Validating Oracle Identity Management Setup & Configuration (IDMPostValidate) This log file is generated only for automated IDM upgrades.	Orchestration log files: ■ /u01/logs/IDM/11.1.8.0.0/orchestration/*hostname*-rel8_idm_*timestamp*.log IDM log file: ■ /u01/logs/IDM/logs_*node_type*/postValidate_*hostname*_*timestamp*.log

Table 7–1 (Cont.) Upgrade Tasks and Related Log Files

Task Display Name and ID	Log File Location
Running Upgrade Readiness (During Downtime) Checks (DuringDowntimeChecks)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/healthchecker/PRIMORDIAL_*hostname*-DuringDowntimeUpgradeReadinessHealthChecks_*timestamp*.log ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/healthchecker/MIDTIER_*hostname*-DuringDowntimeUpgradeReadinessHealthChecks_*timestamp*.log ■ /u01/logs/OHS/logs/healthchecker/OHS_*hostname*-DuringDowntimeUpgradeReadinessHealthChecks_*timestamp*.log ■ /u01/logs/IDM/logs/healthchecker/IDM_*hostname*-PreDowntimeUpgradeReadinessHealthChecks_*timestamp*.log
Removing Conflicting Patches for Oracle Fusion Middleware Component Oracle Homes (RemoveConflictingPatches)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log
Installing Oracle Fusion Applications LCM Tools for Oracle VM (InstallFaSaasLcmTools)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log
Preparing for Oracle Fusion Applications LCM Tools for Oracle VM Upgrade (PrepareLCMToolsForOVMUpgrade)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log
Applying Oracle Fusion Applications LCM Tools for Oracle VM Patches (ApplyLCMToolsForOVMPatches)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log
Running RUP Lite for OVM in Offline Mode as Application User (RupLiteOvmOffline)	■ /u01/lcm/rupliteovm/output/logs/11.1.8.0.0/*hostname*/rupliteoffline.log
Running Oracle Fusion Applications RUP Installation Part 1 of 2 (RunFirstRUPInstaller)	Orchestration log file: ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log Oracle Fusion Applications Patch Manager log file: ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/RUP/fapatch_*timestamp*.log

Table 7–1 (Cont.) Upgrade Tasks and Related Log Files

Task Display Name and ID	Log File Location
Running RUP Lite for Domain Configuration (RunRUPLiteForDomainsConfig)	Orchestration log file ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log RUPLite for Domain Config log file: ■ *APPLICATIONS_CONFIG*/lcm/admin/11.1.8.0.0/fapatch/ruplitedomain/output/logs
Starting Node Managers (StartNodeManager)	Orchestration log file: ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log Oracle Fusion Applications Control log file: ■ APPLICATIONS_CONFIG/lcm/logs/startstop_saas/STOP_*timestamp*_*hostname*.log
Starting OPMN Control Processes (StartOPMNProcesses)	Orchestration log files: ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_ohs_*timestamp*.log
Running Oracle Fusion Applications RUP Installation Part 2 of 2 (RunSecondRUPInstaller)	Orchestration log file: ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log Oracle Fusion Applications Patch Manager log file: ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/RUP/fapatch_*timestamp*.log
Running Vital Signs Checks (VitalSignsChecks)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/healthchecker/PRIMORDIAL_*hostname*-VitalSignsChecks_*timestamp*.log
Invoking an Instance of UpdateSOAMDS SOA Composite (UpdateMDSSOAComposite)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log
Preparing for Oracle Fusion Applications WebTier Upgrade (CopyWebtierUpgradeToCentralLoc)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log

Table 7–1 (Cont.) Upgrade Tasks and Related Log Files

Task Display Name and ID	Log File Location
Stopping Oracle Fusion Applications - APPOHS (StopOPMNProcesses)	Orchestration log files: ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log ■ /u01/logs/OHS/11.1.8.0.0/orchestration/*hostname*-rel8_ohs_*timestamp*.log OPMN logs: ■ *APPLICATIONS_CONFIG/DOMAIN_CONFIG* Example: BIInstance>/diagnostics/logs/OPMN/opmn/
Removing Conflicting Patches for Oracle Fusion Applications WebTier Oracle Homes (RemoveConflictingPatches)	■ /u01/logs/OHS/11.1.8.0.0/orchestration/*hostname*-rel8_ohs_*timestamp*.log
Upgrading Oracle Fusion Applications OHS binaries (UpgradeOHSBinary)	Orchestration log files: ■ /u01/logs/OHS/11.1.8.0.0/orchestration/*hostname*-rel8_ohs_*timestamp*.log Web Gate log file: ■ /u01/webgate/*hostname*/webgate_installer_REL8/output/logs/*hostname*/rupliteohsupgradeohsbinary_*timestamp*.log
Upgrading Oracle Fusion Applications OHS Configuration (UpgradeOHSConfig)	Orchestration log files: ■ /u01/logs/OHS/11.1.8.0.0/orchestration/*hostname*-rel8_ohs_*timestamp*.log RUPLite log file: ■ /u01/webgate/*hostname*/webgate_installer_REL8/output/logs/*hostname*/backupupgradeohsconfig/rupliteohsupgradeohsconfig_*timestamp*.log
Running RUP Lite for BI (RunRUPLiteForBI)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log
Running RUP Lite for OVM in Online Mode as Application User (RupLiteOvmOnline)	■ /u01/lcm/rupliteovm/output/logs/11.1.8.0.0/*hostname*/rupliteonline.log
Starting IIR (StartIIRPlugin)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log
Setting CrashRecoveryEnabled Property to True (EnableCrashRecoveryEnabled)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log

Table 7–1 (Cont.) Upgrade Tasks and Related Log Files

Task Display Name and ID	Log File Location
Running Post Upgrade Health Checks (PostUpgradeChecks)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/healthchecker/PRIMORDIAL_*hostname*-PostUpgradeHealthChecks_*timestamp*.log ■ /u01/logs/OHS/logs/healthchecker/OHS_*hostname*-PostUpgradeHealthChecks_*timestamp*.log ■ midtier_*hostname*-manifest_name_worker/DowntimePostFA/midtier_*hostname*-manifest_name_PostUpgradeChecks_*timestamp*.log
Running Data Quality Checks (DataQualityChecks)	■ PRIMORDIAL_*hostname*-DataQualityChecks_*timestamp*.log
Running Post Upgrade Cleanup Tasks (PostUpgradeCleanup)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log
Upgrading All Installed Languages (LanguagePackInstall)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log
Stopping All Servers (StopServersAfterLP)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log
Starting All Servers (StartSeversAfterLP)	■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_primordial_*timestamp*.log ■ *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/orchestration/*hostname*-rel8_midtier_*timestamp*.log
Running Post Language Pack Health Checks (PostLangPackChecks) - This must call both general system and post LP upgrade checks	■ APPLICATIONS_CONFIG/lcm/logs/11.1.8.0.0/healthchecker/PRIMORDIAL_*hostname*-PostLanguagePackHealthChecks_*timestamp*.log

7.2.2 RUP Installer Log File Directories

The following table contains a list of log directories for RUP Installer activities.

Table 7–2 Log Directories for RUP Installer Activities

Log directory name	Description
oracle_inventory/logs	Installation phase and Oracle Fusion Middleware patch set installation logs.
APPLICATIONS_CONFIG/lcm/logs/11.1.8.0.0/RUP	Top level directory for RUP Installer logs.
APPLICATIONS_CONFIG/lcm/logs/11.1.8.0.0/RUP/ARCHIVE/*timestamp*	Top level log directory where log files are moved when you retry the installation session.

Table 7–2 (Cont.) Log Directories for RUP Installer Activities

Log directory name	Description
APPLICATIONS_CONFIG/lcm/logs/11.1.8.0.0/RUP/configlogs	Top level log directory for configuration assistants. A log file exists for each configuration assistant. For more information, see Section 7.2.2.1, "Log Files for Configuration Assistants".
APPLICATIONS_CONFIG/lcm/logs/11.1.8.0.0/RUP/PatchManager_DBPatch	Database upload configuration assistant logs after failure or completion. For more information, see Section 7.2.2.2, "Log Files for the Database Upload Configuration Assistant".
APPLICATIONS_BASE/instance/BIInstance/diagnostics/logs	Oracle Business Intelligence logs.
APPLICATIONS_CONFIG/lcm/logs/11.1.8.0.0/RUP/StartStop	StartStop utility logs. Note that server logs are located under respective domains. For example, the AdminServer log for CommonDomain is under *APPLICATIONS_CONFIG*/domains/*hostname*/CommonDomain/servers/AdminServer/logs.
APPLICATIONS_CONFIG/lcm/logs/11.1.8.0.0/RUP/soalogs	SOA artifacts configuration assistant logs. Note that SOA server logs are located under respective domains. For example, the SOA server logs for CommonDomain are under *APPLICATIONS_CONFIG*/domains/*hostname*/CommonDomain/servers/soa_server1/logs. For more information, see Section 7.16.1, "SOA Composite Log Files".
APPLICATIONS_CONFIG/lcm/logs/11.1.8.0.0/RUP/PatchManager_DownloadedPatches	Applying Downloaded Patches configuration assistant logs.

7.2.2.1 Log Files for Configuration Assistants

During the configuration phase of the upgrade, each configuration assistant creates its own log file under the *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/RUP/configlogs directory. All messages that are generated during the configuration assistant processing are written to this log file. The only information related to configuration assistants that is written to the main log file, *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/RUP, are those messages that indicate that a configuration assistant started and the result of its processing, such as success or error.

7.2.2.2 Log Files for the Database Upload Configuration Assistant

During the execution of the **Load Database Components** configuration assistant, log files are created under the /lcm/logs directory. Upon completion or failure of the database upload, the log files move to the *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/RUP/PatchManager_DBPatch directory.

7.3 Monitoring Upgrade Orchestration Progress

You can monitor the progress of the upgrade by monitoring the console output or by running the getStatus command. You can run this command on any host, to get the upgrade status for that host or for other hosts. The command follows:

```
(Unix)
cd ORCH_LOCATION/bin
./orchestration.sh getStatus -pod POD_NAME -hosttype host_type -hostname host_name
-release release_version [-phase phase_name] [-taskid task_id] [-taskstatus task_
status]

(Windows)
cd ORCH_LOCATION\bin
orchestration.cmd getStatus -pod POD_NAME -hosttype host_type -hostname host_name
-release release_version [-phase phase_name] [-taskid task_id] [-taskstatus task_
status]
```

Example 7–1 Retrieve the overall status of the upgrade

```
./orchestration.sh getStatus -pod fcsm -hosttype PRIMORDIAL -hostname host_name
-release REL8
```

Example 7–2 Retrieve all tasks in a phase

```
./orchestration.sh getStatus -pod fcsm -hosttype PRIMORDIAL -hostname host_name
-release REL8 -phase predowntime
```

Example 7–3 Retrieve all tasks with a specific status

```
./orchestration.sh getStatus -pod fscm -hosttype PRIMORDIAL -hostname host_name
-release REL8 -taskstatus success
```

Example 7–4 Retrieve the status of a specific task

```
./orchestration.sh getStatus -pod fscm -hosttype PRIMORDIAL -hostname host_name
-release REL8 -taskid HostTypeValidatePlugin
```

Table A–3, " Options for orchestration.sh getStatus command" displays a complete list of options for the `orchestration.sh getStatus` command.

If any upgrade tasks fail, the Fusion Applications Orchestrator Upgrade Report is generated and mailed as an attachment to the user specified in the `EMAIL_TO_RECIPIENT` property in the `pod.properties` file. For more information, see Section A.1.3, "Oracle Fusion Applications Orchestrator Upgrade Report". For information about troubleshooting failures, refer to the appropriate section in this chapter to resolve the issue. After a failure, restart Orchestrator on the host where it failed, using the same commands you used in Section 5.1.1, "Run Upgrade Orchestrator During Downtime".

If any configuration assistants fail while RUP Installer is running, Upgrade Orchestrator does not display a message, fail, or send an email until RUP Installer exits with a failure.

If the Loading Database Components step in RUP Installer fails, you receive an email notification only when all workers are in a FAILED or IDLE (no tasks assigned to it) state. To resolve this type of issue, follow the steps in Section 7.13.2, "Workers Fail While Loading Database Components".

7.4 Terminating Upgrade Orchestration

Orchestration can be terminated on all hosts under scenarios that require you to issue an exit command across the entire environment. This section describes the commands to use to terminate orchestration on all hosts.

7.4.1 Terminate an Orchestration Session

When you need to terminate an orchestration session on a pod for reasons such as, not being able to complete the upgrade within a certain time, or unexpected issues that may require significant time to resolve, run the following command:

```
cd /ORCH_LOCATION/bin
./orchestration.sh exitOrchestration -pod POD_NAME -hosttype host_type
```

This command terminates the orchestration session on all hosts across all host types in the specified pod. This command can be run from any individual host for the entire environment and/or pods. The `hosttype` argument must match the host from which you issue this command. Upgrade Orchestration sends a notification after all hosts exit from orchestration. After you receive this notification, you must run the command to clear the exit status on all hosts, as described in Section 7.4.2, "Clear the Exit Status on All Hosts." If you do not receive this notification on a timely basis, you can find the status of your request by running the command described in Section 7.4.3, "Get the ExitOrchestration Status."

> **Note:** From the time `exitOrchestration` is issued, until `clearExitOrchestration` is issued, no other command, other than getExitOrchestrationStatus, can be issued on the `pod`. Also, `exitOrchestration` can be issued from any host but is applicable for all the hosts under a pod.

7.4.2 Clear the Exit Status on All Hosts

Run the following command to clear the exit status on all hosts, after you receive the notification that confirms all hosts exited from orchestration:

```
cd /ORCH_LOCATION/bin
./orchestration.sh clearExitOrchestration -pod POD_NAME -hosttype host_type
```

After this command runs, users can continue with the upgrade or take other appropriate actions on the pod.

7.4.3 Get the ExitOrchestration Status

While the `exitOrchestration` command is running, you can run the `getExitOrchestrationStatus` command to retrieve the status of the `exitOrchestration` command.

```
cd /ORCH_LOCATION/bin
./orchestration.sh getExitOrchestrationStatus -pod POD_NAME
```

7.5 Canceling the Upgrade and Restoring From Backup

To cancel the upgrade and to restore the system, first terminate orchestration by following the steps in Section 7.4, "Terminating Upgrade Orchestration". After orchestration terminates successfully, restore the system from the backup that was taken before starting the upgrade. In addition to restoring the environment from the backups, perform the following steps to restore and clean up the orchestration files.

1. Directories configured for the following properties in `pod.properties` are used by Upgrade Orchestrator to store checkpoint files and to archive older versions of checkpoint files.

- ORCHESTRATION_CHECKPOINT_LOCATION
- ORCHESTRATION_CHECKPOINT_ARCHIVE_LOCATION

Note that if these configured directories are shared among multiple instances then, orchestration would have created *POD_NAME* sub directories.

2. Run the following commands to remove any checkpoint location and its contents:

```
rm -rRf ORCHESTRATION_CHECKPOINT_LOCATION/POD_NAME/*
rm -rRf ORCHESTRATION_CHECKPOINT_ARCHIVE_LOCATION/ARCHIVE/POD_NAME/*
```

7.6 Troubleshooting Upgrade Orchestrator Failures

The following specific troubleshooting scenarios are described in this section:

7.6.1 Unable to Upload Orchestration Checkpoints

Problem

When orchestration is relaunched for any reason, there could be an error loading checkpoint files to the appropriate location. In this case, Upgrade Orchestrator exits with the following errors.

```
Unable to upload orchestration checkpoints under
/fsnadmin/upgrade/fusionChangeOps/11.1.8.0.0/orchestration/bin/../checkpoint.
Corrective Action: Remove any existing files from older Orchestration run in
/fsnadmin/upgrade/fusionChangeOps/11.1.8.0.0/orchestration/bin/../checkpoint
before you proceed.
```

Solution

Perform the required corrective action suggested in the error message and then resume orchestration to proceed with the upgrade.

7.6.2 Safely Exit Upgrade Orchestrator

Problem

Orchestration hangs during the `preDowntime` or `downtimeFA` phase, or you need to exit Upgrade Orchestrator in the middle of an upgrade for any valid reason.

Solution

Run the `exitOrchestration` command from another console, on any host in the pod, to gracefully exit orchestration. Then run `clearExitOrchestration`. Refer to Section 7.4, "Terminating Upgrade Orchestration".

The `exitOrchestration` command terminates the upgrade on all hosts. Therefore, after you resolve the issue, rerun orchestration on all hosts where orchestration was previously running.

7.6.3 Unable to Find the Orchestrator Upgrade Report After Failure

Problem

After Upgrade Orchestrator fails, the console reports the following example information:

```
Fusion Applications Orchestrator Upgrade Report:
/u01/orchestration/orchreports/FAOrchestrationUpgradeReport_release_hosttype_
hostname_timestamp.html
```

This html file does not exist in the `/u01/orchestration/orchreports` directory.

Solution

As the upgrade progresses, the Orchestrator Upgrade report is archived after the failure or completion of each task. You can find the output in the following directory, based on the example.

```
/u01/orchestration/orchreports/ARCHIVE/11.1.8.0.0/2013-05-13_11_
38-48AM/FAOrchestrationUpgradeReport_release_hosttype_hostname_timestamp.html
```

7.6.4 Upgrade Orchestrator Report Fails to Generate Due to Out Of Memory Error

Problem

Upgrade Orchestrator fails while generating the Upgrade Orchestrator report with the following error:

```
"Java.lang.OutOfMemoryError: PermGen space
```

Solution

Increase the `ORCH_JVM_OPTION` value in `pod.properties` to allocate more memory for both the startup of JVM and the total size of `permgen`, as shown in the following example:

```
ORCH_JVM_OPTION=-Xmx2048m -XX:PermSize=256M -XX:MaxPermSize=512M
```

7.6.5 Property Validation Fails Due to Invalid Property Error

Problem

Property validation fails during the `PreDowntime` phase with the following error:

```
Invalid property: must specify ORCHESTRATION_CHECKPOINT_LOCATION in orchestration
properties file ./../config/pod/pod_properties.
```

No log file or HTML file is generated.

Solution

Populate the `ORCHESTRATION_CHECKPOINT_LOCATION` mandatory property in the `pod.properties` file. Note that no logs are generated for this type of failure by design.

7.6.6 Wait for Peer Phase Error After Setting Task to Success Status

Problem

You ran the `updateStatus` command to manually set the status of a failed `task_id` on the primordial host to "success" for the `PreDowntime` phase. After you resume orchestration on the IDM host, it fails with the following error:

```
Wait for peer phase: PRIMORDIAL:PreDowntime on host.mycompany.com
Found peer phase: PRIMORDIAL:PreDowntime on host.mycompany.com Error.
```

The results of `getStatus` on the pod shows that all tasks were successful but the `PreDownTime` phase was in error status.

Solution

Setting a task status to "success" does not resolve a "Wait for peer phase" error, because a phase level status cannot be updated by the `updateStatus` command. The only way to resolve a "Wait for peer phase" issue is to resume orchestration so that it can verify that all tasks in the phase were successful.

7.6.7 Unable to Update Task Status From Running to Success

Problem

An orchestration task is no longer running and the following error is reported:

```
Orchestration step: DowntimePreFA DeploySoaShared Running
Unable to update task status from Running to Success

Oracle Fusion Applications Release Upgrade Orchestration failed.
```

Solution

Before performing the step in this solution, confirm that there are no orchestration processes running. Then run the `updateStatus` command to change the status of the task specified in the error message to error and then resume Upgrade Orchestrator.

Upgrade Orchestrator supports only the following status transitions:

- Error to Success
- Running to Error
- ManualStep to Success
- Success to Error

7.6.8 Emails Are Not Being Sent Upon Failure

Problem

The emails that Upgrade Orchestrator sends upon failure are not being received.

Solution

Perform the following steps to check if your mail server is configured properly:

1. You can check if your mail server is configured properly by running the following command:

   ```
   "echo hello | /usr/sbin/sendmail <email_addr>"
   ```

2. If emails are not being sent, restart the mail server and test again.

   ```
   /etc/init.d/sendmail restart
   ```

3. Ensure that all properties related to email are populated with the correct values in the `pod.properties` file. For more information, see Table B–1, " pod.properties".

7.6.9 Upgrade Orchestrator Does Not Use a Value in the Properties File

Problem

Upgrade Orchestrator is not using a value that was recently added to one of the properties files.

Solution

If you updated the properties file after launching Upgrade Orchestrator, follow the steps to safely exit orchestration in Section 7.6.2, "Safely Exit Upgrade Orchestrator" and then relaunch orchestration.

7.6.10 Stale NFS File Handle Error

Problem

While running various commands for Upgrade Orchestrator, the following error is reported:

```
Stale NFS file handle
```

Solution

If the Stale NFS file handle error is reported while running any of the plug-ins in orchestration or the `getStatus` or `updateStatus` commands, verify that all mount points provided in the various property files are actually accessible. For more information, see Appendix B, "Upgrade Orchestrator Properties Files".

7.6.11 Error in Creating_Middleware_Schemas Log

Problem

The following error is reported:

```
[apps] [ERROR] [] [oracle.apps.ad.rupconfig.Creating_Middleware_Schemas] from
oracle.security.audit.config.dynamic.persistence.internal.ldap.AuditStoreDataManag
er searchFilterPresets
```

Solution

This error can be ignored.

7.6.12 Cannot Remove Snapshot File Error

Problem

The following error causes Upgrade Orchestrator to fail:

```
rm: cannot remove
`/u01/ORCH/orchestration/INIT/mycompany.com/IDM/INIT/snapshot/.nfs00000000015595b3
0000004b': Device or resource busy

Oracle Fusion Applications Release Upgrade Orchestration failed.
```

Solution

Remove the file that is causing the error and restart Upgrade Orchestrator.

7.6.13 Informatica Identity Resolution (IIR) Does Not Come Up After the Upgrade

Problem

IIR does not come up after following the steps to start IIR as part of the Start External Servers Pause Point Post Upgrade step.

Solution

Follow the steps in "Troubleshooting Informatica Identity Resolution and Data Quality Setup" in the *Oracle Fusion Applications Installation Guide* to manually check for files that need to be cleaned up and to retry the steps to start the server.

7.6.14 Unable to Initialize the Checkpoint System

Problem

During orchestration, a process can fail when the checkpoint system cannot be initialized, and the following error message is reported:

```
Failed to load prevayler under path_for_snapshot: Chunk header corrupted in the
log file.
```

Solution

Perform the following steps to resolve this issue:

1. Review the log file to ensure there is no "out of disk space" exception.
2. If there is no "out of disk space" exception, restart orchestration on the host where the failure occurred. If there is an "out of disk space" exception, ensure there is enough disk space and then restart orchestration.

7.6.15 Stop Index Schedule and Deactivate Index Optimization Fails on Primordial Host

Problem

SES crawler processes in the LAUNCHING state cannot be stopped. The following errors messages are reported in the primordial orchestration log. The schedule names listed in the snippet below are the schedules that could not be stopped.

```
[2013-12-06T15:22:47.188+00:00] [orchestration] [NOTIFICATION] []
[oracle.orchestration] [tid: 13] ERROR: Failed to stop the following Index
Launching Schedules:
[2013-12-06T15:22:47.188+00:00] [orchestration] [NOTIFICATION] []
[oracle.orchestration] [tid: 13]
[2013-12-06T15:22:47.188+00:00] [orchestration] [NOTIFICATION] []
[oracle.orchestration] [tid: 13] Purchasing Contract Documents
[2013-12-06T15:22:47.188+00:00] [orchestration] [NOTIFICATION] []
[oracle.orchestration] [tid: 13] Purchasing Contracts
[2013-12-06T15:22:47.188+00:00] [orchestration] [NOTIFICATION] []
[oracle.orchestration] [tid: 13] References
[2013-12-06T15:22:47.188+00:00] [orchestration] [NOTIFICATION] []
[oracle.orchestration] [tid: 13] Sourcing Contracts
[2013-12-06T15:22:47.188+00:00] [orchestration] [NOTIFICATION] []
[oracle.orchestration] [tid: 13] FAILURE: SesDisableIndexSchedules failed.
```

Solution

Bounce the common domain's ESS server and resume Upgrade Orchestrator.

7.7 Troubleshooting Failures During the Installation Phase

Perform the following steps when an error occurs during the RUP Installer or Language Pack Installer installation phase:

1. Click **Cancel** to exit out of the installer.
2. Review the log files to determine the cause of the failure. The log files reside in *oracle_inventory*/logs/install*timestamp*.log.
3. Resolve the cause of the failure.
4. Start the installer using the same command syntax that you used for the previous incomplete installation. After canceling the previous installation and starting again, you must choose to continue with the previously failed installation by clicking **Yes** on the Checkpoint Dialog. If the error is not recoverable, you can restore and restart from backup.
5. If you choose to continue with the failed installation, the installer opens at the screen where it was canceled. When canceled during the copy action, it relaunches in the Installation Summary screen. Click **Next** to navigate through the Installation Summary screen. When the Installation Progress screen displays, click **Install** to start the installation again.

Troubleshooting steps are described for the following specific failures that may occur during the installation phase:

- CFGLOG-00056: Exception caught while getting node-manager homes
- Invalid Oracle Home
- Error in Writing to File, Text File Busy
- Inventory Pointer File is Empty

7.7.1 CFGLOG-00056: Exception caught while getting node-manager homes

Problem

Within a few seconds of starting the installer, you receive the following messages:

In the log file:

```
SEVERE: CFGLOG-00056 : Exception caught while getting node-manager homes
```

In the user interface:

```
CFGLOG-00052 : Error occurred while moving instance specific files
```

Solution

This failure is the result of having an incompatible version of OPatch in FA_ORACLE_HOME. To resolve the issue, download and apply patch 14044793, which contains the compatible version of OPatch.

7.7.2 Invalid Oracle Home

Problem

In the Installation Location page, you receive a message about entering an invalid Oracle home, even though the location displayed on the page is correct. The installer reads `/etc/oraInst.loc` to determine the location of the central inventory.

Solution

To resolve this problem:

- Ensure that the `/etc/oraInst.loc` file on the machine where you are running the installer is pointing to the correct central inventory location.
- Ensure that the *FA_ORACLE_HOME* matches the values provided during provisioning. If a `/net/location` was provided as the Oracle home location during provisioning, the same `/net/location` that corresponds to *FA_ORACLE_HOME* should be provided during the installation. You can find this location by following these steps:
  - Open /etc/oraInst.loc and find the path to oraInventory, which is the central inventory, for example, `server01/appmgr/APPTOP/oraInventory`.
  - Change directory to the ContentsXML directory under the central inventory, for example, `server01/appmgr/APPTOP/oraInventory/ContentsXML`.
  - Open the `inventory.xml` file to find the correct directory path to *FA_ORACLE_HOME*.

7.7.3 Error in Writing to File, Text File Busy

Problem

During the installation phase of RUP Installer, you receive the following message on a UNIX platform.

```
Error in writing to file
'/server01/APPLICATIONS_BASE/fusionapps/applications/lcm/ad/bin/adctrl'
(Text file busy)
```

Solution

To resolve this issue, perform the following steps.

1. Run the `lsof` command using the full directory path of the file that is busy.

   `/usr/bin/lsof` *full_path_to_file*

2. You should receive a list of process ids that are using the file. Kill each process using the appropriate command for your operating system.
3. After all processes are no longer running, resume orchestration.

7.7.4 Inventory Pointer File is Empty

Problem

After running the installer, the contents of `oraInst.loc` were removed.

Solution

The installer always tries to copy the inventory pointer file specified by the `-invPtrLoc` option to the Oracle home on which the release is to be installed. If you specify an incorrect path for the `-invPtrLoc` file, the inventory pointer file could result in being an empty file. Review the following possible solutions for this issue:

- For best results, if you are using the `-invPtrLoc` option, use it with this value: *`FA_ORACLE_HOME`*`/oraInst.loc`. This avoids a situation where you may inadvertently exclude part of the directory path to the file, as in the case of using a mapped drive. For example, if Oracle home is registered in inventory with a `/net` path, such as `/net/home/oraInst.loc`, and you provide `/home/oraInst.loc` to the `invPtrLoc` option, the installer interprets the two paths as different. The end result is an empty inventory pointer file.
- If *`FA_ORACLE_HOME`* is registered in central inventory with a `/net` path, then you must include `/net` when specifying the location of the inventory pointer file with the `-invPtrLoc` option, for example, `-invPtrLoc /net/`*`directory_path`*`/oraInst.loc`.
- Restore from a backup copy of your `oraInst.loc` file in case the original file is damaged. You can find this in `/etc/oraInst.loc`.
- You can recover from this error by creating a new `oraInst.loc`. See the "Creating the oraInst.loc File" section in the relevant Oracle Database installation guide, for example, *Oracle Database Installation Guide, 11g Release 2 (11.2) for Linux*.

  Then resume orchestration.

7.8 Troubleshooting RUP Installer Failures

This section provides information about the following RUP Installer failures:

- RUP Installer Fails
- Installer Requirement Checks Fail
- Failure During Apply Pre-PSA Due to Smart Patch Conflict (Oracle VM Only)
- RUP Installer Fails Due To Thread Calls
- Recover From an Installer Session That Was Shut Down
- Deploying New Application Configuration Fails with a "NumberFormatException"
- Importing of Group Space Templates Fails During RUP Installer Part 2
- GST Validation Fails During Import of Group Space Template

- Configuration Assistant Fails Due to "Could not create credential store instance" Error
- First Installer Fails on Primordial Host During Applying Middleware Patchsets

7.8.1 RUP Installer Fails

RUP Installer is one of the tasks performed by Upgrade Orchestrator. In the case of a failure, information in Section 7.1, "General Troubleshooting for Upgrade Orchestrator Failures" applies. In addition to the Upgrade Report and log location, the RUP Installer Report location is also included as part of the notification that is sent. For more information, see Section 6.2, "Review the Post RUP Installer Report".

7.8.2 Installer Requirement Checks Fail

Problem

The installer fails with the following type of errors:

```
Starting Oracle Universal Installer...
Checking if CPU speed is above 300 MHz.
Checking Temp space: must be greater than 4096 MB. Actual 9177 MB Passed

Checking swap space: 3915 MB available, 4000 MB required. Failed <<<<
Some requirement checks failed. You must fulfill these requirements before
continuing with the installation,
```

Solution

Manually increase the requirement check that failed, in this example, the swap space. Then resume orchestration.

7.8.3 Failure During Apply Pre-PSA Due to Smart Patch Conflict (Oracle VM Only)

Problem

For the CRM stripe on an Oracle VM environment, RUP Installer fails during the **Apply Pre-PSA Middleware Patches** configuration assistant, due to a smart patch conflict. The following exception is reported:

```
"Conflict(s) detected - resolve conflict condition and execute patch
installation again.

Conflict condition details follow:

SEVERE: Conflict(s) detected - resolve conflict condition and execute patch
installation again

Patch HYKC is mutually exclusive and cannot coexist with patch(es):
3BBT,SZXM,7YZB,6D9T,56MM,F89C,9264,9887,S39F,7AAZ,JZED,E9FL,IH4D,YJTB

SEVERE: Patch HYKC is mutually exclusive and cannot coexist with patch(es):
3BBT,SZXM,7YZB,6D9T,56MM,F89C,9264,9887,S39F,7AAZ,JZED,E9FL,IH4D,YJTB"
```

Solution

Manually roll back all conflicting WLS patches and rerun orchestration.

7.8.4 RUP Installer Fails Due To Thread Calls

Problem

RUP Installer fails due to thread calls and reports errors similar to the following example:

```
"Thread-11" id=29 idx=0x98 tid=25751 prio=5 alive, native_blocked
     at java/io/UnixFileSystem.getBooleanAttributes0(Ljava/io/File;)I(Native
 Method)
     at java/io/UnixFileSystem.getBooleanAttributes(UnixFileSystem.java:228)
     at java/io/File.exists(File.java:733)
```

Solution

Restart RUP Installer by restarting Upgrade Orchestrator.

7.8.5 Recover From an Installer Session That Was Shut Down

Problem

An installer session was shut down during the upgrade.

Solution

If orchestration or tasks spawned by orchestration, such as RUP Installer, are killed in the middle of any process, the system may not be in a recoverable state and the state should be carefully reviewed by contacting Oracle Support before proceeding.

To recover from this situation, restore your backup of *APPLICATIONS_BASE* and start from the beginning of the upgrade.

7.8.6 Deploying New Application Configuration Fails with a "NumberFormatException"

Problem

A `NumberFormatException` is reported when retrying the **Deploy New Applications** configuration assistant due to an incorrect value for `numCompletedDeployments` variable in the `checkpoint.xml` file.

Solution

To resolve this issue, convert the float value to an integer value for the "NumberOfSuccessfulArtifacts" attribute in the checkpoint file located at *`central_inventory_location`*`/checkpoint/11.1.8.0.0/farup/checkpoint.xml`.

The following example shows the value to be updated in bold:

```
<aggregate name="Deploying New Applications" status="fail">
        <property name="NumberOfSuccessfulArtifacts" value="2.0"/>
        ...
     </aggregate>
```

The following example shows the updated value in bold.

```
<aggregate name="Deploying New Applications" status="fail">
        <property name="NumberOfSuccessfulArtifacts" value="2"/>
        ...
     </aggregate>
```

7.8.7 Importing of Group Space Templates Fails During RUP Installer Part 2

Problem

The import of Group Space Templates fails with the following error:

```
Another application named "webcenter" exists. Specify the Server on which your
application is deployed. Use: server= "YourServerName ".
```

Solution

There are multiple applications with the same name in the domain in which you are trying to register your application. This usually happens in a cluster environment, where the same application is deployed to multiple managed servers. If this is the case, specify the name of the server in which you are trying to register this application. For example, run the registerWSRPProducer WLST command with the server argument:

```
registerWSRPProducer(appName='myApp',
name='MyWSRPSamples',url='http://host:port/application_name/portlets/wsrp2?WSDL',
server=server_name)
```

Related Links

The following document provides additional information related to the subject discussed in this section:

- For command syntax and examples, see "registerWSRPProducer" in the *Oracle Fusion Middleware WebLogic Scripting Tool Command Reference*.

7.8.8 GST Validation Fails During Import of Group Space Template

Problem

The import of Group Space Templates fails with the following error:

```
[oracle.apps.ad.rupconfig.Online_Preverification] [tid: 5] [ecid:
0000KJNbPbF8Hv_LTQ9Dic1JADm3000006,0] CFGLOG-00169 : Step "Group Space
Template" failed.[[
oracle.patchset.common.exception.PatchsetException: COMMONEX-00016 : Errors
encountered when running validation step
"oracle.as.install.fapatchconfig.plugin.impl.GstValidation".
```

Solution

If you use Oracle Web Center Collaboration Server, you must resolve the issues that resulted in these errors. Otherwise, perform the following steps to skip the GST validation.

1. `cd` *`$Inventory_Loc`*`/checkpoint/farup/11.1.8.0.0`
2. Back up the `checkpoint.xml` file.
3. Modify `<property name="Group Space Template" value="Failed"/>` to `<property name="Group Space Template" value="Success"/>` in the `checkpoint.xml` file.
4. Resume orchestration. The **Online Preverification** proceeds by skipping GST validation and completes the rest of the checks in the configuration assistant. The `runSecondRUPInstaller` plug-in will then fail due to the GST failure. Review all logs to confirm the configuration assistant was successful,
5. Update the `runSecondRUPInstaller` plug-in to `success`.

7.8.9 Configuration Assistant Fails Due to "Could not create credential store instance" Error

Problem

A configuration assistant fails with the following error:

```
JPS-01055: Could not create credential store instance.
Reason: oracle.security.jps.JpsException: JPS-00071: Ldap bootstrap credential
retrieval failed.
Reason:oracle.security.jps.service.credstore.CredStoreException:
JPS-01050: Opening of wallet based credential store failed.
Reason java.io.IO Exception:PKI-02002: Unable to open the wallet. Check password.
```

Solution

Restart Upgrade Orchestrator.

7.8.10 First Installer Fails on Primordial Host During Applying Middleware Patchsets

Problem

The first installer fails on the primordial host with the following exception reported in /u01/instance/lcm/log/11.1.8.0.0/RUP/fapatch_Applying_Middleware_Patchsets_*timestamp*.log.

```
{{Internal Error: File Copy failed. Aborting Install

ERROR: Failed Job ID 12

ERROR: jobs failed during Applying Middleware Patchsets}}

{{ERROR: CFGEX-00090 : Applying Middleware Patchsets failed.Action : See log file
for details. java.lang.Exception: CFGEX-00090 : Applying Middleware _Patchsets
failed. at_ _
oracle.as.install.fatechpatchconfig.MWPatchset.doExecute(MWPatchset.java:53) a{}t_
oracle.as.install.engine.modules.configuration.client.ConfigAction.execute

(ConfigAction.java:375)}}
```

The following error is also report in the Installer logs using the timestamp in the previous log file, under /u01/inventory/admin-apps.oracleoutsourcing.com/oraInventory/logs.

```
OUI exception. oracle.sysman.oii.oiic.OiicInstallAPIException: OUI-10022:The
target area_
/u01/oim/oraInventory cannot be used because it is in an invalid state.
```

Solution

Resume Upgrade Orchestrator on the primordial nodes to proceed with the upgrade.

7.8.11 Importing Oracle Data Integrator Repositories Fails

Problem

The second installer fails while running the **Import Oracle Data Integrator Repositories** configuration assistant when it is run in checkpointing mode, and when the 'Offline Preverification' step was run in a previous session of the installer. The following message is reported.

```
odi.core.security.internal.ODIJpsHelper.createSubject Get exception.
User:FUSION_APPS_PROV_PATCH_APPID. Execption msg is:
java.lang.NoClassDefFoundError: javax/security/jacc/PolicyContext
```

Solution

1. Back up the existing checkpoint file at `/u01/inventory/`*`hostname`*`/oraInventory/checkpoint/farup/11.1.8.0.0/checkpoint.xml` to a different location.
2. In the `checkpoint.xml` file, look for `<aggregate name="Offline Preverification" status="success"/>`.
3. Update the line to set the status to "fail" and then save the file.
4. Resume orchestration.

7.8.12 Creating Middleware Schema Fails

Problem

The **Create Middleware Schema** configuration assistant fails.

Solution

You cannot retry the **Create Middleware Schema** configuration assistant after a failure. You must restore your environment from a backup and then restart the upgrade.

7.9 Troubleshooting Node Manager and OPMN failures

7.9.1 Verifying Node Manager and OPMN Status Fails Due to Bad Certificate Issue

Problem

Verifying Node Manager and OPMS Status fails with the following error:

```
WLSTException: Error occured while performing nmConnect :
Cannot connect to Node Manager. :
[Security:090542]Certificate chain received from <hostname> - <host IP address>
was not trusted causing SSL handshake failure.
```

Solution

The issue can occur when the host associated with a node manager is explicitly bounced in the middle of the upgrade, and if Upgrade Orchestrator expects the node manager to be in a shutdown state at that time. Node manager on the host may be configured to automatically start up as part of the system boot process and could cause various issues depending on which upgrade step was being performed when the host was restarted. To resolve this issue, stop and restart node manager on the host where the issue was reported.

7.9.2 Stopping OPMN Processes Fails

Problem

Upgrade Orchestrator fails to stop OPMN processes with an error similar to either of the following errors:

- `Exception: OPMN could not be stopped. Script will exit. Please stop OPMN manually before re-running the script.`
- `/APPLICATIONS_BASE/webtier_mwhome/oracle_common/jdk/jre/lib/fonts/ALBANWTJ.ttf - No such file exists.`

Solution

This issue can occur due to an incompatible version of JDK being used during the process. To resolve the issue, perform the following steps.

1. `cd /APPLICATIONS_BASE/webtier_mwhome/webtier`

   `mv jdk_backup_existing_version jdk`

2. `cd /APPLICATIONS_BASE/webtier_mwhome/oracle_common`

   `rm –rf jdk`

   `cp –Rp jdk_bkp_130320_1250 jdk`

3. Resume orchestration.

7.9.3 Verifying Node Manager and OPMN Status Fails

Problem

The **Verifying Node Manager and OPMN Status** configuration assistant fails.

Solution

Do not exit out of Upgrade Orchestrator in response to this configuration assistant failure. Perform the following steps to recover:

1. Review the node manager log files to determine the cause of the failure:

   APPLICATIONS_CONFIG`/nodemanager/host_name/`

   Note that the *APPLICATIONS_CONFIG* value can be obtained from the *APPLICATIONS_BASE*`/fusionapps/faInst.loc` file.

2. After you resolve the issue that caused the failure, start the Node Manager on all hosts that are part of the Oracle Fusion Applications provisioned system. For more information, see "Task 3: Start Node Manager" in the *Oracle Fusion Applications Administrator's Guide*.

3. Restart the OPMN server for BI, GOP (if GOP is installed), and Web Tier. If you run the Web Tier (OHS) installed with the Oracle Fusion Applications middle tier, you can start it using the following steps. If you run the Web Tier on a separate machine, you may be able to run the steps below on the other machine. In either case, ensure that Web Tier (OHS) is up at this point.

   Example for BI: (note the usage of `start` instead of `startall`)

   ```
   cd APPLICATIONS_CONFIG/BIInstance/bin
   ./opmnctl start
   ```

Example for GOP: (note the usage of `start` instead of `startall`) Note that the OPMN server for GOP should be started from the machine that hosts the Supply Chain Management Administration Server domain. Start the OPMN server for GOP only if you have GOP installed.

```
cd APPLICATIONS_CONFIG/gop_1/bin
./opmnctl start
```

Example for Web Tier: (note the usage of `start` instead of `startall`)

```
cd APPLICATIONS_CONFIG/CommonDomain_webtier/bin
./opmnctl start
```

For more information about the location of *APPLICATIONS_BASE* and *APPLICATIONS_CONFIG*, see Section 2.1, "Before You Begin".

The BI and Web Tier processes managed by OPMN are started by RUP Installer in the **Starting All Servers** configuration assistant. The GOP processes managed by OPMN must be started using Fusion Applications Control, as described in Section 5.2.6, "Start External Servers", after RUP Installer completes.

4. Fix any other environment issues before resuming the upgrade. If RUP Installer exits for any reason, make sure that all node managers and OPMN processes are running. Contact Oracle Support Services to proceed out of this step if you have unresolved environment issues.
5. After you start the services, resume orchestration to proceed to the **Starting All Servers** configuration assistant. If the starting of servers times out, see Section 7.15, "Troubleshooting Server Start and Stop Failures".

Note: If GOP is not installed, the user interface reports "Success" for GOP OPMN status, but the log file reports: `GOP is not provisioned. Skipping check for OPMN status.`

7.9.4 Node Manager Does Not Start Between First and Second Installer

This section describes two scenarios that can prevent the node manager from starting between the first and second installer.

Problem

The node manager was manually started before or during the E**xtending Certification Validity** configuration assistant. The node manager caches the previous keystore certificates so the updated certificates are not validated and the node manager fails to start.

Solution

Check the node manager logs to determine if it is running and when it was last started. If the time stamp is earlier than the **Extending Certification Validity** configuration assistant execution time stamp, you must restart the node manager so that it reads the updated keystore certificates.

1. To find out if the node manager is running for a specific host, connect to the host and run the following command. If any results are returned, the node manager is running.

```
ps -ef | grep nodemanager
```

2. If the node manager is running, find the time of the last entry of `<Secure socket listener started on port nnnn>` in the following directory.

   APPLICATIONS_CONFIG/nodemanager/*logical_host_name*/nodemanager

3. To check the timestamp for the **Extending Certification Validity** configuration assistant, find the fapatch_Extending_Certificate_Validity_XXXX file in one of the following directories.

   APPLICATIONS_CONFIG/lcm/logs/11.1.8.0.0/RUP/configlogs

   APPLICATIONS_CONFIG/lcm/logs/11.1.8.0.0/RUP/ARCHIVE/*timestamp*/configlogs

   The last time stamp entry is the execution timestamp.

Problem

The administration servers in one or more domains are running before the **Extending Certification Validity** configuration assistant runs. This prevents validation of the updated keystore certificates and fails to provide the correct status to orchestration.

Solution

Perform the following steps:

1. Verify whether the administration server of the domain is running by launching the administration console of the domain. If the console comes up, then the administration server is running.
2. Verify the last time the administration server was started. Go to the *APPLICATIONS_CONFIG*/domains/*logical_host_name*/*domain_name*/servers/AdminServer/logs directory. Using the command, `ls -lrt`, find the most recent the `AdminServer.log` file. In this file, find the time of last entry that contains text similar to the following example:

   `<Channel "Default" is now listening on machine_ip:port for protocols iiop, t3, ldap, snmp, http.>`

7.10 Troubleshooting RUP Lite for OHS Failures

The following RUP Lite for OHS failures are described:

- RUP Lite for OHS Fails With Missing JDK exception
- RUP Lite for OHS Fails With ReassociateCommonDomain Plug-in
- RUP Lite for OHS Fails With Security Mode Errors

7.10.1 RUP Lite for OHS Fails With Missing JDK exception

Problem

RUP Lite for OHS fails during the `ohs.plugin.UpgradeWebtier` step due to missing the `jdk` directory.

Solution

Verify if there is a `jdk_backup_existing_version` directory under *WT_ORACLE_HOME*. If this directory exists, rename it to `jdk` and resume Orchestration.

Also, if the missing `jdk` directory is from *`WT_MW_HOME`*`/oracle_common`, check to see if there is a `jdk_backup_existing_version` directory under this directory. If so, rename it to `jdk` and resume Orchestration.

7.10.2 RUP Lite for OHS Fails With ReassociateCommonDomain Plug-in

Problem

During the upgrade, RUP Lite for OHS fails with the following error:

```
Failed execution of plugin: ohs.plugin.ReassociateCommonDomain
```

Solution

Update the *`server_name`*`/instance/CommonDomain_webtier_local/config/OPMN/opmn/instance.properties` file to set the `registered` property to `true`. Then check the Administration Server on either the Common Domain or the OSN Domain to ensure it is running. If not, bounce the server and retry RUP Lite for OHS by resuming orchestration.

7.10.3 RUP Lite for OHS Fails With Security Mode Errors

Problem

RUP Lite for OHS reports a server side error with an error message such as:

```
Server instance is not running for the security mode specified: "simple".
Try again using a different security mode. The remote registration process
did not succeed! Please find the specific error message below.
```

Solution

Perform the following steps to resolve the issue.

1. Log in to the OAM administration console.
2. From the System Configuration tab, click **Server_Instances**, and double click the OAM server instance, such as, `oam_server1`.
3. Select "simple" from the Mode field in the right panel.
4. Click **Apply** to submit the changes.
5. Restart the OAM Server.
6. Restart all OHS servers in the environment.
7. Resume Upgrade Orchestrator.

> **Note:** Check the Oracle Fusion Applications OHS to ensure that SSO still works after the change. If it does not, you must upgrade Webgate manually for the Oracle Fusion Applications OHS.

7.11 Troubleshooting IDM Upgrade Failures

This section provides the following troubleshooting information related to upgrading Oracle Identity Management:

- Communication Exceptions on Primordial Console While Waiting for IDMOHS
- WLS Exception - ESS Server Does Not Respond During Start all Servers

7.11.1 Communication Exceptions on Primordial Console While Waiting for IDMOHS

Problem

While PRIMORDIAL is waiting for `IDMOHS:IDMUpgradeDone`, there are communication exceptions on the PRIMORDIAL console.

Solution

These errors can be ignored and Orchestration can be resumed.

7.11.2 WLS Exception - ESS Server Does Not Respond During Start all Servers

Problem

The **Starting All Servers** configuration assistant in RUP Installer fails to start `ess_server1` and reports the following error in the `ess_server1.log`:

```
weblogic.rmi.extensions.DisconnectMonitorUnavailableException: Could not
register a DisconnectListener
```

Solution

Perform the following steps to resolve this issue:

1. Open the Oracle Enterprise Manager console for the domain.
2. Navigate to following location:
   - From the console, expand the WebLogic Domain
   - Go to ESSCluster, then ess_server1
   - Right click and open System MBean browser
   - Go to `ess_server1`, `ServerStart`, select `ess_server1`, and click Arguments
3. Verify if `-Doracle.ess.initialProcessorState=stopped` is present. If it is, remove `-Doracle.ess.initialProcessorState=stopped` and click Apply. If it is not present, there is no action to take.
4. Restart `ess_server1`.

7.11.3 OAM Configuration Step Fails Due to Special Characters in Password

If the OAM administrator password contains special characters, such as '#' or '&', the OAM Configuration step will fail. To work around this issue, you can manually validate that the OAM Administration Server host/port and surname/password are correct. After you manually validate this information, you can proceed with the upgrade by resuming orchestration.

Perform the following steps to validate.

1. Get the OAM administrator user name and password from the credential store.
2. Run *APPLICATIONS_BASE*`/fusionapps/oracle_common/common/bin/wlst.sh`.

3. Run the following commands to connect to the Common Domain Administration Server and get the OAM administrator surname and password:

```
connect()
listCred(map='oracle.patching', key='FUSION_APPS_PATCH_OAM_ADMIN-KEY')
```

4. Get the OAM Administration Server host and port from the following properties in *APPLICATIONS_CONFIG*/fapatch/FUSION_prov.properties:
   - OAM_ADMIN_SERVER_HOST
   - OAM_ADMIN_SERVER_PORT
5. Use `oamcfgtool.jar` to confirm whether the OAM server can be invoked using the values found in the previous steps.

```
cd APPLICATIONS_BASE/fusionapps/oracle_common/modules/oracle.oamprovider_11.1.1

java -jar oamcfgtool.jar app_domain=crm web_domain=OraFusionApp
uris_file=APPLICATIONS_BASE/fusionapps/applications/crm/security/oam.conf
oam_aaa_mode=open_or_simple app_agent_password=password_for_
map="oracle.patching"
key="FUSION_APPS_PATCH_OAM_RWG-KEY"_in_credential_store
primary_oam_servers=oam_server1 oam_admin_server=http://OAM_admin_server_
host:port
oam_admin_username=username_for_FUSION_APPS_PATCH_OAM_ADMIN-KEY
oam_admin_password=password_for_FUSION_APPS_PATCH_OAM_ADMIN-KEY
oam_version=11 default_authn_scheme=FAAuthScheme
```

6. If the previous command is successful, the validation is successful and you can resume orchestration.

7.11.4 Location of GRC Policies in the OAM Applications Domain

The location of your Governance, Risk, and Compliance (GRC) policies varies, depending on your upgrade path to Release 8. GRC polices are located in the *grc* OAM application domain if your Oracle Fusion Applications environment was originally provisioned with either version 11.1.1.5 or 11.1.2, then upgraded to version 11.1.3, and then upgraded to version 11.1.4. If your environment was originally provisioned with version 11.1.3 and upgraded to version 11.1.4, your GRC policies are located in the *fs* OAM application domain.

7.11.5 Oracle Identity Federation Application Does Not Start and config.xml is Empty

Problem

The IDM upgrade fails with an error on Oracle Identity Federation (OIF) that it did not start successfully and the OIF`config.xml` file is empty. An error is reported in the IDM upgrade logs, as shown in the following example.

```
'<Jan 8, 2014 2:36:14 AM UTC> <Warning> <oracle.dfw.incident> <DFW-40125>
<incident flood controlled with Problem Key "DFW-99998
[oracle.security.fed.jvt.discovery.exceptions.DiscoveryFinderException][oracle.sec
urity.fed.jvt.discovery.model.config.FileConfigDiscoveryProvider.locateProtocolCon
figuration][OIF]">"
```

An error is also reported in the WLS logs, as shown in the following example.

```
<Jan 8, 2014 2:06:09 AM UTC> <Error> <Default> <J2EE JMX-46030> <failure to
register MBean>
"com.oracle.security.fed:name=ServerConfig,type=OIFConfigMBean,Application=OIF,App
```

```
licationVersion=11.1.1.2.0" during application initialization.
```

Solution

Perform the following steps to resolve this failure:

1. Shut down OIF.
2. Delete `config.xml` from the following directory: `u01/oim/user_projects/domains/oim_domain/config/fmwconfig/servers/wls_oif1/applications/OIF_11.1.1.2.0/configuration`.
3. Copy `config.xml.bak` to `config.xml`, in the same directory used in Step 2.
4. Make a backup copy of `config.xml.bak`.
5. Start OIF.
6. Resume orchestration to restart the IDM upgrade.

7.12 Troubleshooting Applying Middleware Patches

This section provides the following troubleshooting information related to the **Applying Pre-PSA Middleware Patches** or **Applying Post-PSA Middleware Patches** configuration assistants:

- Log Files for Applying Middleware Patches
- Applying Middleware Patchsets Fails Due to DISPLAY
- Applying Post-PSA Middleware Patches Hangs
- Applying Database Client Patches Fails
- ORA-01658: unable to create INITIAL extent for segment in tablespace

7.12.1 Log Files for Applying Middleware Patches

Problem

An error occurred during the **Applying Pre-PSA Middleware Patches** or **Applying Post-PSA Middleware Patches** configuration assistant.

Solution

Review the log file in the relevant location to find the cause of the error:

APPLICATIONS_CONFIG`/lcm/logs/11.1.8.0.0/RUP/ApplyPrePSAMiddlewarePatches`*timestamp*`.log`

APPLICATIONS_CONFIG`/lcm/logs/11.1.8.0.0/RUP/ApplyPostPSAMiddlewarePatches`*timestamp*`.log`

For specific OPatch failures, go to each of the individual Oracle home directories to find the details of the OPatch errors. For example, for a SOA failure, go to *APPLICATIONS_BASE*`/fusionapps/soa/cfgtoollogs/opatch`.

7.12.2 Applying Middleware Patchsets Fails Due to DISPLAY

Problem

The **Applying Middleware Patchsets** configuration assistant fails with an error as shown in the following example:

```
[as] [ERROR] [] [oracle.as.install.engine.modules.presentation] [tid: 15]
[ecid: 0000JsNJml6AxGGpIww0yf1HRacu000006,0] sun/awt/X11GraphicsEnvironment[[
.
java.lang.NoClassDefFoundError: sun/awt/X11GraphicsEnvironment
        at java.lang.Class.forName0(Native Method)
```

Solution

Unset the DISPLAY variable or set it to the correct value. To unset it, run ""`unset/unsetenv DISPLAY`" on all hosts. Then resume Upgrade Orchestrator.

7.12.3 Applying Post-PSA Middleware Patches Hangs

Problem

The **Applying Post-PSA Middleware Patches** configuration assistant hangs.

Solution

This problem is most likely due to adpatch hanging as the result of the java worker not getting the database connection. You can resolve this issue by following the steps in Section 7.13, "Troubleshooting Loading Database Components". Run the commands from *ATGPF_ORACLE_HOME* instead of *FA_ORACLE_HOME*.

7.12.4 Applying Database Client Patches Fails

Problem

The following error occurs:

```
OPatch cannot continue because it can't load library from the directory "<dbclient
Oracle Home>/oui/lib/linux64"
```

Solution

This error may occur if the OUI version in the database client Oracle home is 11.2 while the OUI version in Oracle Fusion Applications Oracle home (FA_ORACLE_HOME) is 11.1.

Perform the following steps to resolve this issue:

1. Go to the DB Client home.
2. Set the ORACLE_HOME environment variable to point to the database client Oracle home.
3. Apply the database client patches using the following command:

   ```
   $ORACLE_HOME/OPatch/opatch apply patch_location
   ```

4. Because the patches have now been manually applied, perform the following steps to continue with the upgrade:

   a. Go to the *FA_ORACLE_HOME*`/fusionapps/applications/lcm/tp/config/RUP/FMW` directory.

b. Open the `pre-psa-jobs.xml` file for editing.

c. Comment out the job with the name `dbclient` An example of this job follows.

```
<!-- <job>
    <id>10</id>
    <target>FAMW</target>
    <component>
          <name>dbclient</name>
          <version>11.1.1.5</version>
    <component>
    <utility_name>opatch</utility_name>
    <patch_number>NA</patch_number>
    <command>%opatch% napply -silent -skip_duplicate -skip_subset
-oh %dbclient_home% -phBaseDir %dbclient_patch% -jre %jre_loc% -invPtrLoc
%oraInstLocFile%</command>
     <patch_location>NA</patch_location
</job>
```

d. Save the `pre-psa-jobs.xml`.

e. Resume orchestration or retry RUP Installer.

f. Modify the custom reports per the new folder structure and attribute names.

7.12.5 ORA-01658: unable to create INITIAL extent for segment in tablespace

Problem

The following error is reported:

```
ORA-01658: unable to create INITIAL extent for segment in tablespace FUSION_TS_
SEED.
```

Solution

The standard output from the ORA-1658 error follows:

```
ORA-01658: unable to create INITIAL extent for segment in tablespace string
    Cause: Failed to find sufficient contiguous space to allocate
    INITIAL extent for segment being created.
    Action: Use ALTER TABLESPACE ADD DATAFILE to add additional space to
    the tablespace or retry with a smaller value for INITIAL
```

For more information, refer to Oracle Database documentation.

7.12.6 Upgrading Middleware Schema Fails

Problem

An error occurred during the **Upgrading Middleware Schema** configuration assistant.

Solution

Review the log file in this location to find the cause of the error:

`fusionapps/oracle_common/upgrade/logs/psa`*`timestamp`*`.log`

Problem

The **Upgrading Middleware Schema** configuration assistant fails because *`JAVA_HOME`* cannot be found.

Solution

Set the *JAVA_HOME* and then manually run the upgrade for the failed schema, as shown in the following example:

```
export JAVA_HOME=/u01/APPLTOP/fusionapps/jdk6
/u01/APPLTOP/fusionapps/oracle_common/bin/psa -response
/u01/APPLTOP/fusionapps/applications/admin/FUSION/oui_resp/psa_response_crm.txt
```

Problem

The **Upgrading Middleware Schema** configuration assistant fails while upgrading SES component when TDE Data Vault is enabled. The following error is reported:

```
[RCU] [TRACE] [] [upgrade.RCU.jdbcEngine] [tid: 10] [ecid:
0000K8DIf5l9xWR5IZL6if1ISVu^000000,0] Driver: oracle.jdbc.driver.OracleDriver
[2013-10-31T06:54:31.536+00:00] [RCU] [TRACE] [] [upgrade.RCU.jdbcEngine]
[tid: 10] [ecid: 0000K8DIf5l9xWR5IZL6if1ISVu^000000,0] jdbcUrl =
jdbc:*****:thin:sys as
sysdba/*****@(DESCRIPTION=(LOAD_BALANCE=on)(ADDRESS=(PROTOCOL=TCP)(HOST=fusion

db.*****outsourcing.com)(PORT=1616))(ADDRESS=(PROTOCOL=TCP)(HOST=fusiondb2.***
*outsourcing.com)(PORT=1616))(CONNECT_DATA=(SERVICE_NAME=fusiondb)))
```

Solution

Perform the following steps to resolve this issue.

1. Connect as searchsys.
2. DROP INDEX "SEARCHSYS"."EQ$DOC_PATH_IDX" force;
3. exec eq_adm.use_instance(1)
4. exec eq_ddl.create_index()
5. Resume orchestration.

7.12.7 Applying Downloaded Patches Fails

Problem

The **Applying Downloaded Patches** configuration assistant failed with the following error:

```
Stack Description: java.lang.RuntimeException:
PatchObject constructor: Input file
"/net/server01/Downloaded_Patches/atgpf/patch/1234567/etc
/config/inventory" does not exist.
```

Solution

This type of error occurs when you do not download the patches to the appropriate directory. To resolve this issue, copy the patches to the correct directory and resume orchestration.

7.13 Troubleshooting Loading Database Components

This section contains information about troubleshooting issues that may occur during the **Loading Database Components** configuration assistant. Depending on the type of failure, you may need to review one or more of the log files in the following locations:

- *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/RUP/PatchManager_DBPatch/

  - FAPatchManager_apply_*timestamp*.log
  - adpatch_apply_*timestamp*.log
  - adpatch_apply_*timestamp*_worker*num*.log
- *ATGPF_HOME*/admin/FUSION/log

The following troubleshooting issues are described in this section:

- Failure During Granting Privileges
- Workers Fail While Loading Database Components
- Database Failure While Loading Database Components
- AutoPatch Validation Fails
- Flexfield Seed Data Upload Fails
- Applying Downloaded Patches Fails
- Loading Database Components Fails When JDBC URL is Null
- Active FAPatchMgr Sessions Are Found
- Patch Manager Fails Due to Unique Constraint While Running Abort

7.13.1 Failure During Granting Privileges

Problem

A failure occurred during either the **Grant Privileges to Application Schemas** or the **Creating Grants/Synonyms on Application Database Objects** configuration assistant.

Solution

You can find the cause of the failure by running the script manually as the sysdba user, using SQL*Plus or SQL*Developer. After you resolve the issue, resume orchestration.

7.13.2 Workers Fail While Loading Database Components

Problem

You receive an email notification stating that one or more database workers failed during the **Loading Database Components** configuration assistant.

Solution

You receive this email notification only when the upgrade cannot progress any further and requires user intervention. In this scenario, all the workers are in a FAILED or IDLE status. The configuration assistant remains in a RUNNING status until all tasks in **Loading Database Components** have run. To resolve this issue, you must start AD Controller to manage the failed workers. For additional information, see "Troubleshooting Patching Sessions for Database Content" in the *Oracle Fusion Applications Patching Guide*. After you resolve the issue that caused the workers to fail, and restart the workers, Upgrade Orchestrator continues processing. No further intervention is required.

Note that the messages are displayed on the console for database component failures if you run orchestration with the -DlogLevel option set to FINEST.

There might be corner cases when you might receive an alert email indicating failed workers although the workers are still running. In such cases, you can ignore the email alert after ensuring the workers are running with no failures.

7.13.3 Database Failure While Loading Database Components

Problem

Your database goes down while RUP Installer is running the **Loading Database Components** configuration assistant. If you simply bring the database up and then resume orchestration, you may encounter the following error:

```
Failed to connect to the database as fusion with error:
No more data to read from socket
```

Solution

Perform the following steps to recover from this error:

1. Force the database patching session to fail.

   ```
   (UNIX) FA_ORACLE_HOME/lcm/ad/bin/fapmgr.sh forcefail
   (Windows) FA_ORACLE_HOME\lcm\ad\bin\fapmgr.cmd forcefail
   ```

2. Start AD Controller.

   ```
   (UNIX) FA_ORACLE_HOME/lcm/ad/bin/adctrl.sh
   (Windows) FA_ORACLE_HOME\lcm\ad\bin\adctrl.cmd
   ```

   For more information, see "Starting AD Controller" in the *Oracle Fusion Applications Patching Guide*.

3. Follow this sequence of steps in AD Controller to manage the workers:
   a. Select **Tell manager that a worker failed its job** and enter **All** for all workers.
   b. Select **Tell worker to quit** and enter **All** for all workers. Note that this does not kill the workers. It sends a command to the worker to shutdown after it completes the current task.
   c. Wait for all workers to complete their tasks and shut down normally.
   d. If there are still some worker processes that do not shut down, kill those processes manually by selecting **Tell manager that a worker failed its job**. Then select **Tell manager that a worker acknowledges quit** and enter **All** for all workers.
   e. From your operating system, check for processes that are running `fapmgr`, `javaworker`, `adpatch`, `adadmin`, `sqlplus`, and `adworker`. If any exist, terminate them from your operating system.
   f. Select **Tell worker to restart a failed job** and enter **All** for all workers.
4. Resume orchestration.

7.13.4 AutoPatch Validation Fails

Problem

AutoPatch validation fails with the following message:

```
An active adpatch or adadmin session was found. Complete or terminate the
active session to allow fapmgr to proceed.
```

Solution

Perform the following steps to resolve this error:

1. Run the `fapmgr forcefail` command to update the patching tables.

   (UNIX) *FA_ORACLE_HOME*/lcm/ad/bin/fapmgr.sh forcefail [-logfile *log file name*] [-loglevel *level*]

   (Windows) *FA_ORACLE_HOME*\lcm\ad\bin\fapmgr.cmd forcefail [-logfile *log file name*] [-loglevel *level]*

2. Run the `fapmgr abort` command from *FA_ORACLE_HOME* to find out if an Oracle Fusion Applications Patch Manager session must be cleaned up.

   (UNIX) *FA_ORACLE_HOME*/lcm/ad/bin/fapmgr.sh abort [-logfile *log file name*] [-logLevel *level*]

   (Windows) *FA_ORACLE_HOME*\lcm\ad\bin\fapmgr.cmd abort [-logfile *log file name*] [-logLevel *level*]

   If this command finds no failed session, proceed to Step 3.

3. Run the following commands from *ATGPF_ORACLE_HOME* to abandon any Applications Core patching sessions or AD Administration sessions that may be running:

   (UNIX) *ATGPF_ORACLE_HOME*/lcm/ad/bin/adpatch.sh abandon=y interactive=n defaultsfile=*APPLICATIONS_CONFIG*/atgpf/admin/*defaults*.txt

   (UNIX) *ATGPF_ORACLE_HOME*/lcm/ad/bin/adadmin.sh abandon=y interactive=n defaultsfile=*APPLICATIONS_CONFIG*/atgpf/admin/defaults.txt

   (Windows) *ATGPF_ORACLE_HOME*\lcm\ad\bin/adpatch.exe abandon=y interactive=n defaultsfile=*APPLICATIONS_CONFIG*\atgpf\admin\defaults.txt

   (Windows) *ATGPF_ORACLE_HOME*\lcm\ad\bin/adadmin.cmd abandon=y interactive=n defaultsfile=*APPLICATIONS_CONFIG*\atgpf\admin\defaults.txt

7.13.5 Flexfield Seed Data Upload Fails

Problem

When multiple seed data files are uploaded for the same flexfield but for different flexfield contexts, the upload tasks can fail due to locking issues. The failed tasks appear in the log file as the following error:

```
Loading failed with a JboException: JBO-25014: Another user has changed the
row with primary keyoracle.jbo.Key ...
```

Solution

AutoPatch defers any failed tasks to the end of the phase and reattempts the failed tasks only after attempting all tasks in the phase at least once. Usually the flexfield seed data tasks that failed due to the locking issue succeed on subsequent attempts. You can ignore these errors if the flexfield seed data task succeeds on the retry. If the task remains in a failed state, you must use the AD Controller utility to retry the failed task.

For more information, see "Restarting a Failed Worker" in the *Oracle Fusion Applications Patching Guide*.

7.13.6 Loading Database Components Fails When JDBC URL is Null

Problem

The **Loading Database Components** configuration assistant fails with the following exception

```
[2013-11-20T06:01:53.280+00:00] [] [ERROR] [] [] [tid: 34]
[ecid:0000K9o6OHX6qI25Rrt1id1IZ4Pl00000d,0] java.lang.NullPointerException: Schema
@ name/password/ jdbc url cannot be null[[
at
oracle.apps.ad.common.db.ADDatabaseConnection.createConnection(ADDatabaseConnectio
n.java:529)
at
oracle.apps.ad.common.db.ADDatabaseConnection.getConnectionWithCluster(ADDatabaseC
onnection.java:444)

at
oracle.apps.ad.common.db.ADDatabaseConnection.getConnectionWithCluster(ADDatabaseC
onnection.java:446)

at
oracle.apps.ad.common.db.ADDatabaseConnection.getConnectionWithCluster(ADDatabaseC
onnection.java:446)
..................................................
[2013-11-20T06:01:59.568+00:00] [apps] [ERROR] []
[oracle.apps.ad.rupconfig.Loading_Database_Components] [tid: 34]
[ecid:0000K9o6OHX6qI25Rrt1id1IZ4Pl00000d,0] [[java.lang.StackOverflowError]]
```

Solution

From the command line, run *FA_ORACLE_HOME*`/lcm/ad/bin/fapmgr.sh forcefail`.

Then resume orchestration.

7.13.7 Active FAPatchMgr Sessions Are Found

Problem

In a scenario where `fapmgr` applies patches using the multi-apply feature, and any patch validation fails, the status is set to 'SUCCESS'. This new status is treated as an active session by Health Checker and it fails, causing an orchestration failure with the error message as shown in the following example:

```
[ERROR]: Plugin 'PatchSessionsAndProcessesCheck': HC-PATCHSP-00004 : Check

#1: Found active FAPMgr sessions. Review log files for details on which Sessions
exist. (Pre-Upgrade Checks)
```

Solution

Run the following SQL*Plus command in the `fusion` schema:

```
update AD_PATCH_UTIL_SESSIONS set status='COMPLETED_WITH_WARNINGS' where
status='SUCCESS';
```

Resume orchestration.

7.13.8 Patch Manager Fails Due to Unique Constraint While Running Abort

Problem

Oracle Fusion Applications Patch Manager fails with the following error:

```
Failed to run Fusion Applications Patch Manager.
Reason: Failed to create a task in AD_PATCH_UTIL_TASKS.
Reason:  Error while querying the database.  ORA-00001: unique constraint
(FUSION.AD_PATCH_UTIL_TASKS_U2) violated
```

Solution

This error indicates that a patch validation session was incomplete. To resolve the issue, an attempt was made to abandon the session by using the 'abort' option, which failed.

Run the following SQL*Plus statement to fix the data:

```
Update AD_PATCH_UTIL_SESSIONS set STATUS = 'ABORTED' where  STATUS = 'FAILED';
```

7.14 Troubleshooting Deployment of Applications Policies

This section contains the following information about troubleshooting issues that may occur during the **Deploying Application Policies** configuration assistant:

- Log Files for Deploying Application Policies
- Applications Policies Analysis Fails
- Deploying Applications Policies Fails
- Deploying Applications Policies Reports a Warning
- Deploying Applications Policies Reports a Warning during Migrate Security Store
- IDM Server Fails During Deployment of Applications Policies

7.14.1 Log Files for Deploying Application Policies

Log files for this configuration assistant may be found in this location:

APPLICATIONS_CONFIG/lcm/logs/11.1.8.0.0/RUP/configLogs/fapatch_Deploying_Applications_Policies_(jazn-data.xml)_*timestamp*.log

7.14.2 Applications Policies Analysis Fails

Problem

A failure occurs during applications policy analysis.

Solution

Review the log file that is generated by each stripe. The log files are located under the main log directory, *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/RUP and are named as follows:

- fapatch_CRMJaznAnalysis_*timestamp*.log
- fapatch_FSCMJaznAnalysis_*timestamp*.log
- fapatch_HCMJaznAnalysis_*timestamp*.log
- fapatch_OBIJaznAnalysis_*timestamp*.log

- `fapatch_SOAJaznAnalysis_`*`timestamp`*.log
- `fapatch_UCMJaznAnalysis_`*`timestamp`*.log
- `fapatch_BPMJaznAnalysis_`*`timestamp`*.log

After you resolve the JAZN analysis error, retry the analysis for the failed stripe to confirm the issue is resolved.

7.14.3 Deploying Applications Policies Fails

Problem

A failure occurs during **Deploying Application Policies**.

Solution

When a failure occurs during **Deploying Application Policies**, you must restore only the stripe or system policy that has failed, from your backup. Use the OPSS `migrateSecurityStore` command with the appropriate source and destination arguments to perform the restore. Do not restore a stripe that has not failed. Review the JAZN deployment log file to determine the cause of the failure, `fapatch_Deploying_Applications_Policies_(jazn-data.xml)_`*`timestamp`*.log.

After you resolve the issue, resume orchestration.

Related Link

The following document provides additional information related to subjects discussed in this section:

- For more information, see "Migrating with the Script migrateSecurityStore" in the *Oracle Fusion Middleware Application Security Guide*.

7.14.4 Deploying Applications Policies Reports a Warning

Problem

The following warning occurs during **Deploying Application Policies**:

```
WARNING: Failed to validate the xml content. cvc-complex-type.2.4.a: Invalid
content was found starting with element 'property'. One of
'{"http://xmlns.oracle.com/oracleas/schema/11/jps-config-11_1.xsd":propertySetRef,
"http://xmlns.oracle.com/oracleas/schema/11/jps-config-11_1.xsd":extendedProperty,
"http://xmlns.oracle.com/oracleas/schema/11/jps-config-11_
1.xsd":extendedPropertySetRef,
"http://xmlns.oracle.com/oracleas/schema/11/jps-config-11_
1.xsd":serviceInstanceRef}'
is expected. Location: line 165 column 96.
WLS ManagedService is not up running. Fall back to use system properties for
configuration.
```

Solution

You can safely ignore this message as there is no functional impact of this warning and the deployment is successful.

7.14.5 Deploying Applications Policies Reports a Warning during Migrate Security Store

Problem

The following warning occurs during **Deploying Application Policies**:

```
FINE: Application policies already exists for application: fscm
oracle.security.jps.service.policystore.PolicyObjectAlreadyExistsException:
Cannot create application policy context "fscm".
        at
oracle.security.jps.internal.policystore.ldap.LdapPolicyStore.unsync_createApp
licationPolicy(LdapPolicyStore.java:933)
        at
oracle.security.jps.internal.policystore.ldap.LdapPolicyStore.createApplicatio
nPolicy(LdapPolicyStore.java:753)
        at
oracle.security.jps.internal.tools.utility.destination.apibased.JpsDstPolicy.c
lone(JpsDstPolicy.java:805)
```

Solution

You can safely ignore this message as there is no functional impact of this warning and the deployment is successful.

7.14.6 IDM Server Fails During Deployment of Applications Policies

Problem

The IDM Server goes down during **Deploying Application Policies** and the deployment fails.

Solution

Upgrade Orchestrator does not allow a retry after this type of failure. You must instead exit orchestration and restore from your IDM backup. Then resume orchestration.

7.15 Troubleshooting Server Start and Stop Failures

This section includes the following troubleshooting topics:

- Starting All Servers Fails Due to Time Outs
- Starting All Servers Fails to Start BIServer
- Startup Fails for CommonDomain: OHSComponent (Oracle VM Only)
- Online Preverification Reports EditTimedOutException Error
- Server Startup Reports WLS SocketTimeoutException
- The SOA-infra Application is in a Warning State
- The SOA-infra Application is in a Warning State on All Domains
- Custom Domains Fail to Start or Stop
- StartAllServers Task Fails After Language Pack Upgrade on CRM

7.15.1 Starting All Servers Fails Due to Time Outs

Problem

A failure during the **Starting All Servers** configuration assistant typically happens when one of the servers times out and fails to start due to resource issues or application specific issues.

Solution

Various platforms and environment configurations can impact how long it will take all servers to actually start during the **Starting All Servers** configuration assistant. Although RUP Installer waits an average amount of time for this configuration assistant to complete before it is marked as **Failed**, different platforms may require more time. It is not unusual to receive timeout errors in the log files if the starting of all servers for your environment requires more time than RUP Installer allows. If this configuration assistant fails, follow these steps:

1. Monitor the status of the servers by reviewing the messages in the server log files or on the console. The log file, *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/RUP/StartStop/fastartstop_*timestamp*.log, indicates which server started and failed to start.

   An example of messages for a server that timed out follows.

   ```
   Time out while performing Start for domain SCMDomain. Waited for 2400 seconds
   [2011-10-21T03:57:52.052--8:00] [fastartstop] [NOTIFICATION:1] [UTIL]
   [oracle.apps.startstop.util.MbeanUtil: runSSCommandOnDomain.868] [tid:37] Start
   operation is completed for domain SCMDomain. Please see SCMDomain.log for
   details.

   [2011-10-21T03:57:52.052--8:00] [fastartstop] [NOTIFICATION:1] [UTIL]
   [oracle.apps.startstop.invoke.StartStopTask: call.221] [tid:37] StartStopTask
   over for domain SCMDomain

   [2011-10-21T03:57:52.052--8:00] [fastartstop] [NOTIFICATION:1] [SST]
   [oracle.apps.startstop.invoke.StartStopTask: call.223] [tid:37] Finished the
   task for the Domain SCMDomain
   ```

2. Review the log files at the domain level to see a summary of the server status for that domain: *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/RUP/StartStop/*domain name_timestamp*.log.
3. Review the corresponding server logs for the failed servers under the following directory: *APPLICATIONS_CONFIG*/domains/*hostname/domain name*/servers/*server name*/logs.
4. After you determine and resolve the cause of the failure, restart Upgrade Orchestrator.

7.15.2 Starting All Servers Fails to Start BIServer

Problem

The following exception during the **Starting all Servers** configuration action indicates a failure in starting the `BIServer`:

```
Start all servers fails to start
Start operation on the component :coreapplication_obips1:, for the instance
:BIInstance: - FAILED
```

The coreapplication_obips1 server log file reports the following error:

```
ecid:]]
[2012-04-10T00:22:20.000-07:00] [OBIPS] [ERROR:16] []
[saw.security.odbcuserpopulationimpl.initialize] [ecid: ] [tid: ] Unable to
create a system user connection to BI Server during start up. Trying again.[[
File:odbcuserpoploaderimpl.cpp
Line:325
Location:
saw.security.odbcuserpopulationimpl.initialize
saw.catalog.local.loadCatalog
saw.subsystems.catalogbootstrapper.loadcatalog
saw.webextensionbase.init
saw.sawserver
ecid:]]
[2012-04-10T00:22:25.000-07:00] [OBIPS] [NOTIFICATION:1] [] [saw.sawserver]
[ecid: ] [tid: ] Oracle BI Presentation Services are shutting down.[[
File:sawserver.cpp
Line:706
Location:
saw.sawserver
ecid:
```

Solution

Perform the following steps to work around this issue.

1. Resume orchestration, which shuts down and starts bi_server1.
2. Monitor the fastartstop log files and the state of bi_server1(BIDomain) .
3. As soon as bi_server1 restarts, as indicated by a RUNNING status, start the component coreapplication_obiccs1 or all the components of type OracleBIClusterControllerComponent using opmnctl.

   Example syntax follows:

   ```
   */BIInstance/bin/opmnctl startproc ias-component=coreapplication_obiccs1
   ```

7.15.3 Startup Fails for CommonDomain: OHSComponent (Oracle VM Only)

Problem

The OHS diagnostic log contains the following error message:

```
No such file or directory:  Couldn't create accept lock
```

Solution

This issue could be the result of the hypervisors going down, resulting in bringing the Oracle VM servers down. Perform the following steps to resolve the error:

1. Find the entry for the lock file in httpd.config, for example:

   ```
   LockFile "/u101/ohs_inst1/diagnostics/logs/OHS/ohs1/http_lock"
   ```

2. Confirm whether the directory that contains the lock file exists.
3. Assuming this directory does not exist, create the directory.

7.15.4 Online Preverification Reports EditTimedOutException Error

Problem

The following error is reported during Online Preverification:

```
weblogic.management.mbeanservers.edit.EditTimedOutException
```

Solution

You may have to manually release the edit session. For more information, see "Resolving an EditTimedOutException Error" in the *Oracle Fusion Applications Patching Guide*.

7.15.5 Server Startup Reports WLS SocketTimeoutException

Problem

As an intermittent issue, there could be WLS socket exceptions during server startup, or during any other upgrade tasks. An example of the exception is:

```
bea_wls_management_internal2/Bootstrap, user: FUSION_APPS_PROV_PATCH_APPID
java.net.SocketTimeoutException: Read timed out
at jrockit.net.SocketNativeIO.readBytesPinned(Native Method)
at jrockit.net.SocketNativeIO.socketRead(SocketNativeIO.java:32)
```

Solution

Find the managed server or the administration server that encounters the failure, and manually restart the server. Proceed with the upgrade by resuming Upgrade Orchestrator on the failed host.

7.15.6 The SOA-infra Application is in a Warning State

Problem

After the upgrade, the following error displays after you log in to the WLS Console of CommonDomain. and navigate to Deployments:

```
soa-infra application is in WARNING state.
```

Solution

You can ignore this error as there is no functional impact for SOA users due to this error.

7.15.7 The SOA-infra Application is in a Warning State on All Domains

Problem

The soa-infra app is in a warning state in all domains and errors are reported related to "jms/bpm/CaseEventQueue".

Solution

This error can be ignored.

7.15.8 Custom Domains Fail to Start or Stop

Problem

Your custom domains are not stopped or started by FAStartStop and there errors are reported.

Solution

`FAStartStop` does not recognize custom domains. Custom domains must be started and stopped manually, as required, before you resume orchestration.

7.15.9 StartAllServers Task Fails After Language Pack Upgrade on CRM

Problem

Orchestration tries to restart all servers after a Language Pack upgrade. On CRM PODs, there may be failures in starting the IIR server, which may be reported as the following error:

```
ORCH-DOWNTIME-SS-00005 : Failed to start all servers. Review log file
/u01/APPLTOP/instance/lcm/logs/11.1.8.0.0/orchestration/host_name-rel8_midtier_
timestamp.log
for details on the failures to take appropriate corrective action. (Bounce All
Servers).
```

Solution

Perform the following steps.

1. Review the orchestration log file at `/u01/APPLTOP/instance/lcm/logs/11.1.8.n.n/orchestration/`*`hostname`*-rel8_midtier_*`timestamp`*.log, and check for any failures.
2. Review all `fa_control` logs on the failed host and look for details on the server that failed.
3. If the IIR server is the only server that failed to start, update the status of the task to Success using the following `updateStatus` command, and resume Upgrade Orchestrator. You can restart the IIR server manually after the upgrade.

   ```
   ./orchestration.sh updateStatus -pod POD_NAME -hosttype host_type -hostname
   host_name -release 11.1.8.n.n -phase DowntimePostLP -taskid StartSeversAfterLP
   -taskstatus success
   ```

7.16 Troubleshooting SOA Composite Deployment Failures

This section describes how to recover from failures during the **Deploying SOA Composites** configuration assistant. The following topics are described:

- SOA Composite Log Files
- SOA Composite Failure Does Not Recover
- Wsm-pm Application is not Running in Domain (Solaris Only)
- Manually Deploying SOA Composites
- Invoking an Instance of SOA Composite
- Merging SOA Composite JDeveloper Customizations During SOA Preverification

7.16.1 SOA Composite Log Files

The following log files are generated by the deployment of SOA composites:

- Client side log files where individual domain logs reside: *APPLICATIONS_CONFIG*/lcm/logs/11.1.8.0.0/RUP/soalogs
- Log files for the failed domain:
  - *APPLICATIONS_CONFIG*/domains/*hostname/domain name*/servers/*server name*/logs/soa_server1.log
  - *APPLICATIONS_CONFIG*/domains/*hostname/domain name*/servers/*server name*/logs/soa_server1.out
  - *APPLICATIONS_CONFIG*/domains/*hostname/domain name*/servers/*server name*/logs/soa_server1-diagnostic.log
  - *APPLICATIONS_CONFIG*/domains/*hostname/domain name*/servers/*server name*/logs/AdminServer.log

7.16.2 SOA Composite Failure Does Not Recover

Problem

Normally, a failed SOA composite is undeployed by RUP Installer. However, if the failure of the deployment is due to an issue such as SOA servers running out of memory, then RUP Installer does not recover until you resume orchestration.

Examples of error messages related to SOA Composite failures follow:

```
CFGLOG-00380: SOA composite "composite_name" patch failed for server "server_
name".
Recovery process also failed with an unknown reason. If the SOA composite
patch exists on the server, it will be automatically undeployed during retry
or a checkpoint run. Also if the base composite is not the default composite,
it will be automatically set as default.

CFGLOG-00327: SOA composite "composite_name" patch failed for server "server_
name".
Recovery process also failed, and the composite patch is not undeployed.
The patch will be automatically undeployed during retry or a checkpoint run.

CFGLOG-00328: SOA composite "composite_name" patch failed for server "server_
name".
Recovery process also failed, and the base composite is not set as the
default composite. The base composite will be automatically set as default
during retry or a checkpoint run.
```

Examples of report exceptions follow:

```
CFGEX-00087: SOA composite "composite_name" patch failed for server "server_name".
Recovery process also failed. Recovery will be done automatically during retry or
a checkpoint run.
Action : No action required.

CFGEX-00073: SOA composite "composite_name" patch failed for server "server_name".
Action : See logs for details.
```

Solution

When patching existing SOA composites, RUP Installer automatically recovers any partially deployed SOA composites after failure when you restart Upgrade Orchestrator. The following actions can be performed by Upgrade Orchestrator:

- Undeploy the partially deployed SOA composite revision if it is still present.
- Set as default the same SOA composite revision that was default before the patching was attempted, if it's not already set as default.

If the failure was caused by an environment issue, such as running out of memory, resolve the cause of the failure before you restart RUP Installer.

7.16.3 Wsm-pm Application is not Running in Domain (Solaris Only)

Problem

The following error is reported during SOA Composite deployment on a Solaris platform:

```
CFGEX-00079 : Wsm-pm application is not running in domain "domain name"
```

You have already confirmed that the `wsm-pm` application is running on this domain.

Solution

Perform the following steps:

1. Log in to the failed domain and check the health of all managed servers and deployed applications.
2. Bounce all managed servers of the failed domains.
3. Exit Upgrade Orchestrator.
4. Restart Upgrade Orchestrator.

7.16.4 Manually Deploying SOA Composites

If a customized SOA composite deployment fails during the upgrade, you must manually deploy this composite using WLST commands.

To apply a SOA composite manually after a deployment failure

In the following steps, the example composite, `FinAp,` is patched from revision 1.0 to revision 2.0 and the SAR file of revision 2.0 is in *`FA_ORACLE_HOME`*`/crm/deploy/sca_FinAp_rev2.0.jar`.

Note that the parameters are for illustration purposes only.

1. Refer to the Diagnostics report to find the name and location of the `sca_*.jar` file that was copied to *`FA_ORACLE_HOME`* by Oracle Fusion Applications Patch Manager. For more information, see "Diagnostics Report" in the *Oracle Fusion Applications Patching Guide*.
2. If the previous revision contained JDeveloper customizations, ensure that you deploy the patched revision with the merged JDeveloper customizations. Using the `sca_*.jar` file from Step 1, follow the JDeveloper customization merge instructions that are described in Section 7.16.6, "Merging SOA Composite JDeveloper Customizations During SOA Preverification". Then use the merged sca_*.jar for Step 3.
3. Deploy the patched composite using the single patch composite command.

```
sca_patchComposite('SOA-Infra URL', user, password,
'/FA_ORACLE_HOME/crm/deploy//sca_FinAprev2.0.jar',
mergeLogFile='/tmp/merge-log.txt')
```

7.16.5 Invoking an Instance of SOA Composite

You must run the `UpdateSOAMDS` SOA composite on every domain if you made any flexfield changes, by following the steps described in "Task: Synchronizing Customized Flexfields in the MDS Repository for SOA" in the *Oracle Fusion Applications Extensibility Guide for Developers*.

7.16.6 Merging SOA Composite JDeveloper Customizations During SOA Preverification

If you performed JDeveloper customizations to a SOA composite and you deployed the composite to the SOA runtime, RUP Installer reports an error during **SOA Preverification**, which instructs you to take the newer version of the composite that is in the release. You must then merge your customizations by performing the following steps.

1. If any customizations are detected, the SOA Preverification results display the SOA composite name, its location in the *FA_ORACLE_HOME*/*stripe*/`deploy` directory, and the requirement for you to merge JDeveloper customizations into the sca_*.jar file in *FA_ORACLE_HOME* before proceeding with RUP Installer. The *stripe* in the directory path refers to crm, hcm, fscm, and so on.
2. Open the custom SOA workshops and the customized version of the Fusion Applications SOA composite in JDeveloper using "Oracle Fusion Applications Developer".
3. Import the composite `sca_*.jar` file from *FA_ORACLE_HOME*/*stripe*/`deploy` into the project, for example revision 11.1.8.0.0, in JDeveloper. Make note of this revision number in the deployment window because you will need it in Step 8.
4. Restart JDeveloper in the Oracle Fusion Applications Administrator Customization role.
5. Verify that there are no errors in JDeveloper.
6. Verify that the changes introduced in both the customized version and the patched version are present.
7. Right-click the composite project in the Application Navigator, select **Deploy**, select the composite, click **Deploy to SAR**, and click **Next**.
8. Manually change the value in **New Revision ID** to the revision from Step 3, for example, 11.1.8.0.0, and click **Finish**.
9. If the deployment folder is set to a location different from that of the *FA_ORACLE_HOME*/*stripe*/`deploy` directory, copy and replace the JAR in the location mentioned in the error message of this SOA Composite. If your file name is different, rename it to the original name. You must copy the jar in the correct format to *FA_ORACLE_HOME*/*stripe*/`deploy`. For example if you have `sca_ContractsDeliverablePurchaseDocAttrReadComposite_rev11.1.8.0.0.jar` in JDeveloper, then you must copy it back to the *FA_ORACLE_HOME*/*stripe*/`deploy` directory as `sca_ContractsDeliverablePurchaseDocAttrReadComposite.jar`.
10. To proceed with the installation, use the same command you used to start Upgrade Orchestrator.

Related Links

The following documents provide additional information related to subjects discussed in this section:

- For more information about working with SOA composites, see "Customizing SOA Composite Applications with JDeveloper" in the *Oracle Fusion Applications Extensibility Guide for Developers*.
- For more information about customizing SOA composites, see "Customizing and Extending SOA Components" in the *Oracle Fusion Applications Extensibility Guide for Developers*.

7.17 Troubleshooting RUP Lite for OVM Failures

This section contains the following topics:

- Troubleshooting RUP Lite for OVM Plug-in Failures
- RUP Lite for OVM Hangs During Domain Configuration

7.17.1 Troubleshooting RUP Lite for OVM Plug-in Failures

Review the `/u01/lcm/rupliteovm/output/logs/ruplite.log` file to confirm there are no errors. You can also check rehydration framework logs under `/assemblybuilder/logs` or `/var/log` for any errors.

Review the following troubleshooting information for specific plug-ins:

- **DeployECSF**: This plug-in is re-runnable. If your environment was originally provisioned before Release 5, you can verify that this plug-in was successful by confirming that the help object, schedule and group being deployed are reported in the log file. You can also use Fusion Applications Control to connect to the Administration Server that hosts the search application and confirm that the Help instance artifacts are deployed.
- **ValidateEnvironment**: If this plug-in fails, RUP Lite for OVM stops. You must resolve any errors reported in the log file and then run RUP Lite for OVM again.
- **SetupCredentials:** If this plug-in fails, RUP Lite for OVM stops. Typical causes of failure are an incorrect key for an existing wallet, or specifying a key for a new wallet that does not meet Oracle's minimum standards. You must resolve any errors reported in the log file and then run RUP Lite for OVM again.

  Note that you are prompted for the password twice and that both responses must be identical. If you need to change the password in the wallet, set the `ovm.plugin.SetupCredentials.enable_password_update property` to true. If this property is enabled, when the `SetupCredentials` plug-in reruns, you are given the option to overwrite the existing password for a particular plug-in, in the wallet. By default this feature is disabled.
- **ApplyMemorySettings**: Check the `fusionapps_start_params.properties` files in the environment, which are located under the `bin` directory of each domain. Ensure that the `minmaxmemory` settings in the files are at least as high as the settings in the template under the `ovm/metadata` directory that corresponds to the environment's topology.
- **GenerateOptimizedQueryPlans:** This plug-in is re-runnable. Verify this plug-in was successful by connecting to the database as **`fusion_mds`** and running the following command:

```
SELECT TO_CHAR(last_analyzed, 'yyyy/mm/dd hh:mi:ss am') as last_analyzed FROM
```

```
user_tables;
```

The results should show that the tables were just analyzed.

- **UpdateODIUnicastConfiguration:** This plug-in is re-runnable. Verify this plug-in was successful by confirming that the `config.xml` for each domain under the `admin-apps` directory of the FA node that contains `odi_server1` and `odi_serverHA`, such as CRMDomain, contains the correct coherence start properties.
- **UpdateFusionIIRScripts:** This plug-in is re-runnable. Check the `/u01/APPLTOP/InformaticaIR/bin` directory to make sure that the updated versions of `fusioniirDiag.sh` and `fusiondqhealthcheck.sh` are available.

7.17.2 RUP Lite for OVM Hangs During Domain Configuration

Problem

RUP Lite for OVM runs for a long time during domain configuration.

Solution

Perform the following steps to resolve this issue:

1. Ensure that the IDM host is accessible and responding.
2. Ensure that the database is accessible and responding.
3. If either the IDM host or the database is not responding, update the status of the orchestration task that runs RUP Lite for OVM to "Error", using the following command:

   ```
   cd ORCH_LOCATION/bin
   ./orchestration.sh updateStatus -pod POD_NAME -hosttype host_type -hostname
   host_name -release release_number -phase phase_name -taskid plugin_name
   -taskstatus Error
   ```

   Fix the issue with the IDM host or the database and resume Upgrade Orchestrator.
4. If none of the above steps solve the problem, contact Oracle Support with detailed log information.

7.18 Troubleshooting Health Checker Failures and Errors

This section contains the following topics:

7.18.1 Upgrade Readiness Checks Fail During Pre-Downtime

Problem

Health Checker fails while running upgrade readiness checks during pre-downtime checks. This problem might occur if OPMN and server components are not registered

properly with the Administration Server of the common domain. The following error is an example error message:

```
ORCH-DOWNTIME-HCT-00002: Executing HealthChecker in task Running Upgrade
Readiness (PreDowntime) Checks-GeneralSystem failed. Refer to the logs in
/u01/APPLTOP/instance/lcm/logs/11.1.5.0.0/healthchecker for details to
take an appropriate corrective action.(Pre-Downtime Checks)
```

Solution

Verify that OPMN and server components are registered with the Administration Server of the Common Domain. You can verify this by reviewing the `<ias-instance>` element in the `topology.xml` file. There should be an entry for the server instance with `<ias-instance>` in this file. You can view the `topology.xml` file at this location: *COMMON_DOMAIN_HOME*`/opmn/topology.xml`. Registration is typically done when setting up the environment.

The entry should be similar to the following example:

```
<topology xmlns='http://www.oracle.com/fmw-nonj2ee-topology'>
   <ias-instance id="CommonDomain_webtier" oracle-home="APPLICATIONS_BASE\
 webtier_mwhome\webtier "
 instance-home="APPLICATIONS_CONFIG\CommonDomain_webtier" host="<hostname>"
 port="<port_number>">
     <ias-component id="ohs1" type="OHS"
 mbean-class-name="oracle.ohs.OHSGlobalConfig"
 mbean-interface-name="oracle.ohs.OHSGlobalConfigMXBean"
 port="="<port_number>">
       <properties>
         <property name="ORACLE_HOME" value=" APPLICATIONS_BASE\
 webtier_mwhome\webtier "/>
         <property name="INSTANCE_HOME" value="
 APPLICATIONS_CONFIG\CommonDomain_webtier"/>
         <property name="ComponentType" value="ohs"/>
       </properties>
       <em-properties>
         <property name="EMTargetType" value="oracle_apache"/>
         <property name="ProxyMBeanObjectName"
 value="oracle.as.management.mbeans.register:type=component,name=ohs1,instance=
 CommonDomain_webtier"/>
         <property name="version" value="11.1.1.6.0"/>
       </em-properties>
     </ias-component>
   </ias-instance>
</topology>
```

If this entry is not present in your file or opmn/topology.xml is not available, run the following command to register the OHS Instance:

```
APPLICATIONS_CONFIG/CommonDomain_webtier/bin/opmnctl registerinstance -adminHost
admin_host_name -adminPort admin_port -adminUsername admin_username
```

7.18.2 DomainsFileOwnership Health Check Fails With Permissions Issues

Problem

Health Checker fails during the DomainsFileOwnership check. The following error is reported, followed by one or more files or directories:

```
[ERROR]: Plugin 'DomainsFileOwnership': HC-DOMAINS-FILE_OWNERSHIP-0002 : Following
files and directories have ownership or permission issues.
```

Solution

Change the permission of the files or directories to be at least 600, using the `chmod 600 file_name` command.

7.18.3 Context Root Check Health Check Fails

Problem

Health Checker takes an hour or more to complete the Context Root health check. This plugin checks for context root once for redirect=true, and also for redirect=false. The timeout for the plugin is set to 30 minutes by default, causing the check to run for more than an hour.

Solution

Add the following entry to the `ALL_overrides.xml` file, located in the *SHARED_LOCATION*`/11.1.8.0.0/orchestration/tmp_upgrade_work_area/healthchecker/`*POD_NAME* directory.

```
<checks category="timeout_seconds">
<check name="ContextRootCheckPlugin" value="500"/>
</checks>
```

7.18.4 Resolve JAZN Conflicts Found by Health Checker

Health Checker checks the JAZN Analysis reports for potential conflicts and deletions that are not patched automatically by the installer. The reports are located in this directory:

APPLICATIONS_CONFIG`/lcm/admin/11.1.8.0.0/fapatch/JAZN/`*stripe*`/delta/report.txt`

The *stripe* is crm, fscm, hcm, obi, soa, ucm or bpm.

Review the Modification section of the report to see the roles that the installer did not update. For each conflict that displays in this report, you must evaluate and manually patch the role by using Oracle Authorization Policy Manager (APM).

The following example shows a typical Application Role conflict that has been modified by both the patch and production, therefore it is not applied by the installer.

```
MODIFICATION CONFLICTS
Artifact type: Application Role
Artifact Name: OBIA_PARTNER_CHANNEL_ADMINISTRATIVE_ANALYSIS_DUTY
Description: This artifact is modified at attribute level in patch version and
also in production.
```

Note the location of the following files for reference when using APM:

- Location of baseline files, where stripe is crm, fscm, hcm, obi, soa, ucm or bpm:

  FA_ORACLE_HOME`/admin/JAZN/`*stripe*`/baseline`

- Location of patch files for fscm, crm, and hcm stripes:

  FA_ORACLE_HOME`/`*stripe*`/deploy/system-jazn-data.xml`

- Location of patch files for the obi, soa, ucm or bpm stripes:

  FA_ORACLE_HOME`/com/acr/security/jazn/bip_jazn-data.xml`

Related Link

The following document provides additional information related to subjects discussed in this section:

- For more information, see "Upgrading Oracle Fusion Applications Policies" in the *Oracle Fusion Applications Administrator's Guide*.

7.18.5 Failure Due to oracle.sysman.oii.oiit.OiitTargetLockNotAvailable Exception

Problem

The `oracle.sysman.oii.oiit.OiitTargetLockNotAvailable` exception causes various plug-in failures. The failure messages may or may not contain this exception. Therefore, reviewing the log file is necessary. The following error message is reported in the log file for the failed plugin:

```
oracle.sysman.oii.oiit.OiitTargetLockNotAvailableException: The inventory
inventory_path cannot be read since it is being written to by another session.
```

Solution

This is an intermittent issue and you can resume orchestration when it occurs.

7.19 Troubleshooting Other Issues During the Upgrade

This section contains the following troubleshooting scenarios:

- Perl lib Version is not Compatible
- Policy Store and Oracle Platform Security Services Versions Are Not Compatible
- Bootstrapping Patch Manager Fails
- Propagating Domain Configuration Fails
- Upgrade Failures on Non-Oracle VM Configuration Using OVM Templates
- RUP Lite for Domain Configuration Takes Too Long to Complete
- Deployment of BI Publisher Artifacts Fails
- Importing IPM Artifacts Fails
- Extending Certificate Validation Fails on non-Oracle VM Environment
- Multiple Warnings in Data Security Grants Logs
- Ignorable Errors Reported by catbundle.sql
- Ignorable Errors During Applying Online BI Metadata and Configuration Updates

7.19.1 Perl lib Version is not Compatible

Problem

While downloading patches, as described in Section 2.3.5.3, "Download and Unzip Mandatory Post-Release 8 Patches" , you are setting environment variables to run the `adCreateMosPlan.pl` script. After you issue the `setenv` command for PERLLIB5, the following error occurs: `Perl lib version (v5.8.3) does not match the executable version (v5.8.8).`

Solution

Run the following commands:

```
export PERL_HOME=/u01/APPLTOP/dbclient/perl
export PATH=/u01/APPLTOP/dbclient/perl/bin:$PATH
```

Then retry the `setenv` command.

7.19.2 Policy Store and Oracle Platform Security Services Versions Are Not Compatible

Problem

After upgrading to Release 11.1.1.8.0, you receive the following error while connecting to ODI Studio:

```
oracle.security.jps.service.policystore.PolicyStoreIncompatibleVersionException
JPS-06100: Policy Store version 11.1.1.8.0 and Oracle Platform Security Services
Version 11.1.1.7.0 are not compatible.
```

Solution

Upgrade or reinstall the ODI studio component from Release 11.1.1.8.0.

Related Link

The following document provides additional information related to subjects discussed in this section:

- For more information, see "Installing Oracle Data Integrator" in the *Oracle Fusion Middleware Installation Guide for Oracle Data Integrator*.

7.19.3 Bootstrapping Patch Manager Fails

Problem

An error occurred during the **Bootstrapping Patch Manager** configuration assistant.

Solution

An error during **Bootstrapping Patch Manager** normally occurs only when the database is down. Ensure that the database is up and running. You can review the related log files in this location:

APPLICATIONS_CONFIG`/lcm/logs/11.1.8.0.0/RUP/FAPatchManager_bootstrap_`*timestamp*`.log`

7.19.4 Propagating Domain Configuration Fails

This section contains information about troubleshooting issues that may occur during the **Propagating Domain Configuration** configuration assistant. The following topics are discussed:

- Propagating Domain Configuration Assistant Takes Too Long to Complete
- Confirm the Configuration Assistant Was Successful
- WARs or EARs Are Not Accessible From The Primordial Host

7.19.4.1 Propagating Domain Configuration Assistant Takes Too Long to Complete

Problem

The **Propagating Domain** configuration assistant is taking too long to complete.

Solution

This configuration assistant can take some time to complete as it is highly dependent on the environment, specifically the number of non-admin domains and the responsiveness of the file system.

You can monitor the progress of this configuration assistant by reviewing log files in this location:

APPLICATIONS_CONFIG/lcm/admin/*version*/fapatch//ruplitedomain/output/logs

7.19.4.2 Confirm the Configuration Assistant Was Successful

To confirm this configuration assistant was successful, verify that the `config/fusionapps_start_params.properties` file exists under each local or non-admin split domain. Also ensure that the `bin/setDomainEnv.sh` file under each local or non-admin split domain contains the following row:

```
POST_CLASSPATH="${COMMON_COMPONENTS_HOME}/modules/oracle.appstrace_
11.1.1/appstrace.jar${CLASSPATHSEP}${POST_CLASSPATH}"
export POST_CLASSPATH
```

7.19.4.3 WARs or EARs Are Not Accessible From The Primordial Host

Problem

The **Propagating Domain Configuration** configuration assistant fails if there are WARs or EARs installed or deployed that are not accessible from the primordial host where RUP Installer is running. An example of the error caused by this condition follows:

```
<< read domain from
APPTOP/instance/domains/server.company.com/SCMDomain
<< write template to
APPLICATIONS_
CONFIG/lcm/admin/11.1.8.0.0/fapatch/ruplitedomain/output/templates/SCMDomain.jar
>>  fail: Unable to locate file:
/fusionapps/localdomain/domains/server.company.com/SCMDomain/datalens/datalens.war
>>  fail: write template to
"APPLICATIONS_
CONFIG/lcm/admin/11.1.8.0.0/fapatch/ruplitedomain/output/templates/SCMDomain.jar"

CFGFWK-60550:  Script execution aborted. The script may contain an error.
Unable to locate file:
/fusionapps/localdomain/domains/server.company.com/SCMDomain/datalens/datalens.war
```

Solution

To resolve this issue, you must undeploy or uninstall the WAR or EAR, which is `datalens.war` in this example. Then resume orchestration. After the upgrade has completed successfully, you can install or deploy the WAR or EAR.

7.19.5 Upgrade Failures on Non-Oracle VM Configuration Using OVM Templates

Problem

You are running Oracle Fusion Applications on a non-Oracle VM configuration and are using an Oracle VM template, and the upgrade fails.

Problem

This configuration is not supported. To resolve this, check if a directory named `/assemblybuilder` exists in the environment. If this directory is present and this is not an Oracle VM environment, rename the directory to any other name. Then resume orchestration.

7.19.6 RUP Lite for Domain Configuration Takes Too Long to Complete

Problem

RUP Lite for Domain Configuration takes too long to complete.

Solution

This utility can take some time to complete as time taken to propagate domain configuration is highly dependent on the environment, specifically the number of non-admin domains and the responsiveness of the file system. Note this issue is seen only in local domain environments where the utility is run between RUP Installer Part 1 and Part 2. This is not an issue for Oracle VM environments or other environments with shared domains.

7.19.7 Deployment of BI Publisher Artifacts Fails

Problem

The following error occurs if the BI Presentation servers are running during the deployment of BI Publisher artifacts:

```
java.lang.RuntimeException: Webcat patch file creation failed!
```

Solution

If you upgrade to a release that contains BI Publisher artifacts, the BI Presentation servers must not be running. To resolve this issue, shut down the BI Presentation servers to release locks on the Oracle BI Presentation Catalog. For more information, see "fastartstop Syntax" in the *Oracle Fusion Applications Administrator's Guide*.

7.19.8 Importing IPM Artifacts Fails

Problem

The **Importing IPM artifacts** configuration assistant fails with the following error:

```
importIPMApplication() & importIPMInput() WLST commands have not run
successfully
```

Solution

Follow the instructions in Steps 1 through 7 in "Prerequisites for the Deployment of IPM Artifacts" in the *Oracle Fusion Applications Patching Guide*. Then resume Upgrade Orchestrator.

7.19.9 Extending Certificate Validation Fails on non-Oracle VM Environment

Problem

If you have Incentive Compensation, Enterprise Contracts, and Oracle Fusion Accounting Hub offerings on your environment, then Extending Certificate Validation fails with exception reporting:

```
APPTOP/instance/domains/CommonDomain_host/CommonDomain /config/fmwconfig/owc_
discussions.jks (No such file or directory).
```

Solution

If you don't find the missing file in `APPTOP/instance/domains/CommonDomain_host/CommonDomain/config/fmwconfig`, perform the following steps.

1. Copy `default_keystore.jks` to `owc_discussions.jks` in `APPTOP/instance/domains/CommonDomain_host/CommonDomain/config/fmwconfig`.
2. Resume orchestration.

7.19.10 Multiple Warnings in Data Security Grants Logs

Problem

After the Release 8 upgrade step called "Deploying Data Security Grants", the `fapatch_Deploying_Data_Security_Grants_timestamp.log` file contains entries as shown in the following example:

```
Number of records processsed : 8372
Number of records updated (grantee_key or compile_flag) : 3934
Number of records where GUIDs matched and no reconciliation done : 4366
Number of records in database missing necessary meta data : 2
Number of records in database that could not be reconciled with LDAP : 70
```

These messages may start with either "WARNING" or "SEVERE". The severe errors may be associated with exceptions as shown in the following examples:

```
SEVERE: Policy Store Exception raised in
getApplicationPolicyoracle.security.jps.service.policystore.
PolicyObjectNotFoundException: JPS-04028: Application with name
"cn=ADRGroups,cn=Groups" does not exist.

SEVERE: RuntimeException raised. Incorrect entry found in db for application role
PJT_PROJECT_WORK_PLAN_MANAGEMENT_DUTY.
May require reconciliation with target LDAP Processing row with grant_guid:
F9C89E5D04C2322629EBE642337695FC. ROLE_NAME is
PJT_PROJECT_WORK_PLAN_MANAGEMENT_DUTY ROLE_NAME_SPACE is
cn=ADRGroups,cn=Groups. PJT_PROJECT_WORK_PLAN_MANAGEMENT_DUTY GUID in
database is 61065B6FEA8E3824B74476B1A315FDE4 Runtime Exception is
oracle.jbo.JboException: JBO-29114 ADFContext is not setup to process
messages for this exception. Use the exception stack trace and error code to
investigate the root cause of this exception. Root cause error code is
JBO-29000. Error message parameters are
{0=oracle.security.jps.service.policystore.PolicyObjectNotFoundException,
1=JPS-04028: Application with name "cn=ADRGroups,cn=Groups" does not exist.}
```

Solution

These warnings and errors have no impact on functionality and can be ignored.

7.19.11 Ignorable Errors Reported by catbundle.sql

The following ignorable errors may be encountered while running the catbundle.sql script or its rollback script:

ORA-29809: cannot drop an operator with dependent objects

ORA-29931: specified association does not exist

ORA-29830: operator does not exist

ORA-00942: table or view does not exist

ORA-00955: name is already used by an existing object

ORA-01430: column being added already exists in table

ORA-01432: public synonym to be dropped does not exist

ORA-01434: private synonym to be dropped does not exist

ORA-01435: user does not exist

ORA-01917: user or role 'XDB' does not exist

ORA-01920: user name '<user-name>' conflicts with another user or role name

ORA-01921: role name '<role name>' conflicts with another user or role name

ORA-01952: system privileges not granted to 'WKSYS'

ORA-02303: cannot drop or replace a type with type or table dependents

ORA-02443: Cannot drop constraint - nonexistent constraint

ORA-04043: object <object-name> does not exist

ORA-29832: cannot drop or replace an indextype with dependent indexes

ORA-29844: duplicate operator name specified

ORA-14452: attempt to create, alter or drop an index on temporary table already in use

ORA-06512: at line <line number>. If this error follow any of above errors, then can be safely ignored.

ORA-01927: cannot REVOKE privileges you did not grant

7.19.12 Ignorable Errors During Applying Online BI Metadata and Configuration Updates

Problem

Errors related to missing approles may be reported during the **Applying Online BI Metadata and Configuration Updates** configuration assistant. These errors are reported in `bi_webcat_patch.log`, and can be ignored, as they have no impact on the upgrade.

Solution

If Upgrade Orchestrator stops due to this error, you can resume the upgrade

7.20 Platform Specific Troubleshooting Issues

This section contains troubleshooting information for platform specific issues.

- Windows Troubleshooting Issues

7.20.1 Windows Troubleshooting Issues

This section contains troubleshooting information for the following issues on Windows.

7.20.1.1 DowntimePostFA Phase Fails in RemoveConflictingPatches Task

Problem

The `DowntimePostFA` phase of orchestration fails during the `RemoveConflictingPatches` task on Windows with the following error:

```
RollbackSession rolling back interim patch '16569379' from OH
'c:\AT\webtier_mwhome\webtier'
Prerequisite check "CheckActiveFilesAndExecutables" failed. The details are:

Following files are active :
c:\AT\webtier_mwhome\webtier\bin\yod.dll
```

Solution

This failure is caused by the OPMN processes running from the BI and GOP homes using this `dll`. When this failure occurs, shut down the OPMN and the OPMN-managed processes using the respective services. After making sure that the OPMN processes are down, restart orchestration. After orchestration succeeds, bring up the OPMN processes by using the respective services.

7.20.1.2 Upgrade JDK Fails

Problem

Upgrade JDK fails with the following error:

```
Upgrade JDK plugin command:
C:\R\installers\farup\Disk1\upgrade\bin\upgradeJDK.bat
--apptop C:\AT --repo
C:\R
[2013-07-02T14:24:34.566-06:00] [orchestration] [NOTIFICATION] []
[oracle.orchestration] [tid: 12]
[ecid: 0000JyWzVIIFW7HpIsDCif1HonA^000003,0]

Tue 07/02/2013 14:24:34.56 upgradeJDK BEGIN
[2013-07-02T14:24:34.582-06:00] [orchestration] [NOTIFICATION] []
[oracle.orchestration] [tid: 12]
[ecid: 0000JyWzVIIFW7HpIsDCif1HonA^000003,0]

Tue 07/02/2013 14:24:34.57 Output logged to file
C:\AT\fusionapps\applications\admin\FUSION\log\upgradeJDK\upgradeJDK_14243455. log
 [2013-07-02T14:24:34.610-06:00] [orchestration] [NOTIFICATION] []
```

Solution

Set the following environment variables:

```
set APPLICATIONS_BASE=APPLICATIONS_BASE LOCATION>
set REPOSITORY_LOCATION=C:\SHARED\11.1.8.0.0\Repository
```

Then in the same command prompt, start orchestration on the primordial node.

7.20.1.3 Update Impersonation Configuration Fails on Windows

Problem

The **Update Impersonation Configuration** configuration assistant fails on Windows.

Solution

Relaunch Upgrade Orchestrator to rerun the configuration assistant for Update Impersonation Configuration.

7.20.2 Solaris Troubleshooting Issues

This section contains troubleshooting information for Solaris.

7.20.2.1 OutOfMemoryError Due to PermGen Space

Problem

An `OutOfMemoryError` due to `PermGen` space is reported on the WebLogic managed server for the Solaris x64 or Solaris Sparc platform.

Solution for Solaris x64

Perform the following steps to resolve this issue on the Solaris x64 platform.

1. Check the cluster name for the managed server where the `PermGen` exception is reported. The cluster name can be found from the Administration Server console.
2. Edit the *`$DOMAIN_HOME`*`/config/fusionapps_start_params.properties` file by performing the following steps.
   a. Identify the key, value pair which is `fusion.default.SunOS-i386.memoryargs` in `fusionapps_start_params.properties`.
   b. Copy the key, value pair of `fusion.default.SunOS-i386.memoryargs` and add this as a new entry in `fusionapps_start_params.properties`.
   c. For the entry added in the previous step, change the default in `fusion.default.SunOS-i386.memoryargs` to the cluster name and change the argument for `-XX:MaxPermSize` from 512m to 756m.
   d. Bounce the Managed Server.

   An example for `SCMCommonServer_1` for Solaris x64 follows.

   1. `SCMCommonCluster` is the cluster name for `SCMCommonServer_1`.
   2. Add the following entry:

      ```
      fusion.SCMCommonCluster.SunOS-i386.memoryargs=-XX:PermSize=256m
      -XX:MaxPermSize756m -XX:+UseParallelGC  -XX:+HeapDumpOnOutOfMemoryError
      -XX:HeapDumpPath=path_for_heap_dump -XX:+ParallelGCVerbose
      -XX:ReservedCodeCacheSize=128m -XX:+UseParallelOldGC
      -XX:ParallelGCThreads=4
      ```

3. In this example, the entry for `fusion.default.SunOS-i386.memoryargs` is already correct.

Solution for Solaris Sparc

Perform the following steps to resolve this issue on the Solaris Sparc platform.

1. Check the cluster name for the managed server where the `PermGen` exception is reported. The cluster name can be found from the Administration Server console.
2. Edit the *`$DOMAIN_HOME`*`/config/fusionapps_start_params.properties` file by performing the following steps.
   a. Identify the key, value pair which is `fusion.default.SunOS-sparc.memoryargs` in `fusionapps_start_params.properties`.
   b. Copy the key,value pair of `fusion.default.SunOS-sparc.memoryargs` and add as a new entry in `fusionapps_start_params.properties`.
   c. For the entry added in the previous step, change the default in `fusion.default.SunOS-sparc.memoryargs` to `the cluster name` and change the argument for `-XX:MaxPermSize` from 512m to 756m.
   d. Bounce the Managed Server.

An example for `SCMCommonServer_1` for Solaris Sparc follows.

1. `SCMCommonCluster` is the cluster name for `SCMCommonServer_1`.
2. Add the following entry:

```
fusion.SCMCommonCluster.SunOS-sparc.memoryargs=-XX:PermSize=256m
-XX:MaxPermSize756m -XX:+UseParallelGC  -XX:+HeapDumpOnOutOfMemoryError
-XX:HeapDumpPath=path_for_heap_dump -XX:+ParallelGCVerbose
-XX:ReservedCodeCacheSize=128m -XX:+UseParallelOldGC
-XX:ParallelGCThreads=4
```

3. In this example, the entry for `fusion.default.SunOS-sparc.memoryargs` is already correct.

7.20.3 AIX Troubleshooting Issues

This section contains troubleshooting information for the following issues on AIX.

- preValidate.pl or postvalidate.pl Fail for "SSO Keystore Check Test"
- Errors Reported in Oracle Identity Management Upgrade Log

7.20.3.1 preValidate.pl or postvalidate.pl Fail for "SSO Keystore Check Test"

Problem

When running `preValidate.pl` or `postvalidate.pl` for the IDM upgrade, the following errors are reported in the `idmUpgrade` logs.

```
Test Results for "SSO Keystore Check Test"
SSO Keystore required for OIM OAM communication over NAP channel in simple
mode is not present.
Test Status : FAILED
```

Solution

If the OAM console is accessible before or after the Oracle Identity Management upgrade is complete, this validation error can be ignored.

7.20.3.2 Errors Reported in Oracle Identity Management Upgrade Log

Problem

After the Oracle Identity Management upgrade is complete, using idmUpgrade.pl, the following errors are reported in the idmUpgrade logs.

```
/bin/bash: <IDMTOP>/products/ohs/ohs/jdk/bin/jps: A file or directory in the
path name does not exist.
10:29:34 : Server: AdminServer is not running
```

Similar messages can be reported for other IDM servers also.

Solution

If all IDM server instances are stopped before running `idmUpgrade.pl`, these messages can be ignored.

A

Additional Information About Upgrade Orchestrator

This appendix provides additional information about Upgrade Orchestrator.

This appendix includes the following topics:

- Upgrade Orchestrator Features
- Additional Information About Upgrade Orchestrator Commands
- Utilities Run by Upgrade Orchestrator

A.1 Upgrade Orchestrator Features

Upgrade Orchestrator provides the following features:

- Upgrade Phases
- Pause Points
- Oracle Fusion Applications Orchestrator Upgrade Report
- Language Upgrade

A.1.1 Upgrade Phases

You run Upgrade Orchestrator on all host types except for the DB host. The upgrade is performed in phases, during which sets of tasks run. Upgrade Orchestrator waits to ensure that the current set of tasks run to successful completion on all hosts before proceeding to the next set of tasks. If there is a participating host which is not reporting its status, an email alert is sent with corrective action.

A.1.2 Pause Points

Upgrade Orchestrator pauses when it reaches a task that must be performed outside of orchestration. You perform the required steps and then direct Upgrade Orchestrator to continue with the upgrade. If multiple environments are sharing the orchestration software location, a **pause point** that is created on a host type is common across all environments for that host type.

Default pause points are predefined by Upgrade Orchestrator to allow you to perform the following actions:

- Perform required backups.

- Upgrade the Oracle Identity Management domain, if you are not running Oracle Fusion Applications on a SINGLE, 3-NODE, or 4-NODE IDM configuration that is running on Linux and a Release 7 IDM provisioned environment.
- Start external servers.

You cannot edit or remove default pause points. For more information, see Section 5.2, "Pause Point Steps".

A.1.3 Oracle Fusion Applications Orchestrator Upgrade Report

The Oracle Fusion Applications Upgrade Orchestrator report is generated for each pod and its location is defined in the mandatory *ORCH_REPORT_LOCATION* property in the `pod.properties` file. When you run the report, you can override the default value for the location, if needed. In the event of a failure during the upgrade, this report is generated and emailed to the users who are specified in the `EMAIL_TO_RECIPIENT` and `EMAIL_CC_RECIPIENT` properties. The report name is `FAOrchestrationUpgradeReport_`*release_hosttype_hostname_timestamp*`.html`. Reports are archived at *ORCH_LOCATION*`/ARCHIVE/`*release*`/`*hosttype*`/`*hostname*`/`*timestamp* for troubleshooting purposes after the failure or completion of each task.

The report displays the task that failed, including the phase and host type. The Fusion Applications Orchestrator Upgrade report also displays the following information:

- **Upgrade from Release**: The starting release on the pod, which is release 11.1.7.0.0.
- **Upgrade to Release:** The ending release, which in this case is "FA version 11.1.8.0.0".
- **Upgrade Status:** The cumulative status of the upgrade. The following states are possible:
  - Success: All tasks were successful.
  - Error: One or more tasks failed.
  - Running: At least one task is still running and there are no failures.
  - NotApplicable: The task is not applicable on the host.
  - Pending: A task is waiting for a dependent task to complete.
  - PausePoint: A task must be performed manually. Orchestrator needs to be restarted after the manual process completion.
- **Report Time:** The time stamp in the format of yyyy-MM-dd HH:mm:ss.SSS.
- **Status Table:** Contains the following columns:
  - Task: Tasks are listed in the order of execution.
  - Phase: Phase during which the task runs.
  - Host type: Host type on which the task runs.
  - HostNames: All scaled out hosts for the host type.
  - Status: Status of the task for each host, including scaled out hosts.
  - Start Time: The start time for the task on a specific host.
  - End Time: The end time for the task on a specific host.
  - Duration: The duration of the task on a specific host.
  - More details: The path and file name for the HTML report that is generated on each host.

A.1.4 Language Upgrade

If you previously installed any languages in addition to US English, Upgrade Orchestrator performs the upgrade of each installed language. For information about installing a new language, see "Installing and Maintaining Oracle Fusion Applications Languages" in the *Oracle Fusion Applications Administrator's Guide*.

Orchestration allows you to skip one or more installed language pack upgrades by using a property called `SKIP_UPGRADE_FOR_LANGUAGE` in the `PRIMORDIAL.properties` file. If you choose to skip any languages, you upgrade them manually after the completion of Upgrade Orchestration. For more information, see "Installing and Maintaining Oracle Fusion Applications Languages" in the *Oracle Fusion Applications Administrator's Guide*.

A.2 Additional Information About Upgrade Orchestrator Commands

This section provides additional information about Upgrade Orchestrator commands. The following topics are included:

- Upgrade Orchestrator Command Arguments
- Options for the Orchestration Command When Starting Orchestration
- Options for the Orchestration updateStatus Command
- Options for the Orchestration getStatus Command
- The validatesetup Argument

A.2.1 Upgrade Orchestrator Command Arguments

The following command arguments are available for the orchestration command to retrieve information about the status of the upgrade as well as manage the status.

- Use `updateStatus` to update the status for a specific task to either SUCCESS or FAILURE. For more information, see Section A.2.3, "Options for the Orchestration updateStatus Command."
- Use `getStatus` to retrieve the status of a specific task as well as the summary of the upgrade on a specific `POD_NAME` and `host_type` while Upgrade Orchestrator is running. For more information, see Section A.2.4, "Options for the Orchestration getStatus Command" and Section 7.3, "Monitoring Upgrade Orchestration Progress."
- Use `exitOrchestration` to terminate orchestration gracefully on all hosts on a specific pod. For more information, see Section 7.4, "Terminating Upgrade Orchestration".
- Use `clearExitOrchestration` to clear the exit status on all hosts. For more information, see Section 7.4, "Terminating Upgrade Orchestration".
- Use `getExitOrchestrationStatus` to retrieve the status of the `exitOrchestration` command. For more information, see Section 7.4.3, "Get the ExitOrchestration Status".
- Use `validateSetup` to validate the shared location status and permissions. This validation is implicitly run when any of the orchestration command options are run. For more information, see Section A.2.5, "The validatesetup Argument."

A.2.2 Options for the Orchestration Command When Starting Orchestration

The following table provides a description of the options available when using the orchestration command to start Upgrade Orchestrator.

Table A–1 Options for the orchestration.sh command

Name	Mandatory	Description
-pod	Yes	The value of *POD_NAME* refers to the directory you created in Step 3, Section 2.4.1, "Set Up Upgrade Orchestrator on a Shared Location".
-hosttype	Yes	The host type. Valid values are PRIMORDIAL, MIDTIER, OHS, and IDM. For more information see Section 1.2.1, "Host Types."
-release	No	The release name, for example, REL8.
-phase	No	Only the `PreDowntime` phase can be specified in the command line when running orchestration.
-checkpoint	No	Valid values are true or false. If set to false, ignore the checkpoint results and rerun. The default value is true.
-DlogLevel	No	The log level. Valid values are SEVERE, WARNING, INFO, CONFIG, FINE, FINER and FINEST. The default value is INFO. Note that error messages are displayed on the console for database component failures if you set the `-DlogLevel` option to FINEST.
-v	No	Displays the product version and exits.
-h	No	Displays help information and exits.

A.2.3 Options for the Orchestration updateStatus Command

The following table provides a description of the available options when using the orchestration `updatestatus` command to update the status of orchestration tasks.

Table A–2 Options for orchestration.sh updateStatus command

Name	Mandatory	Description
updateStatus	Do not use with `getStatus`	Updates the status of the selected task.
-pod	Yes	The name of the pod to be searched.
-hosttype	Yes	The host type. Valid values are: PRIMORDIAL, MIDTIER, OHS, and IDM.
-hostname	Yes	Host name, including domain details.
-release	Yes	The release name, for example, REL8. If this option is not used, all releases defined in the manifest file are executed.
-phase	Yes	The phase name. Valid values are: `PreDowntime`, `DowntimePreFA`, `DowntimeDuringFA`, `DowntimePostFA`, `DowntimeDuringLP`, `DowntimePostLP`.
-taskid	Yes	Orchestration `task_id` that is to be updated.
-taskstatus	Yes	Orchestration task status. Valid values are `success` and `error`.
-v	No	Displays the product version and exits.
-h	No	Displays help information and exits.

A.2.4 Options for the Orchestration getStatus Command

The following table provides a description of the available options when using the orchestration `getstatus` command to find the status of an orchestration session.

Table A–3 Options for orchestration.sh getStatus command

Name	Mandatory	Description
getStatus	Do not use with `updateStatus`	Retrieves the checkpoint status from the selected orchestration task.
-pod	Yes	The name of the pod to be searched.
-hosttype	Yes	The host type. Valid values are: PRIMORDIAL, MIDTIER, OHS, and IDM.
-hostname	Yes	Host name, including domain details.
-release	Yes	The release name, for example, REL8. If this option is not used, all releases defined in the manifest file are queried.
-phase	No	You can specify the following phase names to see the status for the specific phase: `PreDowntime`, `DowntimePreFA`, `DowntimeDuringFA`, `DowntimePostFA`, `DowntimeDuringLP`, `DowntimePostLP`.
-taskid	No	The Orchestration `task_id` that is to be searched. If this option is used, the status for the specific task is returned.
-taskstatus	No	The Orchestration task status. Valid values are `success` and `error`. If this option is used, a list of all tasks that match the status is returned.
-v	No	Displays the product version and exits.
-h	No	Displays help information and exits.

A.2.5 The validatesetup Argument

If you run the `orchestration.sh` command with the `validatesetup` argument, the following validations occur:

- Validating SHARED_UPGRADE_LOCATION

  Successfully validated permissions of shared folder.

- Validating ORCHESTRATION_CHECKPOINT_LOCATION

  Successfully validated permissions of shared folder.

- Validating ORCHESTRATION_CHECKPOINT_ARCHIVE_LOCATION

  Successfully validated permissions of shared folder.

These options run implicitly when any of the orchestration commands run.

A.3 Utilities Run by Upgrade Orchestrator

This section describes the utilities that are run by Upgrade Orchestrator. This is for your information only and no action is needed.The following utilities are included:

- RUP Installer
- Health Checker Utility
- RUP Lite for OVM Utility

- RUP Lite for OHS Utility
- RUP Lite for BI Utility

A.3.1 RUP Installer

During the installation phase, RUP Installer copies all files for 11*g* Release 8 (11.1.8) to the appropriate locations, such as Oracle Fusion Middleware home and Oracle Fusion Applications Oracle home. After the file copy completes, RUP Installer calls its first installer to update Oracle Fusion Applications Patch Manager and apply Oracle Fusion Middleware patches. When the first installer completes successfully, RUP Installer calls the second installer, which performs the Policy Store Analysis. Upon successful completion of the Policy Store Analysis, RUP Installer calls Configuration Assistants to perform the remaining tasks required to update and deploy artifacts to Oracle Fusion Applications. Depending on the contents of 11*g* Release 8 (11.1.8), not all configuration assistants may run.

A.3.1.1 RUP Installer Configuration Assistants

All mandatory configuration assistants must complete successfully before proceeding to the next configuration assistant.

If any tasks fail during the installation phase, refer to Section 7.7, "Troubleshooting Failures During the Installation Phase" for more information.

The following table provides a list of configuration assistants that the first installer runs. The Retry Behavior and Troubleshooting column describes what RUP Installer does after a configuration assistant fails, you resolve the cause of the failure, and then resume orchestration. If available, links are provided to relevant troubleshooting sections.

Table A–4 Configuration Assistants Run by Oracle Fusion Applications 11g Release 8 (11.1.8) RUP Installer Part 1 of 2

Name	Mandatory	Description	Retry Behavior and Troubleshooting
Configure Patch Manager	Yes	Configures Oracle Fusion Applications Patch Manager.	Starts from the beginning of the task.
Consolidate Repository And Downloaded Patches	Yes	Consolidates patches in the repository and the patches you download in Section 2.3.5.3, "Download and Unzip Mandatory Post-Release 8 Patches".	Starts from the beginning of the task.
Update Patch Manager	Yes	Applies Patch Manager Patches	Applies failed patches.
Reconfigure Patch Manager	Yes	Reconfigures Oracle Fusion Applications Patch Manager.	Starts from the beginning of the task.
Bootstrap Patch Manager	Yes	Updates the data model for Oracle Fusion Applications Patch Manager by running the `fapmgr bootstrap` command.	Starts from the beginning of the task. See Section 7.19.3, "Bootstrapping Patch Manager Fails".
Create Middleware Schemas	Yes	Creates Oracle Fusion Middleware schemas	The upgrade fails. See Section 7.8.12, "Creating Middleware Schema Fails".

Table A–4 (Cont.) Configuration Assistants Run by Oracle Fusion Applications 11g Release 8 (11.1.8) RUP Installer Part 1 of 2

Name	Mandatory	Description	Retry Behavior and Troubleshooting
Apply Middleware Patch Sets	Yes	Applies Oracle Fusion Middleware patch sets, which can include upgrades, schema changes and installers. For more information, see Section A.3.1.1.1, "Middleware Installers Invoked by the Apply Middleware Patch Sets Configuration Assistant".	Installs failed patch sets.
Apply Pre-PSA Middleware Patches	Yes	Applies Pre-PSA Middleware Patches For more information, see Section A.3.1.1.2, "Patches Not Supported by the Apply Pre-PSA and Post-PSA Middleware Patches Configuration Assistants".	Applies the failed patches. See Section 7.12, "Troubleshooting Applying Middleware Patches".
Verify Middleware PSA Schema Credentials	Yes	Verifies users and logins for schemas.	Starts from the beginning of the task.
Upgrade Middleware Schemas	Yes	Runs Oracle Fusion Middleware patch set assistants (PSA).	Runs failed tasks. See Section 7.12.6, "Upgrading Middleware Schema Fails".
Apply Post-PSA Middleware Patches	Yes	Applies Post-PSA Middleware Patches See Section A.3.1.1.2, "Patches Not Supported by the Apply Pre-PSA and Post-PSA Middleware Patches Configuration Assistants".	Applies the failed patches. See Section 7.12, "Troubleshooting Applying Middleware Patches".
Restore Default Context in `JPS-CONFIG-JSE.XML` Files	Yes	Restores default context.	Checks if file is corrupted and replaces the file with a well formed XML file and retries failed steps.
Upgrade OPSS	Yes	Upgrades the Policy Store.	Starts from the beginning of the task.
Extend Certificate Validity	Yes	Extends certificate validity by three years from the date of the upgrade.	Starts from the beginning of the task.
Deploy Middleware Policies (jazn-data.xml)	Yes	Deploys Middleware policies: ■ Deploys JAZN for ATGPF ■ Deploys JAZN for FSM ■ Deploys JAZN for APPSDIAG	Starts from the beginning of the task and includes the clean up required.
Apply Offline BI Metadata and Configuration Updates	Yes	Performs the deployment of the updated applications policies for Oracle Business Intelligence.	Retries failed steps.
Apply ESSAPP Code Source Grant Changes	Yes	Adds code source grants to support auditing.	Starts from the beginning of the task.

Table A–4 (Cont.) Configuration Assistants Run by Oracle Fusion Applications 11g Release 8 (11.1.8) RUP Installer Part 1 of 2

Name	Mandatory	Description	Retry Behavior and Troubleshooting
Apply Domain Configuration	Yes	▪ Applies startup parameter changes. ▪ Configures `datasource` for audit service. ▪ Updates logging configuration. ▪ Reassigns library targets. ▪ Redeploys UMS drivers. ▪ Updates OWLCS version. ▪ Configures new ODI server. ▪ Updates domain component versions.	Retries failed steps.
Propagate Domain Configuration	Yes	Unzips RUP Lite for Domain Configuration into *`APPLICATIONS_CONFIG`*`/lcm/admin/`*`version`*`/fapatch/rupdatedomain`. Updates properties in the RUP Lite `env.properties` file and prepares RUP Lite so you can run RUP Lite for Domain Configuration.	Starts from the beginning of the task. See Section 7.19.4, "Propagating Domain Configuration Fails".

The following table provides a list of configuration assistants that the second installer runs. The Retry Behavior and Troubleshooting column describes what RUP Installer does after a configuration assistant fails, you resolve the failure, and then resume orchestration. If available, links are provided to relevant troubleshooting sections. The second installer supports parallel processing of certain configuration assistants, which run in groups.

Table A–5 Configuration Assistants Run by Oracle Fusion Applications 11g Release 8 (11.1.8) RUP Installer Part 2 of 2

Name	Mandatory	Description	Retry Behavior and Troubleshooting
Configure Patch Manager	Yes	Configures Oracle Fusion Applications Patch Manager.	Starts from the beginning of the task.
Bootstrap Patch Manager	Yes	Updates the data model for Oracle Fusion Applications Patch Manager by running the fapmgr `bootstrap` command.	Starts from the beginning of the task. See Section 7.19.3, "Bootstrapping Patch Manager Fails".
Offline Preverification Pre Database Content Upload	Yes	Performs the following validation checks while all servers are shut down: ▪ Policy Store ▪ Number of database workers ▪ Database Content Upload ▪ Oracle Data Integrator (ODI)	Runs failed steps.
Grant Privileges to Application Schemas	Yes	Grants system privileges to database users and creates base object privileges.	Runs the failed script.

Table A–5 (Cont.) Configuration Assistants Run by Oracle Fusion Applications 11g Release 8 (11.1.8) RUP Installer Part 2 of 2

Name	Mandatory	Description	Retry Behavior and Troubleshooting
Load Database Components	Yes	Uploads the database content packaged in 11*g* Release 8 (11.1.8) to the database, such as database objects, seed data, and package headers and bodies.	Runs failed database commands. See Section 7.13, "Troubleshooting Loading Database Components".
Deploy Applications Policies (jazn-data.xml)	Yes	Deploys updated applications policies, based on your selections during the Policy Store Analysis configuration assistant.	Deploys the failed stripes. See Section 7.14, "Troubleshooting Deployment of Applications Policies".
Deploy BI Publisher Artifacts	Yes	Using Catalog Manager, performs the following steps: ■ Backs up BI Presentation Catalog under *APPLICATIONS_CONFIG*/lcm/admin/*version*/fapatch/BIP/*language_code* for example, *APPLICATIONS_CONFIG*/lcm/admin/11.1.8.0.0/fapatch/BIP/en_US/webcat.zip. ■ Backs up captions under *APPLICATIONS_CONFIG*/lcm/admin/*version*/fapatch/BIP/*language_code*/captions.zip. ■ Copies captions to the Oracle Business Intelligence repository. ■ Deploys BI Presentation Catalog to the Oracle Business Intelligence repository.	Starts from the beginning of the task. See Section 7.19.7, "Deployment of BI Publisher Artifacts Fails".
Import Oracle Data Integrator Repositories	Yes	■ Imports ODI topology. ■ Imports ODI model folders. ■ Imports ODI models. ■ Imports ODI projects. ■ Drops ODI error tables.	Imports failed data.
Create Grants/Synonyms on Application Database Objects	Yes	Creates synonyms between database objects and grants object privileges to database users.	Runs the failed script.
Offline Preverification Post Database Content Upload	Yes	Validate host and port for new managed servers.	Starts from the beginning of the task.
Deploy Data Security Grants	Yes	Performs GUID reconciliation in LDAP.	Starts from the beginning of the task.
Generate SOA Configuration Plan	Yes	Generates the configuration plan to be used for deploying SOA composites.	Starts from the beginning of the task.

Table A–5 (Cont.) Configuration Assistants Run by Oracle Fusion Applications 11g Release 8 (11.1.8) RUP Installer Part 2 of 2

Name	Mandatory	Description	Retry Behavior and Troubleshooting
Update Flexfield Configuration	Yes	Updates the `FndSetup` application for supporting new flexfields, new flexfield usages, and flexfield view links added by Oracle Fusion Application products.	Starts from the beginning of the task.
Configure New Managed Servers	Yes	Configures managed servers for new applications to be associated with the first non-admin host by default.	Reapplies failed managed server templates.
Deploy New Applications	Yes	Deploys new applications using domain extension templates.	Reapplies failed domain extension templates.
Generate ADF Domain Configuration Plan	Yes	Generates Oracle ADF domain configuration in Metadata Service (MDS) to be used by Expression Language (EL) expressions in `connections.xml`.	Starts from the beginning of the task.
Apply Offline Setting Changes	Yes	Applies Oracle Fusion Applications environment configuration setting changes while all servers are shut down.	Retries failed domains.
Verify Node Manager and OPMN Status	Yes	Verifies the following processes: ■ Node Managers ■ BI OPMN Processes ■ GOP OPMN Processes ■ Web Tier OPMN Processes You must not exit out of RUP Installer during this configuration assistant.	Runs failed steps. See Section 7.9.3, "Verifying Node Manager and OPMN Status Fails".
Start All Admin Servers	No	Starts all Administration Servers.	Restarts failed Administration Servers. See Section 7.15, "Troubleshooting Server Start and Stop Failures".
Configure DB Persistence Store for JMS/TLogs	Yes	Configures SOA and UMS to store JMS and TLogs content in the database instead of the file system.	Retries failed plug-ins.
Configure OPSS Keystore Service	Yes	Configures OPSS to be used for remote task flow Keystore Service.	Starts from the beginning of the task.
Deploying LDAP Data (LDIF)	No	Loads new enterprise roles.	Retries to load the failed LDIF files.
Create Fusion APPIDs	Yes	Creates Fusion APPID users and groups in the LDAP server and credentials for those users in the credential store.	Starts from the beginning of the task.
Apply Admin Server Online Setting Changes	Yes	Applies Oracle Fusion Applications environment configuration setting changes that are applicable to the Administration Servers.	Starts from the beginning of the task.
Start Minimal Servers for Configuration Updates	Yes	Starts minimal managed servers required to run the necessary configuration assistants successfully.	Starts from the beginning of the task.

Table A–5 (Cont.) Configuration Assistants Run by Oracle Fusion Applications 11g Release 8 (11.1.8) RUP Installer Part 2 of 2

Name	Mandatory	Description	Retry Behavior and Troubleshooting
Apply UCM Configuration	Yes	Configures UCM to store content in the database instead of the file system.	Starts from the beginning of the task.
Apply WebCenter Connection Changes	Yes	▪ Replaces `WebCenter-UCM` Connection with `FusionAppsContentRepository` Connection ▪ Updates Connection References	Retries failed plug-ins.
Configure Trust Asserter	Yes	Configures trust asserter to be used for remote task flow Keystore Service.	Starts from the beginning of the task.
Start All Servers	No	Starts all servers in all domains, including the BI servers. Also performs the `opmnctl` start for Oracle HTTP Server (OHS) and `BIInstance`.	Restarts failed servers. See Section 7.15, "Troubleshooting Server Start and Stop Failures".
Online Preverification	Yes	Performs steps described in see Section A.3.1.1.3, "Steps Performed During Online Preverification".	Runs failed steps. See Section 7.15.4, "Online Preverification Reports EditTimedOutException Error".
Upgrade ADF Metadata	No	Upgrades ADF related metadata.	Retries failed domains.
Generate OHS Reference Configuration File	No	Generates OHS configuration files for installed product families in the directory, *APPLICATIONS_CONFIG*`/lcm/admin/`*version*`/fapatch/OHS/patched_moduleconf`.	Starts from the beginning of the task.
Apply OWSM Configuration	Yes	Upgrades Oracle Web Services Manager (Oracle WSM) policies after backing up the policies.	Restores the backup of the policies and starts from the beginning of the task.
Deploy SPE Inline Service Artifacts	No	Deploys SPE Inline Service Artifacts.	Retries the deployment.
Deploy Data Role (RGX) Templates	No	Deploys RGX Template artifacts to the Common Domain.	Deploys failed templates.
Apply OAM Configuration	No	Applies changes to the Oracle Access Manager (OAM) configuration.	Starts from the beginning of the task. See Section 7.11.4, "Location of GRC Policies in the OAM Applications Domain".
Deploy Flexfields	No	Deploys flexfields to the domain that hosts the `FndSetup` application.	Starts from the beginning of the task.

Table A–5 (Cont.) Configuration Assistants Run by Oracle Fusion Applications 11g Release 8 (11.1.8) RUP Installer Part 2 of 2

Name	Mandatory	Description	Retry Behavior and Troubleshooting
Apply Online BI Metadata and Configuration Updates	Yes	Applies Oracle Business Intelligence Metadata updates.	Starts from the beginning of the task. If you made any customizations to the Oracle BI Repository, the Oracle BI Presentation Catalog, or JAZN settings related to Oracle Business Intelligence, you must merge your changes. See Section 6.11, "Resolve Conflicts That Occurred During Oracle BI Metadata Updates".
Import Group Space Templates	No	Imports Group Space Templates.	Deploys failed templates.
SOA Preverification	Yes	Performs the steps described in Section A.3.1.1.4, "Steps Performed During SOA Preverification". If you have customizations, you must merge them during this configuration assistant.	Retries failed steps. See Section 7.16.6, "Merging SOA Composite JDeveloper Customizations During SOA Preverification".
Apply SES Configuration Changes	No	Updates additional configuration updates to Oracle Secure Enterprise Search (SES) running on the Common Domain.	Starts from the beginning of the task.
Remove UCM SES Objects	No	Removes the following objects on the SES search administration server: ▪ Index Schedule with the name "WebCenter UCM Schedule" ▪ Data source with the name "WebCenter UCM" ▪ Data source with the name "WebCenter UCM" from the data source group with the name "Collaboration"	Starts from the beginning of the task.
Deploy BPM Templates	No	Deploys BPM Templates to the MDS repository.	Deploys failed templates.
Deploy B2B Metadata	No	Deploys B2B Metadata.	Deploys failed B2B artifacts.
Deploy SOA Shared Repository	Yes	Deploys SOA shared repository artifacts to the SOA servers available in the environment.	Deploys failed SOA shared repository artifacts.
Deploy SOA Composites	No	Deploys SOA composites to the corresponding SOA servers and performs server management steps.	Deploys failed SOA composites. See Section 7.16, "Troubleshooting SOA Composite Deployment Failures".

Table A–5 (Cont.) Configuration Assistants Run by Oracle Fusion Applications 11g Release 8 (11.1.8) RUP Installer Part 2 of 2

Name	Mandatory	Description	Retry Behavior and Troubleshooting
Deploy SOA Resource Bundles	Yes	Deploys SOA Resource Bundles to the corresponding SOA servers.	Deploys failed SOA resource bundles.
Import Image Routing (IPM) Artifacts	No	Deploys IPM artifacts to the IPM server.	Retries failed IPM artifacts. See Section 7.19.8, "Importing IPM Artifacts Fails".
Restart All SOA Servers	Yes	Restarts all SOA servers in the environment.	Starts at the beginning of the task.
Apply Online Setting Changes	No	Applies Oracle Fusion Applications environment configuration setting changes during the online phase.	Starts from the failed task.
Generate RUP Lite for OHS	No	Generates the zip file that contains all files needed by RUP Lite for OHS to upgrade OHS.	Starts at the beginning of the task.
Apply Downloaded Oracle Fusion Applications Patches	Yes	Applies the Oracle Fusion Applications patches that you downloaded in Section 2.3.5.3, "Download and Unzip Mandatory Post-Release 8 Patches".	Applies failed patches.
Post Configuration	No	■ Reactivates SES Index Optimization ■ Reactivates ESS Server from inactive or quiescent mode ■ Deletes wallets	Retries failed domains.

A.3.1.1.1 Middleware Installers Invoked by the Apply Middleware Patch Sets Configuration Assistant

The following installers are invoked by the **Apply Middleware Patch Sets** configuration assistant:

- Oracle Business Intelligence
- Oracle Common
- Oracle Data Integrator (ODI)
- Oracle Database Client
- Oracle Enterprise Content Management
- Oracle HTTP Server (OHS) - OHS may be installed either beside the rest of the Oracle Fusion Middleware in the Oracle Fusion Applications middle tier or on a separate DMZ machine. For either case, patching OHS requires running RUP Lite for OHS.
- Oracle Fusion Middleware Extensions for Applications
- Oracle Global Order Promising
- Oracle Identity Management (IDMUTIL)
- Oracle Secure Enterprise Search (SES)
- Oracle SOA Suite
- Oracle Social Networking (OSN)

- Oracle WebCenter Suite
- Oracle WebLogic Server
- Oracle Web Tier

A.3.1.1.2 Patches Not Supported by the Apply Pre-PSA and Post-PSA Middleware Patches Configuration Assistants The following patches are not supported by these configuration assistants:

- Integrated Development Environment (IDE)
- OHS installed in the DMZ: Installed by RUP Lite for OHS.
- Database Server: You patch your Database Server using RUP Lite for RDBMS. For more information, see Section 3.2, "Run RUP Lite for RDBMS."
- Oracle Identity Management Server: You patch your IDM server by following the steps in Section 5.2.5, "Upgrade the Oracle Identity Management Domain to 11g Release 8 (11.1.8)".

A.3.1.1.3 Steps Performed During Online Preverification The following validation steps are performed during the **Online Preverification** configuration assistant, if Release 8 (11.1.8) contains artifacts related to the validation:

- Taxonomy URL
- Database validation
- Flexfield: Checks for the `HelpPortal` Managed Server in the Common Domain and for the successful deployment of the `FndSetup` application.
- OAM Configuration
- SES Admin Server URL
- SPE Inline Service: Checks if the Oracle CRM Performance application is deployed. If it is, the OracleRTD application must be deployed and at least one BI server must be running where the OracleRTD application is deployed.
- Data Role (RGX) Template: Checks if the Administration Server for the Common Domain is up.
- Group Space Template: Checks if the following Managed Servers are up: `WC_Spaces, WC_Collaboration, ucm_server1`.
- Oracle WSM validation

A.3.1.1.4 Steps Performed During SOA Preverification The following validation steps are performed during the **SOA Preverification** configuration assistant:

- Business Process Management (BPM) Template
- B2B Metadata: Checks if the Common Domain, SOA Managed Server, and the LDAP Server are up.
- `UpdateSOAMDS` SOA Composite: Verifies the taxonomy, checks if the Administration Server is up, and if the SOA platform is ready.
- SOA Shared Repository: Verifies the taxonomy, checks if the Administration Server is up, and checks for SOA_SERVER and SOA_PLATFORM readiness.
- SOA Resource Bundle: Verifies the taxonomy, checks if the Administration Server is up, and if the SOA platform is ready.
- SOA Composites: Performs the following validation steps:

- Verifies the taxonomy.
- Checks if the Administration Server is up.
- Checks if the SOA platform is ready.
- Checks if the base composite is deployed.
- Checks if the default revision is deployed.
- Checks if the new revision is not deployed.
- Checks whether the SOA composites that will be affected by the upgrade contain JDeveloper customizations. For more information, see Section 7.16.6, "Merging SOA Composite JDeveloper Customizations During SOA Preverification".

- Image Routing (IPM): Checks if the IPM server is up.

A.3.2 Health Checker Utility

Upgrade Orchestrator runs the Health Checker utility to run system checks during and after the upgrade to ensure that the environment meets recommended standards. You run Health Checker during pre-down time, as described in Section 4.1, "Run the Health Checker Utility." Health Checker is a command line utility that performs a set of validation checks against an Oracle Fusion Applications environment. The validation checks are organized into groups, based on the purpose of the checks and when the checks are performed. When Health Checker runs, it uses a specific manifest file which performs the appropriate checks. Several health checks are called by Upgrade Orchestrator and all health checks can also be run manually. Health Checker provides a list of corrective actions for the checks that fail validation. The suggested corrective actions must be run manually to fix the issue before proceeding with the related activity, such as upgrading or patching activities.

The following topics describe the usage of Health Checker:

- Health Checker Manifests
- Health Checker Plug-ins
- Override Health Checks

A.3.2.1 Health Checker Manifests

When you run Health Checker manually, you specify a manifest file, as described in the following table. The manifest files are located in the following directories:

- Before upgrading your environment, the manifest files in the following location are from the previous release. Do not use these manifest files until after you upgrade:

  FA_ORACLE_HOME/lcm/hc/config

- The manifest files in the following location are from the current release and must be used when running Health Checker before the upgrade:

  REPOSITORY_LOCATION/installers/farup/Disk1/upgrade/config

Table A–6 Health Checker Manifest Files

Manifest File	Host Requirements	Typical Usage of the Manifest
GeneralSystemHealthChecks.xml	Primordial, OHS, Mid tier, DB	Run this manifest any time. See Section A.3.2.2.1, "General System Health Checks."
PreDowntimeUpgradeReadinessHealthChecks.xml	Primordial, OHS, Mid tier, DB	Upgrade Orchestrator runs this manifest before the upgrade downtime. You can run this at any time. See Section A.3.2.2.2, "Pre-Downtime Upgrade Tasks."
DuringDowntimeUpgradeReadinessHealthChecks.xml	Primordial, OHS, Mid tier	Upgrade Orchestrator runs this manifest during downtime and before the upgrade starts. See Section A.3.2.2.3, "Pre-Upgrade Tasks Performed by Health Checker During Downtime."
VitalSignsChecks.xml		Upgrade Orchestrator runs this manifest during the upgrade. See Section A.3.2.2.10, "Vital Signs Check."
PostUpgradeHealthChecks.xml	Primordial, OHS, Mid tier	Upgrade Orchestrator runs this manifest after the upgrade. See Section A.3.2.2.4, "Post-Upgrade Tasks Performed by Health Checker."
LanguagePackReadinessHealthChecks.xml		Run this manifest before installing a language pack. See Section A.3.2.2.5, "Language Pack Readiness Health Checks."
PostLanguagePackHealthChecks.xml		Run this manifest after installing a language pack. See Section A.3.2.2.6, "Post Language Pack Health Checks."
PatchingReadinessHealthChecks.xml		Run this manifest before applying a patch. See Section A.3.2.2.7, "Patching Readiness Health Checks."
PostPatchingHealthChecks.xml		Run this manifest after applying a patch. See Section A.3.2.2.8, "Post Patching Health Checks."
DataQualityChecks.xml		Run this manifest to check the quality of data such as JAZN and seed data. Note that these checks may require significant processing time. See Section A.3.2.2.9, "Data Quality Check."

A.3.2.2 Health Checker Plug-ins

There may be situations in which you want to run health checks manually, outside of orchestration. For example, you may want to run the pre-downtime checks several weeks before you upgrade, so that you have time to fix any issues found by `PreDowntimeUpgradeReadinessHealthChecks.xml`.

Health Checker calls plug-ins to perform its tasks. This section describes which plug-ins run during the following phases of the installer process:

- General System Health Checks
- Pre-Downtime Upgrade Tasks
- Pre-Upgrade Tasks Performed by Health Checker During Downtime
- Post-Upgrade Tasks Performed by Health Checker
- Language Pack Readiness Health Checks
- Post Language Pack Health Checks

- Patching Readiness Health Checks
- Post Patching Health Checks

A.3.2.2.1 General System Health Checks The following checks occur when you run Health Checker using the GeneralSystemHealthChecks.xml manifest.

- Administration Servers and Managed Servers are Up

  Confirms that all relevant Administration Servers and Managed Servers have a RUNNING status.

- Certificate Expiry in Trust Keystore

  Checks the expiration date for the certificates in the Trust key store and reports an error if the expiration date has passed or is within the next 90 days.

- Credential Store Connectivity

  Checks if a connection can be established to the credential store.

- Credentials in Oracle Directory Services Manager (ODSM)

  Verifies that a specific user, usually the `PolicyRWUser` user, is part of the `cn=DirectoryAdminGroup`.

- Database Instance Connectivity

  Checks if the database instance is up. For RAC databases, checks if all nodes are up.

- DBMS_STATS Collection for MDS Schema in Oracle Fusion Applications Database

  Confirms that `DBMS_STATS` has recently been run on the MDS schema in the Oracle Fusion Applications database. You must run `DBMS_STATS` on any schemas that are reported by Health Checker.

- Deployed Applications are Up

  Verifies that all deployed applications are up and running.

- FAPatchManager Configuration

  Checks if Oracle Fusion Applications Patch Manager is correctly configured, including the following validations:

  – Checks to see if `FUSION_env.properties` and `ATGPF_env.properties` are correct.

  – Checks for existence of the fapmgr.ini file in the environment.

  – Verifies registered products against the database.

- Flexfields Metadata in the Flex Repository

  Checks if there is a Flexfields metadata violation that indicates that the Extensible Flexfields has a UI Page defined that references a Flexfield Context which has not been associated with the corresponding Category or any of its parent Categories.

- Fusion Applications Certification Matrix

  Confirms the correct versions of installed components, according to the certification matrix.

- Fusion Schema Connectivity

  Validates the database connectivity to all Fusion schemas.

- Hosts Name

Confirms that host names are correctly formatted in the `/etc/hosts` file. The `/etc/hosts` file is a network configuration file that associates IP addresses with host names and host alias names, if used. The following checks are performed by this plug-in:

- The /etc/hosts file contains an entry for the IP address 127.0.0.1, followed by the name `localhost`.
- The format of each host entry in `/etc/hosts` is `IP_address canonical_hostname [aliases]`. If the machine name is a logical host name and is different from the physical host name that is specified in `/etc/sysconfig/network`, the logical host name must be listed before the physical host. Ensure that the first entry in `/etc/hosts`, machine name (host name), and the value used in `pod.properties`, are identical.
- If the machine name is the same as the physical host name, there is no need to check the order of the host names.

- Identity and Policy Store LDAP

  Verifies the connectivity to the identity store and policy store LDAP using identity store credentials.

- Identity Store Connectivity using jps-config-jse.xml

  Verifies that the `idstore.ldap.provider` in `jps-config-jse.xml` can be used to connect to the identity store.

- IIR Configuration

  Verifies that Fusion Informatica IR is set up properly.

- INBOUND_CONNECT_TIMEOUT parameter in sqlnet.ora and listener.ora

  Checks for recommended values in the `INBOUND_CONNECT_TIMEOUT` parameter in `sqlnet.ora` and `listener.ora` files on the database host.

- Index Validity in Fusion Schema of Oracle Fusion Applications Database

  Checks for unusable indexes in the Fusion Schema of the Oracle Fusion Applications database.

- `init.ora` parameters

  Verifies that the `init.ora` parameters are correct.

- Invalid Objects

  Checks for and reports any invalid objects.

- JAZN Version in Oracle_Home Matches LDAP

  Verifies that the JAZN version in `system-jazn-data.xml` is the same as the version in the policy store.

- JVM Architecture, JDK platform Type, JAVA Version, and JDK Vendor

  Verifies that the JDK version is valid. It also validates the JVM architecture, JDK platform type, and JDK vendor.

- Listener Configuration

  Verifies that the database listener configuration runs from the grid home on the DB host and also that no duplicate processes for the listener are running.

- Local Port Range Value

Checks the local port range value in `/proc/sys/net/ipv4/ip_local_port_range`. The recommended value is `32768 61000`. If the range is set to any value below `32768`, a system process could potentially use a port that was assigned to one of the Managed Servers. Since RUP Installer requires all domains to be down, those ports are available for the system to use.

- Mandatory Patches Have Been Applied

  Verifies that mandatory patches have been applied.

- MDS Schema Connectivity

  Checks database connectivity for schemas that contain FUSION_MDS in their name.

- Middleware Schema Connectivity

  Checks database connectivity for all schemas except for FUSION_MDS schemas.

- Multi-Tenant set-up in Fusion Schema of Oracle Fusion Applications Database

  Ensures that only one enterprise is enabled in the database.

- Node Manager Crash Recovery Is Set To True

  Verifies the `CrashRecoveryEnabled` entry in `nodemanager.properties` is set for each host.

- Node Managers are up and accessible

  Checks if node managers for all hosts are running and are accessible.

- OAM Configuration

  Verifies the following information in `Fusion_env.properties`:

  - OAM_ADMIN_SERVER_HOST
  - OAM_ADMIN_SERVER_PORT
  - OAM_WEB_DOMAIN
  - OAM admin user credential from the credential store

- ODI Repository URLs

  Finds all jdbc connection URLs in the ODI repository and validates that they point to the same database as the database that is referenced in the `DB_CONNECT_STRING` parameter in `Fusion_env.properties`.

- ODI supervisor credentials

  Confirms the correct connection URLs exist in the ODI Repository.

- OHS Instance Registration

  Verifies that the OHS instance is registered in `topology.xml`.

- OHS Process Status on OHS Using OPMN

  Check if the OHS process is up on the OHS host.

- OPatch Version in FA_ORACLE_HOME

  Verifies that the version of OPatch is compatible with Oracle Fusion Applications. If an incompatible version of OPatch exists in *FA_ORACLE_HOME*, errors can occur while applying patches and running RUP Installer.

- Open File Limit

Verifies the open file limit. RUP Installer uses multiple workers for uploading database content. The number of workers used dictates the open file limit setting for the machine where you run the RUP Installer. To understand how the number of workers are calculated and the requirement for the open file limit setting for the workers, see "Patching Database Artifacts" in the *Oracle Fusion Applications Patching Guide*. For more information, see "Increase the Open Files Limit" in the *Oracle Fusion Applications Installation Guide*.

- Oracle Homes are Registered in the Central Inventory

  Verifies that the Oracle Business Intelligence, Global Order Processing, Web Tier, and Web Tier Common Oracle home directories are registered for use by Oracle Fusion Applications.

- ORACLE_COMMON Inventory Location on OHS

  Verifies that the OH home and the Oracle Common home are pointing to the correct inventory location on OHS in *WT_MIDDLEWARE_HOME*/oracle_common/oraInst.loc.

- OS Attributes

  Validates the operating system name, architecture and versions.

- Password Expiry For Critical Bind Users in LDAP

  Verifies that the passwords for critical bind users are not locked and will not expire within the next three days.

- Read Write Access to *APPLICATIONS_BASE*

  Verifies that directory the APPLICATIONS_BASE directory has read-write access.

- Remote OPMN Access

  Verifies that the remote OPMN process is accessible.

- Size and Contents of default-keystore.jks File in All Domains

  Verifies that the size of the default-keystore.jks file for all domains is same as that of CommonDomain.

- Taxonomy URL

  Verifies the TAXONOMY_URL value, which is obtained from FUSION_env.properties.

- User Administrator or Super User Role

  Verifies that the owner of APPLICATIONS_BASE is the same as the user who is running Health Checker.

- Virtual Hosts Wiring

  Verifies that the host and port wirings in the *APPLICATIONS_CONFIG*/CommonDomain_webtier/config/OHS/ohs1/moduleconf/FusionVirtualHost_app.conf files are correct.

- WSM-PM Application is Active

  Verifies that the WSM-PM application is running on all SOA domains.

A.3.2.2.2 Pre-Downtime Upgrade Tasks The following checks occur when Health Checker runs using the PreDowntimeUpgradeReadinessHealthChecks.xml manifest.

- Base SOA Composites Exist

Verifies that all base SOA composites exist for the versions that are going to be upgraded by a patch.

- Data Guard State

  Checks if Data Recovery is enabled in the environment and that it is stopped before the upgrade.

- Environment Properties on OHS

  This plug-in verifies the properties used by the RUP Lite for OHS utility.

- Free and Total Memory

  Verifies that the primordial host has enough free memory for the upgrade. The required memory is calculated based on which domains and servers are configured to run on the host where the Health Checker is run.

- Free Disk Space

  Checks for free and usable disk space on the primordial and non-primordial Oracle Fusion Applications hosts.

- HCM Workforce Reputation Offerings Shared Mount

  If the environment is provisioned with HCM Workforce offerings, verifies if the environments have the mandatory shared directory and mount point configured.

- Middleware Installer exists in Release Repository

  Verifies that all Middleware installers exist in the repository.

- No Locked ODI Objects or SES Objects Exist

  Verifies that there are no locked objects in the `FUSION_ODI` and `SES` schemas.

- No Patch Conflicts Exist

  Runs the PatchConflictManager utility to remove conflicting patches.

- WLS Edit Sessions and Unactivated Changes Exist

  Verifies that no WLS edit sessions or unactivated changes exist.

- OHS Process Status on OHS Using OPMN

  Verifies that the OHS process is up and running on the OHS host.

- Oracle Fusion Applications Release Version:

  To install Release 7, the installed Oracle Fusion Applications version must be Release 6. This plug-in ensures that the installed version of Oracle Fusion Applications is 11*g* Release 6, (11.1.6.0.0).

- Permissions For Temp Directory

  Verifies that files in the temporary directory that match the pattern, `/tmp/*pki*`, are owned by the same user that starts servers.

- Availability of ports for new Managed Servers

  Verifies the availability of ports for managed servers that were added. This plug-in is available only in Release 7.

- Properties for DB Host Upgrade

  Verifies that the environment properties to be used for DB Host upgrade are valid.

- Repository Integrity

Checks whether all required files are present in the repository and reports any missing files.

- Seed Data For Potential Conflicts

  Performs a set of validations to prevent potential seed data failures.

- SES Schedules and Index Optimizer are Stopped/Disabled

  Verifies that SES schedules and the index optimizer are stopped.

- SOA Platform is Ready

  Verifies whether the SOA platform is ready for each domain that is impacted by the contents of the upgrade.

- Sessions holding 'library cache load lock' in Fusion Schema of Oracle Fusion Applications Database

  Checks whether there are any database sessions that are holding a "library cache load lock" in the Fusion schema of the Oracle Fusion Applications database.

- Total Memory and Swap

  Verifies there is sufficient memory for upgrading. The memory requirement calculation is based on the domains and servers that are configured to run where Health Checker runs.

A.3.2.2.3 Pre-Upgrade Tasks Performed by Health Checker During Downtime The following checks occur when Health Checker runs the `DuringDowntimeUpgradeReadinessHealthChecks.xml` manifest.

- AD Admin Sessions, AutoPatch and Patch Manager Processes are Complete

  Checks whether any AD Administration, AutoPatch or Patch Manager processes are running.

- Credential Store Connectivity

  Checks if a connection can be established to the credential store.

- Data Guard State

  Checks if Data Recovery is enabled in the environment and that it is stopped before the upgrade.

- Database Instance Connectivity

  Checks if the database instance is up. For RAC databases, checks if all nodes are up.

- Database version

  Checks if Oracle Database version is above the minimum required for Oracle Fusion Applications 11*g* Release 8 (11.1.8).

- Database is Running and in Idle State

  Verifies that no SQL sessions, jobs, or processes are running or are scheduled to be running against the database.

- Free Memory and Swap

- Identity and Policy Store LDAP

  Verifies the connectivity to the identity store and policy store LDAP using identity store credentials.

- Identity Store Connectivity using jps-config-jse.xml

  Verifies that the `idstore.ldap.provider` in `jps-config-jse.xml` can be used to connect to the identity store.

- Invalid Objects

  Checks for and reports any invalid objects.

- JAZN Version in Oracle_Home Matches LDAP

  Verifies that the JAZN version in `system-jazn-data.xml` is the same as the version in the policy store.

- Mandatory Patches Have Been Applied

  Verifies that mandatory patches have been applied.

- MDS Schema Connectivity in RUP1 Env

  Checks database connectivity for schemas that contain FUSION_MDS in their name.

- Middleware Schema Connectivity in RUP1 Env

  Checks database connectivity for all schemas except for FUSION_MDS schemas.

- Node Managers are down

  Verifies Node Managers are down.

- Administration Servers and Managed Servers are Down

  Confirms that all relevant Administration Servers and Managed Servers are down.

A.3.2.2.4 Post-Upgrade Tasks Performed by Health Checker The following checks occur when Health Checker runs the `PostUpgradeHealthChecks.xml` manifest.

- AD Admin Sessions, AutoPatch and Patch Manager Processes are Complete

  Checks whether any AD Administration, AutoPatch or Patch Manager processes are running.

- Data Guard State

  Checks if Data Recovery is enabled in the environment and that it is stopped before the upgrade.

- Database version

  Checks if Oracle Database version is above the minimum required for Oracle Fusion Applications 11*g* Release 8 (11.1.8).

- Installed Languages are Upgraded to Release

  Checks if a language pack has been upgraded to the current release or needs to be upgraded to the current release.

- JAZN Conflicts

  Validates the results of the JAZN analysis reports for each stripe to find any potential conflicts or deletions that were not patched automatically by the installer.

- Locked ODI Objects or SES Objects

  Verifies that there are no locked objects in the `FUSION_ODI` and `SES` schema.

- Permissions For Temp Directory

Verifies that files in the temporary directory that match the pattern, `/tmp/*pki*`, are owned by the same user that starts servers.

- SOA Composites in the Repository are Deployed

  Verifies that the SOA composites in the repository were deployed by the upgrade.

- SOA Platform is Ready

  Verifies whether the SOA platform is ready for each domain that is impacted by the contents of the upgrade.

- WLS Edit Sessions and Unactivated Changes

  Verifies that no WLS edit sessions or unactivated changes exist.

A.3.2.2.5 Language Pack Readiness Health Checks The following checks occur when Health Checker runs the `LanguagePackReadinessHealthChecks.xml` manifest. You typically run this manifest before you install a language pack. For more information, see "Installing and Maintaining Oracle Fusion Applications Languages" in *Oracle Fusion Applications Administrator's Guide*.

- AD Admin Sessions, AutoPatch and Patch Manager Processes are complete

  Checks whether any AD Administration, AutoPatch or Patch Manager processes are running.

- All Installed Languages are Upgraded to Release

  Checks if a language pack has been upgraded to the current release or needs to be upgraded to the current release.

- Database is Running and in Idle State

  Verifies that no SQL sessions, jobs, or processes are running or are scheduled to be running against the database.

- Repository Integrity

  Checks whether all required files are present in the repository and reports any missing files.

- SOA Platform is Ready

  Verifies whether the SOA platform is ready for each domain that is impacted by the contents of the upgrade.

A.3.2.2.6 Post Language Pack Health Checks The following checks occur when Health Checker runs the `PostLanguagePackHealthChecks.xml` manifest. You typically run this manifest after you install a language pack. For more information, see "Installing and Maintaining Oracle Fusion Applications Languages" in the *Oracle Fusion Applications Administrator's Guide*.

- JAZN Conflicts

  Validates the results of the JAZN analysis reports for each stripe to find any potential conflicts or deletions that were not patched automatically by the installer.

A.3.2.2.7 Patching Readiness Health Checks The following checks occur when Health Checker runs the `PatchingReadinessHealthChecks.xml` manifest. You typically run this manifest before applying a patch. For more information, see "Step 7 Prepare the System" in the *Oracle Fusion Applications Patching Guide*.

- AD Admin Sessions, AutoPatch and Patch Manager Processes are complete

Checks whether any AD Administration, AutoPatch or Patch Manager processes are running.

- Base SOA Composites Exist

  Verifies that all base SOA composites exist for the versions that are going to be upgraded by a patch.

- Database version

  Checks if Oracle Database version is above the minimum required for Oracle Fusion Applications 11*g* Release 8 (11.1.8).

- Database is Running and in Idle State

  Verifies that no SQL sessions, jobs, or processes are running or are scheduled to be running against the database.

- IPM server status

- No Locked ODI Objects or SES Objects Exist

  Verifies that there are no locked objects in the `FUSION_ODI` or SES schema.

- WLS Edit Sessions and Unactivated Changes Exist

  Verifies that no WLS edit sessions or unactivated changes exist.

- SOA Platform is Ready

  Verifies whether the SOA platform is ready for each domain that is impacted by the contents of the upgrade.

A.3.2.2.8 Post Patching Health Checks The following checks occur when Health Checker runs the `PostPatchingHealthChecks.xml` manifest. You typically run this manifest after applying a patch. For more information, see "Step 11 Run Health Checker for Post Patching Health Checks" in the *Oracle Fusion Applications Patching Guide*

- AD Admin Sessions, AutoPatch and Patch Manager Processes are complete

  Checks whether any AD Administration, AutoPatch or Patch Manager processes are running.

- JAZN Conflicts

  Validates the results of the JAZN analysis reports for each stripe to find any potential conflicts or deletions that were not patched automatically by the installer.

- No Locked ODI Objects or SES Objects Exist

  Verifies that there are no locked objects in the `FUSION_ODI` schema.

- WLS Edit Sessions and Unactivated Changes Exist

  Verifies that no WLS edit sessions or unactivated changes exist.

A.3.2.2.9 Data Quality Check The Validating JAZN Policy Data check occurs when Health Checker runs the `DataQualityChecks.xml` manifest.

A.3.2.2.10 Vital Signs Check The following checks occur when Health Checker runs the `VitalSignsChecks.xml` manifest.

- Database Instance Connectivity

  Checks if the database instance is up. For RAC databases, checks if all nodes are up.

- Fusion Schema Connectivity

  Validates the database connectivity to all Fusion schemas.

- Identity and Policy Store LDAP

  Verifies the connectivity to the identity store and policy store LDAP using identity store credentials.

- Identity Store Connectivity using jps-config-jse.xml

  Verifies that the `idstore.ldap.provider` in `jps-config-jse.xml` can be used to connect to the identity store.

- MDS Schema Connectivity

  Checks database connectivity for schemas that contain `FUSION_MDS` in their name.

- Middleware Schema Connectivity

  Checks database connectivity for all schemas except for `FUSION_MDS` schemas.

- Verify All Admin Servers and Managed Servers are Up

  Verifies that all Administration and Managed Servers are up.

A.3.2.3 Override Health Checks

The Health Checker utility offers a method for you to manage which health checks run on your environment. For example, you may want to exclude a health check that is related to a known issue in an environment. You can also add a new check to an existing Health Checker plug-in, if needed. The configuration parameters for Health Checker are stored in the *REPOSITORY_LOCATION*`/installers/farup/Disk1/upgrade/config/healthchecks.xml` file. You are not allowed to edit this file. If you want to override any configuration parameters or exclude certain plug-ins from running, you can create configuration override files.

Health Checker first loads the configuration parameters that are stored in `healthchecks.xml` and then it considers the configuration override files.

This section describes the following topics related to managing Health Checker sessions:

- Create Override Files
- Override Health Checker Configuration Parameters
- Example For Overriding Health Checks
- Disable a Plug-in
- Customize Plug-in Timeouts

A.3.2.3.1 Create Override Files The first step in overriding the standard checks run by Health Checker is to create one or more override files. To create an override file, copy the appropriate override template to the override directory, which defaults to location *SHARED_UPGRADE_LOCATION*`/healthchecker/`*POD_NAME* and rename this file to eliminate the .template extension. The following templates are located in the *ORCH_LOCATION*`/fusionapps/applications/lcm/hc/config` directory. *ORCH_LOCATION* is where `orchestration.zip` is unzipped, as described in Section 2.3.7, "Unzip Orchestration.zip".

- `ALL_overrides.xml.template`
- `DB_overrides.xml.template`

- MIDTIER_overrides.xml.template
- OHS_overrides.xml.template
- PRIMORDIAL_overrides.xml.template

Select the template that corresponds to the host type for which you want to create the overrides. For example, if you want to create overrides for the primordial host, use PRIMORDIAL_overrides.xml. If the override applies to all hosts, use ALL_overrides.xml.

The default location for override files is *SHARED_UPGRADE_LOCATION/healthchecker/POD_NAME*.

A.3.2.3.2 Override Health Checker Configuration Parameters To override configuration parameters within an override file, uncomment the XML portion of the override file, and customize the override file to meet your requirements. Remove all values from the override file except for the values that you want to exclude. To disable a check, add disabled=true to the check. To add a check, add the value to the override file.

A.3.2.3.3 Example For Overriding Health Checks This example shows how to customize the list of URIs that are verified by Health Checker. The following steps describe this customization:

1. Copy the template for the override file.

   ```
   cp REPOSITORY_LOCATION/installers/farup/Disk1/upgrade/config/ALL_
   overrides.xml.template SHARED_UPGRADE_LOCATION/healthchecker/POD_NAME/ALL_
   overrides.xml
   ```

2. Uncomment the XML portion of the override file.

   The original override file looks like this:

   ```
   <!--
   <checks category="context_root_locations">
   <check value="/console"/>
   <check value="/soa-infra"/>
   <check value="/wsm-pm"/>
   <check value="/apm"/>
   <check value="/setup"/>
   <check value="/helpPortal"/>
   <check value="/fndSetup"/>
   <check value="/homePage"/>
   </checks>
   -->
   ```

   After removing the XML comment lines, <!--, the -->, the override file now looks like this:

   ```
   <checks category="context_root_locations">
   <check value="/console"/>
   <check value="/soa-infra"/>
   <check value="/wsm-pm"/>
   <check value="/apm"/>
   <check value="/setup"/>
   <check value="/helpPortal"/>
   <check value="/fndSetup"/>
   <check value="/homePage"/>
   </checks>
   ```

3. Remove all rows except those that you want to exclude. In this example, you do not want Health Checker to validate the URI for soa-infra and you want to add a

validation for `myuri`. To disable a check, add `disabled="true"` to the check. To add a URI to be checked, add the URI to the override file. The override file now looks like this:

```
<checks category="context_root_locations">
<check value="/soa-infra" disabled="true"/>
<check value="/myuri"/>
</checks>
```

A.3.2.3.4 Disable a Plug-in To disable a plug-in, you must first find its display name (from the HTML report), its class name (from the log file), or its ID (from the manifest). The following example displays how a plug-in is defined in a Health Checker manifest file:

```
<plugin id="TotalMemoryCheck"
description="Verifying Total Memory and Swap"
invoke=""
plugin.class="oracle.check.sys.TotalMemCheckPlugin"
```

The following example depicts how you can override the plug-in the override file. This example shows the display name, class name, and ID for the plug-in, but only one of these is required. Note that excluded plug-ins must be listed under the "exclude" category.

```
<checks category="exclude">
<check name="TotalMemoryCheck"/>
</checks>
```

Or:

```
<checks category="exclude">
<check name="Verifying Total Memory and Swap"/>
</checks>
```

Or:

```
<checks category="exclude">
<check name="oracle.check.sys.TotalMemCheckPlugin"/>
</checks>
```

Or:

```
<checks category="exclude">
<check name="TotalMemCheckPlugin"/>
</checks>
```

A.3.2.3.5 Customize Plug-in Timeouts To prevent a plug-in timeout while Health Checker runs, you can create an override file to specify a longer timeout. You must know the plug-in class name, and the timeout value in seconds to modify the value. You can find the plug-in class name in the Health Checker manifest. In the following example, the plug-in class name for the `Verify DataSource connectivity` check is `oracle.check.apps.VerifyDSConnectivity`.

```
GeneralSystemHealthChecks.xml-  plugin id="DSStatusPlugin"
GeneralSystemHealthChecks.xml-     description="Verify DataSource connectivity"
GeneralSystemHealthChecks.xml-     invoke=""
GeneralSystemHealthChecks.xml:
plugin.class="oracle.check.apps.VerifyDSConnectivity"
GeneralSystemHealthChecks.xml-    class.path="$HC_LOCATION/lib/precheckplugin.jar;
GeneralSystemHealthChecks.xml-    $HC_LOCATION/lib/hccommon.jar"
GeneralSystemHealthChecks.xml-    stoponerror="false"/>
```

To find the current timeout value, open the healthchecker log file and find the portion of the log that was produced by the plug-in. The log includes the current timeout value, as shown in the following examples:

```
[2013-08-08T22:35:42.791+00:00] [healthcheckplug] [NOTIFICATION] []
[oracle.healthcheckplug] [tid: 10] [ecid: 0000K1W4R2R3v1G5IzXBif1I11oQ000000,0]
Using default timeout of 120 seconds

[2013-08-08T22:35:17.877+00:00] [healthcheckplug] [NOTIFICATION] []
[oracle.healthcheckplug] [tid: 10] [ecid: 0000K1W4R2R3v1G5IzXBif1I11oQ000000,0]
[SRC_CLASS: oracle.check.common.util.Utils] [SRC_METHOD: getTimeout] Timeout for
VerifyDSConnectivity is 901 seconds
```

Perform the following steps to modify the timeout value.

1. Create the override file as described in Section A.3.2.3.1, "Create Override Files".
2. Go to the timeout_seconds section as shown in the following example.

```
<!-- Timeout, used by plugins for running external commands or wlst scripts or
... -->
<checks category="timeout_seconds">
    <check name="VerifyDSConnectivity" value="600"/>
    <check name="LdapDataQualityCheckPlugin" value="1800"/>
    <check name="ContextRootCheckPlugin" value="1800"/>
</checks>
```

3. If the plug-in is already listed in this section, set the new timeout value in seconds. If the plug-in is not listed, add it.

   In the following example, the timeout for `Verify DataSource connectivity` (`oracle.check.apps.VerifyDSConnectivity`) is set to 45 minutes (2700 seconds).

```
<checks category="timeout_seconds">
    <check name="VerifyDSConnectivity" value="600"/>
    <check name="LdapDataQualityCheckPlugin" value="1800"/>
    <check name="ContextRootCheckPlugin" value="1800"/>
    <!-- Either of the two lines below changes the timeout to 2700 -->
    <check name="VerifyDSConnectivity" value="2700"/>
    <check name="oracle.check.apps.VerifyDSConnectivity" value="2700"/>
</checks>
```

A.3.3 RUP Lite for OVM Utility

The **RUP Lite for OVM** utility addresses the differences between a newly provisioned Oracle VM environment on the latest release and an Oracle VM environment provisioned in a previous release. You run RUP Lite for OVM only if you are running Oracle Fusion Applications in an Oracle VM environment that was created from the official releases of Oracle VM templates for Oracle Fusion Applications Release 2 (11.1.2) and higher. This utility is not applicable for any Oracle VM environments that are created using other methods.

The following steps provide an overview of how Upgrade Orchestrator supports RUP Lite for OVM when upgrading from Release 7 to Release 8.

Note that log files for RUP Lite for OVM are located under the location from where you are running RUP Lite for OVM. An example location for running RUP Lite for OVM in offline mode follows:

```
/u01/lcm/rupliteovm/output/logs/11.1.8.0.0/mycompany.com/rupliteoffline.lo
g
```

RUP Lite for OVM implements several plug-ins that are designed specifically for Oracle VM environments. Each plug-in determines which nodes it needs to run on and in which mode it must run. The following table describes the plug-ins that are included in RUP Lite for OVM in offline mode.

Table A–7 Offline Plug-ins for RUP Lite for OVM

Plug-in Name	Mandatory	Description
ValidateEnvironment	Yes	Checks if the node is a valid Oracle VM node. This plug-in always runs and has no properties.
SetupCredentials	Yes	Prompts for credentials and stores the results in a secure manner for other plug-ins to use. This plug-in always runs and only prompts for secure properties that are needed by other plug-ins that will run. If a plug-in does not run on the current node or is disabled, then its properties are not requested.
ApplyMemorySettings	No	This plug-in runs only on the `admin-apps` node. It increases existing memory settings for WebLogic servers based on the latest Oracle recommendations. It updates settings to the higher of the current setting or the recommended setting. If memory settings increase to a level where the Oracle VM's memory settings need to be increased, then the update to the Oracle VM must be done before running RUP Lite for OVM. Note that values that are higher in the environment compared to the reference values are not changed. Only lower values are increased.
GenerateOptimizedQueryPlans	Yes	Generates optimized query plans for Oracle MDS queries.
UpdateODIUnicastConfiguration	Yes	Fixes the `unicast` configuration for the ODI managed servers to add the missing coherence start properties for the `odi_serverHA` HA (high availability) server.
UpdateFusionIIRScripts	Yes	Makes available the updated versions of `fusioniirDiag.sh` and `fusiondqhealthcheck.sh` to `/u01/APPLTOP/InformaticaIR/bin`.

The following table describes the plug-ins that are included in RUP Lite for OVM in online mode.

Table A–8 Online Plug-ins for RUP Lite for OVM

Plug-in Name	Mandatory	Description
ValidateEnvironment	Yes	Checks if the node is a valid Oracle VM node. This plug-in always runs and does not have any properties.
SetupOnlineCredentials	Yes	Prompts for credentials for online plug-ins and stores the results in a secure manner for other plug-ins to use. This plug-in always runs and only prompts for secure properties that are needed by other plug-ins that will run. If a plug-in does not run on the current node or is disabled, then its properties are not requested. You are prompted for the password twice.
DeployECSF	Yes	Deploys ECSF artifacts that are not yet deployed, such as search objects, search categories, and index schedules.

A.3.4 RUP Lite for OHS Utility

The *RUP Lite for OHS* utility manages the steps required to update Web Gate, OHS, and *ORACLE_COMMON*. The following steps are performed by RUP Lite for OHS to accomplish this upgrade:

- Stop Oracle Process Manager and Notification Server (OPMN) processes.
- Apply OPatches from the repository to Web Gate, OHS, and *ORACLE_COMMON*.
- Apply manually downloaded OPatches to Web Gate, OHS, and *ORACLE_COMMON*.
- Update the OHS configuration files.
- Apply OHS settings changes.
- Start the OPMN server process.
- Start the OHS instance.

A.3.5 RUP Lite for BI Utility

The *RUP Lite for BI* utility automates changes to `BIInstance` configurations files required for Oracle Business Intelligence after upgrading.

B

Upgrade Orchestrator Properties Files

This appendix describes the properties files used by Upgrade Orchestrator.

Orchestration runs using the properties defined in five properties files: pod.properties, PRIMORDIAL.properties, OHS.properties, MIDTIER.properties, and IDM.properties. The properties are set to specific values as part of your preparation to begin the upgrade.To configure any property, follow the instructions for each property's description in the respective property file. The following properties files are required by Upgrade Orchestrator:

- pod.properties
- PRIMORDIAL.properties
- MIDTIER.properties
- IDM.properties
- OHS.properties

B.1 pod.properties

Table B–1 pod.properties

Property Name	Mandatory	Description
ORCHESTRATION_ CHECKPOINT_LOCATION	Yes	The shared location, available to all hosts in the environment, where files related to the orchestration checkpoint are saved. Select a shared mount point that has high disk I/O performance, especially for writing. Upgrade Orchestrator automatically creates *POD_NAME* under the directory you specify. It is a best practice to not use *ORCH_LOCATION*/config as a value for this property.
ORCHESTRATION_ CHECKPOINT_ARCHIVE_ LOCATION	Yes	The shared location, available to all hosts in the environment, where files related to the orchestration checkpoint are saved. Select a shared mount point that has high disk I/O performance, especially for writing. Upgrade Orchestrator automatically archives the checkpoint file stored under the *POD_NAME* directory under the directory specified by the ORCHESTRATION_ CHECKPOINT_LOCATION. property. It is a best practice to not use *ORCH_LOCATION*/config as a value for this property.
HOSTNAME_ PRIMORDIAL	Yes	The host name of your Oracle Fusion Applications primordial host. This must be one and only one host name.

Table B–1 (Cont.) pod.properties

Property Name	Mandatory	Description
HOSTNAME_MIDTIER	Yes	A comma separated list of all host names of your Oracle Fusion Applications Mid tier hosts. In Oracle VM environments, this must be a comma separated list of host names for primary, secondary, and BI hosts.
HOSTNAME_PRIMARY	Yes	A comma separated list of all host names of your Oracle Fusion Applications primary hosts. This is applicable only for Oracle VM environments.
HOSTNAME_SECONDARY	Yes	A comma separated list of all host names of your Oracle Fusion Applications secondary hosts. This is applicable only for Oracle VM environments.
HOSTNAME_BIINSTANCE	Yes	A comma separated list of all host names of your Oracle Fusion Applications BI hosts. This is applicable only for Oracle VM environments.
HOSTNAME_OSN	Yes	This property is not applicable.
HOSTNAME_OHS	Yes	A comma separated list of all host names for the Oracle Fusion Applications Web tier (APPOHS).
HOSTNAME_IDMOID	Yes	Host name, virtual or actual, of the OID server, for example, `server_name.oracleoutsourcing.com`.
HOSTNAME_IDMOIM	Yes	Host name, virtual or actual, of the OIM server, for example, `server_name.oracleoutsourcing.com`.
HOSTNAME_IDMOHS	Yes	Host name, virtual or actual, of the AuthOHS server, for example, `server_name.oracleoutsourcing.com`.
EMAIL_TO_RECIPIENT	Yes	A comma separated list of email addresses to whom the upgrade notifications are sent. Test that recipients can receive emails by sending a test mail using sendmail or using the SMTP configuration specified in the SMTP_* properties if sendmail is not configured on this host.
EMAIL_CC_RECIPIENT	No	A comma separated list of email addresses to whom the upgrade notifications are sent as copies. Test that recipients can receive emails by sending a test mail using sendmail or using the SMTP configuration specified in the SMTP_* properties if sendmail is not configured on this host.
EMAIL_SENDER	No	The email address of the sender from which you want notifications to be sent. This must be a single value, such as `no-reply@domain.com`.
EMAIL_DEFAULT_ ENGINE	Yes	Valid email engine that can be used on all hosts for this pod. The default value is `/usr/sbin/sendmail`.
EMAIL_PROTOCOL	No	Value must always be `smtp` as that is only supported protocol.
SMTP_HOSTNAME	No	The valid smtp host name. The default value is localhost.
SMTP_PORT_NUMBER	No	The SMTP protocol port number.
SMTP_AUTHORIZATION	No	A true or false value to indicate whether authorization key is used to connect to the SMTP server. The default value is false.
SMTP_AUTH_USER	No	The SMTP authorized user id.
SMTP_AUTH_PASSWORD	No	The SMTP authorized password.

Table B–1 (Cont.) pod.properties

Property Name	Mandatory	Description
SMTP_AUTH_ ENCRYPTED_PASSWORD	No	The encrypted SMTP authorized password. If this property is empty, the SMTP_AUTH_PASSWORD value is used.
SMTP_SOCKETFACTORY_ CLASS	No	The factory class name to connect to the SMTP server.
REL8_REPOSITORY_ LOCATION	Yes	The location where the Release 8 repository is downloaded to a shared mount, for example *SHARED_LOCATION*/11.1.8.0.0/Repository. As a best practice, it should be on the shared mount that is shared across all pods or environments.
SHARED_UPGRADE_ LOCATION	Yes	The temporary directory where Upgrade Orchestrator copies files and perform write operations. Select a shared mount point that is shared across all hosts for a given pod/environment that has high disk I/O performance, especially for writing. You can clean up this area after your upgrade is complete. The default value is /u01/*SHARED_UPGRADE_LOCATION*.
THREAD_POOL_SIZE	Yes	This property is used for parallel execution of tasks within orchestration. You can choose to change the default value of 10 to a different numeric value if you want to control how many tasks run in parallel. For example, a value of 1 means everything runs sequentially, a value of 2 means only two tasks can run in parallel.
PATCH_CONFLICT_ MANAGER_LOCATION	Yes	The location of the patch conflict manager utility that you create in Section 2.3.4, "Download and Unzip the Patch Conflict Manager Utility". The default value is/u01/PatchConflictManager.
SAAS_ENV	Yes	This property should be set to true only if your Oracle VM environments are created in the Oracle Cloud Customer Environment.
SAAS_FACONTROL_ SCRIPTS_LOCATION	No	This property is not applicable.
REL8_SAAS_LCM_ INSTALLER_DIR	Yes for Oracle VM	This property is applicable to Oracle Fusion Applications VMs only. This is the directory where FASAASLCMTOOLS.zip is downloaded and unzipped. As a best practice it should be on the shared mount that is shared across all pods/environments. *SHARED_LOCATION*/11.1.8.0.0/fasaaslcmtools is an example.
ORCH_REPORT_ LOCATION	No	A shared location accessible to all hosts that is used to save the upgrade report, as described in Section A.1.3, "Oracle Fusion Applications Orchestrator Upgrade Report."
REL8_DOWNLOADED_ PATCHES_LOCATION	No	The location of the post-release 8 patches that are identified as critical for upgrade, as described in Section 2.3.5.3, "Download and Unzip Mandatory Post-Release 8 Patches." This directory should be on a shared mount point shared across all hosts and ideally all pods, for example, *SHARED_LOCATION*/11.1.8.0.0_ post_repo_patches.
HC_OVERRIDE_FILES	No	The location of the directory that contains Health Checker configuration override files. The default value is *APPLICATIONS_CONFIG*/fapatch/healthchecker.

Table B–1 (Cont.) pod.properties

Property Name	Mandatory	Description
FORCE_OSN_ENABLED	No	This property is not applicable.
ORCH_JVM_OPTIONS	No	This property is not applicable.
RUN_PREDOWNTIME_CHECKS	Yes	This property controls whether or not orchestration runs the following pre-downtime checks: Health Checker and the prevalidation check in IDM hosts. By default, this property is set to false to indicate that orchestration does not run pre-downtime checks on any host. It is recommend that you not enable this property by setting its value to true.

B.2 PRIMORDIAL.properties

Table B–2 PRIMORDIAL.properties

Property Name	Mandatory	Description
REL8_LP_REPOSITORY_LOCATION	Yes, if upgrading languages	The location of all Release 8 Language Pack repositories, as described in Section 2.3.5.2, "Download and Unzip Release 8 Language Packs." This directory should be on a shared mount point shared across all pods/environments, for example, *SHARED_LOCATION*/11.1.8.0.0/LPRepository.
REL8_RUPINSTALLER_UPGRADE_PARAM	No	You can leave this property blank because its value is automatically set by Upgrade Orchestrator during the upgrade. Alternatively, you can provide a space separated list of command line options passed to the RUP and Language Pack installers. For a list of options, refer to "Table 3-6" in the *Oracle Fusion Applications Administrator's Guide*. If you set this parameter manually, use only -D options. Do not use -J-D options.
MANIFEST_FILE	Yes	The file name and location for the .xml manifest file for the host type and the upgrade level. For the Release 8 upgrade, the value should be *ORCH_LOCATION*/config/rel8_primordial.xml.
APPLICATIONS_BASE	Yes	The top-level directory for the Oracle Fusion Applications binaries. The default value is /u01/APPLTOP.
JRE_LOC	Yes	The absolute path where the Java Runtime Environment is installed. This option does not support relative paths. The default value is /u01/APPLTOP/fusionapps/jdk6.
SKIP_UPGRADE_FOR_LANGUAGE	No	A comma separated list of languages that you do not want orchestration to upgrade. The list items must: ■ Meet ISO language code convention ■ Be a previously installed language ■ Not be the JAZN policy store language

B.3 MIDTIER.properties

Table B–3 MIDTIER.properties

Property Name	Mandatory	Description
APPLICATIONS_BASE	Yes	The top-level directory for the Oracle Fusion Applications binaries. The default value is `/u01/APPLTOP`.
MANIFEST_FILE	Yes	The file name and location for the .xml manifest file for the host type and the upgrade level. For the Release 8 upgrade, the value should be *ORCH_LOCATION*`/config/rel8_midtier.xml`.
JRE_LOC	Yes	The absolute path where the Java Runtime Environment is installed. This option does not support relative paths. The default value is `/u01/APPLTOP/fusionapps/jdk6`.

B.4 IDM.properties

Table B–4 IDM.properties

Property Name	Mandatory	Default Value
MANIFEST_FILE	Yes	The file name and location for the .xml manifest file for the host type and the upgrade level. For the Release 8 upgrade, the value should be *ORCH_LOCATION*`/config/rel8_idm.xml`.
JRE_LOC	Yes	The absolute path where the Java Runtime Environment is installed. This option does not support relative paths. The default value is `/u01/APPLTOP/fusionapps/jdk6`.
IDM_SETUP_TYPE	Yes	The IDM Upgrade is supported by Upgrade Orchestrator, if your deployment is a Linux-64 bit platform and is Release 7 IDM provisioned. This property indicates topology configuration of the system to be upgraded. The possible values follow: ■ MANUAL – The IDM upgrade is to be performed manually. If IDM is not Release 7 IDM Provisioned, orchestrator cannot upgrade IDM and this property must be set to MANUAL ■ SINGLE - All IDM Nodes (IDM, IAM, OHS) and the Database are installed on a single server. ■ 3-NODE - The IDM, IAM and OHS Nodes are installed on independent servers and the Database is installed on the IDM node. ■ 4-NODE - The Database, IDM, IAM and OHS Nodes are installed on independent servers. SINGLE, 3-NODE, and 4-NODE topologies are supported for IDM upgrade through orchestrator. The property default value is 4-NODE.
REL8_IDM_UPGRADE_BINARIES_LOCATION	No	The location where Release 8 IDM binaries are downloaded, for example *SHARED_LOCATION*`/11.1.8.0.0/IDMRepository`.

Table B–4 (Cont.) IDM.properties

Property Name	Mandatory	Default Value
REL8_IDM_UPGRADE_AUTOMATION_PROPERTIES_FILE	No	The absolute location of the `patchAutomation.properties` file to be used by the Release 8 IDM upgrade scripts. All properties related to IDM nodes (OID, OIM and OHS) are maintained in this file.
LOG_LOCATION	Yes	The location for all logs to be written. This directory can be host specific or it can be on a shared mount. Select a directory that has high disk I/O performance especially for writing.

B.5 OHS.properties

Table B–5 OHS.properties

Property Name	Mandatory	Default Value
APPLICATIONS_BASE	Yes	The top-level directory for the Oracle Fusion Applications binaries. The default value is `/u01/APPLTOP`.
MANIFEST_FILE	Yes	The file name and location for the .xml manifest file for the host type and the upgrade level. For the Release 8 upgrade, the value should be *`ORCH_LOCATION`*`/config/rel8_ohs.xml`.
RUPLITEOHS_UNZIP_LOCATION	Yes	Specify a location, local to the OHS host, where the web gate install zip file should be unzipped, to be used by the RUP Lite for OHS upgrade, for example, `/u01/webgate`.
JRE_LOC	Yes	The absolute path where the Java Runtime Environment is installed. This option does not support relative paths. An example is *`ORCH_LOCATION/`*jdk.
LOG_LOCATION	Yes	Location for logs to be written.
WT_MW_HOME	Yes	Location of the web tier `MW_HOME`, for example, `/oracle/work/MW_HOME`. If you have scaled out OHS hosts, copy this property for each OHS host, prefixed with the host name of the host to indicate the web tier `MW_HOME` location on the specific host.
WT_ORACLE_HOME	Yes	Location of the web tier directory, which is a sub-directory under `WT_MW_HOME`, for example, `/APPTOP/webtier_mwhome/webtier`. If you have scaled out OHS hosts, copy this property for each OHS host, prefixed with the host name of the host to indicate the web tier Oracle WT1 location on the specific host.
WT_CONFIG_HOME	Yes	Location of the web tier instance directory, for example, `/APPTOP/instance/CommonDomain_webtier`. If you have scaled out OHS hosts, copy this property for each OHS host, prefixed with the host name of the host to indicate the web tier `WT_CONFIG_HOME` location on the specific host.

Table B–5 (Cont.) OHS.properties

Property Name	Mandatory	Default Value
OHS_INSTANCE_ID	Yes	The OHS instance ID on the host. Normally this is ohs1 and is the value for ias_component id in the opmn.xml file. If you have scaled out OHS hosts, copy this property for each OHS host, prefixed with the host name of the host to indicate the `OHS_INSTANCE_ID` on the specific host.
OHS_UPGRADE_ BINARIES_HOSTNAME	Yes	Comma separated list of your OHS host names which do not share the binaries.

C

Stopping and Starting Identity Management Related Servers

This appendix describes how to start, stop and restart the various components of the Oracle Enterprise Deployment for Identity Management.

This appendix contains the following topics.

C.1 Starting, Stopping, and Restarting Oracle HTTP Server

Prior to starting/stopping the Oracle HTTP server:

- Set `ORACLE_INSTANCE` to *`WEB_ORACLE_INSTANCE`*.
- Set `ORACLE_HOME` to *`WEB_ORACLE_HOME`*.
- Ensure that the *`ORACLE_HOME`*`/opmn/bin` appears in the *`PATH`*.

C.1.1 Starting Oracle HTTP Server

Start the Oracle Web Tier by issuing the command:

```
opmnctl startall
```

C.1.2 Stopping Oracle HTTP Server

Stop the Web Tier by issuing the command

```
opmnctl stopall
```

to stop the entire Web Tier or

```
opmnctl stoproc process-type=OHS
```

to stop Oracle HTTP Server only.

C.1.3 Restarting Oracle HTTP Server

You can restart the Web Tier by issuing a `Stop` followed by a `Start` as described in the previous sections.

To restart the Oracle HTTP server only, use the following command.

```
opmnctl restartproc process-type=OHS
```

C.2 Starting, Stopping, and Restarting Oracle Identity Manager

Start and stop Oracle Identity Manager and Oracle SOA Suite servers as follows:

C.2.1 Starting Oracle Identity Manager

To start the Oracle Identity Manager Managed Server(s), log in to the WebLogic console at: `http://ADMIN.mycompany.com/oamconsole`

Then proceed as follows:

1. Select **Environment - Servers** from the Domain Structure menu.
2. Click the **Control** tab.
3. Select **SOA Servers (WLS_SOA1 and/or WLS_SOA2)**.

> **Note:** You can start the Oracle Identity Manager and Oracle SOA Suite servers independently of each other. There is no dependency in their start order. However, the SOA server must be up and running for all of the Oracle Identity Manager functionality to be available.

4. Click the **Start** button.
5. Click **Yes** when asked to confirm that you want to start the server(s).
6. After WLS_SOA1 and/or WLS_SOA2 have started, select WLS_OIM1 and/or WLS_OIM2
7. Click **Start**.
8. Click **Yes** when asked to confirm that you want to start the server(s).

C.2.2 Stopping Oracle Identity Manager

To stop the Oracle Identity Manager Managed Server(s), log in to the WebLogic console at: `http://ADMIN.mycompany.com/oamconsole`

Then proceed as follows:

1. Select **Environment - Servers** from the Domain Structure menu.
2. Click the **Control** tab.
3. Select **OIM Servers (WLS_OIM1 and/or WLS_OIM2)** and **(WLS_SOA1 and/or WLS_SOA2)**.
4. Click the **Shutdown** button and select **Force Shutdown now**.
5. Click **Yes** when asked to confirm that you want to shutdown the server(s).

C.2.3 Restarting Oracle Identity Manager

Restart the server by following the `Stop` and `Start` procedures in the previous sections.

C.3 Starting and Stopping Oracle Identity Federation Managed Servers

Start and stop Oracle Identity Federation Managed Servers as follows:

C.3.1 Starting Oracle Identity Federation

To start the Oracle Identity Federation Managed Server(s), log in to the WebLogic console at: `http://ADMIN.mycompany.com/oamconsole`

Then proceed as follows:

1. Select **Environment - Servers** from the **Domain Structure** menu.
2. Click the **Control** tab.
3. Select **OIF Servers (WLS_OIF1 and/or WLS_OIF2)**.
4. Click **Start**.
5. Click **Yes** when asked to confirm that you want to start the server(s).

C.3.2 Stopping Oracle Identity Federation

To stop the Oracle Identity Federation Managed Server(s), log in to the WebLogic console at: `http://ADMIN.mycompany.com/oamconsole`

Then proceed as follows:

1. Select **Environment - Servers** from the **Domain Structure** menu.
2. Click the **Control** tab.
3. Select **OIF Servers (WLS_OIF1 and/or WLS_OIF2)**.
4. Click **Shutdown** and select **Force Shutdown now**.
5. Click **Yes** when asked to confirm that you want to shut down the server(s).

C.3.3 Restarting Oracle Identity Federation

Restart the server by following the previous Stop and Start procedures.

C.3.4 Starting and Stopping the EMAgent

Start the EMAgent by executing the following command:

```
ORACLE_INSTANCE/bin/emctl start all
```

You can verify that the instance started successfully by executing:

```
ORACLE_INSTANCE/bin/emctl status -l
```

Stop the EMAgent by executing the following command:

```
ORACLE_INSTANCE/bin/emctl stop all
```

C.3.5 Stopping the Oracle Identity Federation Instances and EMAgent

Stop the Oracle Identity Federation Instance and EMAgent by executing the following command:

```
OIF_ORACLE_INSTANCE/bin/opmnctl stopall
```

C.4 Starting, Stopping, and Restarting Oracle Access Manager Managed Servers

Start and stop Oracle Access Manager Managed Servers as follows:

C.4.1 Starting an Access Manager Managed Server When None is Running

Normally, you start Access Manager managed servers by using the WebLogic console. After you have enabled Single Sign-On for the administration consoles, however, you must have at least one Access Manager Server running in order to access a console. If no Access Manager server is running, the only way you can start one is from the command line.

To start WLS_OAM1 manually, use the command:

```
MSERVER_HOME/bin/startManagedWeblogic.sh WLS_OAM1 t3://ADMINVHN:7001
```

where `7001` is *WLS_ADMIN_PORT* in Section A.3.

C.4.2 Starting an Oracle Access Manager Managed Server When Another is Running

To start an Oracle Access Manager Managed Server when you already have another one running, log in to the WebLogic console at:
`http://ADMIN.mycompany.com/oamconsole`

Then proceed as follows:

1. Select **Environment - Servers** from the Domain Structure menu.
2. Click the **Control** tab.
3. Select **OAM Servers (WLS_OAM1 and/or WLS_OAM2)**.
4. Click the **Start** button.
5. Click **Yes** when asked to confirm that you want to start the server(s).

Note: After you have enabled single sign-on for the administration consoles, ensure that at least one Oracle Access Manager Server is running to enable console access.

If you have used the Oracle WebLogic console to shut down all of the Oracle Access Manager Managed Servers, then restart one of those Managed Servers manually before using the console again.

To start WLS_OAM1 manually, use the command:

```
MSERVER_HOME/bin/startManagedWeblogic.sh WLS_OAM1
t3://ADMINVHN:7001
```

C.4.3 Stopping Oracle Access Manager Managed Servers

To stop the Oracle Access Manager Managed Server(s), log in to the WebLogic console at: `http://ADMIN.mycompany.com/oamconsole`

Then proceed as follows:

1. Select **Environment - Servers** from the Domain Structure menu.
2. Click the **Control** tab.
3. Select **OAM Servers (WLS_OAM1 and/or WLS_OAM2)**.
4. Click the **Shutdown** button and select **Force Shutdown now**.
5. Click **Yes** when asked to confirm that you want to shut down the server(s).

C.4.4 Restarting Oracle Access Manager Managed Servers

Restart the server by following the `Stop` and `Start` procedures in the previous sections.

C.5 Starting, Stopping, and Restarting WebLogic Administration Server

Start and stop the WebLogic Administration Server as described in the following sections.

Note: `Admin_user` and `Admin_Password` are only used to authenticate connections between Node Manager and clients. They are independent from the server administration ID and password and are stored in the *ASERVER_HOME*`/config/nodemanager/nm_password.properties` file.

C.5.1 Starting WebLogic Administration Server

The recommended way to start the Administration server is to use WLST and connect to Node Manager:

```
cd ORACLE_COMMON_HOME/common/bin
./wlst.sh
```

Once in WLST shell, execute

```
nmConnect('Admin_User','Admin_Password','ADMINHOST1','5556', 'IDMDomain','ASERVER_HOME')
nmStart('AdminServer')
```

Alternatively, you can start the Administration server by using the command:

```
DOMAIN_HOME/bin/startWeblogic.sh
```

C.5.2 Stopping WebLogic Administration Server

To stop the Administration Server, log in to the WebLogic console at:
`http://ADMIN.mycompany.com/oamconsole`

Then proceed as follows:

1. Select **Environment - Servers** from the Domain Structure menu.
2. Click the **Control** tab.
3. Select **AdminServer(admin)**.
4. Click **Shutdown** and select **Force Shutdown now**.

5. Click **Yes** when asked to confirm that you want to shut down the Administration Server.

C.5.3 Restarting WebLogic Administration Server

Restart the server by following the `Stop` and `Start` procedures in the previous sections.

C.6 Starting and Stopping Oracle Virtual Directory

Start and stop Oracle Virtual Directory as follows.

C.6.1 Starting Oracle Virtual Directory

Start system components such as Oracle Virtual Directory by typing:

```
ORACLE_INSTANCE/bin/opmnctl startall
```

You can verify that the system components have started by executing:

```
ORACLE_INSTANCE/bin/opmnctl status -l
```

C.6.2 Stopping Oracle Virtual Directory

Stop system components such as Oracle Virtual Directory by executing the following command:

```
ORACLE_INSTANCE/bin/opmnctl stopall
```

C.7 Starting and Stopping Oracle Internet Directory

Start and stop Oracle Internet Directory as follows.

C.7.1 Starting Oracle Internet Directory

Start system components such as Oracle Internet Directory by typing

```
ORACLE_INSTANCE/bin/opmnctl startall
```

You can verify that the system components have started by executing:

```
ORACLE_INSTANCE/bin/opmnctl status -l
```

C.7.2 Stopping Oracle Internet Directory

Stop system components such as Oracle Internet Directory by executing the following command:

```
ORACLE_INSTANCE/bin/opmnctl stopall
```

C.8 Starting and Stopping Node Manager

Start and stop the Node Manager as follows:

C.8.1 Starting Node Manager

If the Node Manager being started is the one that controls the Administration Server (IDMHOST1 or IDMHOST2), then prior to starting the Node Manager, set `JAVA_OPTIONS` to `-DDomainRegistrationEnabled=true` and issue the commands:

```
cd IAM_MW_HOME/wlserver_10.3/server/bin
./startNodeManager.sh
```

C.8.2 Stopping Node Manager

To stop Node Manager, kill the process started in the previous section.

C.8.3 Starting Node Manager for an Administration Server

Set the environment variable `JAVA_OPTIONS` to `-DDomainRegistrationEnabled=true` and issue the commands:

```
cd IAM_MW_HOME/wlserver_10.3/server/bin
./startNodeManager.sh
```

Note: It is important to set `-DDomainRegistrationEnabled=true` whenever you start a Node Manager that manages the Administration Server.