HP Project and Portfolio Management Center

Software Version: Content Pack 1

Operational Reporting Administrator's Guide

Document Release Date: July 2012
Software Release Date: July 2011

Legal Notices

Warranty

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

Restricted Rights Legend

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Copyright Notices

© Copyright 1997-2012 Hewlett-Packard Development Company, L.P.

Trademark Notices

Business Objects and the Business Objects logo, BusinessObjects, Web Intelligence, and other Business Objects products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of Business Objects Software Ltd. Business Objects is an SAP company.

Adobe® is a trademark of Adobe Systems Incorporated.

Intel®, Intel® Itanium®, Intel® Xeon®, and Pentium® are trademarks of Intel Corporation in the U.S. and other countries.

Microsoft®, Windows®, Windows® XP, and Windows Vista® are U.S. registered trademarks of Microsoft Corporation.

Oracle® and Java™ are registered trademarks of Oracle Corporation and/or its affiliates.

UNIX® is a registered trademark of The Open Group.

Documentation Updates

This manual's title page contains the following identifying information:

- Software version number, which indicates the software version
- Document release date, which changes each time the document is updated
- Software release date, which indicates the release date of this version of the software

To check for recent updates, or to verify that you are using the most recent edition of a document, go to:

h20230.www2.hp.com/selfsolve/manuals

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HP sales representative for details.

The following table indicates changes made to this document.

Publication Date	Summary of Changes
July 2012	• Modified the step on how to change the default installation directory of BusinessObjects Enterprise server software: step 2 on page 31. • Added a note regarding the Materialized View `RPT_DIM_RM_RESOURCES` to *Loading PPM Center Data Into the Operational Reporting Database* on page 44 and *Loading PPM Center Data Into the Operational Reporting Database* on page 99. • Added *Oracle Trace Log Control for ETL Performance Troubleshooting* on page 181.

Support

You can visit the HP Software Support Web site at:

hp.com/go/hpsoftwaresupport

HP Software Support Online provides an efficient way to access interactive technical support tools. As a valued support customer, you can benefit by using the support site to:

- Search for knowledge documents of interest
- Submit and track support cases and enhancement requests
- Download software patches
- Manage support contracts
- Look up HP support contacts
- Review information about available services
- Enter into discussions with other software customers
- Research and register for software training

Most of the support areas require that you register as an HP Passport user and sign in. Many also require a support contract.

To find more information about access levels, go to:

h20230.www2.hp.com/new_access_levels.jsp

To register for an HP Passport ID, go to:

h20229.www2.hp.com/passport-registration.html

Contents

1 Introduction

About HP Project and Portfolio Management Center Version Content Pack 1

HP Project and Portfolio Management Center (PPM Center)
Content Pack 1, which is specific to Operational Reporting, adds reporting capability for HP Project Management. Content Pack 2 content includes the new PM Derived universe, new HP-supplied reports for reporting on your HP Project Management data, and two new portlets for viewing operational reports from the PPM Dashboard.

About this Document

This guide provides information about how to upgrade the Operational Reporting solution from PPM Center version 9.10 to PPM Center version Content Pack 1. It is written for PPM Center administrators, configurators, and DBAs who are knowledgeable about PPM Center and SAP BusinessObjects Enterprise. Readers are assumed to be moderately knowledgeable about enterprise application development and skilled in enterprise system and database administration.

This chapter provides an overview of the components and structure of the Operational Reporting solution. The remaining chapters are as follows:

- Chapter 2, *Deploying Operational Reporting on Windows Systems,* on page 21 provides the information you need to implement the Operational Reporting solution for PPM Center for the first time on a Windows system. It includes instructions for deploying Operational Reporting for PPM Center 9.10 and then upgrading immediately to PPM Center Content Pack 1. If you are just upgrading from an existing Operational Reporting deployment based on PPM Center 9.10, see Chapter 4, *Upgrading Operational Reporting on Windows Systems,* on page 115.
- Chapter 3, *Deploying Operational Reporting on UNIX Systems,* on page 73 provides the information you need to implement the Operational Reporting solution for PPM Center for the first time on a UNIX system. It includes instructions for deploying Operational Reporting for PPM Center 9.10 and then upgrading immediately to PPM Center Content Pack 1. If you are just upgrading from an existing Operational Reporting deployment based on PPM Center 9.10, see Chapter 5, *Upgrading Operational Reporting on a UNIX System,* on page 127.
- Chapter 4, *Upgrading Operational Reporting on Windows Systems,* on page 115 provides instructions on how to upgrade your Operational Reporting deployment to PPM Center Content Pack 1 on Windows systems

- Chapter 5, *Upgrading Operational Reporting on a UNIX System,* on page 127 provides instructions on how to upgrade your Operational Reporting deployment to PPM Center Content Pack 1 on UNIX systems.
- Chapter 6, *Refreshing Operational Reporting Data,* on page 137 provides information about how to synchronize data in the PPM Center database schema and the Operational Reporting database schema.
- Chapter 7, *About Operational Reporting Portlets,* on page 147 describes the portlets that enable users to view operational reports from the PPM Dashboard. It provides descriptions of the reporting portlets and instructions on how to enable users to add the portlets to PPM Dashboard pages. It also provides instructions on how to make your ad hoc reports available through the portlets.
- Chapter 8, *Exposing Custom Parameter Field Values in the Kernel Universe,* on page 160 provides instructions on how to add objects for the custom request parameters that exist in your PPM Center instance to Operational Reporting so that users can include the custom parameters in their ad hoc reports.

Universe Hierarchy

Table 1-1 lists the universes supplied with Operational Reporting for PPM Center in Content Pack 1. These universes comprise the reporting metalayer that provide ready access to PPM Center data through the classes and objects mapped to the database.

Table 1-1. PPM Center universes for Operational Reporting in Content Pack 1

PPM Center Universe	PPM Center Module
Kernel Source Universe	N/A
PM Derived Universe	HP Project Management
RM Derived Universe	HP Resource Management
TM Derived Universe	HP Time Management
FM Derived Universe	HP Financial Management

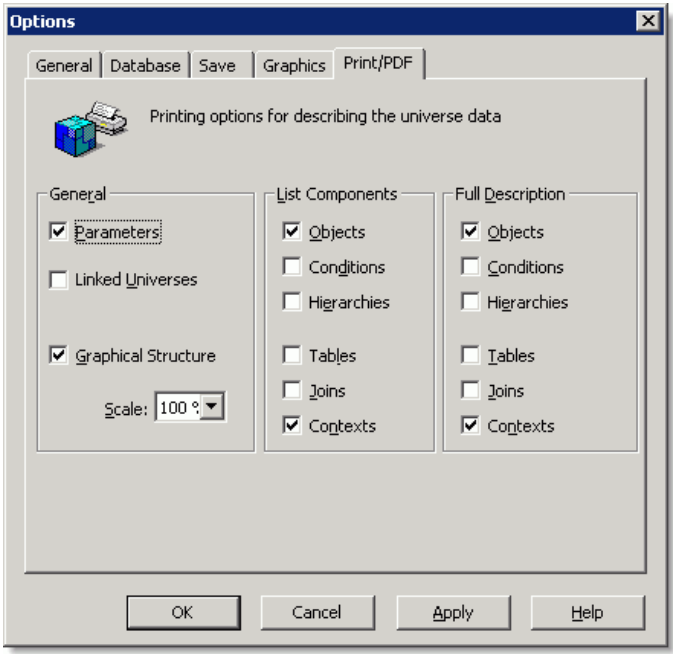
Objects and classes in the PM Derived Universe, RM Derived Universe, TM Derived Universe, and FM Derived Universe are specific to data in the HP Project Management, HP Resource Management, HP Time Management, and HP Financial Management modules, respectively. The classes and objects in the Kernel Source Universe are common to all four modules.

Viewing Detailed Information About Universe Structure

You can see additional information about the components and structure of a PPM Center universe by saving it as a PDF file in Designer. You can select the components that you want to include in the PDF from the Options dialog box.

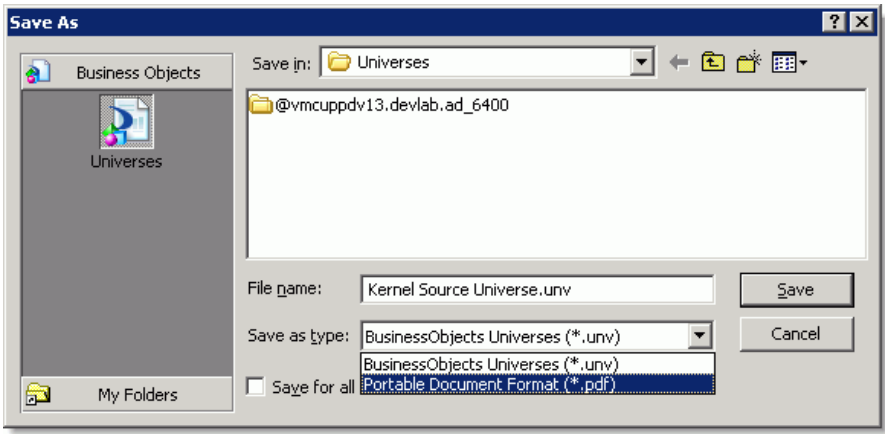
To save universe information as a PDF file:

1. Open the universe of interest in Designer.
2. From the **Tools** menu, select **Options.**



3. On the **Print/PDF** tab in the Options dialog box, select the components that you want to include in the PDF file, and then click **OK.**

4. From the **File** menu, select **Save As.**



5. In the **Save as type** list, select **Portable Document Format (*.pdf).**

Operational Reporting Content on HP Live Network

HP Live Network (HPLN) is an online virtual community for product experts, partners, and customers to collaborate and share knowledge, best practices, and add-on content for HP software products, including PPM Center and Operational Reporting. You can log in to the Operational Reporting Community page on HPLN to access the latest news, updates, and documentation for Operational Reporting. You can browse from the Operational Reporting community page or subscribe to receive notifications via email.

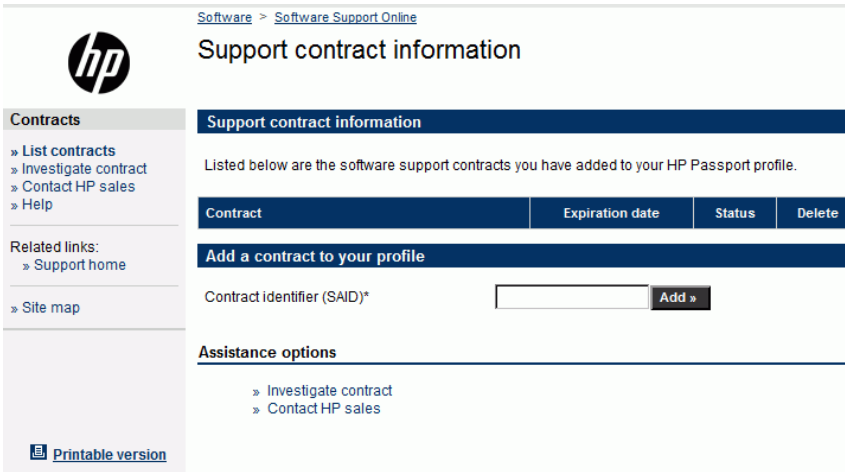
Access to HPLN is free to all PPM Center customers. You must have an HP passport account to access the PPM Center and Operational Reporting community pages.

Only project owners and administrators can post to the Announcements forum. If you are not a project owner or administrator, direct your feedback to the project owner or the general discussion forum.

To access Operational Reporting content on HPLN:

1. Go to the HP Support Contract information page (`support.openview.hp.com/entitlement/contracts`).
2. Sign in to the HP Passport page.

   The HP Support Contract information page opens.

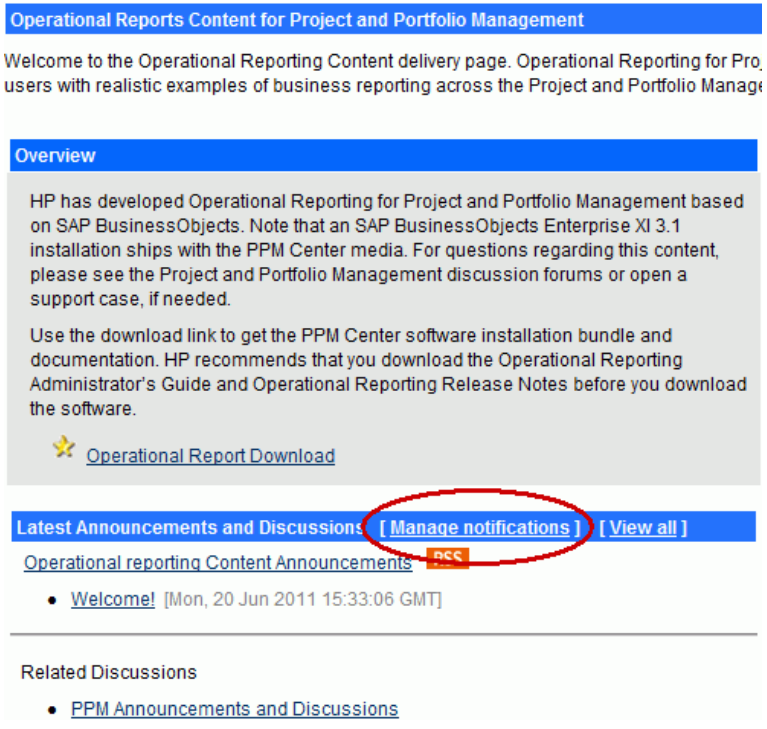


3. In the **Contract identifier (SAID)*** box, type your service agreement ID (SAID).
4. Click **Add.**
5. Go to the Operational Reporting community page on HP Live Network (`h22038.www2.hp.com`).
6. Log on to the HP Passport sign-in page.
7. To view the latest announcements about Operational Reporting, select the **Operational Reporting Content Announcements** link.

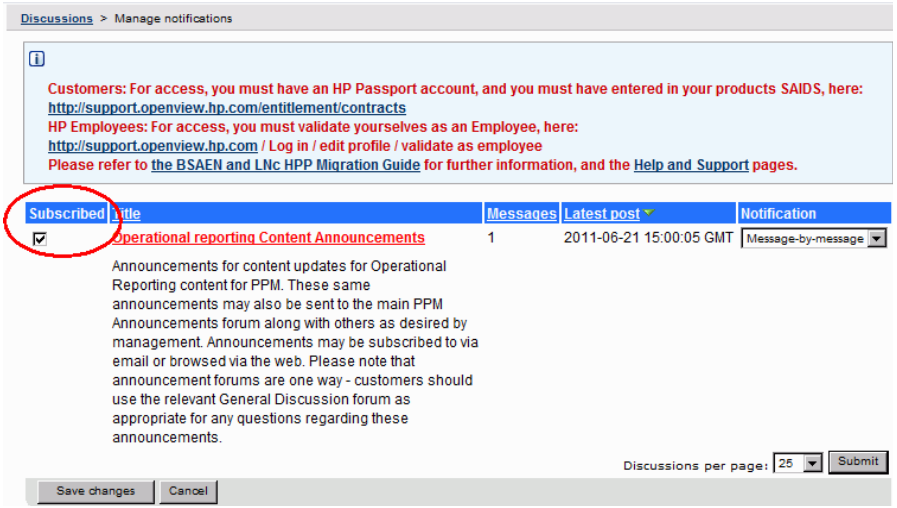
Subscribing to Announcements on HPLN

To subscribe to email notifications about new content on the Operational Reporting community page:

1. In the **Latest Announcements and Discussions** heading on the Operational Reporting community page, click the **Manage Notifications** link.



2. In the **Subscribed** column, select the check box for the Operational Reporting Content Announcements title.



3. From the **Notification** list, select an option to indicate how you want to receive your notifications.
4. Click **Save Changes.**

Accessing Operational Reporting Documentation from HPLN

To access Operational Reporting documentation from HPLN:

1. Under **Quick Links,** click **Download Reporting Content.**
2. In the **Name** column, click the link for the document you want to download.

The Operational Reporting community page also provides links to pages where you can submit a support ticket, access HP Support Online, and search the support knowledge base.

Related Documents

This section lists HP documents that contain useful information for Operational Reporting administrators and users.

HP PPM Center Documents for PPM Center Version Content Pack 1

- *Release Notes*
- *Deployment Best Practices for Operational Reporting*
- *Operational Reporting User's Guide*
- *System Requirements and Compatibility Matrix*

  Before you start to deploy Operational Reporting, check the *System Requirements and Compatibility Matrix* document to make sure that your operating environment meets *all* of the minimum system requirements for installing SAP BusinessObjects Enterprise (in addition to PPM Center).

- *Data Model Guide*

  The *Data Model Guide* provides details about the internal structure of the data models for both PPM Center and Operational Reporting.

To obtain any of the HP PPM Center documents listed, go to the Software Product Manuals Web site (support.openview.hp.com/selfsolve/manuals). To access this Web site, you must first set up an HP Passport account.

For more detailed information about SAP BusinessObjects Enterprise, see your SAP documentation.

2 Deploying Operational Reporting on Windows Systems

Operational Reporting Solution Deployment

This chapter provides the information you need to implement the Operational Reporting solution for PPM Center on a Windows system. It includes an overview of the deployment process and detailed instructions for each phase of deployment.

If you have already deployed Operational Reporting based on PPM Center 9.10, and you want to upgrade to PPM Center Content Pack 1, follow the instructions provided in Chapter 4, *Upgrading Operational Reporting on Windows Systems,* on page 115. For instructions on how to deploy Operational Reporting on a UNIX system, see Chapter 3, *Deploying Operational Reporting on UNIX Systems,* on page 73.

High-Level Deployment Steps

Deploying the Operational Reporting solution for PPM Center involves the following tasks:

1. Install PPM Center version 9.10, and then upgrade to PPM Center 9.10 service pack 2 (SP2).

   For information about how to install PPM Center 9.10 and service packs, see the *Installation and Administration Guide* for PPM Center 9.10 or the *Release Notes* for the specific service pack.

2. To make sure that your system meets the requirements for BusinessObjects Enterprise installation, check the *Products Availability Report (PAR)* document, which is available on the BusinessObjects support site (support.businessobjects.com/documentation/supported_platforms).

3. (Optional, but strongly recommended for optimal performance) Set up an Oracle database instance specifically for Operational Reporting and set Oracle database parameters. (See *Setting Up a Database for Operational Reporting* on page 25.)

4. Check to make sure that the PPM Center database and the Operational Reporting database can communicate over the database link.

5. Create four Oracle tablespaces required to create the Operational Reporting schema and database objects. (See *Creating Tablespaces for the Operational Reporting Schema* on page 26.)

   The Operational Reporting database schema is created automatically during Operational Reporting deployment.

6. Download the Oracle 11g database client software and install it on both your BusinessObjects server and client machine.

7. Set the JAVA_HOME variable on the BusinessObjects server. (See step 7 on page 30.)

8. Install the SAP BusinessObjects Enterprise software and, optionally, the BusinessObjects Enterprise Client Tools software. (See *Installing BusinessObjects Enterprise on a Windows System* on page 31.)

9. Upgrade the BusinessObjects instance with BusinessObjects XI 3.1 Service Pack 2, and, optionally, upgrade the BusinessObjects Enterprise Client Tools software. (See *Installing BusinessObjects Enterprise XI 3.1, Service Pack 2* on page 32.)
10. Run the BusinessObjects Diagnostic Tool to verify successful BusinessObjects Enterprise installation and upgrade. (See *Verifying Successful BusinessObjects Enterprise Installation* on page 36.)
11. Set up the Oracle JDBC driver to establish connections between the BusinessObjects server and the Operational Reporting databases. (See *Configuring the Oracle JDBC Driver* on page 37.)
12. Import the PPM Center reporting universes and preconfigured reports. (See *Importing and Updating Universes and Reports* on page 49.)
13. Run the setup script to create the Operational Reporting database schema. (See *Creating the Operational Reporting Database Schema* on page 39.)
14. Run the load script to bring PPM Center data into the Operational Reporting database schema. (See *Loading PPM Center Data Into the Operational Reporting Database* on page 44.)
15. Upgrade the Operational Reporting database to PPM Center Content Pack 1.
16. Upgrade the Operational Reporting universes and reports to PPM Center Content Pack 1.
17. Configure the Operational Reporting database connection. (See *Configuring the Operational Reporting* on page 54.) Change the connection parameters for all the universes so that the connection points to the Operational Reporting database schema.
18. Install the BusinessObjects Enterprise client applications.
19. Change the default password for the BusinessObjects Central Management Server (CMS). (See *Changing the BusinessObjects Central Management Server Password* on page 62.)

20. To verify successful deployment of Operational Reporting, run the query for an HP-supplied report. For information about HP-supplied operational reports, see the *Operational Reporting User's Guide.*

21. (Optional) Configure multilingual support for BusinessObjects Enterprise. (See *(Optional) Configuring Multilingual Operational Reporting* on page 63.)

Preparing the Database Schema for Operational Reporting

The following sections provide instructions on how to prepare the Operational Reporting database schema.

Setting Up a Database for Operational Reporting

Requirements and recommendations for setting up the database for Operational Reporting are as follows:

- (Required) Configure the Operational Reporting database to use UTF-8 encoding.
- (Required) Set the Oracle `NLS_CHARACTERSET` parameter to `UTF-8`.
- HP strongly recommends that you create an Oracle database specifically for Operational Reporting (independent of your PPM CenterOracle Database instance). Make sure that the PPM Center database and the Operational Reporting database can communicate over the database link.
- HP strongly recommends that you use the Enterprise Edition of Oracle Database for the Operational Reporting database. The advanced compression and partitioning featured in the Enterprise Edition significantly improve performance, especially if you report on a large and growing volume of data.

Configuring Oracle Database Parameters for Operational Reporting

HP recommends that you use Oracle's automatic memory management (AMM) feature. To do this, set the value for either the `memory_max_target` parameter or the `memory_target` parameter, and then let Oracle manage the memory (SGA and the PGA) dynamically. For more information about how to optimize performance, see the *Deployment Best Practices for PPM Operational Reporting* document.

To obtain the *Deployment Best Practices for PPM Operational Reporting* document and other HP PPM Center documents, go to the Software Product Manuals Web site (support.openview.hp.com/selfsolve/manuals). To access this Web site, you must first set up an HP Passport account.

Creating Tablespaces for the Operational Reporting Schema

Before you can create the database schema for Operational Reporting, you must first create tablespaces (two data and two index tablespaces) for the star schema. This section sections provides instructions for performing this task.

To create the empty database schema (with tables to be populated during installation):

1. Set up the required data and index tablespaces for the Operational Reporting database schema.

For information on the minimum size recommended for these tablespaces, see the *System Requirements and Compatibility Matrix*.

2. Create two tablespaces that include the LOGGING option, as shown in the following examples:

```
CREATE TABLESPACE <RPT_DATA_TS>
datafile <'/u0/oracle/oradata/G1010/ppm_data01.dbf'>
size <Size>m
LOGGING
DEFAULT COMPRESS
ONLINE
PERMANENT
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
BLOCKSIZE 32K
SEGMENT SPACE MANAGEMENT AUTO
FLASHBACK ON;

CREATE TABLESPACE <RPT_INDEX_TS>
datafile <'/u0/oracle/oradata/G1010/ppm_data01.dbf'>
size <Size>m
LOGGING
DEFAULT COMPRESS
ONLINE
PERMANENT
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
BLOCKSIZE 32K
SEGMENT SPACE MANAGEMENT AUTO
FLASHBACK ON;
```

3. To improve performance and reduce resource consumption, create two tablespaces that include the NOLOGGING option, as shown in the following examples:

```
CREATE TABLESPACE <RPT_DATA_TS_NL>
datafile <'/u0/oracle/oradata/G1010/ppm_data01.dbf'>
size <Size>m
NOLOGGING
DEFAULT COMPRESS
ONLINE
PERMANENT
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
BLOCKSIZE 32K
SEGMENT SPACE MANAGEMENT AUTO
FLASHBACK ON;

CREATE TABLESPACE <RPT_INDEX_TS_NL>
datafile <'/u0/oracle/oradata/G1010/ppm_data01.dbf'>
size <Size>m
NOLOGGING
DEFAULT COMPRESS
ONLINE
PERMANENT
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
BLOCKSIZE 32K
SEGMENT SPACE MANAGEMENT AUTO
FLASHBACK ON;
```

The Operational Reporting database schema is created automatically during deployment.

Deploying BusinessObjects Enterprise

This section contains information about the operating systems and languages supported by the Operational Reporting solution, instructions on how to prepare your system for BusinessObjects Enterprise installation, and the detailed steps to perform the installation.

Operating Systems Support for BusinessObjects Enterprise

BusinessObjects Enterprise XI 3.1 is supported for Windows, Linux, HP-UX IBM AIX, and Sun Solaris operating systems. For information about the specific versions of the operating systems supported, see the *Products Availability Report (PAR)* document, which is available on the BusinessObjects support site (http://support.businessobjects.com/documentation/supported_platforms).

Preparing to Install BusinessObjects Enterprise

This section addresses the tasks to perform before you start to install BusinessObjects Enterprise.

To prepare your system for BusinessObjects Enterprise installation, do the following:

1. Install all necessary service packs and packages for your operating system.
2. Check to make sure that your system meets the following minimum disk space requirements for BusinessObjects Enterprise installation:
   - 8.0 GB for BusinessObjects Enterprise (BusinessObjects Server and BusinessObjects Client)
   - 3.0 GB for BusinessObjects Enterprise Client
3. To get the PPM Center 9.12 Content Pack 1 upgrade bundle:
   a. Go to the Operational Reporting Content delivery page (`h22038.www2.hp.com`) on the HP Live Network site.

      To access the Operational Reporting Content delivery page, you must first sign in on the HP Passport sign-in page.

      For detailed information about how to access the Operational Reporting Content delivery page, see *Operational Reporting Content on HP Live Network* on page 17.

   b. Under **Quick Links**, click **Download Reporting Content.**
   c. In the **Name** column, click the **9.12 CP1** link.
   d. Download the PPM Center 9.12 Content Pack 1 upgrade bundle for your operating system.
4. Extract the contents of the PPM Center Content Pack 1 upgrade bundle to its own directory (hereinafter referred to as the `<PPM_CP1>` directory), separate from the `<Op_Reports_Home>` directory.
5. Make sure that an additional 2 GB is available on your `C:\` drive for Windows installer. (Windows installer creates install patches under the `C:\Windows\Installer` folder.)

6. Log on to the system as a user with administrator privileges.
7. Set the JAVA_HOME variable in the system environment of the user account to be used to start the BusinessObjects server.

   On the BusinessObjects server, set JAVA_HOME to:

   `<BO_Home>\bobje\jdk`

   where `<BO_Home>` is the directory in which you plan to install the BusinessObjects server.

Make sure that the value you specify contains no spaces.

8. Make sure that the `TEMP` environment variable points to a valid folder. This folder will contain temporary files during BusinessObjects Enterprise installation and upgrade.
9. BusinessObjects Enterprise installation and upgrade are memory- and CPU-intensive processes. Shut down all unnecessary processes before you perform the installation (and upgrade).

HP recommends that you have only the Business Object Enterprise installation running.

For more information about the hardware and software requirements for installing and upgrading BusinessObjects Enterprise, see your SAP documentation.

Installing BusinessObjects Enterprise on a Windows System

The distribution DVD contains the PPM Center Operational Reporting software bundle, the BusinessObjects Enterprise XI 3.1 install bundle, and the BusinessObjects Enterprise XI 3.1 SP2 Upgrade bundle.

To install BusinessObjects Enterprise server software on a Windows system:

1. From the distribution DVD, extract the contents of the PPM Center Operational Reporting install bundle, the BusinessObjects Enterprise XI 3.1 install bundle, and the BusinessObjects Enterprise XI 3.1 SP2 Upgrade bundle to a new folder (hereinafter referred to as the `<Op_Reports_Home>` directory) on the machine that is to host BusinessObjects Enterprise.
2. If you want to install the software somewhere other than the default directory (`C:\hp\ppm\reporting\boe31`):
   a. Navigate to the `<Op_Reports_Home>\Deployment\platform\installer` folder and open the `windows.ini` file in a text editor.
   b. Replace the default installation paths for the BusinessObjects Enterprise installation parameters `INSTALLDIR` and `AS_DIR` with your values. For example, set the parameter values as follows:

      ```
      AS_DIR="F:\hp\ppm\reporting\boe31\Tomcat55"
      INSTALLDIR="F:\hp\ppm\reporting\boe31\"
      ```

   c. Save and close the `windows.ini` file.

HP does not recommend changing the default installation directory. If the default installation directory is satisfactory, there is no need to change any parameter values.

3. Navigate to the `<Op_Reports_Home>\Deployment` folder and run the `installReportingServer.bat` file.

   BusinessObjects Reporting Server installation begins. You can monitor the installation process by viewing the `BOInstall.log` file, which is located in the `%TEMP%` folder.

The BusinessObjects XI 3.1 server is installed in the directory that is referred to in this document as "<*BO_Home*>". Depending on the resources available to you, installation may take several hours.

4. After you finish installing BusinessObjects XI 3.1, do the following:
   - Install BusinessObjects XI 3.1 Service Pack 2. (See *Installing BusinessObjects Enterprise XI 3.1, Service Pack 2* on page 32.)
   - Perform required post-installation tasks. (See *Post-Installation Tasks on Windows Systems* on page 35.)

Installing BusinessObjects Enterprise XI 3.1, Service Pack 2

After you have successful installed BusinessObjects XI 3.1, you must install BusinessObjects XI 3.1 Service Pack 2 (SP2). For information about the requirements for installing BusinessObjects XI 3.1 SP2, see the *Products Availability Report (PAR)* document, which is available on the BusinessObjects support site (http://support.businessobjects.com/documentation/supported_platforms)

To install BusinessObjects XI 3.1 SP2 on Windows:

1. The SP2 upgrade is memory- and CPU-intensive. Before you begin, shut down any processes that are not absolutely required during the upgrade, including the Tomcat Windows service.
2. Navigate to the <*Op_Reports_Home*>\Deployment\platform\installer directory and open the `windows_sp2.ini` file in a text editor.
3. Replace the default values for the parameters listed in the following table based on your BusinessObjects settings.

Parameter	Value
AS_DIR	BusinessObjects installation directory (<*BO_Home*>)
INSTALLDIR	BusinessObjects installation directory (<*BO_Home*>)
NAMESERVER	Name of your local host

Parameter	Value
SS_INDEX_LOCATION	BusinessObjects installation directory (<*BO_Home*>)
CMSPASSWORD	Password for BusinessObjects Central Management Server (CMS)
NSPORT	Replace the existing value with the BusinessObjects CMS port number

4. Check to make sure that the directory specified by the TEMP environment variable exists. BusinessObjects uses this folder as a temporary log location.
5. Navigate to the <*Op_Reports_Home*>\Deployment directory, and then run the `upgradeReportingServer.bat` file.

   The upgrade takes a few hours to complete. To monitor the progress of the upgrade, check CPU usage, process (`setup.exe`, `msi*.exe`), disk usage, and the log file.
6. (Optional) To upgrade BusinessObjects client tools, run the `upgradeClientTools.bat` file.
7. Check the PPM Center *Release Notes* to see whether additional BusinessObjects Enterprise service packs or fix packs are required for Operational Reporting deployment and perform any additional installations required.

Checking the Deployment Log File After BusinessObjects Service Pack 2 Installation

If you install a BusinessObjects Enterprise service pack, the BusinessObjects Web application is automatically re-deployed. After you install BusinessObjects XI 3.1 SP2, do the following:

1. Navigate to the `<BO_Home>\deployment\workdir` directory and check the `wdeploy.log` file for any errors that may have occurred.
2. If errors occurred during installation, or if you cannot run a report from InfoView because of JavaScript errors, then manually re-deploy BusinessObjects Enterprise as follows:
   a. Back up the `<BO_Home>\deployment\workdir` folder.
   b. Delete all contents of the `<BO_Home>\deployment\workdir` folder.
   c. Change to the `<BO_Home>\deployment` directory, and then run the command `wdeploy.bat tomcat55 deployall`.
3. Check the `wdeploy.log` file again for errors, and then run a report query from InfoView to test the deployment.

Verifying the Upgrade to BusinessObjects XI 3.1 SP2

After installation, navigate to the `<BO_Home>\BusinessObjects Enterprise 12.0\Logging` directory and check the `BOE_SP2_Install_0.log` file to make sure that the BusinessObjects XI 3.1 SP2 installation was successful.

Next, complete the tasks described in *Post-Installation Tasks on Windows Systems* on page 35.

Post-Installation Tasks on Windows Systems

This section addresses the following tasks, which must be performed after you install and update BusinessObjects Enterprise:

- *Verifying Successful BusinessObjects Enterprise Installation*
- *Configuring the Oracle JDBC Driver*
- *Creating the Operational Reporting Database Schema*
- *Loading PPM Center Data Into the Operational Reporting Database*
- *Running the Upgrade Script*
- *Importing and Updating Universes and Reports*
- *Configuring the Operational Reporting*
- *Installing BusinessObjects Enterprise Client Tools*
- *Changing the BusinessObjects Central Management Server Password*
- *Verifying Successful Operational Reporting Deployment*
- (Optional) *(Optional) Configuring Multilingual Operational Reporting*

Verifying Successful BusinessObjects Enterprise Installation

After you install BusinessObjects Enterprise, you can use SAP's Deployment Diagnostic Tool to check your installation. The Deployment Diagnostic Tool is installed automatically with BusinessObjects XI Enterprise.

To verify that the BusinessObjects Enterprise installation was successful:

1. Select **Start > Programs > BusinessObjects XI 3.1 > BusinessObjects Enterprise > Diagnostic Tool.**

The BusinessObjects Enterprise default password is "admin123" (Windows).

2. Make sure that the following diagnostic tests are passed:
   - Log On/Off
   - InfoView
   - Web Intelligence
   - Stop/Start Servers

For detailed information about the diagnostic tests and how to run them, see SAP's *BusinessObjects Enterprise XI 3.1 Deployment Diagnostic Tool User's Guide.*

Configuring the Oracle JDBC Driver

Operational Reporting deployment relies on the Oracle JDBC driver to establish connections between BusinessObjects server and the Operational Reporting schema.

JDBC configuration is same for both BusinessObjects server and BusinessObjects client tools.

To configure the Oracle JDBC driver on a Windows system:

1. Check to make sure that Oracle client is installed on your BusinessObjects server. If Oracle client is not installed on your BusinessObjects server, then install it.
2. Configure the `tnsnames.ora` file and verify that you can connect to the Operational Reporting database schema from the command line using SQL*Plus.

The `tnsnames.ora` file normally resides in the `<Oracle_Home>\network\admin` directory. For information about how to configure the `tnsnames.ora` file, see the Oracle Technology Network.

3. Navigate to the `<ORACLE_HOME>\jdbc\lib` directory on your BusinessObjects server, and make sure that it contains the `ojdbc5.jar` file.
4. Navigate to the `<BusinessObjects_Enterprise_Home>\win32_x86\dataAccess\connectionServer\jdbc` directory and back up the `jdbc.sbo` file.

HP strongly recommends that you back up the `jdbc.sbo` file before you continue to the next step.

5. Open the `jdbc.sbo` file in a text editor, and then, in the `<DataBase Active="Yes" Name="Oracle 11">` section, add the class path as follows (modified based on your location):

```
<ClassPath>
<Path>C:\OracleClient\product\11.1.0\client_1\jdbc\lib\
   ojdbc5.jar</Path>

<Path>C:\Program Files\Business Objects\javasdk\bin</Path>
</ClassPath>
```

6. Save and close the `jdbc.sbo` file.

Creating the Operational Reporting Database Schema

To create the Operational Reporting database schema, you run the setup script. To import PPM Center data into the Operational Reporting database, you run the load script. The following sections provide detailed instructions on how to perform these tasks.

Running the Setup and Synchronization Scripts

To run the setup and synchronization scripts:

1. Stop all PPM Servers (including all nodes in a server cluster).

   If the `REMOTE_ADMIN_REQUIRE_AUTH` parameter is set to `true`, users running `kStop.bat` to shut down the PPM Server must supply a valid PPM Center user name and password. If the parameter is set to `false`, any user with access to the `kStop.bat` script can shut down the server. For information about the `REMOTE_ADMIN_REQUIRE_AUTH` parameter, see the *Installation and Administration Guide.*

   To stop a PPM Server:

   a. From the Control Panel, select **Administrative Tools > Services.**

   b. In the Services window, right-click the HP PPM service, and then click **Stop** on the shortcut menu.

   In the Windows services window, the service name begins with “HP PPM”.

2. Log on to the BusinessObjects server machine, navigate to the `<Op_Report_Home>\DB\install\sample` directory, and open the `sample_setup_all.bat` file in a text editor.

3. Uncomment the parameters listed in the following table, replace the placeholders with valid values, and then save and close the file.

Information	Description
SYS user name of Reporting DB	SYS user name for the Operational Reporting database Example value: sys
Reporting DB Schema Name	Operational Reporting database schema name Example value: RPT_SCHEMA
Reporting DB TNS Name	Identifies the Oracle instance that runs the Operational Reporting database schema. TNS name is configured in the `tnsnames.ora` file. Example value: RPT
PPM DB Schema Name	PPM Center database schema name. This value should exist in the Oracle `tnsnames.ora` entry. Example value: PPM_SCHEMA **Important:** The PPM Center database schema name must contain all capital letters. If the name contains any lowercase characters, an error occurs.
PPM DB data_ tablespace_name	PPM Center database data tablespace name **Note:** This refers to the existing data tablespace in the *PPM Center database schema*. The PPM Center schema stores this in the KINS_TABLESPACES table. Example value: PPM_DATA_TS
PPM DB temp_ tablespace_name	PPM Center database temp tablespace name **Note:** This refers to the existing temp tablespace in the *PPM Center database schema*. The PPM Center schema stores this in the KINS_TABLESPACES table. Example value: PPM_TEMP_TS
PPM DB index_ tablespace_name	PPM Center database index tablespace name **Note:** This refers to the existing index tablespace in the *PPM Center database schema*. The PPM Center schema stores this in the KINS_TABLESPACES table. Example value: PPM_INDEX_TS

Information	Description
Full tnsnames.ora entry to PPM schema	Full `tnsnames.ora` entry for the PPM Center database schema • For `HOST`, specify the IP address of the PPM Center database server • For `PORT`, specify the PPM Center database port • For `SERVICE_NAME`, specify the SID in `tnsnames.ora` file for the PPM Center database Example value: `"(DESCRIPTION= (ADDRESS= (PROTOCOL=TCP) (HOST=16.89.27.63) (PORT=1522)) (CONNECT_DATA= (SERVER=dedicated) (SERVICE_NAME=MDB1106A)))"`
DB_LINK_NAME to PPM	Name of the link to the PPM Center database This value is generated in the Operational Reporting database schema. Example value: PPM_DB_LINK
SYS user name of PPM DB	SYS user name for the PPM Center database Example value: sys
RPT_DATA_NOLOGGING_TABLESPACE_NAME>	Separate tablespace that requires no redo log for the Operational Reporting database to store data. Example value: RPT_DATA_TS_NL
RPT_INDEX_NOLOGGING_TABLESPACE_NAME	Separate tablespace that requires no redo log for the Operational Reporting database to store indexes. Example value: RPT_INDEX_TS_NL

4. Run the `sample_setup_all.bat` script.
5. During the script run, provide the following information when prompted:
   - PPM Center database server SYS user password
   - PPM Center database server schema password
   - Operational Reporting database server SYS user password
   - Operational Reporting database server schema password

6. Navigate to the `<Op_Report_Home>\DB\install\log` directory and check the `setup_all.log` file for errors. If the `setup_all.log` file indicates that compilation errors occurred, run the following:

   ```
   Select * from user_objects where status = 'INVALID'
   ```

   If no rows are returned, you can safely ignore the warning.

7. Log on to the BusinessObjects server machine, navigate to the `<PPM_CP1>\Sample` directory, and open the `sample_resync_ppm.bat` file in a text editor.

8. Replace the default values for the parameters listed in the following table with valid values.

Prompt	Description
Reporting DB Schema Name	Operational Reporting database schema name Example value: RPT_SCHEMA
Reporting DB TNS Name	Identifies the Oracle instance that runs the Operational Reporting database schema. TNS name is configured in the `tnsnames.ora` file. Example value: RPT
PPM DB Schema Name	PPM Center database schema name. This value should exist in the Oracle `tnsnames.ora` entry. Example value: PPM_SCHEMA **Important:** The PPM Center database schema name must be in all capital letters.
PPM DB TNS Name	Oracle instance that runs the PPM Center database schema. TNS name is configured in the `tnsnames.ora` file.

Prompt	Description
PPM DB data_tablespace_ name	PPM Center database data tablespace name **Note:** This refers to the existing data tablespace in the *PPM Center database schema*. The PPM Center schema stores this in the KINS_TABLESPACES table. Example value: PPM_DATA_TS
PPM DB index_ tablespace_name	PPM Center database index tablespace name **Note:** This refers to the existing index tablespace in the *PPM Center database schema*. The PPM Center schema stores this in the KINS_TABLESPACES table. Example value: PPM_INDEX_TS
PPM Server Status PPM_DOWN_NO, PPM_DOWN_YES	If set to `PPM_DOWN_NO`, checks to determine whether any PPM Servers are running. If any node is running, the upgrade stops so that you can shut down all running nodes. If set to `PPM_DOWN_YES`, the PPM Server check is not performed.

9. Run `sample_resync_ppm.bat`.

   If a PPM Server is running, the script fails and displays the error message `"PPM DOWN is required. One or more PPM Servers are active. If all are down, pass PPM_DOWN_YES, *** aborting upgrade..."`. If this occurs, do the following:

   1. Determine which node or nodes are running and shut them all down.
   2. Open the `sample_resync_ppm.bat` file (`<PPM_CP1>\Sample` directory) in a text editor and change `PPM_DOWN_NO` to `PPM_DOWN_YES`.
   3. Save `sample_resync_ppm.bat`, and then run it again.

10. Review the `resync_ppm_<Date_Time>.log` report file (located in the `<PPM_CP1>\log` directory).

11. Restart the PPM Servers, and then import your PPM Center data into the Operational Reporting database (see *Loading PPM Center Data Into the Operational Reporting Database*.)

Loading PPM Center Data Into the Operational Reporting Database

After you have created the Operational Reporting database schema (*Creating the Operational Reporting Database Schema* on page 39) and synchronized the tables and data, you can import your PPM Center data into the Operational Reporting database. This section provides information about how to run the load script that brings PPM Center data into the Operational Reporting database schema.

The definition of Materialized View `RPT_DIM_RM_RESOURCES` in Operational Reporting 9.10 (GA) causes big performance problems when loading data. To avoid this problem in Operational Reporting Content Pack 1.2 (CP1.2), between setup and loading data, replace it with the new definition in Operational Reporting CP1.2:

`CP1.2\DB\updated_scripts\rpt_dim_rm_resources.sql.`

To run the load script:

1. Gather the information listed in the following table.

Parameter	Description
Reporting DB Schema Name	Operational Reporting database schema name Example value: RPT_SCHEMA
Reporting DB TNS Name	Identifies the Oracle instance running the Operational Reporting database schema. The TNS name is configured in the `tnsnames.ora` file. Example value: RPT
Reporting DB index_ tablespace_name	Name of the index tablespace for the Operational Reporting database Example value: RPT_INDEX_TS
DB_LINK_NAME to PPM	Name of the link to the PPM Center database. This link is created automatically during the setup_all script run. Example value: PPM_DB_LINK

Parameter	Description
ETL start date (mm-dd-yyyy)	Start date (in mm-dd-yyyy format) for the PPM Center data to load into the Operational Reporting database schema. Example value: 01-01-2010
ETL end date (mm-dd-yyyy)	End date (in mm-dd-yyyy format) for the PPM Center data to load into the Operational Reporting database schema. **Note:** The ETL end date you specify is converted based on the fiscal year. For details, see the *Installation and Administration Guide.* Example value: 01-01-2011
Reporting DB data_ tablespace_name	Name of the data tablespace for the Operational Reporting database Example value: RPT_DATA_TS
RPT SYS Username	SYS user name for the Operational Reporting database Example value: sys
Request dimension ETL start date (mm-dd-yyyy)	Start date (in mm-dd-yyyy format) for the PPM Center request data to load into the Operational Reporting database schema. Example value: 01-01-2010 **Note:** If your PPM Center database contains data for old, but active requests, you can include that data without importing all data from that time period.
RPT_DATA_NOLOGGING_ TABLESPACE_NAME	Separate tablespace that requires no redo log for the Operational Reporting database to store data. Example value: RPT_DATA_TS_NL
RPT_INDEX_ NOLOGGING_ TABLESPACE_NAME	Separate tablespace that requires no redo log for the Operational Reporting database to store indexes. Example value: RPT_INDEX_TS_NL

2. Log on to the BusinessObjects server machine, navigate to the `<Op_Report_Home>\DB\install\sample` directory, and open the `sample_load_data.bat` file in a text editor.
3. Replace each of the variables in the load script with the corresponding values you prepared in step 1 and then save and close the file.
4. Navigate to the `<Op_Report_Home>\DB\install\sample` directory, and run the `sample_load_data.bat` script.
5. During the load script run, provide Operational Reporting database schema password and the Operational Reporting SYS user password, as prompted.
6. The script creates a `load_data.log` file in the `<Op_Report_Home>\DB\install\log` directory. Check the log file to make sure that no errors occurred.

Running the Upgrade Script

To run the upgrade script:

1. Navigate to the `<PPM_CP1>\Sample` directory, and open the `sample_upgrade_rpt.bat` file in a text editor.
2. In the `PARAMETERS` section, uncomment the parameter placeholders listed in the following table and replace them with valid values.

Parameter	Description
Reporting DB Schema Name	Operational Reporting database schema name Example value: RPT_SCHEMA
Reporting DB TNS Name	Identifies the Oracle instance that runs the Operational Reporting database schema. TNS name is configured in the `tnsnames.ora` file. Example value: RPT
PPM DB Schema Name	PPM Center database schema name. This value should exist in the Oracle `tnsnames.ora` entry. Example value: PPM_SCHEMA

Parameter	Description
PPM DB TNS Name	Oracle instance that runs the PPM Center database schema. TNS name is configured in the `tnsnames.ora` file.
LOG mode	Determines where log output goes. Valid values are `FILE`, `DB`, and `BOTH`. If set to FILE, the output goes into the `upgrade_rpt_<Date_Time>.log` file. If set to DB, the output goes into the database event log tables. If set to BOTH, the output goes into both the `upgrade_rpt_<Date_Time>.log` file and the database event log tables.
Reporting DB data_ tablespace_name	Name of the data tablespace for the Operational Reporting database Example value: RPT_DATA_TS
Reporting DB index_ tablespace_name	Name of the index tablespace for the Operational Reporting database Example value: RPT_INDEX_TS
Reporting DB DATA_ NOLOGGING_ TABLESPACE	Separate tablespace that requires no redo log for the Operational Reporting database to store data. Example value: PPM_DATA_TS_NL
Reporting DB INDEX_ NOLOGGING_ TABLESPACE	Separate tablespace that requires no redo log for the Operational Reporting database to store indexes. Example value: RPT_INDEX_TS_NL
PPM DB data_ tablespace_name	PPM Center database data tablespace name **Note:** This refers to the existing data tablespace in the *PPM Center database schema*. The PPM Center schema stores this in the KINS_ TABLESPACES table. Example value: PPM_DATA_TS

Parameter	Description
PPM DB index_ tablespace_name	PPM Center database index tablespace name **Note:** This refers to the existing index tablespace in the *PPM Center database schema*. The PPM Center schema stores this in the KINS_ TABLESPACES table. Example value: PPM_INDEX_TS
PPM Server Flag, PPM_DOWN_NO, PPM_DOWN_YES	If set to `PPM_DOWN_NO` in the `sample_resync_ppm.bat` or `sample_upgrade_rpt.bat` file, then when the script is run, performs a check to determine whether any PPM Servers are running. If any node is running, the upgrade stops so that you can shut down all running nodes. If set to `PPM_DOWN_YES`, the PPM Server check is not performed.

3. Save and close the `sample_upgrade_rpt.bat` file.
4. Run `sample_upgrade_rpt.bat`.
5. Review the generated `upgrade_rpt_<Date_Time>.log` file, which is located in the `<PPM_CP1>\log` directory.

Importing and Updating Universes and Reports

This section provides instructions on how to use the Business Intelligence Archive Resource (BIAR) import tool to import Operational Reporting universes and reports into the BusinessObjects CMS Repository, and then to update those universes and reports to the Content Pack 1 versions. The BIAR import tool reads the `biar_import.properties` file. It imports all of the universes and reports in the `<Op_Reports_Home>\Universe` and `<Op_Reports_Home>\Reports` directories, respectively.

Requirements for using the BIAR import tool are as follows:

- The JAVA_HOME environment variable must be set (see step 7 on page 30).
- The `biar_import.properties` file must be configured for your environment.
- The CMS password must be in clear text.

You must enter the CMS password into the `biar_import.properties` file before you run the BIAR tool, and then remove it from the `biar_import.properties` file after the import is complete.

Importing Operational Reporting Universes and Reports

To import Operational Reporting universes and reports into the BusinessObjects CMS Repository:

1. Navigate to the `<Op_Reports_Home>\Deployment\platform\biar` folder on the BusinessObjects Enterprise server.
2. Open the `biar_import.properties` file in a text editor.

3. Replace the default values (if changed) as shown in the following table.

Default	Description
cms.username=Administrator	BusinessObjects XI Central Management Server (CMS) administrator's username
cms.password=admin123	Password for the CMS administrator **Important:** The CMS password *must* be in clear text.
cms.host=localhost	IP address of the BusinessObjects XI Central Management Server machine
cms.port=6400	Port assigned to CMS
bo.home=`\opt\hp\ppm\reporting`	Installation directory for BusinessObjects Enterprise XI **Important:** You *must* replace the default value with the absolute path for BusinessObjects Enterprise XI. The value must be the same as that specified for the `INSTALLDIR` parameter in the `windows.ini` file. (See step 2 on page 31.)

4. Save and close the `biar_import.properties` file.
5. To import the Operational Reporting universes and reports into the BusinessObjects CMS repository, navigate to the *<Op_Reports_Home>*`\Deployment` folder, and then run the `installBIARs.bat` file.
6. Navigate to the *<Op_Reports_Home>*`\Deployment\platform\biar` folder and check the `biar_import.log` file.

Updating Universes and Reports to Content Pack 1 Versions

To update the Operational Reporting universes and reports for Content Pack 1:

1. Navigate to the *<PPM_CP1>*`\Deployment\platform\biar` folder on the BusinessObjects Enterprise server.

2. Open the `biar_import.properties` file in a text editor.
3. Replace the default values (if changed) as shown in the following table.

Default	Description
cms.username=Administrator	BusinessObjects XI Central Management Server (CMS) administrator's username
cms.password=admin123	Password for the Central Management Server (CMS) administrator **Important:** The CMS password *must* be in clear text.
cms.host=localhost	IP address of the BusinessObjects XI Central Management Server machine
cms.port=6400	Port assigned to Central Management Server
bo.home=`\opt\hp\ppm\reporting`	Installation directory for BusinessObjects Enterprise XI **Important:** You *must* replace the default value with the absolute path for BusinessObjects Enterprise XI. The value must be the same as that specified for the `INSTALLDIR` parameter in the `windows.ini` file. (See step 2 on page 31.)

4. Save and close the `biar_import.properties` file.
5. Navigate to the `<PPM_CP1>\Deployment` directory and run `upgradeBIARs.bat`.

For information about what to do if, for some reason, the upgrade fails during the script run, see *Failure During the upgradeBIARs.bat Run* on page 53.

6. Navigate to the `<PPM_CP1>\Deployment\platform\biar` folder and check the `biar_import.log` file.

Recovering from an Upgrade Failure

An upgrade to PPM Center Content Pack 1 can potentially fail for several reasons. The process stops if, for example, the connection to a remote database is lost, the client machine running an upgrade script goes down, or if PPM Center data are missing. This section provides information about what to do if your upgrade fails during the different stages of the upgrade process.

Upgrade Failure Resulting from Active PPM Servers

The `sample_resync_ppm.bat` and `sample_upgrade_rpt.bat` files both include the `PPM Server Status` parameter, which can be set to either `PPM_DOWN_NO` or `PPM_DOWN_YES`. (See *PPM Server Flag, PPM_DOWN_NO, PPM_DOWN_YES* on page 48.) If you set the `PPM Server Status` parameter to `PPM_DOWN_NO` in either of these files and then execute the file, the upgrade checks to determine whether any PPM Servers are active. If an active node is detected during the run, the upgrade stops and the following message is displayed:

```
Failed with this error => PPM DOWN is required. One or more PPM
Servers is active. If all nodes are down, pass PPM_DOWN_YES, ***
aborting upgrade...
```

If this error occurs, do the following:

1. Shut down every active node in the server cluster.
2. Open the sample batch or shell script (either `sample_upgrade_rpt.bat` or `sample_resync_ppm.bat`) and change the `PPM Server Status` parameter value from `PPM_DOWN_NO` to `PPM_DOWN_YES`.
3. Run the script again.

The upgrade process skips the PPM Server check after you set `PPM Server Status` parameter value to `PPM_DOWN_YES`.

Failure During the sample_preupgrade_rpt.bat Run

If the upgrade fails while the `Sample_preupgrade_rpt.bat` script is running, do the following:

1. Review the generated `preupgrade_rpt_<Date_Time>.log` file, which is located in the `<PPM_CP1>\log` folder.
2. Correct any reported errors, and then run the `Sample_preupgrade_rpt.bat` script again.

Failure During the sample_upgrade_rpt.bat Run

Errors occur during the `sample_upgrade_rpt.bat` run if database tables are not synchronized or if an ETL job is in progress.

Unsynchronized Database Tables Errors

If PPM Center database tables are not synchronized and you run the upgrade script, the following message is displayed:

```
One or more tables in the PPM Center database are not
synchronized. Please check the event log and run ETL before you
run the upgrade script. The PPM Center database tables must be
synchronized.
```

If this occurs, do the following:

1. Navigate to the `<Op_Report_Home>\DB\install\sample` directory, and run `sample_onetime_batch.bat`.
2. Run `sample_upgrade_rpt.bat` again.

Failure During the upgradeBIARs.bat Run

If your BusinessObjects server or client machine goes down while the `upgradeBIARs.bat` script is running, do the following:

1. Navigate to the `Upgrades\<PPM_CP1>\Deployment\platform\biar` directory, open the log file for the script run, and check for reported errors.
2. If the log file indicates an issue that cannot be resolved by simply running the `upgradeBIARs.bat` script again, you may have to delete HP-supplied

universes (RM Derived Universe, TM Derived Universe, FM Derived Universe, and Kernel Universe) or new reports.

Make sure that you do *not* delete existing (version 9.10) reports. Check the Content Pack 1 Release Notes for the reports that are new in Content Pack 1, and delete these.

3. Run the `upgradeBIARs.bat` script again.

Configuring the Operational Reporting

After you import the universes and reports, you must configure the connection to the Operational Reporting database. Before you can configure this connection, make sure that you have completed the following:

- Installed BusinessObjects Enterprise, including SP2 (*Installing BusinessObjects Enterprise on a Windows System* on page 31)
- Configured Oracle 11 JDBC driver (*Configuring the Oracle JDBC Driver* on page 37)
- Imported the universes and reports (*Importing and Updating Universes and Reports* on page 49)
- Run the setup script (*Running the Setup and Synchronization Scripts* on page 39) and load script (*Loading PPM Center Data Into the Operational Reporting Database* on page 44) to set up the Operational Reporting schema.

To configure the Operational Reporting database connection:

1. To start Designer, select **Start > All Programs > BusinessObjects XI 3.1 > BusinessObjects Enterprise > Designer.**
2. Provide the following information in the User Identification dialog box:
   a. In the **System** box, select the Central Management Server name.
   b. In the **User Name** box, type **`Administrator.`**
   c. In the **Password** box, type **`admin123.`**
   d. From the **Authentication** list, select **Enterprise.**

3. Click **OK.**

   The welcome screen of the Quick Design wizard opens.

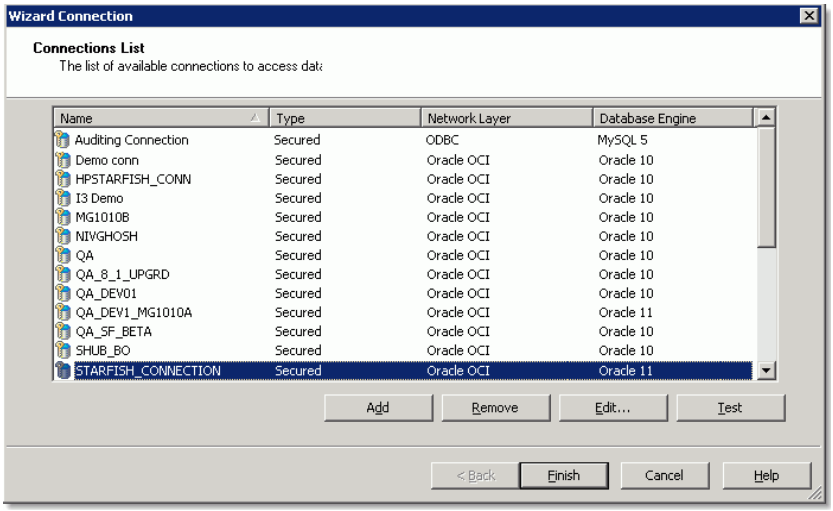
4. To prevent the Quick Design wizard from opening every time you start Designer, clear the **Run this Wizard at Startup** check box.

5. Click **Cancel.**

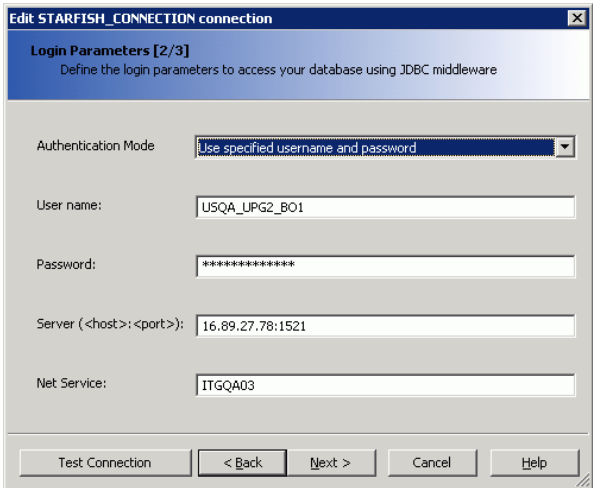
   Universe Designer opens.

6. From the **Tools** menu, select **Connections.**

7. In the **Connections** list, select **STARFISH_CONNECTION.**



8. Click **Edit.**



9. Provide the information listed in the following table.

Field	Value
Authentication Mode	Keep the default value (Use specified username and password)
User name	Operational Reporting schema name
Password	Operational Reporting schema password
Server (<host>:<port>)	Operational Reporting database host name and port number (separated by a colon)
Net Service	Operational Reporting database service name

10. Click **Test Connection.**
11. After you see the message “The server is responding,” click **OK.**
12. Finish the process and close the Edit connection window.

Installing BusinessObjects Enterprise Client Tools

The BusinessObjects client tools give you and your users access to BusinessObjects Enterprise server functions. The Client component tools are only available for Windows operating systems, but do connect to servers running non-Windows operating systems.

To install client components on a BusinessObjects Enterprise server system, you must use the BusinessObjects Enterprise setup program “Custom or Expand install” option. Do not attempt to install client components on a server system by installing the stand-alone client tool installer, which is intended to install on client systems only.

The following table lists the available client tools.

Client Tool	Description
Desktop Intelligence	An integrated query, reporting, and analysis tool to access your organization’s data for presentation and analysis in a Desktop Intelligence document.
Web Intelligence Rich Client	Provides business users an interactive and flexible interface for building and analyzing reports from your organization’s data over the web, through a secured intranet or extranet.
Data Source Migration Wizard	Migrates reports based on Crystal queries, dictionaries, or InfoViews to BusinessObjects Enterprise.
Business View Manager	Provides relational views of information for creating and modifying Data Connections, Dynamic Data Connections, Data Foundations, Business Elements, or Business Views.
Report Conversion Tool	Converts Desktop Intelligence reports (.rep files) to Web Intelligence (.wid) format. You can publish converted files to the Central Management Server (CMS).
Import Wizard	Imports user, group, object, or folder content from previous and current Crystal or BusinessObjects Enterprise deployments.
Publishing Wizard	Publishes and sets properties for multiple reports in BusinessObjects Enterprise.

Client Tool	Description
Query as a Web Service	Creates custom web services for specific queries using BusinessObjects Web Services.
Universe Designer	Creates universe connections for Web Intelligence and Desktop Intelligence documents.
Developer Components	Software Development Kits (SDK) with wizards and templates for integrating BusinessObjects Enterprise functionality into your interactive web applications: • BusinessObjects Enterprise .NET SDK • BusinessObjects Enterprise Java SDK • BusinessObjects Enterprise Web Services SDK
Translation Manager	Defines translations for multilingual documents and prompts. Supports Universe Designer universes and Web Intelligence documents.

Install these applications for users who are responsible for managing BusinessObjects Enterprise content, developing applications, or importing system data. Users who access InfoView or the CMC administrative web applications do not require client tools.

Obtaining the BusinessObjects Enterprise Client Software

The BusinessObjects client software is included with the Windows version of the Operational Reporting download bundle, and is installed using the `installClientTools.bat` script in the `Deployment` sub-directory.

1. Go to HP's My software updates Web page (`//h20575.www2.hp.com/usbportal/softwareupdate`).

To access this Web site, you must provide your SAID for PPM Center.

2. In the **Product** list, expand **Project and Portfolio Management Center.**
3. Select **HP PPM 9.10 Eng SW E-Media,** and then click **Get software updates.**
4. Click **Get Software** for HP PPM 9.10 Eng SW E-Media.
5. Select Windows **PPMC Op Rpt.**

6. Download the Windows ISO image: PPMC Op Rpt Windows (T5570-15073.iso), and then burn this ISO image on to a DVD.

   The DVD contains the `DB, Deployment, Reports, Universe` directories.

Installing BusinessObjects Client Tools: Silent Install

To perform a silent install of the BusinessObjects client tools on Windows XP:

1. Navigate to the `<Op_Reports_Home>\Deployment\platform\installer` folder.
2. Make a copy of the `client.ini` file, and then open the file in a text editor.
3. Set the `INSTALLDIR` value to the path on your local machine where you want the BusinessObjects client tools installed.

   Example

   ```
   INSTALLDIR="C:\boe_client_tools"
   ```

4. To start the client tools installation, navigate to the `<Op_Reports_Home>\Deployment` directory, and then run `installClientTools.bat`.

The client tools installation takes a while to complete, and no progress information is displayed during the process.

The installation process begins. When you see the message "BusinessObjects Enterprise XI Client Tools has been successfully installed", client tool installation is complete.

Installing BusinessObjects Client Tools Using setup.exe

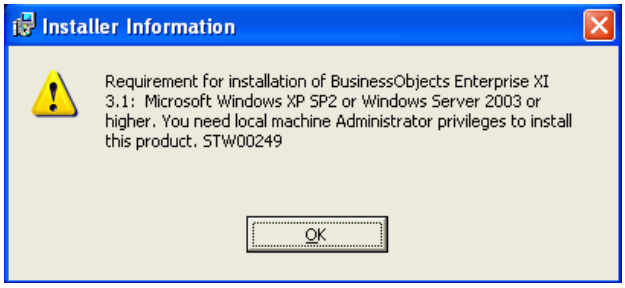
If the silent installation throws any errors, then install the Client Tools software using `setup.exe` as follows:

1. Run `setup.exe` from the root directory of your product distribution.
2. Click **Install.**

   If Autoplay is enabled for your DVD-ROM drive, the Autorun program starts automatically.

3. From the list of languages, select the language to use to display the installation steps.
4. To create an installation log file, select the **Create log file during installation** check box. The log file is saved in the `<BO_Home>\BusinessObjects Enterprise 12.0\Logging` directory.
5. Click **OK.**

   The BusinessObjects Enterprise Installation Wizard opens.
6. On the Welcome step, click **Next.**
7. If you are installing BusinessObjects Enterprise on Windows XP Service Pack 2 or higher, the message shown in the following figure is displayed. To continue with the installation, click **OK.**



8. On the License Agreement step, select **I accept the License Agreement,** and then click **Next.**
9. On the Choose Language Packs step, select the language packs you want to install with the client tools, and then click **Next.**

   The Directory Selection step opens.
10. In the **Destination Folder** box, type the installation directory for the client tools or accept the default selection.
11. Click **Next.**

    The Select Features step opens.

12. Under **BusinessObjects Enterprise Client Tools,** click the icons for the features that you want to install or exclude from installation, as shown in the following table.

Icon	Description
	The selected feature and only the subfeatures you select are to be installed on the local hard drive you specified in the Setup program.
	The selected feature and all its subfeatures are to be installed on the local hard drive you specified.
	The selected feature or subfeature is either unavailable or will not be installed.

13. To determine whether you have sufficient disc space to install the features you selected, click **Disk Cost.**

    The installation program displays the storage space available on your local machine and mapped network drives. Drives that do not have enough disk space for the selected features are highlighted. To return to the Select Features step, click **OK.**

14. On the Start Installation step, click **Next.**

The installation process begins. When the "BusinessObjects Enterprise XI Client Tools has been successfully installed" message is displayed, the process is complete.

After you install the client tools, the Windows **Start** menu includes the **BusinessObjects XI 3.1** folder, which you can use to start the client tools.

Changing the BusinessObjects Central Management Server Password

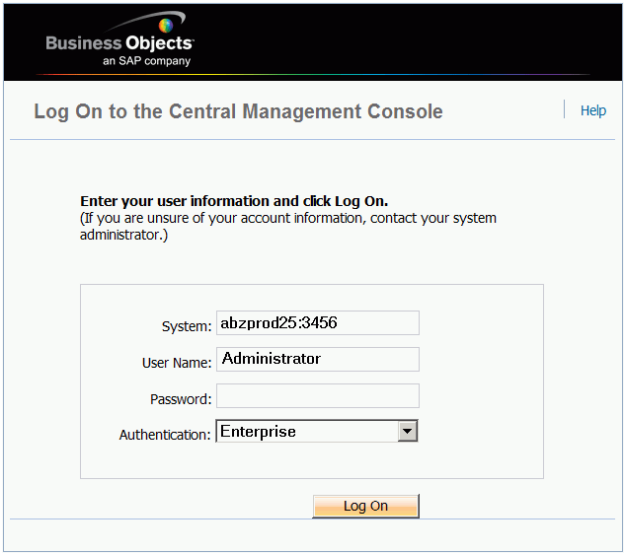
During installation, a default password is used to configure CMS server and deploy HP-provided universes and reports. To prevent unauthorized access after installation, change the default password.

To change the password, do the following:

1. Open a Web browser window and enter the URL for the BusinessObjects Enterprise Central Management Console logon page.

   The default URL is as follows:

   `http://<BusinessObjects_Server_Name>:8080/CmcApp`



2. In the Central Management Console Log On window, log on using the following credentials:
   - In the **User Name** box, type **`Administrator.`**
   - In the **Password** box, type **`admin123.`**
3. Go to the Users management area of the CMC.
4. Click the link for the Administrator account.

5. In the **Enterprise Password Settings** section, type a new password, and then confirm the new password.
6. If the **User must change password at next logon** check box is selected, clear it.
7. Click **Update.**

Verifying Successful Operational Reporting Deployment

To verify successful deployment of the Operational Reporting solution, log onto InfoView and generate one of the HP-supplied operational reports. For descriptions of these reports and instructions on how to run them, see the *Operational Reporting User's Guide.*

(Optional) Configuring Multilingual Operational Reporting

Although reporting interface elements (control labels, headings, and so on) are displayed only in English, you can configure your BusinessObjects instance to enable users to view operational report contents in a non-English definition language.

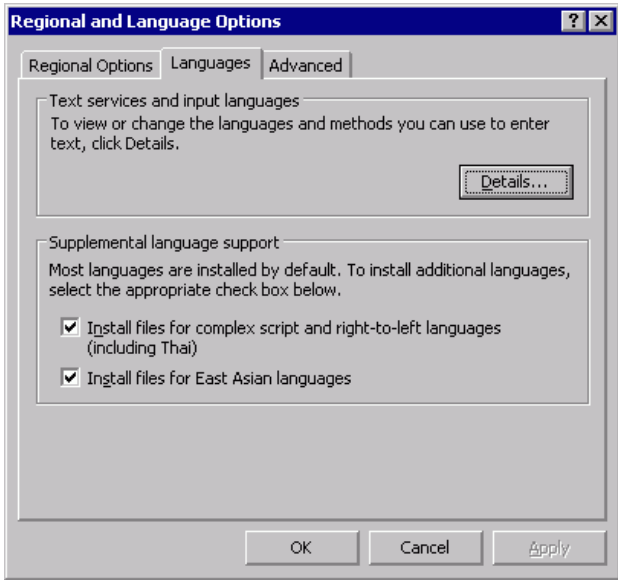
If you have a multilingual PPM Center instance, Operational Reporting is shown in the definition language. In PPM Center, not all entities are MLU-enabled. Those entities are shown in the definition language in Operational Reporting.

The definition language is the language in which a PPM Center entity is defined.The definition language is used as the *fallback* language for PPM Center entities if no translations for those entities are available in PPM Center. For more information, see the *Multilingual User Interface Guide.*

This section provides information about how to enable multilingual Operational Reporting on a Windows system. The steps described in the following procedure are for a Windows 2003 system. Depending on your Windows operating system, your steps may differ from those described here.

To enable the display of operational report results on a non-English PPM Center instance:

1. Install the Arial Unicode font on the BusinessObjects server machine.
2. If operational reports are to be accessed from a client installed on a different machine, you must also install the Arial Unicode font on that machine.
3. Open the Control Panel on the BusinessObjects server machine, and then double-click **Regional and Language Options.**
4. Click the **Languages** tab.



5. In the **Supplemental language support** section, select the check boxes for supplemental language groups to add, and then click **OK.**
6. Restart the BusinessObjects server machine.
7. To update the Oracle `NLS_LANG` environment variable:
   a. Click **Start > Run,** and then run regedit.

b. In the Registry Editor, navigate to `HKEY_LOCAL_MACHINE/SOFTWARE/ORACLE`, and then set the `NLS_LANG` variable to `AMERICAN_AMERICA.AL32UTF8`.

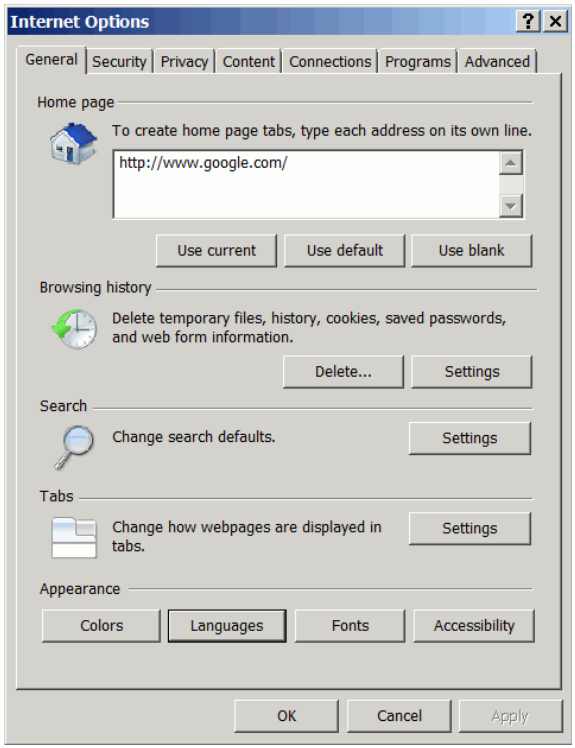
If you cannot find the NLS_LANG variable in `HKEY_LOCAL_MACHINE/SOFTWARE/ORACLE`, add it to the registry manually.

c. Navigate to `HKEY_LOCAL_MACHINE/SOFTWARE/ORACLE/HOME0`, and then set the `NLS_LANG` variable to `AMERICAN_AMERICA.AL32UTF8`.

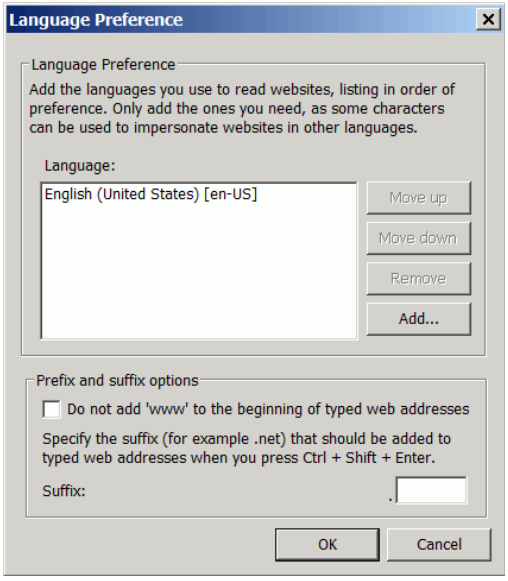
8. On each client machine, do the following:

a. Open an Internet Explorer browser window.

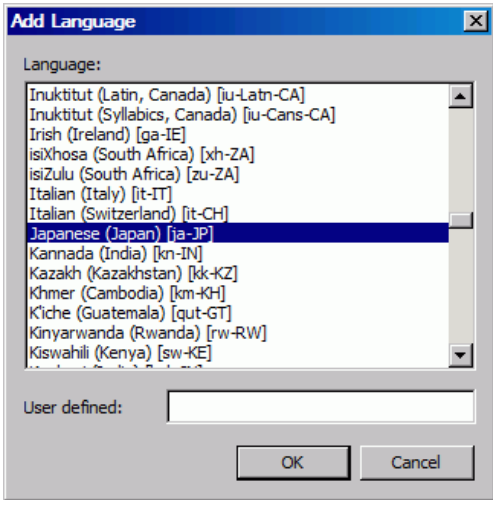
b. From the **Tools** menu, select **Internet Options.**



c. In the **Appearance** section, click **Languages.**



d. Click **Add.**



e. In the **Language** box, select the languages to add, and then click **OK.**

9. Set Unicode management to UTF-8 encoding, as follows:

   a. Navigate to the `C:\Program Files\Business Objects\BusinessObjects Enterprise 12.0\win32_x86\dataAccess\connectionServer\oracle` directory and open the `oracle.sbo` file in a text editor and locate the `<Defaults>` section.

   b. Replace the lines in the `<Defaults>` section with the following:

```
Parameter Name="Family">Oracle</Parameter>
<Parameter Name="SQL External File">oracle</Parameter>
<Parameter Name="SQL Parameter File">oracle</Parameter>
<Parameter Name="Description File">oracle</Parameter>
<Parameter Name="Strategies File">oracle</Parameter>
<Parameter Name="Driver Level">31</Parameter>
<Parameter Name="Array Fetch Available">True</Parameter>
<Parameter Name="Array Fetch Size">250</Parameter>
<Parameter Name="Array Bind Available">True</Parameter>
<Parameter Name="Array Bind Size">32767</Parameter>
<Parameter Name="Query TimeOut Available">False
   </Parameter>
<Parameter Name="Binary Slice Size">32000</Parameter>
<Parameter Name="CharSet Table">oracle</Parameter>
<Parameter Name="Unicode">UTF8</Parameter>
```

   c. Save and close the `oracle.sbo` file.

   d. On the Oracle server, navigate to the `C:\Program Files\Business Objects\BusinessObjects Enterprise 12.0\win32_x86\dataAccess\connectionServer` directory, open the `cs.cfg` file in a text editor.

   e. Locate the `<DriverDefaults>` section and set the Unicode parameter as follows:

```
<Parameter Name="Unicode">UTF8</Parameter>
```

   f. Save and close the `cs.cfg` file.

10. Modify the `defaultconfig.xml` file to support the Arial Unicode MS font as follows:

    a. Navigate to the `C:\Program Files\Business Objects\Tomcat55\Webapps\AnalyticalReporting\webiapplet\AppletConfig` directory and open the `defaultconfig.xml` file in edit mode.

b. Locate `<CUSTOM_GUI_FONTS VALUE=""/>`, and change it to the following:

```
<CUSTOM_GUI_FONTS VALUE="Arial Unicode MS"/>
```

c. Save and close the `defaultconfig.xml` file.

11. Modify the `fontalias.xml` file to support the Arial Unicode MS font as follows:

a. Navigate to the `C:\Program Files\Business Objects\Business Objects Enterprise 12.0\win32_x86\fonts` directory and open the `fontalias.xml` file in edit mode.

b. Add the following just above the `<FONT NAME="default">` section:

```
<FONT NAME="Arial Unicode">
   <FONTFAMILY PLATFORM="ttf" NAME="'Arial Unicode MS'">
   <FONTATTRIBUTE BOLD="false" ITALIC="false"
   LOGICAL="'Arial Unicode MS'" PHYSICAL="ARIALUNI.ttf"/>
   </FONTFAMILY>
   <FONTFAMILY PLATFORM="win" NAME="'Arial Unicode MS'"/>
   <FONTFAMILY PLATFORM="java" NAME="'Arial
   Unicode MS'"/>
   <FONTFAMILY PLATFORM="html" NAME="'Arial
   Unicode MS'"/>
</FONT>
```

12. Navigate to the `C:\Program Files\Business Objects\Business Objects Enterprise 12.0\win32_x86\scripts` directory, open the `i18n.xml` file in edit mode, and then add the following to the `<font_aliasing> <TTF>` section:

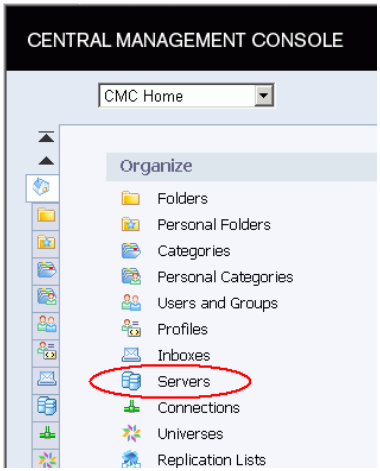
```
</font>
<font name="Arial Unicode MS">
   <os type="all">
      <Attributs style="0" filename="arialuni.ttf"
      encoding=""aliaspsname="Arial Unicode MS"/>
   </os>
</font>
```

13. Select **Start > All Programs > BusinessObjects XI 3.1 > BusinessObjects Enterprise > Central Configuration Manager.**

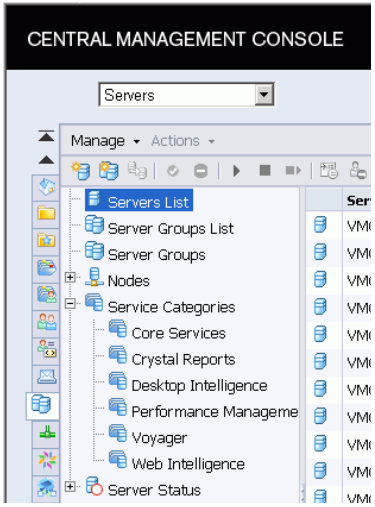
14. Right-click **Apache Tomcat 5.5.2.0,** and then select **Restart** from the shortcut menu.

15. To make sure that all WebI Processing Servers are running:

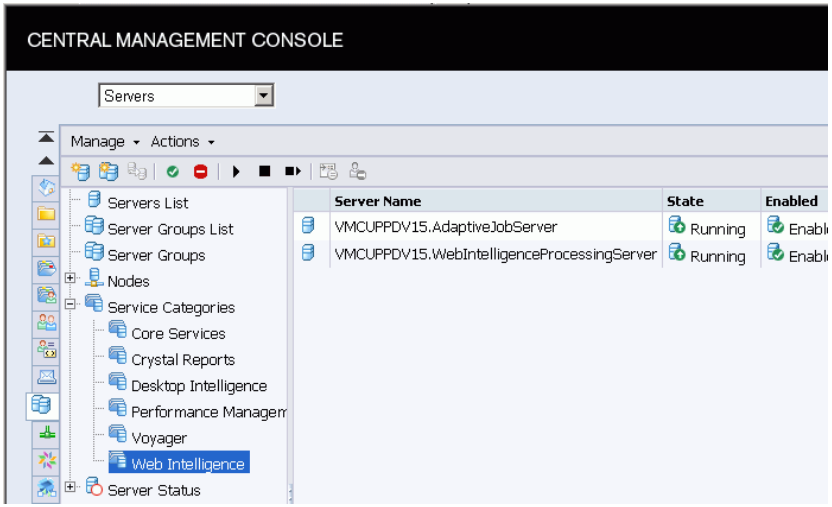
    a. Select **Start > All Programs > BusinessObjects XI 3.1 > BusinessObjects Enterprise > BusinessObjects Enterprise Central Management Console.**



    b. In the **Organize** column, click **Servers.**



16. In the left pane, expand **Service Categories,** and then click **Web Intelligence.**



17. Check the **State** column and make sure that your Web Intelligence processing servers are running.
18. In the Registry Editor, do the following:
    a. Expand the **HKEY_LOCAL_MACHINE** folder.
    b. Expand the **SOFTWARE** folder.
    c. Expand the **ORACLE** folder.
    d. Open the **KEY_OraClient10g_home1** folder.
    e. Change the **NLS_LANG** value from `AMERICAN_AMERICA.WE8MSWIN1252` to `AMERICAN_AMERICA.AL32UTF8`.

Save the universe, and then export it to the repository.

Displaying Report Values for Non-English Speaking Locales

If you enable multilingual Operational Reporting, users in different locales must configure InfoView to display numeric values and dates correctly in reports.

To make sure that numeric values and dates are correctly displayed for your locale, do the following:

1. Open a web browser window and log on to InfoView.
2. Click **Preferences.**
3. In the **General** section on the Preferences page, scroll down and, from the **Preferred Viewing Locale** list, select a locale.
4. Click **OK.**

When you start viewing operational reports in InfoView, dates and numeric values are displayed correctly.

3 Deploying Operational Reporting on UNIX Systems

Operational Reporting Solution Deployment

This chapter provides the information you need to implement the Operational Reporting solution for PPM Center for the first time on a UNIX system. It includes instructions for deploying Operational Reporting for PPM Center 9.10 and then upgrading immediately to PPM Center Content Pack 1.

If you have already deployed Operational Reporting based on PPM Center 9.10, and you want to upgrade to PPM Center Content Pack 1 follow the instructions provided in Chapter 5, *Upgrading Operational Reporting on a UNIX System,* on page 127. For instructions on how to deploy Operational Reporting on a Windows system, see Chapter 2, *Deploying Operational Reporting on Windows Systems,* on page 21.

High-Level Deployment Steps

Deploying the Operational Reporting solution for PPM Center involves the following tasks:

1. Install PPM Center version 9.10, and then upgrade to PPM Center 9.10 service pack 2 (9.12).

   For information about how to install PPM Center 9.10 and service packs, see the *Installation and Administration Guide* for PPM Center 9.10 or the *Release Notes* for the specific service pack.

2. To make sure that your system meets the requirements for BusinessObjects Enterprise installation, check the *Products Availability Report (PAR)* document, which is available on the BusinessObjects support site (http://support.businessobjects.com/documentation/supported_platforms).

3. (Optional, but strongly recommended for optimal performance) Set up an Oracle database instance specifically for Operational Reporting and set Oracle database parameters. (See *Setting Up a Database for Operational Reporting* on page 76).

4. Check to make sure that the PPM Center database and the Operational Reporting database can communicate over the database link.

5. Create four Oracle tablespaces required to create the Operational Reporting schema and database objects. (See *Creating Tablespaces for the Operational Reporting Schema* on page 77.)

   The Operational Reporting database schema is created automatically during Operational Reporting deployment.

6. Download the Oracle 11g database client software and install it on both your BusinessObjects server and client machine.

7. Set the JAVA_HOME variable on the BusinessObjects server. (See step 8 on page 81.)

8. Install the SAP BusinessObjects Enterprise software and, optionally, the BusinessObjects Enterprise Client Tools software. (See *Installing BusinessObjects Enterprise on a UNIX System* on page 83.)

9. Upgrade the BusinessObjects instance with BusinessObjects XI 3.1 Service Pack 2, and, optionally, upgrade the BusinessObjects Enterprise Client Tools software. (See *Installing BusinessObjects Enterprise XI 3.1, Service Pack 2* on page 85.)

10. Run the BusinessObjects Diagnostic Tool to verify successful BusinessObjects Enterprise installation and upgrade. (See *Verifying Successful BusinessObjects Enterprise Installation* on page 92.)

11. Set up the Oracle JDBC driver to establish connections between the BusinessObjects server and the Operational Reporting databases. (See *Configuring the Oracle JDBC Driver* on page 92.)

12. Import the PPM Center reporting universes and preconfigured reports. (See *Importing and Updating Universes and Reports* on page 104.)

13. Run the setup script to create the Operational Reporting database schema. (See *Creating the Operational Reporting Database Schema* on page 94.)

14. Run the load script to bring PPM Center data into the Operational Reporting database schema. (See *Loading PPM Center Data Into the Operational Reporting Database* on page 99.)

15. Upgrade Operational Reporting to PPM Center Content Pack 1.

16. Remove the default password for the BusinessObjects Central Management Server (CMS). (See *Removing the BusinessObjects Central Management Server Password* on page 113.)

17. Configure the Operational Reporting database connection. (See *Configuring the Operational Reporting Database Connection* on page 109.) Change the connection parameters for all the universes so that the connection points to the Operational Reporting database schema.

18. To verify successful deployment of Operational Reporting, run the query for an HP-supplied report. For information about HP-supplied operational reports, see the *Operational Reporting User's Guide.*

Preparing the Database Schema for Operational Reporting

The following sections provide instructions on how to prepare the Operational Reporting database schema.

Setting Up a Database for Operational Reporting

Requirements and recommendations for setting up the database for Operational Reporting are as follows:

- (Required) Configure the Operational Reporting database to use UTF-8 encoding.
- (Required) Set the Oracle `NLS_CHARACTERSET` parameter to `UTF-8`.
- HP strongly recommends that you create an Oracle database specifically for Operational Reporting (independent of your Oracle Database instance). Make sure that the PPM Center database and the Operational Reporting database can communicate over the database link.
- HP strongly recommends that you use the Enterprise Edition of Oracle Database for the Operational Reporting database. The advanced compression and partitioning featured in the Enterprise Edition significantly improve performance, especially if you report on a large and growing volume of data.

Configuring Oracle Database Parameters for Operational Reporting

HP recommends that you use Oracle's automatic memory management (AMM) feature. To do this, set the value for either the `memory_max_target` parameter or the `memory_target` parameter, and then let Oracle manage the memory (SGA and the PGA) dynamically. For more information about how to optimize performance, see the *Deployment Best Practices for PPM Operational Reporting* document.

To obtain the *Deployment Best Practices for PPM Operational Reporting* document and other HP PPM Center documents, go to the Software Product Manuals Web site (support.openview.hp.com/selfsolve/manuals). To access this Web site, you must first set up an HP Passport account.

Creating Tablespaces for the Operational Reporting Schema

Before you can create the database schema for Operational Reporting, you must first create tablespaces (two data and two index tablespaces) for the star schema. This section sections provides instructions for performing this task.

To create the empty database schema (with tables to be populated during installation):

1. Set up the required data and index tablespaces for the Operational Reporting database schema.

For information on the minimum size recommended for these tablespaces, see the *System Requirements and Compatibility Matrix*.

2. Create two tablespaces that include the LOGGING option, as shown in the following examples:

```
CREATE TABLESPACE <PPM_Data>
datafile <'/u0/oracle/oradata/G1010/ppm_data01.dbf'>
size <Size>m
LOGGING
DEFAULT COMPRESS
ONLINE
PERMANENT
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
BLOCKSIZE 32K
SEGMENT SPACE MANAGEMENT AUTO
FLASHBACK ON;

CREATE TABLESPACE <PPM_Index>
datafile <'/u0/oracle/oradata/G1010/ppm_data01.dbf'>
size <Size>m
LOGGING
DEFAULT COMPRESS
ONLINE
PERMANENT
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
BLOCKSIZE 32K
SEGMENT SPACE MANAGEMENT AUTO
FLASHBACK ON;
```

3. To improve performance and reduce resource consumption, create two tablespaces that include the NOLOGGING option, as shown in the following examples:

```
CREATE TABLESPACE <PPM_Data_nologging>
datafile <'/u0/oracle/oradata/G1010/ppm_data01.dbf'>
size <Size>m
NOLOGGING
DEFAULT COMPRESS
ONLINE
PERMANENT
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
BLOCKSIZE 32K
SEGMENT SPACE MANAGEMENT AUTO
FLASHBACK ON;

CREATE TABLESPACE <PPM_Index_nologging>
datafile <'/u0/oracle/oradata/G1010/ppm_data01.dbf'>
size <Size>m
NOLOGGING
DEFAULT COMPRESS
ONLINE
PERMANENT
EXTENT MANAGEMENT LOCAL AUTOALLOCATE
BLOCKSIZE 32K
SEGMENT SPACE MANAGEMENT AUTO
FLASHBACK ON;
```

The Operational Reporting database schema is created automatically during deployment.

Deploying BusinessObjects Enterprise on UNIX Systems

This section contains information about the operating systems and languages supported by the Operational Reporting solution, instructions on how to prepare your system for BusinessObjects Enterprise installation, and the detailed steps to perform the installation.

Operating Systems Support for BusinessObjects Enterprise

BusinessObjects Enterprise XI 3.1 is supported for Windows, Linux, HP-UX IBM AIX, and Sun Solaris operating systems. For information about the specific versions of the operating systems supported, see the *Products Availability Report (PAR)* document, which is available on the BusinessObjects support site (http://support.businessobjects.com/documentation/supported_platforms).

Preparing to Install BusinessObjects Enterprise on a UNIX System

This section addresses the tasks to perform before you start to install BusinessObjects Enterprise.

To prepare your system for BusinessObjects Enterprise installation, do the following:

1. Install all necessary service packs and packages for your operating system.
2. Check to make sure that your system meets the following minimum disk space requirements for BusinessObjects Enterprise installation:
   - 8.0 GB for BusinessObjects Enterprise (BusinessObjects Server and BusinessObjects Client)
   - 3.0 GB for BusinessObjects Enterprise Client
3. To get the PPM Center 9.12 Content Pack 1 upgrade bundle:
   a. Go to the Operational Reporting Content delivery page (`h22038.www2.hp.com`) on the HP Live Network site.

      To access the Operational Reporting Content delivery page, you must first sign in on the HP Passport sign-in page.

      For detailed information about how to access the Operational Reporting Content delivery page, see *Operational Reporting Content on HP Live Network* on page 17.

   b. Under **Quick Links**, click **Download Reporting Content.**
   c. In the **Name** column, click the **9.12 CP1** link.
   d. Download the PPM Center 9.12 Content Pack 1 upgrade bundle for your operating system.
4. Extract the contents of the PPM Center 9.12 Content Pack 1 upgrade bundle to its own directory (hereinafter referred to as the `<PPM_CP1>` directory), separate from the `<Op_Reports_Home>` directory.

5. Set the `LC_ALL` environment variable as follows:

   ```
   export LC_ALL=en_US.utf8
   ```

   To verify that the variable is set correctly, run:

   ```
   env |grep LC_ALL
   ```

6. Create a non-root user account with full administrator privileges for the directory in which you plan to install the BusinessObjects Enterprise software, as follows:

   `# groupadd <Your_Group_Name>` (`boe` in this case)

   `# useradd -d <User_Home_Path>` (`/home/boe` in this case)
   `# -g <Your_Group_Name>` (`boe` in this case) `<Your_User_Name>`
   `#` (`boe` in this case)

   ```
   # chown R boe:boe /home/boe
   ```

   ```
   # passwd boe
   ```

   For `<User_Home_Path>`, specify a (non-existing) directory for the `useradd` command to create.

7. Check to make sure that the `/etc/passwd` file points to the directory in which you plan to install BusinessObjects Enterprise.

8. Set the JAVA_HOME variable in the system environment of the user account to be used to start the BusinessObjects server.

   On the BusinessObjects server, set JAVA_HOME to:

   `<BO_Home>/bobje/jdk`

   where `<BO_Home>` is the directory in which you plan to install the BusinessObjects server.

   Make sure that the value you specify contains no spaces.

9. If you plan to install on a Linux system, make sure that:
    - You have write permission for the directory in which you plan to install BusinessObjects Enterprise.
    - The full path name for the directory contains no spaces, and no commas, or other non-alphanumeric characters, except for hyphens (-) or underscores (_). For example, “server1_1” is a valid name, but “server 1,1” is not a valid name.
10. BusinessObjects Enterprise installation and upgrade are memory- and CPU-intensive processes. Shut down all unnecessary processes before you perform the installation (and upgrade).

HP recommends that you have only the Business Object Enterprise installation running.

For more information about the hardware and software requirements for installing and upgrading BusinessObjects Enterprise, see your SAP documentation.

Installing BusinessObjects Enterprise on a UNIX System

The distribution DVD contains the PPM Center Operational Reporting software bundle, the BusinessObjects Enterprise XI 3.1 install bundle, and the BusinessObjects Enterprise XI 3.1 SP2 Upgrade bundle.

To install BusinessObjects Enterprise server software on a UNIX system:

1. From the distribution DVD, extract the contents of the PPM Center Operational Reporting install bundle, the BusinessObjects Enterprise XI 3.1 install bundle, and the BusinessObjects Enterprise XI 3.1 SP2 Upgrade bundle to a new folder (hereinafter referred to as the `<Op_Reports_Home>` directory) on the machine that is to host BusinessObjects Enterprise.
2. Navigate to the `<Op_Reports_Home>/Deployment/platform/installer` folder, open the `installer.properties` file in a text editor, and then set the BusinessObjects Enterprise installation parameters, as shown in the following table.

Parameter	Value
boe.unix.install.dir	Installation directory for BusinessObjects Enterprise on UNIX
boe.unix.username	Non-root user name (see step 6 on page 81)
boe.unix.response.file	Path to the `unix.ini` file (`<Op_Reports_Home>/Deployment/platform/installer/unix.ini`), which is created by the installation process.
boe.unix.upgrade.file	Path to the `upgrade.ini` file (`<Op_Reports_Home>/Deployment/platform/installer/upgrade.ini`)
boe.unix.cd.dir	BusinessObjects Enterprise installation directory path (`<Op_Reports_Home>/Deployment/platform/boe31`)
boe.unix.sianodename	BusinessObjects server intelligence agent node name
boe.unix.cmsnameserver	Host name of the BusinessObjects server

Parameter	Value
boe.unix.localnameserver	Host name of the BusinessObjects server
boe.unix.dbhostname	Host name or IP address of the machine to host BusinessObjects Enterprise
boe.unix.upgrade.log	Path for the upgrade log file Example: `/opt/boe/Deployment/platform/installer/upgrade.out`

3. Save and close the `installer.properties` file.
4. Navigate to the `<Op_Reports_Home>/Deployment` directory and run `installReportingServer.sh` file.

   BusinessObjects Reporting Server installation begins. You can monitor the installation process by viewing the `installer.out` file, which is located in the `<BO_Home>/Deployment/platform/installer` directory.

   On SUSE Linux systems, the log file is located in the `/temp` directory.

   The BusinessObjects server is installed in the directory you specified as the installation directory in the `installer.properties` file (hereinafter referred to as `<BO_Home>`). Depending on the resources available to you, installation may take several hours.
5. After you finish installing BusinessObjects Enterprise, do the following:
   - Install BusinessObjects XI 3.1 Service Pack 2. (See *Installing BusinessObjects Enterprise XI 3.1, Service Pack 2* on page 85.)
   - Perform required post-installation tasks. (See *Post-Installation Tasks* on page 87.)

Installing BusinessObjects Enterprise XI 3.1, Service Pack 2

After you have successful installed BusinessObjects XI 3.1, you must install BusinessObjects XI 3.1 Service Pack 2 (SP2). For information about the requirements for installing BusinessObjects XI 3.1 SP2, see the *Products Availability Report (PAR)* document, which you can get from the BusinessObjects support site (http://support.businessobjects.com/documentation/supported_platforms).

To install BusinessObjects XI 3.1 SP2 on UNIX:

1. Before you begin, shut down any processes that are not absolutely required during the upgrade. The SP2 upgrade is memory- and CPU-intensive.
2. Navigate to the `<Op_Reports_Home>/Deployment` directory, and then run the `upgradeReportingServer.sh` file.

   The service pack installation begins. You can monitor the installation process by viewing the `upgrade.out` file, which is located in the `<BO_Home>/Deployment/platform/installer` directory.

   The upgrade takes a few hours to complete.

3. Check the PPM Center *Release Notes* to see whether additional BusinessObjects Enterprise service packs or fix packs are required for Operational Reporting deployment and perform any additional installations required.

Checking the Deployment Log File After BusinessObjects XI 3.1 SP2 Installation

If you install a BusinessObjects Enterprise service pack, the BusinessObjects Web application is automatically re-deployed.

After you install BusinessObjects XI 3.1 SP2, do the following:

1. Navigate to the `<BO_Home>/bobje/setup/logs` directory and check the `log` files for any errors that may have occurred.
2. If errors occurred during installation, or if you cannot run a report from InfoView because of JavaScript errors, then manually re-deploy BusinessObjects Enterprise as follows:
   a. Back up the `<BO_Home>/deployment/workdir` folder.
   b. Delete all contents of the `<BO_Home>/deployment/workdir` folder.
   c. Change to the `<BO_Home>/deployment` directory, and then run the command `wdeploy.sh tomcat55 deployall`.
3. Check the `wdeploy.log` file again for errors, and then run a report query from InfoView to test the deployment.

Verifying the Upgrade to BusinessObjects XI 3.1 SP2

After installation, navigate to the `<BO_Home>/setup/logs` directory and check the `BOE_SP2_Install_0.log` file to make sure that the BusinessObjects XI 3.1 SP2 installation was successful.

After you finish installing BusinessObjects XI 3.1 SP2, complete the tasks described in *Post-Installation Tasks* on page 87.

Post-Installation Tasks

This section addresses the following tasks, which must be performed after you install and update BusinessObjects Enterprise:

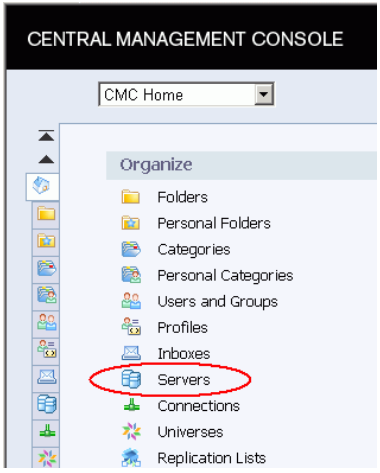
- *(HP-UX Only) Resetting Memory Thresholds*
- *Verifying Successful BusinessObjects Enterprise Installation*
- *Configuring the Oracle JDBC Driver*
- *Creating the Operational Reporting Database Schema*
- *Loading PPM Center Data Into the Operational Reporting Database*
- *Running the Upgrade Script*
- *Importing and Updating Universes and Reports*
- *Configuring the Operational Reporting Database Connection*
- *Installing BusinessObjects Enterprise Client Tools*
- *Removing the BusinessObjects Central Management Server Password*
- *Verify Successful Operational Reporting Deployment*

(HP-UX Only) Resetting Memory Thresholds

A memory issue can sometimes prevent you from running reports from InfoView when the BusinessObjects server software is installed on HP-UX.

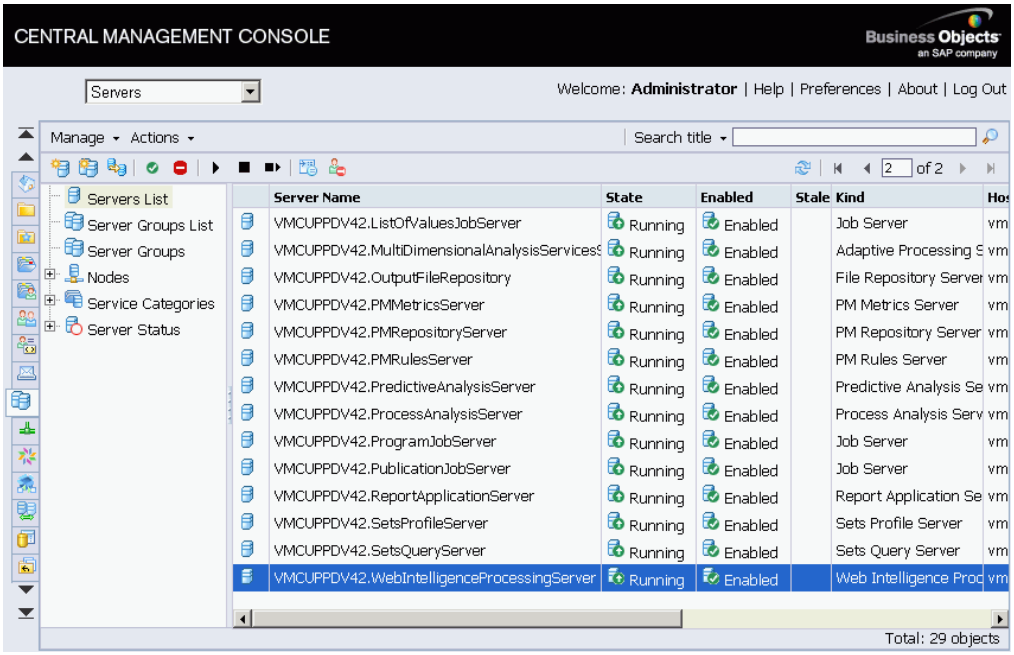
To resolve this issue, after you install BusinessObjects XI 3.1 SP2, do the following:

1. Start the BusinessObjects Enterprise Central Management Console (CMC). (Select **Start > All Programs > BusinessObjects 3.1 XI > BusinessObjects Enterprise > BusinessObjects Enterprise Central Management Console.**)

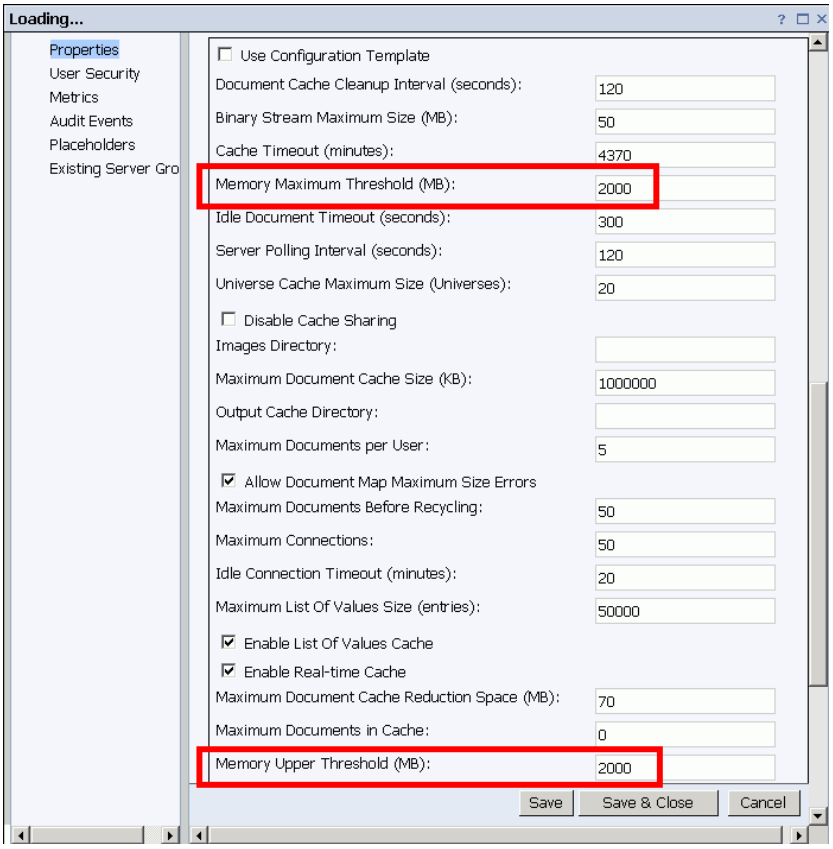


2. In the **Organize** column, click **Servers.**

3. In the **Server Name** column, double-click ***<BusinessObjects_Server_Host_Name>*WebIntelligenceProcessingServer.**

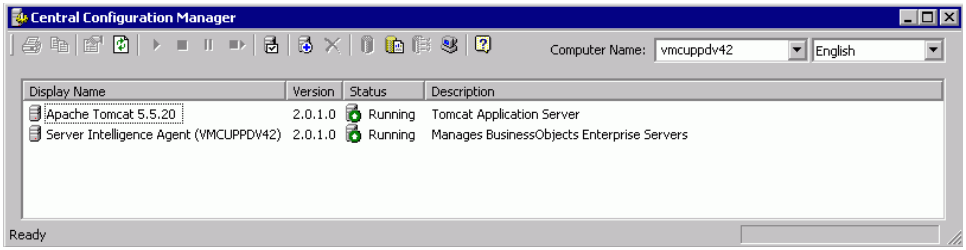


4. In the Properties window, scroll down to the **Web Intelligence Processing Service** section, and then replace the default values in both the **Memory Maximum Threshold (MB)** and **Memory Upper Threshold (MB)** boxes to 2000.



5. Click **Save & Close.**
6. Log out of CMC.
7. Start the Central Configuration Manager. (Select **Start > All Programs > BusinessObjects 3.1 XI > BusinessObjects Enterprise > Central Configuration Manager.)**
8. Restart the Apache Tomcat and Server Intelligence Agent servers from the Central Configuration Manager.

9. Verify that the Apache Tomcat and Server Intelligence Agent servers are up and running.



10. Verify that you can run your operational reports from InfoView.

Verifying Successful BusinessObjects Enterprise Installation

After you install BusinessObjects Enterprise, check your installation.

To verify that the BusinessObjects Enterprise installation was successful, use the BusinessObjects client tools installed on Windows (see *Installing BusinessObjects Enterprise Client Tools* on page 57.)

For detailed information about the diagnostic tests and how to run them, see SAP's *BusinessObjects Enterprise XI 3.1 Deployment Diagnostic Tool User's Guide.*

Configuring the Oracle JDBC Driver

Operational Reporting deployment relies on the Oracle JDBC driver to establish connections between BusinessObjects server and the Operational Reporting schema. This section provides instructions for setting up the Oracle JDBC driver on UNIX or Linux systems.

JDBC configuration is same for both BusinessObjects server and BusinessObjects client tools.

Setting up the Oracle JDBC Driver on Unix or Linux

To set up the Oracle JDBC driver on a Linux or UNIX system:

1. Check to make sure that Oracle client is installed on your BusinessObjects server. If Oracle client is not installed, then install it.
2. Configure the `tnsnames.ora` file and verify that you can connect to the Operational Reporting database schema from the command line using SQL*Plus.

The *tnsnames.ora* file normally resides in the `<Oracle_Home>/network/admin` directory.

For information about how to configure the `tnsnames.ora` file, see the Oracle Technology Network.

3. Navigate to the `<ORACLE_HOME>/jdbc/lib` directory on your BusinessObjects server, and make sure that it contains the `ojdbc5.jar` file.
4. Navigate to the `<BO_Home>/boe31/bobje/enterprise120/<Operating_System_Version>/dataAccess/RDBMS/connectionServer/jdbc` directory.
5. Back up the `jdbc.sbo` file.

HP strongly recommends that you back up the `jdbc.sbo` file before you continue to the next step.

6. Open the `jdbc.sbo` file in a text editor, and then locate the following text:

```
<DataBase Active="Yes" Name="Oracle 11">
   <Class JARFile="dbd_jdbc,dbd_oracle"> com.businessobjects
   .connectionserver.java.drivers.jdbc.oracle.OracleDriver
   </Class>
   <JDBCDriver>
```

7. Add the following text under the Oracle 11 `<JDBCDriver>` tag:

```
<ClassPath>
   <Path><Oracle_Home>/jdbc/lib/ojdbc5.jar/ojdbc5.jar</Path>
</ClassPath>
```

8. Save and close the `jdbc.sbo` file.

Creating the Operational Reporting Database Schema

To create the Operational Reporting database schema, you run the setup script. To import PPM Center data into the Operational Reporting database, you run the load script. The following sections provide detailed instructions on how to perform each of these tasks.

Running the Setup and Synchronization Scripts

To run the setup and synchronization scripts:

1. Stop all PPM Servers (including all nodes in a server cluster).

   If the `REMOTE_ADMIN_REQUIRE_AUTH` parameter is set to `true`, users running `kStop.sh` to shut down the PPM Server must supply a valid PPM Center user name and password. If the parameter is set to `false`, any user with access to the `kStop.sh` script can shut down the server. For information about the `REMOTE_ADMIN_REQUIRE_AUTH` parameter, see the *Installation and Administration Guide.*

   To stop a PPM Server:

   a. Navigate to the `<PPM_Home>/bin` directory.

   b. Run the `kStop.sh` script as follows:

      ```
      sh ./kStop.sh -now -user <User_Name>
      ```

      Make sure that you type a valid user name for a user who has Administrator privileges.

2. Log on to the BusinessObjects server machine, navigate to the `<Op_Report_Home>/DB/install/sample` directory, and open the `sample_setup_all.sh` file in a text editor.

   Make sure that you make the file as an executable.
   For example: `chmod +x sample_setup_all.sh`

3. Uncomment the parameters listed in the following table, replace the placeholders with valid values, and then save and close the file.

Parameter	Description
SYS user name of Reporting DB	SYS user name for the Operational Reporting database Example value: sys
Reporting DB Schema Name	Operational Reporting database schema name Example value: RPT_SCHEMA
Reporting DB data_ tablespace_name	Name of the data tablespace for the Operational Reporting database Example value: RPT_DATA_TS
Reporting DB temp_tablespace_ name	Name of the temp tablespace for the Operational Reporting database Example value: RPT_TEMP_TS
Reporting DB index_tablespace_ name	Name of the index tablespace for the Operational Reporting database Example value: RPT_INDEX_TS
Reporting DB TNS Name	Identifies the Oracle instance that runs the Operational Reporting database schema. TNS name is configured in the `tnsnames.ora` file. Example value: RPT
PPM DB Schema Name	PPM Center database schema name. This value should exist in the Oracle `tnsnames.ora` entry. Example value: PPM_SCHEMA
PPM DB data_ tablespace_name	PPM Center database data tablespace name **Note:** This refers to the existing data tablespace in the *PPM Center database schema*. The PPM Center schema stores this in KINS_TABLESPACES table. Example value: PPM_DATA_TS
PPM DB temp_ tablespace_name	PPM Center database temp tablespace name **Note:** This refers to the existing temp tablespace in the *PPM Center database schema*. The PPM Center schema stores this in KINS_TABLESPACES table. Example value: `PPM_TEMP_TS`

Parameter	Description
PPM DB index_ tablespace_name	PPM Center database index tablespace name **Note:** This refers to the existing index tablespace in the *PPM Center database schema*. The PPM Center schema stores this in KINS_TABLESPACES table. Example value: `PPM_INDEX_TS`
Full tnsnames.ora entry to PPM schema	Full `tnsnames.ora` entry for the PPM Center database schema • For `HOST`, specify the IP address of the PPM Center database server • For `PORT`, specify the PPM Center database port • FOr `SERVICE_NAME`, specify the SID in `tnsnames.ora` file for the PPM Center database Example value: `"(DESCRIPTION= (ADDRESS= (PROTOCOL=TCP) (HOST=16.89.27.63) (PORT=1522)) (CONNECT_DATA= (SERVER=dedicated) (SERVICE_NAME=MDB1106A)))"`
DB_LINK_NAME to PPM	Name of the link to the PPM Center database This value is generated in the Operational Reporting database schema. Example value: PPM_DB_LINK
SYS user name of PPM DB	SYS user name for the PPM Center database Example value: sys
RPT_DATA_ NOLOGGING_ TABLESPACE_ NAME>	Separate tablespace that requires no redo log for the Operational Reporting database to store data.Example value: PPM_DATA_TS_NL
RPT_INDEX_ NOLOGGING_ TABLESPACE_ NAME	Separate tablespace that requires no redo log for the Operational Reporting database to store indexes. Example value: RPT_INDEX_TS_NL

4. Run the `sample_setup_all.sh` script.

5. During the script run, provide the following passwords when prompted:
   - PPM Center database server SYS user password
   - PPM Center database server schema password
   - Operational Reporting database server SYS user password
   - Operational Reporting database server schema password
6. The script run creates a log file in the `<Op_Report_Home>/DB/install/log` directory and check the `setup_all.log` file to make sure that no errors occurred. If the `setup_all.log` file indicates that compilation errors occurred, run the following:

   ```
   Select * from user_objects where status = 'INVALID'
   ```

   If no rows are returned, you can safely ignore the warning.
7. Log on to the BusinessObjects server machine, navigate to the `<PPM_CP1>/Sample` directory, and open `sample_resync_ppm.sh` in a text editor.
8. Replace the default values for the parameters listed in the following table with valid values.

Parameter	Description
Reporting DB Schema Name	Operational Reporting database schema name Example value: RPT_SCHEMA
Reporting DB TNS Name	Identifies the Oracle instance that runs the Operational Reporting database schema. TNS name is configured in the `tnsnames.ora` file. Example value: RPT
PPM DB Schema Name	PPM Center database schema name. This value should exist in the Oracle `tnsnames.ora` entry. Example value: PPM_SCHEMA

Parameter	Description
PPM DB TNS Name	Oracle instance that runs the PPM Center database schema. TNS name is configured in the `tnsnames.ora` file.
PPM DB data_tablespace_ name	PPM Center database data tablespace name **Note:** This refers to the existing data tablespace in the *PPM Center database schema*. The PPM Center schema stores this in the KINS_TABLESPACES table. Example value: PPM_DATA_TS
PPM DB index_tablespace_ name	PPM Center database index tablespace name **Note:** This refers to the existing index tablespace in the *PPM Center database schema*. The PPM Center schema stores this in the KINS_TABLESPACES table. Example value: PPM_INDEX_TS
PPM Server Status PPM_DOWN_NO, PPM_DOWN_YES	If set to `PPM_DOWN_NO`, checks to determine whether any PPM Servers are running. If any node is running, the upgrade stops so that you can shut down all running nodes. If set to `PPM_DOWN_YES`, the PPM Server check is not performed.

9. Review the `resync_ppm_<Date_Time>.log` report file (located in the `<PPM_CP1>/log` directory).

   If the script fails because a PPM Server is running, you see the error message `"PPM DOWN is required. One or more PPM Servers are active. If all are down, pass PPM_DOWN_YES, *** aborting upgrade..."`. If this occurs, see *Upgrade Failure Resulting from Active PPM Servers* on page 107.

10. Restart the PPM Servers.

    If your PPM Center instance includes multiple nodes in a cluster configuration, allow 10 to 15 seconds between node start-ups. For information about how to start PPM Servers, see the *Installation and Administration Guide*.

Loading PPM Center Data Into the Operational Reporting Database

After you create the Operational Reporting database schema (*Creating the Operational Reporting Database Schema* on page 94), and synchronized the tables and data, you can import your PPM Center data into the Operational Reporting database. This section provides information about how to run the load script that brings PPM Center data into the Operational Reporting database schema.

The definition of Materialized View `RPT_DIM_RM_RESOURCES` in Operational Reporting 9.10 (GA) causes big performance problems when loading data. To avoid this problem in Operational Reporting Content Pack 1.2 (CP1.2), between setup and loading data, replace it with the new definition in Operational Reporting CP1.2: `CP1.2\DB\updated_scripts\rpt_dim_rm_resources.sql`.

To run the load script:

1. Gather the information listed in the following table.

Parameter	Description
Reporting DB Schema Name	Operational Reporting database schema name Example value: RPT_SCHEMA
Reporting DB TNS Name	Identifies the Oracle instance running the Operational Reporting database schema. the TNS name is configured in the `tnsnames.ora` file. Example value: RPT
Reporting DB index_ tablespace_name	Name of the index tablespace for the Operational Reporting database Example value: RPT_INDEX_TS
DB_LINK_NAME to PPM	Name of the link to the PPM Center database. This link is created automatically during the setup_all script run. Example value: PPM_DB_LINK

Parameter	Description
ETL start date (mm-dd-yyyy)	Start date (in mm-dd-yyyy format) for the PPM Center data to load into the Operational Reporting database schema. Example value: 01/01/2009
ETL end date (mm-dd-yyyy)	End date (in mm-dd-yyyy format) for the PPM Center data to load into the Operational Reporting database schema. Example value: 01/01/2011 **Note:** The ETL end date you specify is converted based on the fiscal year. For details, see the *Installation and Administration Guide*.
Reporting DB data_ tablespace_name	Name of the data tablespace for the Operational Reporting database Example value: RPT_DATA_TS
RPT SYS Username	SYS user name for the Operational Reporting database Example value: sys
Request dimension ETL start date (mm-dd-yyyy)	Start date (in mm-dd-yyyy format) for the PPM Center request data to load into the Operational Reporting database schema. Example value: 01/01/2009 **Note:** If your PPM Center database contains data for old, but active requests, you can include that data without importing all data from that time period.
RPT_DATA_NOLOGGING_ TABLESPACE_NAME	Separate tablespace that requires no redo log for the Operational Reporting database to store data. Example value: PPM_DATA_TS_NL
RPT_INDEX_NOLOGGING_ TABLESPACE_NAME	Separate tablespace that requires no redo log for the Operational Reporting database to store indexes. Example value: PPM_INDEX_TS_NL

2. Log on to the BusinessObjects server machine, navigate to the `<Op_Report_Home>/DB/install/sample` directory, and open the `sample_load_data.sh` file in a text editor.

Make sure that you make the file executable.
For example: `chmod +x sample_load_data.sh`

3. Replace each of the variables in the load script with the corresponding values you prepared for step 1, and then save and close the file.
4. Navigate to the `<Op_Report_Home>/DB/install/sample` directory, and run `sample_load_data.sh` script.
5. During the load script run, provide Operational Reporting database schema password and the Operational Reporting SYS user password, as prompted.
6. The script creates a `load_data.log` file in the `<Op_Report_Home>/DB/install/log` directory. Check the log file to make sure that no errors occurred.

Running the Upgrade Script

To run the upgrade script:

1. Navigate to the `<PPM_CP1>/Sample` directory, and open the `sample_upgrade_rpt.sh` file in a text editor.
2. In the `PARAMETERS` section, uncomment the parameter placeholders listed in the following table and replace them with valid values.

Parameter	Description
Reporting DB Schema Name	Operational Reporting database schema name Example value: RPT_SCHEMA
Reporting DB TNS Name	Identifies the Oracle instance that runs the Operational Reporting database schema. TNS name is configured in the `tnsnames.ora` file. Example value: RPT
PPM DB Schema Name	PPM Center database schema name This value should exist in the Oracle `tnsnames.ora` file. Example value: PPM_SCHEMA
PPM DB TNS Name	Oracle instance that runs the PPM Center database schema. TNS name is configured in the `tnsnames.ora` file.
LOG mode	Determines where log output goes Valid values are `FILE`, `DB`, and `BOTH`. If set to FILE, the output goes into the `upgrade_rpt_<Date_Time>.log` file. If set to DB, the output goes into the database event log tables. If set to BOTH, the output goes into both the `upgrade_rpt_<Date_Time>.log` file and the database event log tables.
Reporting DB data_tablespace_name	Name of the data tablespace for the Operational Reporting database Example value: RPT_DATA_TS

Parameter	Description
Reporting DB index_ tablespace_name	Name of the index tablespace for the Operational Reporting database Example value: RPT_INDEX_TS
Reporting DB DATA_ NOLOGGING_ TABLESPACE	Separate tablespace that requires no redo log for the Operational Reporting database to store data. Example value: PPM_DATA_TS_NL
Reporting DB INDEX_ NOLOGGING_ TABLESPACE	Separate tablespace that requires no redo log for the Operational Reporting database to store indexes. Example value: RPT_INDEX_TS_NL
PPM Server Flag, PPM_DOWN_NO, PPM_DOWN_YES	If set to `PPM_DOWN_NO` in the `sample_resync_ppm.sh` or `sample_upgrade_rpt.sh` file, then when the script is run, performs a check to determine whether any PPM Servers are running. If any node is running, the upgrade stops so that you can shut down all running nodes. If set to `PPM_DOWN_YES`, the PPM Server check is not performed.

3. Run `sample_upgrade_rpt.sh`.

If the script fails because a PPM Server is running, see *Upgrade Failure Resulting from Active PPM Servers* on page 107. If the script fails because database tables are not synchronized, or an ETL job is running, see *Failure During the sample_upgrade_rpt.sh Run* on page 108.

4. Review the generated `upgrade_rpt_<Date_Time>.log` file, which is located in the `<PPM_CP1>/log` directory.

Importing and Updating Universes and Reports

This section provides instructions on how to use the Business Intelligence Archive Resource (BIAR) import tool to import Operational Reporting universes and reports into the BusinessObjects CMS Repository, and then to update those universes and reports to the Content Pack 1 versions. The BIAR import tool reads the `biar_import.properties` file. It imports all of the universes and reports in the `<Op_Reports_Home>/Universe` and `<Op_Reports_Home>/Reports` directories, respectively.

Requirements for using the BIAR import tool are as follows:

- The JAVA_HOME environment variable must be set (see step 8 on page 81).
- The `biar_import.properties` file must be configured for your environment.

Importing Operational Reporting Universes and Reports

To import Operational Reporting universes and reports into the BusinessObjects CMS Repository:

1. Navigate to the `<Op_Reports_Home>/Deployment/platform/biar` folder on the BusinessObjects Enterprise server.
2. Open the `biar_import.properties` file in a text editor.
3. Replace the default values as shown in the following table.

Default	Description
cms.username=Administrator	BusinessObjects XI Central Management Server (CMS) administrator's username
cms.password=admin123	Password for the Central Management Server (CMS) administrator. **Important:** You must remove the CMS password from the properties file before you run `upgradeBIARs` on a UNIX system. Make sure that you remove the value before you save the file.

Default	Description
cms.host=localhost	IP address of the BusinessObjects XI Central Management Server machine.
cms.port=6400	Port assigned to Central Management Server.
bo.home=<*BO_Home*>	Installation directory for BusinessObjects Enterprise XI.

Make sure that you leave the `cms.password` value empty.

4. Save and close the `biar_import.properties` file.
5. To import the universes and reports into the BusinessObjects CMS repository:
   a. Check to make sure that the `JAVA_HOME/bin` directory is specified in the `PATH`, as follows:

      ```
      PATH=$JAVA_HOME/bin:$PATH:$HOME/bin
      export PATH
      ```

   b. Navigate to the <*Op_Reports_Home*>`/Deployment` folder, and then run the `installBIARs.sh` file.
   c. Check the `biar_import.log` file (in the <*Op_Reports_Home*>`/Deployment/platform/biar` folder).

Updating Universes and Reports to Content Pack 1 Versions

To update the Operational Reporting universes and reports for Content Pack 1:

1. Navigate to the `<PPM_CP1/Deployment/platform/biar` folder on the BusinessObjects Enterprise server.
2. Open the `biar_import.properties` file in a text editor.
3. Replace the default values as shown in the following table.

Default	Description
cms.username=Administrator	BusinessObjects XI Central Management Server (CMS) administrator's username
cms.password=admin123	Password for the Central Management Server (CMS) administrator. **Important:** You must remove the CMS password from the properties file before you run `upgradeBIARs` on a UNIX system. Make sure that you remove the value before you save the file.
cms.host=localhost	IP address of the BusinessObjects XI Central Management Server machine.
cms.port=6400	Port assigned to Central Management Server.
bo.home=*<BO_Home>*	Installation directory for BusinessObjects Enterprise XI.

Make sure that you leave the `cms.password` value empty.

4. Save and close the `biar_import.properties` file.
5. Navigate to the `<PPM_CP1>/Deployment/platform` directory, and run `upgradeBIARs.sh`.

For information about what to do if, for some reason, the upgrade fails during the script run, see *Failure During the upgradeBIARs.sh Run* on page 108.

6. Review the `biar_import.log` log file, which you can find in the `<PPM_CP1>/log` directory.

Recovering from an Upgrade Failure

An upgrade to PPM Center Content Pack 1 can potentially fail for several reasons. The process will stop if, for example, the connection to a remote database is lost, the client machine running an upgrade script goes down, or if PPM Center data are missing. This section provides information about what to do if your upgrade fails during the different stages of the upgrade process.

Upgrade Failure Resulting from Active PPM Servers

The `sample_resync_ppm.sh` and `sample_upgrade_rpt.sh` files both include the `PPM Server Status` parameter, which can be set to either `PPM_DOWN_NO` or `PPM_DOWN_YES`. (See *PPM Server Flag, PPM_DOWN_NO, PPM_DOWN_YES* on page 103.) If you set the `PPM Server Status` parameter to `PPM_DOWN_NO` in either of these files and then execute the file, the upgrade checks to determine whether any PPM Servers are active. If an active node is detected during the run, the upgrade stops and the following message is displayed:

```
Failed with this error => PPM DOWN is required. One or more PPM
Servers is active. If all nodes are down, pass PPM_DOWN_YES, ***
aborting upgrade...
```

If this error occurs, do the following:

1. Shut down every active node in the server cluster.
2. Open the sample batch or shell script (either `sample_upgrade_rpt.sh` or `sample_resync_ppm.sh`) and change the `PPM Server Status` parameter value from `PPM_DOWN_NO` to `PPM_DOWN_YES`.
3. Run the script again.

The upgrade process skips the PPM Server check after you set the `PPM Server Status` parameter value to `PPM_DOWN_YES`.

Failure During the sample_preupgrade_rpt.sh Run

If the upgrade fails while the `sample_preupgrade_rpt.sh` script is running, do the following:

1. Navigate to the `<PPM_CP1>/log` directory and review the generated `preupgrade_rpt.log` file.
2. Correct any reported errors, and then run the `Sample_preupgrade_rpt.sh` script again.

Failure During the sample_upgrade_rpt.sh Run

If the upgrade fails while the `sample_upgrade_rpt.sh` script is running, just run the script again when appropriate.

Failure During the upgradeBIARs.sh Run

If your BusinessObjects server or client machine goes down while the `upgradeBIARs.sh` script is running, do the following:

1. Navigate to the `910_CP1/Deployment/platform/biar` directory, open the log file for the script run, and check for reported errors.
2. If the log file indicates an issue that cannot be resolved by simply running the `upgradeBIARs.sh` script again, you may have to delete HP-supplied universes (RM Derived Universe, TM Derived Universe, FM Derived Universe, and Kernel Universe) or new reports.

   Make sure that you do *not* delete existing (version 9.10) reports. Check the Content Pack 1 Release Notes for the reports that are new in Content Pack 1, and delete these.

3. Run the `upgradeBIARs.sh` script again.

Configuring the Operational Reporting Database Connection

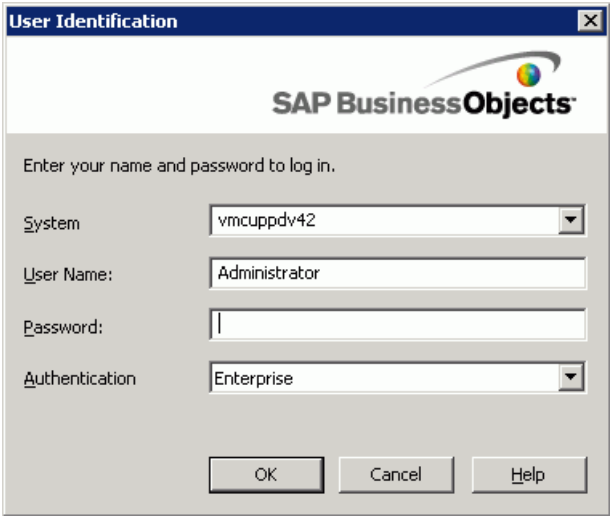
After you import the universes and reports, you must configure the connection to the Operational Reporting database. Before you can configure this connection, make sure that you have completed the following:

- Installed BusinessObjects Enterprise, including SP2 (*Installing BusinessObjects Enterprise on a UNIX System* on page 83 and *Installing BusinessObjects Enterprise XI 3.1, Service Pack 2* on page 85)
- Configured Oracle 11 JDBC driver (*Configuring the Oracle JDBC Driver* on page 92)
- Imported the universes and reports (*Importing and Updating Universes and Reports* on page 104)
- Run the setup script (*Running the Setup and Synchronization Scripts* on page 94) and load script (*Importing and Updating Universes and Reports* on page 104) to set up the Operational Reporting schema.

To configure the Operational Reporting database connection:

1. To open the Designer logon screen, click **Start > All Programs > BusinessObjects XI 3.1 > BusinessObjects Enterprise > Designer.**

If BusinessObjects Enterprise is installed on a Linux, HPUX, AIX, or Solaris system, then you must open BusinessObjects Designer from the Windows client.

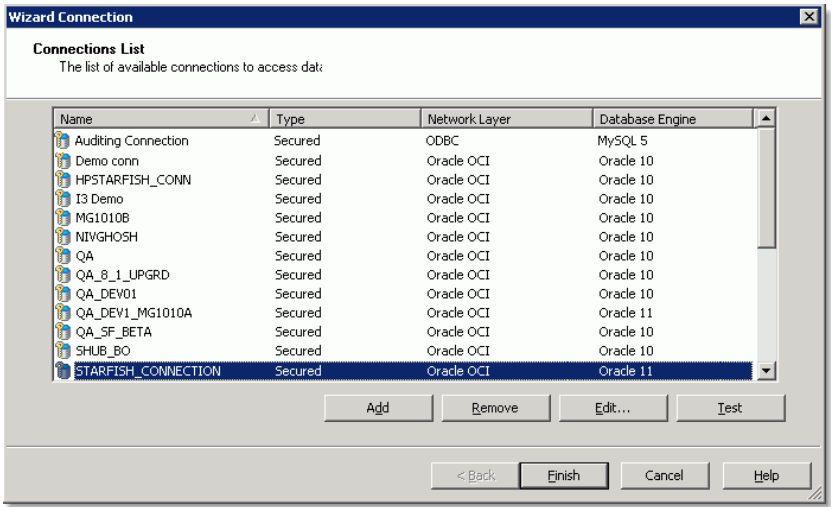


2. In the **User Name** box, type **`Administrator.`**
3. In the **Password** box, type **`admin123.`**
4. If the Welcome to Quick Design screen opens, click **Cancel.**

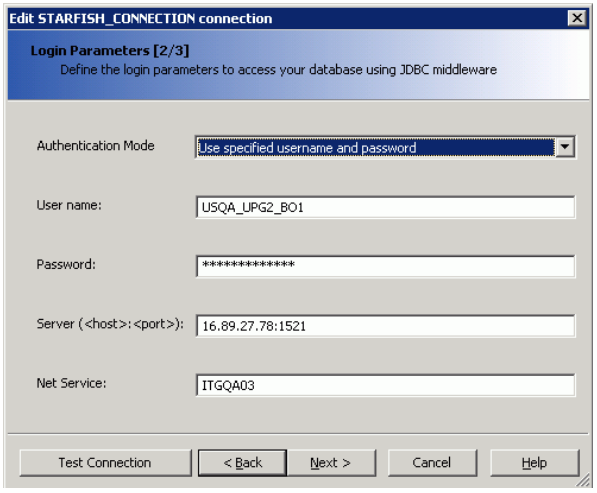
   The Designer starts up.

5. From the **Tools** menu, select **Connections.**

6. In the **Connections** list, select **STARFISH_CONNECTION.**



7. Click **Edit.**



8. Provide the information listed in the following table.

Field	Value
Authentication Mode	Keep the default value (Use specified username and password)
User name	Operational Reporting schema name
Password	Operational Reporting schema password
Server (<host>:<port>)	Operational Reporting database host name and port number (separated by a colon)
Net Service	Operational Reporting database service name

9. Click **Test Connection.**
10. After you see the message "The server is responding," click **OK.**
11. Click **Next.**
12. Click **Finish.**
13. Click **Finish.**

Installing BusinessObjects Enterprise Client Tools

The BusinessObjects client tools give you and your users access to BusinessObjects Enterprise server functions. The client component tools are only available for installation on Windows operating systems, but do connect to servers running UNIX systems.

To obtain the BusinessObjects client software to install for your users, you must download the entire Windows installation bundle, which includes both the BusinessObjects server software and the client software. For descriptions of the BusinessObjects client tools and instructions for downloading and installing the software on a Windows system, see *Installing BusinessObjects Enterprise Client Tools* on page 57.

Removing the BusinessObjects Central Management Server Password

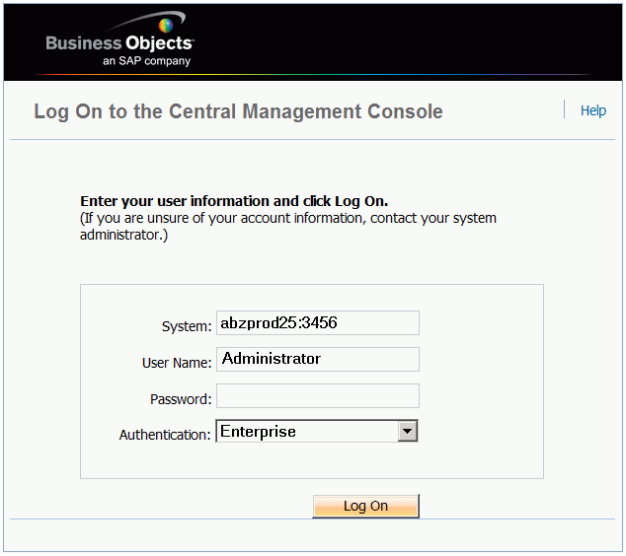
During installation, a default password is used to configure CMS server and deploy HP-provided universes and reports. On a UNIX system, you must remove the default password.

To remove the password, do the following:

1. Open a Web browser window and enter the URL for the BusinessObjects Enterprise Central Management Console logon page.

   The default URL is as follows:

   `http://<BusinessObjects_Server_Name>:8080/CmcApp`



2. In the Central Management Console Log On window, log on using the following credentials:
   - In the **User Name** box, type **`Administrator.`**
   - Leave the **Password** box empty.
3. Go to the Users management area of the CMC.
4. Click the link for the Administrator account.
5. In the **Enterprise Password Settings** section, delete the default password.

6. If the **User must change password at next logon** check box is selected, clear it.
7. Click **Update.**

Verify Successful Operational Reporting Deployment

To verify successful deployment of the Operational Reporting solution, log onto InfoView and generate one of the HP-supplied operational reports. For descriptions of these reports and instructions on how to run them, see the *Operational Reporting User's Guide.*

Displaying Report Values for Non-English Speaking Locales

If you enable multilingual Operational Reporting, users in different locales must configure their browsers to display numeric values and dates correctly in reports.

To make sure that numeric values and dates are correctly displayed for your locale, do the following:

1. Open a web browser window and log on to InfoView.
2. Click **Preferences.**
3. In the **General** section on the Preferences page, scroll down and, from the **Preferred Viewing Locale** list, select a locale.
4. Click **OK.**

When you start viewing operational reports in InfoView, dates and numeric values are displayed correctly.

4 Upgrading Operational Reporting on Windows Systems

Upgrade Processes

PPM Center version Content Pack 1 (CP1) is specific to Operational Reporting. It introduces reporting for HP Project Management to the Operational Reporting solution, and includes changes to both the Operational Reporting database and reporting universes as well as new preconfigured reports and reporting portlets that you can add to your PPM Dashboard pages.

For more information about the changes to Operational Reporting in PPM Center version Content Pack 1, see the Content Pack 1 *Release Notes*.

This chapter provides information about how to upgrade an existing Operational Reporting deployment based on PPM Center 9.10, SP1 to PPM Center version Content Pack 1 on a Windows system. If you are setting up Operational Reporting for the first time, follow the procedures described in Chapter 2, *Deploying Operational Reporting on Windows Systems,* on page 21.

Upgrade Overview

An Operational Reporting upgrade involves the following processes:

1. **Pre-upgrade.** The preupgrade validates your existing PPM Center Operational Reporting instance, determines whether any incremental ETL is running or any PPM Center data changes await synchronization with the Operational Reporting database, and then generates a report in text format.
2. **Actual Upgrade.** The upgrade process upgrades current PPM Operational Reporting to the newer version. PPM Servers must be down during this step.
3. **Universe import.** This step imports new and updated universe Business Intelligence Archive Resource (BIAR) files into the BusinessObjects CMS repository.
4. **Report import.** This step imports new report BIAR files into the universe.

Any customizations that you have made to HP-supplied reporting universes or preconfigured reports (for example, the Demand Versus Capacity report) on your existing Operational Reporting instance are lost during an upgrade.

Preparing to Upgrade

This section addresses the tasks to complete before you begin to upgrade to PPM Center version Content Pack 1.

If you are deploying the Operational Reporting solution for the first time, follow the instructions for deployment provided in Chapter 2, *Deploying Operational Reporting on Windows Systems,* on page 21.

To prepare to upgrade Operational Reporting:

1. Log in to the PPM Center database as a DBA and use the following command to flush the shared pool:

   ```
   alter system flush shared_pool;
   ```

2. Download the Content Pack 1 upgrade bundle as follows:

   a. Go to the Support contract information page `support.openview.hp.com/entitlement/contracts)` and add your service agreement ID (SAID).

   b. Go to the PPM Center community page on HP Live Network `(https://h22036.www2.hp.com/)`.

   You must have an HP passport account to access the PPM Center community page.

   c. Under **Associated Projects,** click the **Operational Reporting Content for Project and Portfolio Management Center (h22038)** link.

   d. Under **Quick Links,** click the **Download 9.12 CP1** link, and then download the bundle to the machine that hosts your BusinessObjects server.

   e. Extract the `912_CP1` bundle contents into a `<PPM_CP1>` directory (separate from the `<Op_Reports_Home>` folder).

3. Install PPM Center version 9.10, Service Pack 1 and Service Pack 2. (The order in which you install the service packs does not matter.)

   f you have the required service agreement ID (SAID), you can get PPM Center software updates through the Software Update Manager (SUM) site (`www1.itrc.hp.com/service/sum/home.do`).

   For information about how to download and install PPM Center service packs, see the *Installation and Administration Guide* or the *Release Notes* for the service pack. *Y*ou can obtain the *Release Notes* from the Software Product Manuals Web site (support.openview.hp.com/selfsolve/manuals).

4. Back up your Operational Reporting database.

Any customizations that you have made to HP-supplied reporting universes or preconfigured reports (for example, the Demand Versus Capacity report) on your existing Operational Reporting instance are lost during an upgrade.

Operational Reporting Upgrade for Windows Systems

This section includes instructions for upgrading an existing Operational Reporting deployment on a Windows system.

If, for some reason, you must stop the upgrade process, the upgrade will resume where it left off when you next start the upgrade. You can perform the upgrade as many times as necessary.

To upgrade Operational Reporting on a Windows system:

1. Navigate to the `<PPM_CP1>\Sample` directory, and open the `sample_preupgrade_rpt.bat` file in a text editor.
2. In the `PARAMETERS` section, uncomment the parameter placeholders listed in the following table and replace them with valid values.

Parameter	Description
Reporting DB Schema Name	Operational Reporting database schema name Example value: RPT_SCHEMA
Reporting DB TNS Name	Oracle instance that runs the Operational Reporting database schema. TNS name is configured in the `tnsnames.ora` file. Example value: RPT
PPM DB Schema Name	PPM Center database schema name

3. Run `sample_preupgrade_rpt.bat`.

   For information about what to do if, for some reason, the upgrade fails during the script run, see *Failure During the Sample_preupgrade_rpt.bat Run* on page 125.

4. Review the generated `preupgrade_rpt_<Date_Time>.log` file, which is located in the `<PPM_CP1>\log` folder.

5. Stop all PPM Servers.

   If the `REMOTE_ADMIN_REQUIRE_AUTH` parameter is set to `true`, users running `kStop.bat` to shut down the PPM Server must supply a valid PPM Center user name and password. If the parameter is set to `false`, any user with access to the `kStop.bat` script can shut down the server. For information about the `REMOTE_ADMIN_REQUIRE_AUTH` parameter, see the *Installation and Administration Guide.*

   To stop a PPM Server:

   a. From the Control Panel, select **Administrative Tools > Services.**

   b. In the Services window, right-click the HP PPM service, and then click **Stop** on the shortcut menu.

6. Navigate to the `<PPM_CP1>\Sample` directory, and open the `sample_upgrade_rpt.bat` file in a text editor.

7. In the `PARAMETERS` section, uncomment the parameter placeholders listed in the following table and replace them with valid values.

Parameter	Description
Reporting DB Schema Name	Operational Reporting database schema name Example value: RPT_SCHEMA
Reporting DB TNS Name	Identifies the Oracle instance that runs the Operational Reporting database schema. TNS name is configured in the `tnsnames.ora` file. Example value: RPT
PPM DB Schema Name	PPM Center database schema name. This value should exist in the Oracle `tnsnames.ora` entry. Example value: PPM_SCHEMA

Parameter	Description
LOG MODE	Determines where log output goes. Valid values are `FILE`, `DB`, and `BOTH`. If set to FILE, the output goes into the `upgrade_rpt_<Date_Time>.log` file. If set to DB, the output goes into the database event log tables. If set to BOTH, the output goes into both the `upgrade_rpt_<Date_Time>.log` file and the database event log tables.
Reporting DB data_ tablespace_name	Name of the data tablespace for the Operational Reporting database Example value: RPT_DATA_TS
Reporting DB index_ tablespace_name	Name of the index tablespace for the Operational Reporting database Example value: RPT_INDEX_TS
Reporting DB DATA_ NOLOGGING_ TABLESPACE	Separate tablespace that requires no redo log for the Operational Reporting database to store data. Example value: PPM_DATA_TS_NL
Reporting DB INDEX_ NOLOGGING_ TABLESPACE	Separate tablespace that requires no redo log for the Operational Reporting database to store indexes. Example value: RPT_INDEX_TS_NL
PPM DB data_ tablespace_name	PPM Center database data tablespace name **Note:** This refers to the existing data tablespace in the *PPM Center database schema*. The PPM Center schema stores this in the KINS_TABLESPACES table. Example value: PPM_DATA_TS

Parameter	Description
PPM DB index_ tablespace_name	PPM Center database index tablespace name **Note:** This refers to the existing index tablespace in the *PPM Center database schema*. The PPM Center schema stores this in the KINS_TABLESPACES table. Example value: PPM_INDEX_TS
PPM Server Flag, PPM_DOWN_NO, PPM_DOWN_YES	If set to `PPM_DOWN_NO` in the `sample_resync_ppm.bat` or `sample_upgrade_rpt.bat` file, then when the script is run, performs a check to determine whether any PPM Servers are running. If any node is running, the upgrade stops so that you can shut down all running nodes. If set to `PPM_DOWN_YES`, the PPM Server check is not performed. For more information, see *Upgrade Failure Resulting from Active PPM Servers* on page 124.

8. Run `sample_upgrade_rpt.bat`.

For information about what to do if the upgrade fails during the script run, see *Upgrade Failure Resulting from Active PPM Servers* on page 124.

9. Review the generated `upgrade_rpt_<Date_Time>.log` file, which is located in the `<PPM_CP1>\log` directory.
10. Navigate to the `<PPM_CP1>\Deployment\platform\biar` directory, and open the `biar_import.properties` file in a text editor, and edit the `bo.home` value to reflect the correct path to your BusinessObjects installation directory.

11. Replace the default values (if changed) as shown in the following table.

Default	Description
cms.username=Administrator	BusinessObjects XI Central Management Server (CMS) administrator's username
cms.password=admin123	Password for the Central Management Server (CMS) administrator **Important:** The CMS password *must* be in clear text.
cms.host=localhost	IP address of the BusinessObjects XI Central Management Server machine
cms.port=6400	Port assigned to Central Management Server
bo.home=`\opt\hp\ppm\reporting`	Installation directory for BusinessObjects Enterprise XI **Important:** You *must* replace the default value with the absolute path for BusinessObjects Enterprise XI. The value must be the same as that specified for the `INSTALLDIR` parameter in the `windows.ini` file. (See step 2 on page 31.)

12. Save and close the `biar_import.properties` file.
13. Navigate to the `<PPM_CP1>\Deployment` directory and run `upgradeBIARs.bat`.

    For information about what to do if, for some reason, the upgrade fails during the script run, see *Failure During the upgradeBIARs.bat Script Run* on page 125.

14. Navigate to the `<PPM_CP1>\Deployment\platform\biar` folder and check the `biar_import.log` file.

15. Restart the PPM Servers, one at a time.

Allow 10 to 15 seconds between start-ups. For information about how to start PPM Servers, see the *Installation and Administration Guide*.

16. To verify a successful upgrade of Operational Reporting, run the query for an HP-supplied report. For information about how to run HP-supplied operational reports, see the *Operational Reporting User's Guide*.

Recovering from an Upgrade Failure

An upgrade to PPM Center Content Pack 1 can potentially fail for several reasons. The process stops if, for example, the connection to a remote database is lost, the client machine running an upgrade script goes down, or if PPM Center data are missing. This section provides information about what to do if your upgrade fails during the different stages of the upgrade process.

Upgrade Failure Resulting from Active PPM Servers

The `sample_resync_ppm.bat` and `sample_upgrade_rpt.bat` files both include the `PPM Server Status` parameter, which can be set to either `PPM_DOWN_NO` or `PPM_DOWN_YES`. (See *PPM Server Flag, PPM_DOWN_NO, PPM_DOWN_YES* on page 122.) If you set the `PPM Server Status` parameter to `PPM_DOWN_NO` in either of these files and then execute the file, the upgrade checks to determine whether any PPM Servers are active. If an active node is detected during the run, the upgrade stops and the following message is displayed:

```
Failed with this error => PPM DOWN is required. One or more PPM
Servers is active. If all nodes are down, pass PPM_DOWN_YES, ***
aborting upgrade...
```

If this error occurs, do the following:

1. Shut down every active node in the server cluster.
2. Open the sample batch or shell script (either `sample_upgrade_rpt.bat` or `sample_resync_ppm.bat`) and change the `PPM Server Status` parameter value from `PPM_DOWN_NO` to `PPM_DOWN_YES`.
3. Run the script again.

The upgrade process skips the PPM Server check after you set `PPM Server Status` parameter value to `PPM_DOWN_YES`.

Failure During the Sample_preupgrade_rpt.bat Run

If the upgrade fails while the `Sample_preupgrade_rpt.bat` script is running, do the following:

1. Review the generated `preupgrade_rpt_<Date_Time>.log` file, which is located in the `<PPM_CP1>\log` folder.
2. Correct any reported errors, and then run the `Sample_preupgrade_rpt.bat` script again.

Failure During the Sample_upgrade_rpt.bat Run

If the upgrade fails while the `Sample_upgrade_rpt.bat` script is running, just run the script again as soon as it is appropriate to do so.

Failure During the upgradeBIARs.bat Script Run

If your BusinessObjects server or client machine goes down while the `upgradeBIARs.bat` script is running, do the following:

1. Navigate to the `Upgrades\910_CP1\Deployment\platform\biar` directory, open the log file for the script run, and check for reported errors.
2. If the log file indicates an issue that cannot be resolved by simply running the `upgradeBIARs.bat` script again, you may have to delete HP-supplied universes (RM Derived Universe, TM Derived Universe, FM Derived Universe, and Kernel Universe) or new reports.

   Make sure that you do *not* delete existing (version 9.10) reports. Check the Content Pack 1 Release Notes for the reports that are new in Content Pack 1, and delete these.

3. Run the `upgradeBIARs.bat` script again.

5 Upgrading Operational Reporting on a UNIX System

Upgrade Processes

PPM Center version Content Pack 1 (CP1) is specific to Operational Reporting. It introduces reporting for HP Project Management to the Operational Reporting solution, and includes changes to both the Operational Reporting database and reporting universes as well as new preconfigured reports and reporting portlets that you can add to your PPM Dashboard pages.

For more information about the changes to Operational Reporting in PPM Center version Content Pack 1, see the Content Pack 1 *Release Notes*.

This chapter provides information about how to upgrade an existing Operational Reporting deployment based on PPM Center 9.10, SP1 to PPM Center version Content Pack 1 on a UNIX system. If you are deploying Operational Reporting for the first time, follow the procedures described in Chapter 3, *Deploying Operational Reporting on UNIX Systems,* on page 73.

Upgrade Overview

An Operational Reporting upgrade involves the following processes:

1. **Pre-upgrade.** The preupgrade validates your existing PPM Center Operational Reporting instance, determines whether any incremental ETL is running or any PPM Center data changes await synchronization with the Operational Reporting database, and then generates a report in text format.
2. **Actual Upgrade.** The upgrade process upgrades current PPM Operational Reporting to the newer version. PPM Servers must be down during this step.
3. **Universe import.** This step imports new and updated universe Business Intelligence Archive Resource (BIAR) files into the BusinessObjects CMS repository.
4. **Report import.** This step imports new report BIAR files into the universe.

Any customizations that you have made to HP-supplied reporting universes or preconfigured reports (for example, the Demand Versus Capacity report) on your existing Operational Reporting instance are lost during an upgrade.

Preparing to Upgrade

This section addresses the tasks to complete before you begin to upgrade to PPM Center version Content Pack 1.

If you are deploying the Operational Reporting solution for the first time, follow the instructions for deployment provided in Chapter 3, *Deploying Operational Reporting on UNIX Systems,* on page 73.

To prepare to upgrade Operational Reporting:

1. (HP-UX only) If BusinessObjects server software is installed on HP-UX, you must change two BusinessObjects server properties from BusinessObjects Enterprise Central Management Console. For instructions, see *(HP-UX Only) Resetting Memory Thresholds* on page 88.
2. Log in to the PPM Center database as a DBA and use the following command to flush the shared pool:

   ```
   alter system flush shared_pool;
   ```

3. Download the Content Pack 1 upgrade bundle as follows:
   a. Go to the Support contract information web site `(support.openview.hp.com/entitlement/contracts)` and add your service agreement ID (SAID) for PPM Center.
   b. Go to the PPM Center community page on HP Live Network `(h22036.www2.hp.com)`.

      You must have an HP passport account to access the PPM Center community page.

   c. Under **Associated Projects,** click the **Operational Reporting Content for Project and Portfolio Management Center (h22038)** link.
   d. Under **Quick Links,** click the **Download 9.10 CP1** link, and then download the bundle to the machine that hosts your BusinessObjects server.
   e. Extract the `910_CP1` bundle contents into a `<PPM_CP1>` directory (separate from the `<Op_Reports_Home>` folder).

4. Install PPM Center version 9.10, Service Pack 1 and Service Pack 2. (The order in which you install the service packs does not matter.)

   If you have the required service agreement ID (SAID), you can get PPM Center software updates through the Software Update Manager (SUM) site (`www1.itrc.hp.com/service/sum/home.do`).

   For information about how to download and install PPM Center service packs, see the *Installation and Administration Guide* or the *Release Notes* for the service pack. You can obtain the *Release Notes* from the Software Product Manuals Web site (support.openview.hp.com/selfsolve/manuals).

5. Back up your Operational Reporting database.

Any customizations that you have made to HP-supplied reporting universes or preconfigured reports (for example, the Demand Versus Capacity report) on your existing Operational Reporting instance are lost during an upgrade.

Operational Reporting Upgrade for UNIX Systems

This section includes instructions for upgrading an existing Operational Reporting deployment on a UNIX system.

If, for some reason, you must stop the upgrade process, the upgrade process will resume where it left off when you next start the upgrade. You can perform the upgrade as many times as necessary.

To upgrade Operational Reporting:

1. Navigate to the `<PPM_CP1>/Sample` directory, and open the `sample_preupgrade_rpt.sh` file in a text editor.
2. In the `PARAMETERS` section, uncomment the parameter placeholders listed in the following table and replace them with valid values.

Parameter	Description
Reporting DB Schema Name	Operational Reporting database schema name Example value: RPT_SCHEMA
Reporting DB TNS Name	Oracle instance that runs the Operational Reporting database schema. TNS name is configured in the `tnsnames.ora` file. Example value: RPT
PPM DB Schema Name	PPM Center database schema name

3. Run `sample_preupgrade_rpt.sh`.

For information about what to do if, for some reason, the upgrade fails during the script run, see *Failure During the sample_preupgrade_rpt.sh Run* on page 136.

4. Review the generated `preupgrade_rpt` log file, which is located in the `<PPM_CP1>/log` folder.

5. Stop all PPM Servers.

   If the `REMOTE_ADMIN_REQUIRE_AUTH` parameter is set to `true`, users running `kStop.sh` to shut down the PPM Server must supply a valid PPM Center user name and password. If the parameter is set to `false`, any user with access to the `kStop.sh` script can shut down the server. For information about the `REMOTE_ADMIN_REQUIRE_AUTH` parameter, see the *Installation and Administration Guide.*

   To stop a PPM Server:

   a. Navigate to the `<PPM_Home>/bin` directory.

   b. Run the `kStop.sh` script as follows:

      ```
      sh ./kStop.sh -now -user <User_Name>
      ```

      Make sure that you type a valid user name for a user who has Administrator privileges.

6. Navigate to the `<PPM_CP1>/Sample` directory, and open the `sample_upgrade_rpt.sh` file in a text editor.

7. In the `PARAMETERS` section, uncomment the parameter placeholders listed in the following table and replace them with valid values.

Parameter	Description
Reporting DB Schema Name	Operational Reporting database schema name Example value: RPT_SCHEMA
Reporting DB TNS Name	Identifies the Oracle instance that runs the Operational Reporting database schema. TNS name is configured in the `tnsnames.ora` file. Example value: RPT
PPM DB Schema Name	PPM Center database schema name. This value should exist in the Oracle `tnsnames.ora` entry. Example value: PPM_SCHEMA

Parameter	Description
LOG MODE	Determines where log output goes. Valid values are `FILE`, `DB`, and `BOTH`. If set to FILE, the output goes into the `upgrade_rpt_<Date_Time>.log` file. If set to DB, the output goes into the database event log tables. If set to BOTH, the output goes into both the `upgrade_rpt_<Date_Time>.log` file and the database event log tables.
Reporting DB data_ tablespace_name	Name of the data tablespace for the Operational Reporting database Example value: RPT_DATA_TS
Reporting DB index_ tablespace_name	Name of the index tablespace for the Operational Reporting database Example value: RPT_INDEX_TS
Reporting DB DATA_ NOLOGGING_ TABLESPACE	Separate tablespace that requires no redo log for the Operational Reporting database to store data. Example value: PPM_DATA_TS_NL
Reporting DB INDEX_ NOLOGGING_ TABLESPACE	Separate tablespace that requires no redo log for the Operational Reporting database to store indexes. Example value: RPT_INDEX_TS_NL
PPM Server Flag, PPM_ DOWN_NO, PPM_DOWN_ YES	If set to `PPM_DOWN_NO` in the `sample_ resync_ppm.sh` or `sample_upgrade_ rpt.sh` file, then when the script is run, performs a check to determine whether any PPM Servers are running. If any node is running, the upgrade stops so that you can shut down all running nodes. If set to `PPM_ DOWN_YES`, the PPM Server check is not performed. For more information, see *Upgrade Failure Resulting from Active PPM Servers* on page 135.

8. Run `sample_upgrade_rpt.sh`.

For information about what to do if the upgrade fails during the script run, see *Upgrade Failure Resulting from Active PPM Servers* on page 135.

9. Review the generated `upgrade_rpt_<Date_Time>.log` file, which is located in the `<PPM_CP1>/log` directory.
10. Navigate to the `<PPM_CP1>/Deployment/platform/biar` directory, open the `biar_import.properties` file in a text editor, and do the following:
    a. Edit the `bo.home` value to reflect the correct path to your BusinessObjects installation directory.
    b. Remove the `cms.password` value.
    c. Save and close the file.
11. Navigate to the `<PPM_CP1>/Deployment` directory, and run `upgradeBIARs.sh`.

For information about what to do if, for some reason, the upgrade fails during the script run, see *Failure During the upgradeBIARs.sh Run* on page 136.

12. Review the `biar_import.log` log file, which you can find in the `<PPM_CP1>/log` directory.
13. Restart the PPM Servers, one at a time.

Allow 10 to 15 seconds between start-ups. For information about how to start PPM Servers, see the *Installation and Administration Guide*.

14. To verify a successful upgrade of Operational Reporting, run the query for an HP-supplied report. For information about how to run HP-supplied operational reports, see the *Operational Reporting User's Guide.*

Recovering from an Upgrade Failure

An upgrade to PPM Center Content Pack 1 can potentially fail for several reasons. The process will stop if, for example, the connection to a remote database is lost, the client machine running an upgrade script goes down, or if PPM Center data are missing. This section provides information about what to do if your upgrade fails during the different stages of the upgrade process.

Upgrade Failure Resulting from Active PPM Servers

The `sample_resync_ppm.sh` and `sample_upgrade_rpt.sh` files both include the `PPM Server Status` parameter, which can be set to either `PPM_DOWN_NO` or `PPM_DOWN_YES`. (See *PPM Server Flag, PPM_DOWN_NO, PPM_DOWN_YES* on page 133.) If you set the `PPM Server Status` parameter to `PPM_DOWN_NO` in either of these files and then execute the file, the upgrade checks to determine whether any PPM Servers are active. If an active node is detected during the run, the upgrade stops and the following message is displayed:

```
Failed with this error => PPM DOWN is required. One or more PPM
Servers is active. If all nodes are down, pass PPM_DOWN_YES, ***
aborting upgrade...
```

If this error occurs, do the following:

1. Shut down every active node in the server cluster.
2. Open the sample batch or shell script (either `sample_upgrade_rpt.sh` or `sample_resync_ppm.sh`) and change the `PPM Server Status` parameter value from `PPM_DOWN_NO` to `PPM_DOWN_YES`.
3. Run the script again.

The upgrade process skips the PPM Server check after you set the `PPM Server Status` parameter value to `PPM_DOWN_YES`.

Failure During the sample_preupgrade_rpt.sh Run

If the upgrade fails while the `sample_preupgrade_rpt.sh` script is running, do the following:

1. Navigate to the `<PPM_CP1>/log` directory and review the generated `preupgrade_rpt.log` file.
2. Correct any reported errors, and then run the `Sample_preupgrade_rpt.sh` script again.

Failure During the sample_upgrade_rpt.sh Run

If the upgrade fails while the `sample_upgrade_rpt.sh` script is running, just run the script again when appropriate.

Failure During the upgradeBIARs.sh Run

If your BusinessObjects server or client machine goes down while the `upgradeBIARs.sh` script is running, do the following:

1. Navigate to the `910_CP1/Deployment/platform/biar` directory, open the log file for the script run, and check for reported errors.
2. If the log file indicates an issue that cannot be resolved by simply running the `upgradeBIARs.sh` script again, you may have to delete HP-supplied universes (RM Derived Universe, TM Derived Universe, FM Derived Universe, and Kernel Universe) or new reports.

   Make sure that you do *not* delete existing (version 9.10) reports. Check the Content Pack 1 Release Notes for the reports that are new in Content Pack 1, and delete these.

3. Run the `upgradeBIARs.sh` script again.

6 Refreshing Operational Reporting Data

Synchronizing Data in the Operational Reporting and PPM Center Database Schemas

This chapter provides information about how data in the PPM Center database schema and the Operational Reporting database schema are synchronized.

Running Incremental ETL Jobs

The load script that you run during Operational Reporting deployment (see *Running the Load Script* on page 48) performs a full ETL to load all PPM Center data into the Operational Reporting database schema. Incremental ETL jobs are scheduled to run automatically every 24 hours thereafter. These incremental ETL jobs cover the day-to-day updates for the PPM Center data tables.

The incremental ETL job that runs automatically every 24 hours is named PPM_ETL_BATCH_JOB. You can use an Oracle command to reschedule or change the frequency of the PPM_ETL_BATCH_JOB run. (For information on how to reschedule the PPM_ETL_BATCH_JOB, see the Oracle Database Online Documentation.) This section contains instructions on how to run incremental ETL jobs manually.

Checking ETL Job Progress

To check the job progress, you can query the `RPT_EVENT_LOG_DETAIL` table, as follows:

```
SELECT   *
FROM   rpt_event_log_detail
ORDER BY   event_time
```

To view the status of an incremental ETL job, you can query the job control tables (RPT_ETL_JOB and RPT_EVENT_LOG_DETAIL tables).

Verifying Successful Incremental ETL Jobs

To determine whether the last incremental ETL job run completed successfully, run the following:

```
SELECT * FROM rpt_event_log_detail ORDER BY event_time

SELECT * FROM rpt_etl_job ORDER BY etl_job_id desc;
```

HP recommends that you delete the contents of the rpt_event_log_detail and rpt_etl_job order tables at least once a month to prevent them from becoming too large. You must delete the contents manually.

Running Incremental ETL Jobs Manually

To manually run an incremental ETL batch job immediately:

1. Navigate to the `<Op_Report_Home>/DB/install/sample` directory.
2. Open the `sample_onetime_batch.bat` file (or `sample_onetime_batch.sh`) file in a text editor, and then replace the parameter placeholders with valid values, as shown in the following table.

Parameter	Value
Reporting DB Schema Name	Operational Reporting database schema name
Reporting DB TNS Name	Operational Reporting database TNS name
ETL BATCH JOB NAME	Any job name Example: TM_ETL_DAILY

3. Run the `sample_onetime_batch.bat` (or `sample_onetime_batch.sh`) file.

   Example:

   ```
   call sample_onetime_batch.bat REPORTING SCHEMA ORASID TEST_
   ETL_JOB
   ```

4. When you are prompted, type the password for the Operational Reporting database schema.
5. To check the job progress, you can query the `RPT_EVENT_LOG_DETAIL` table, as follows:

   ```
   SELECT   *
   FROM   rpt_event_log_detail
   ORDER BY   event_time
   ```

To view the status of an incremental ETL job, you can query the job control tables (RPT_ETL_JOB and RPT_EVENT_LOG_DETAIL tables).

If an incremental ETL job fails, it is rerun automatically when the Oracle scheduler starts the job for the next scheduled run, or when you run the job manually, whichever occurs first.

Change Data Capture

Incremental ETL relies on Oracle Change Data Capture, or *CDC,* which is provided as a database server component with your Oracle Database software. CDC identifies and captures data that has been added to, updated, or removed from Oracle relational tables, and makes the change data available for ETL jobs.

Purging Data

CDC uses the DBMS_SCHEDULER package (which runs under the account of the publisher who created the first change table) to create a purge job named `cdc$_default_purge_job`. This purge job calls the `DBMS_CDC_PUBLISH.PURGE` procedure to remove data that subscribers no longer use from the change tables. By default, `cdc$_default_purge_job` runs every 24 hours. You can reschedule the purge job using `DBMS_SCHEDULER.SET_ATTRIBUTE` and setting the `repeat_interval` attribute.

Running the `cdc$_default_purge_job` regularly ensures that the tables do not grow without limit. If you have a large volume of data and need to schedule frequent incremental ETL jobs, you can schedule the `cdc$_default_purge_job` to run more frequently than the default of every 24 hours.

The call to the `DBMS_CDC_PUBLISH.PURGE` procedure evaluates all active subscription windows to determine which change data are still needed. It does not purge any data that could be referenced by one or more subscribers with active subscription windows.

For information about the DBMS_SCHEDULER package, see the *Oracle Database PL/SQL Packages and Types Reference*.

You can also purge the data manually. For detailed information, see the *Oracle Database Data Warehousing Guide* online.

PPM Center Data Transfer During ETL

The following sections describe how PPM Center data are transferred during the ETL process.

Common Dimension Data Transfer

The COMMON ETL job transfers all PPM Center data (that fall within the interval defined by the specified start and end dates) and that are shared by HP Time Management, HP Resource Management, and HP Financial Management into the Operational Reporting database schema.

HP Project Management Data Transfer

A full ETL for HP Project Management (PM) transfers all project data (that fall within the interval defined by the specified start and end dates) from the HP Project Management tables into the Operational Reporting database schema. A subsequent incremental PM ETL job loads HP Project Management data that have changed since the last PM ETL job run.

HP Time Management Data Transfer

A full ETL for HP Time Management (TM) transfers all time-sheet data (that fall within the interval defined by the specified start and end dates) from the HP Time Management tables into the Operational Reporting database schema. A subsequent incremental TM ETL job loads HP Time Management data that have changed since the last TM ETL job run.

HP Resource Management Data Transfer

A full ETL for HP Resource Management (RM) transfers all resource capacity, demand, and actual effort data (that fall within the interval defined by the specified start and end dates) from the HP Resource Management tables into the Operational Reporting database schema. A subsequent incremental RM ETL job loads HP Resource Management data that have changed since the last RM ETL job run.

HP Financial Management Data Transfer

The FM incremental ETL job transfers all HP Financial Management data (that fall within the interval defined by the specified start and end dates) from the HP Financial Management tables into the Operational Reporting database schema. A subsequent incremental FM ETL job loads HP Financial Management data changed since the last FM ETL job run.

Date Range for Transferred Data

The date range for the data moved to the Operational Reporting database during the ETL process is determined by the values you specify for the `ETL_START_DATE` and `ETL_END_DATE` parameters. The start date of the fiscal year is determined the year you specify for the `ETL_START_DATE` value. *Table 6-1* shows how this influences the actual start date for the ETL.

Table 6-1. Effect of PPM Center fiscal year on the calculated ETL start date

Specified ETL_START_DATE	Start Date for the PPM Center Fiscal Year	Calculated (Actual) ETL Start Date
01/15/2008	January 1	01/01/2008
	November 1	11/01/2007

The end date of the fiscal year is determined the year you specify for the `ETL_END_DATE` value. *Table 6-1* shows how this influences the actual end date for the ETL.

Table 6-2. Effect of PPM Center fiscal year on the calculated ETL end date

Specified ETL_END_DATE	End Date for the PPM Center Fiscal Year	Calculated (Actual) ETL End Date
11/30/2012	December 31	12/31/2012
	October 31	10/31/2013

Date Range for Transferred HP Time Management Data

For HP Time Management data, the value set for the `ETL_START_DATE` parameter determines which time sheets' data are brought into the Operational Reporting database. If a time sheet has an end date that is on or later than the `ETL_START_DATE`, then that time sheet is used to generate data in the Operational Reporting schema.

The `ETL_END_DATE` parameter value is not used. Except for cancelled time sheets, all time sheets with end dates that fall after the ETL start date are brought over.

Date Range for Transferred HP Resource Management Data

Calculated ETL start and end dates affect HP Resource Management data transfer in the following ways:

- Fiscal period definitions are brought over for fiscal periods whose start dates and end dates fall within the time period specified by the calculated start and end dates.
- Resource demand data are brought over for all staffing profiles whose demand falls within the time period defined by the calculated start and end dates.
- Resource capacity data are brought over for all of the resources for the time period between the calculated start and end dates, provided that the resource's end date is later than the calculated end date, and the resource's start date falls within the time period specified by the calculated start and end dates.
- Resource actual effort data are brought over for all the time sheets (excluding cancelled time sheets) with ending dates later than the calculated start date.

If you have long-running projects, keep in mind that requests created before the ETL start date you specify are not brought over, and so the actual effort data for these requests are not available for reporting.

Extending the Time Range of Resource Capacity Data

The Resource Capacity data for resources that do not have an end date are generated based on the ETL start and end dates during the initial load. You can use the extend data script (`sample_extend_data.bat` or `sample_extend_data.sh`) to extend this time interval so that you can compare resource capacity and demand over time. Suppose, for example, that the last full ETL populated the Operational Reporting database with data through 2011. You can use the extend data script to include data for additional years, for example, through the calendar year two years in the future.

The start date for the data loaded using the extend data script is the day after the end year boundary. The end year boundary is based on the end date that you specify and the fiscal calendar's year end. (See *Table 6-1* on page 142 and *Table 6-2* on page 142.)

The extend data script runs the full ETL for capacity and demand for the extended time period and performs the incremental ETL for COMMON, RM, FM, and TM universes. If an incremental ETL job started by the extend script fails, you must run the incremental ETLs again. There is no need to run the extend data script again.

Recommendations for Running the Extend Data Script

To minimize the performance impact of running the extend data script, consider the following:

- Specify a data extension of just one year at a time instead of specifying multiple years.
- When you run `sample_extend_data.bat`, the script first drops all of the bitmap indexes in the HP Resource Management fact tables, and then recreates the indexes after loading the data. HP recommends that you *not* run reports during the extend data script run.

To run the extend data script, do the following:

1. Gather the information listed in the following table.

Variable in the Extend Data Script	Description
Reporting DB Schema Name	Operational Reporting database schema name
Reporting DB TNS Name	Operational Reporting database TNS name
Reporting DB index_tablespace_ name	Name of the index tablespace for the Operational Reporting database
ETL end date (mm-dd-yyyy)	End date for the PPM Center data to extract, transform, and load into the Operational Reporting database schema.

2. Log on to the BusinessObjects server machine.
3. Do one of the following:
   - On a Windows system, navigate to the `<PPM_CP1>\Sample` directory and open the `sample_extend_data.bat` file in a text editor.
   - On a UNIX system, navigate to the `<PPM_CP1>/Sample` directory and open the `sample_extend_data.sh` file in a text editor.
4. Replace each of the variables in the extend data script with the values you prepared for step 1, and then save and close the file.
5. Depending on your operating system, do one of the following:
   - On a Windows system, run `sample_extend_data.bat`.
   - On a UNIX system, run `sample_extend_data.sh`.
6. During the extend data script run, provide the Operational Reporting database schema password when prompted.
7. The script creates the `extend_data.log` file in the `<Op_Report_Home>/DB/install/log` directory. Log data are also captured in the RPT_EVENT tables. Review the log files and data.

7 Reporting Portlets

About Operational Reporting Portlets

HP supplies two Operational Reporting portlets—the Operational Report portlet and the Operational Report List portlet—that make operational reports available to users through the PPM Dashboard. You can add these portlets to your shared PPM Dashboard pages and enable users to add them to their private PPM Dashboard pages. This chapter provides descriptions of the reporting portlets and instructions on how to enable users to add the portlets to PPM Dashboard pages. It also provides instructions on how to make your ad hoc reports available through the portlets.

Operational Report List Portlet

The Operational Report List portlet provides a link to each of the preconfigured operational reports that HP provides with Operational Reporting. After you click the link to a report and log on to InfoView, you have access to all of the linked reports and drill-down functionality associated with the selected report.

By default, the Operational Report List portlet lists only the HP-supplied reports. You can also add your ad hoc operational reports to the portlet.

Operational Report Portlet

The Operational Report portlet displays an HP-supplied operational report based on the report name you select. After you edit the preferences by selecting the name of an HP-supplied report and log on to InfoView, you have access to the selected report.

Enabling the Addition of Reporting Portlets to PPM Dashboard Pages

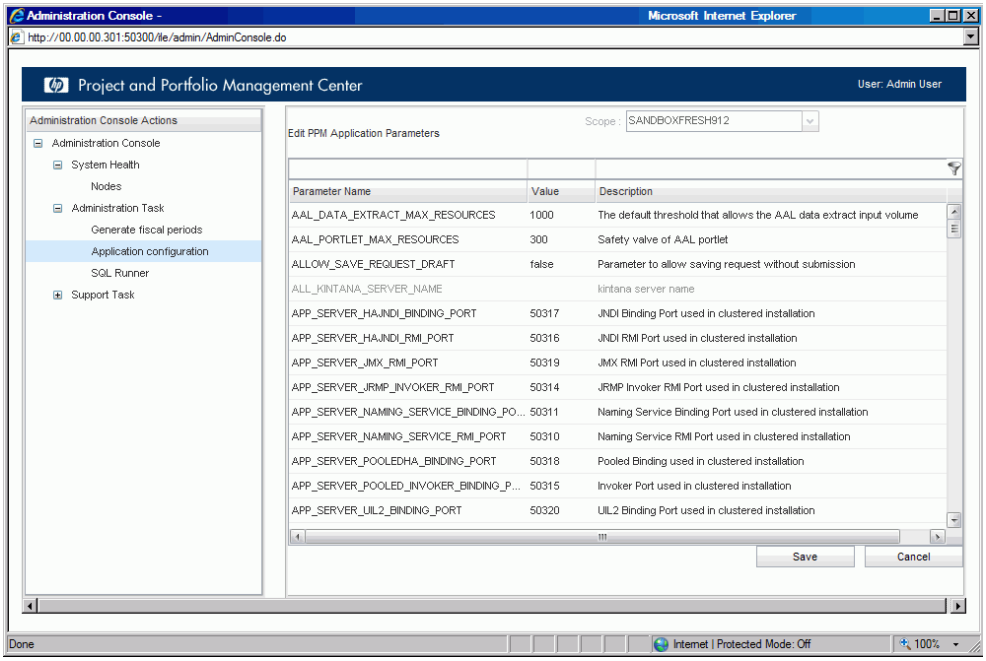
Before Operational Report portlets can be added to PPM Dashboard pages, the `REPORTING_BASE_URL` server configuration parameter must be set to point to the base URL for your BusinessObjects server.

To enable the addition of operational report portlets to PPM Dashboard pages:

1. Log on to PPM Center.
2. From the menu bar, select **Open > Administration > Open > Administration > Administration Console.**

In order to access and use the Administration Console, you must have the User Administration license and belong to a security group that has the Sys Admin Server Tools: Execute Admin Tools access grant.

3. In the **Administration Console Actions** section, expand **Admin Task,** and then select **Application Configuration.**



4. In the **Edit PPM Application Parameters** table, scroll down to the row that displays the `REPORTING_BASE_URL` parameter.
5. In the **Value** box to the right of the parameter name, type the base URL for your BusinessObjects server.
6. Click **Save.**

Report Portlet Security

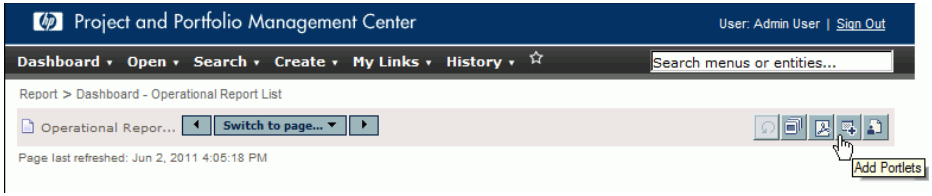
If a user has the permissions required to view a report from InfoView, that user can see the same report in a reporting portlet from PPM Dashboard pages. For information about how to restrict user access to operation reports, see the *BusinessObjects Enterprise Administrator's Guide* for BusinessObjects Enterprise XI 3.1.

Adding Reporting Portlets to PPM Dashboard Pages

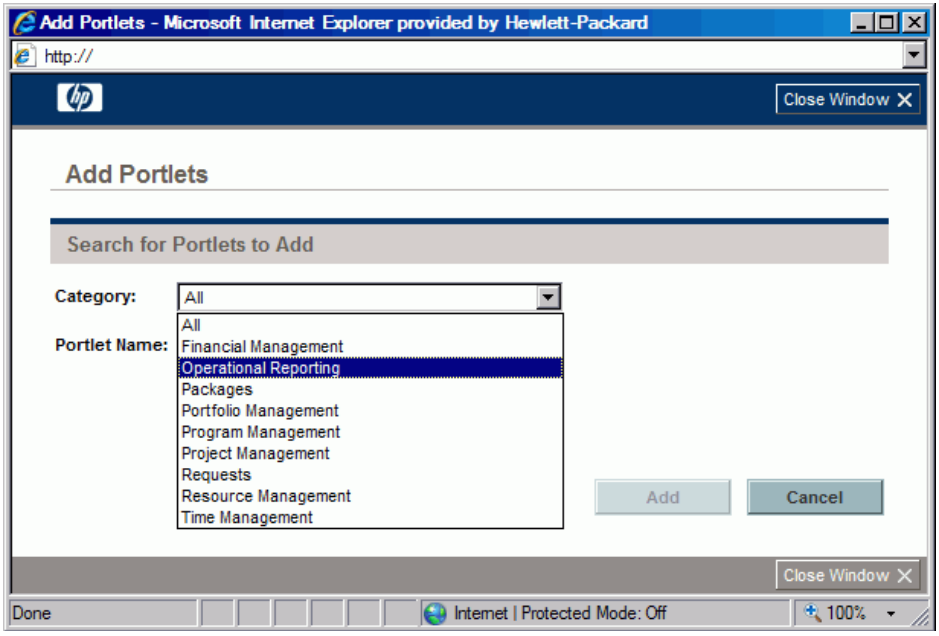
To optimize system performance, HP strongly recommends that you add the operational report portlets to PPM Dashboard pages that do not already display portlets belonging to categories other than Operational Reporting.

To add a reporting portlet to a PPM Dashboard page:

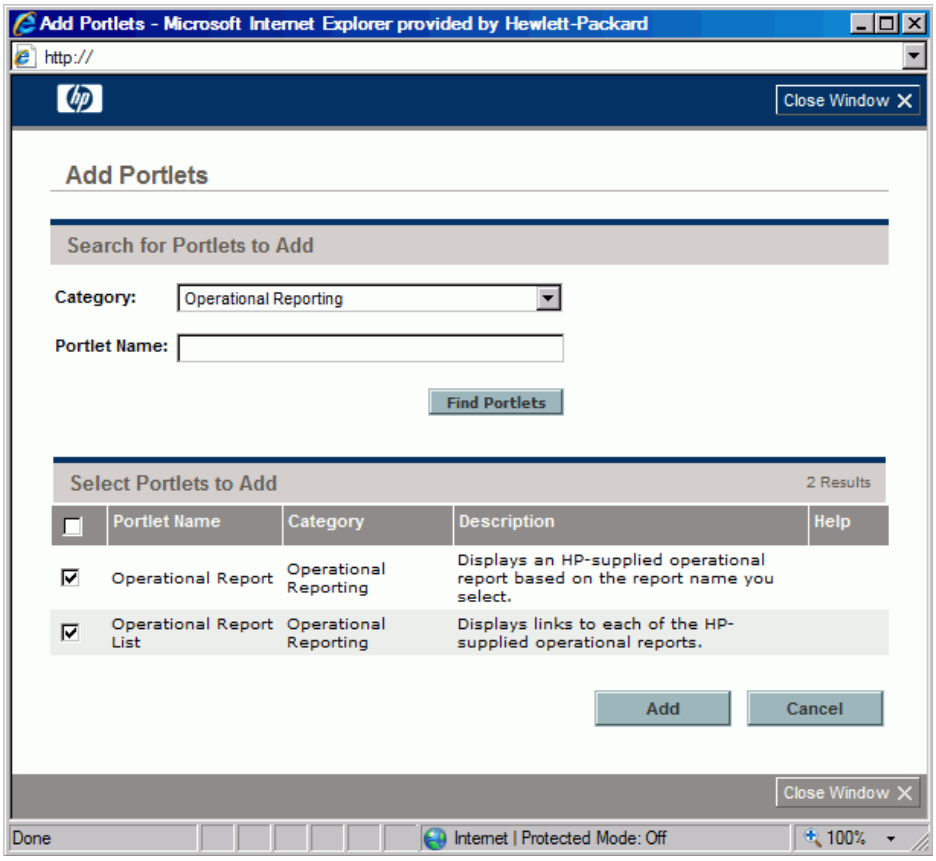
1. From the PPM Center standard interface, go to the PPM Dashboard page to which you want to add a reporting portlet.



2. Click the **Add Portlets** button.



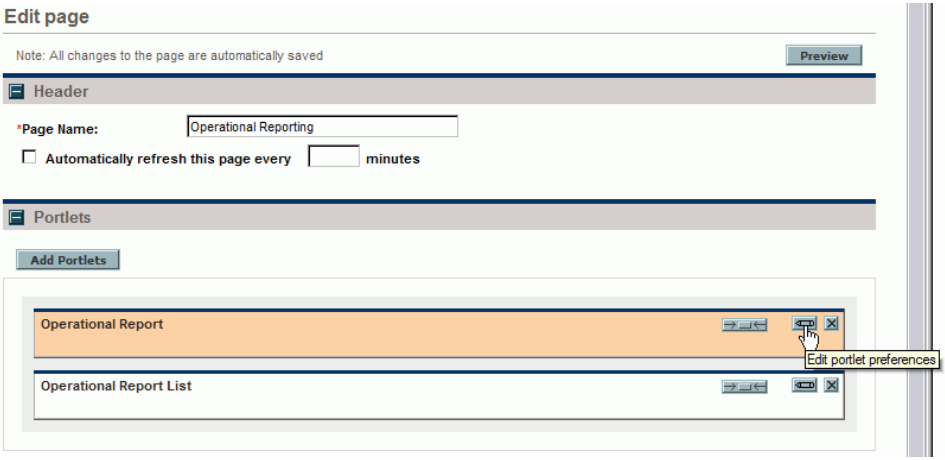
3. From the **Category** list in the Add Portlets window, select **Operational Reporting.**



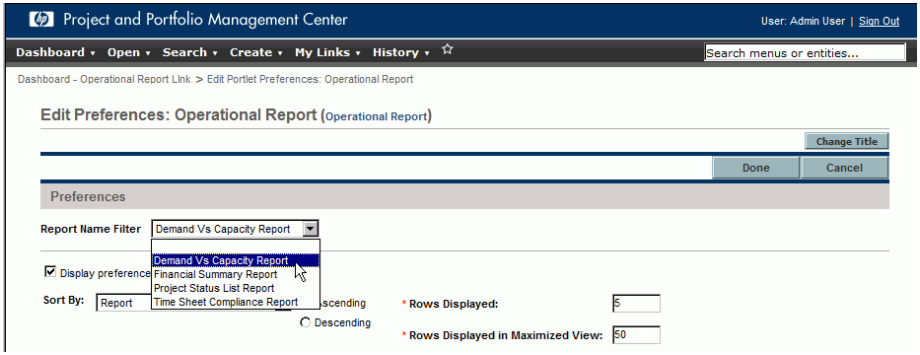
4. Select the check box for one or both portlets, and then click **Add.**

5. If you added the Operational Report portlet to the PPM Dashboard page, select the report for the portlet to display as follows:

   a. In the Operational Report box, click the **Edit portlet preferences** icon.



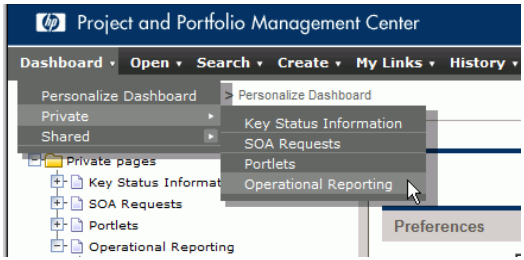
The Edit Preferences page opens.



   b. From the **Report Name Filter** list, select the name of the report to display in the portlet.

   c. Click **Save.**

6. From the **Dashboard** menu, navigate to the PPM Dashboard page that contains the reporting portlet(s).



7. Do one of the following:

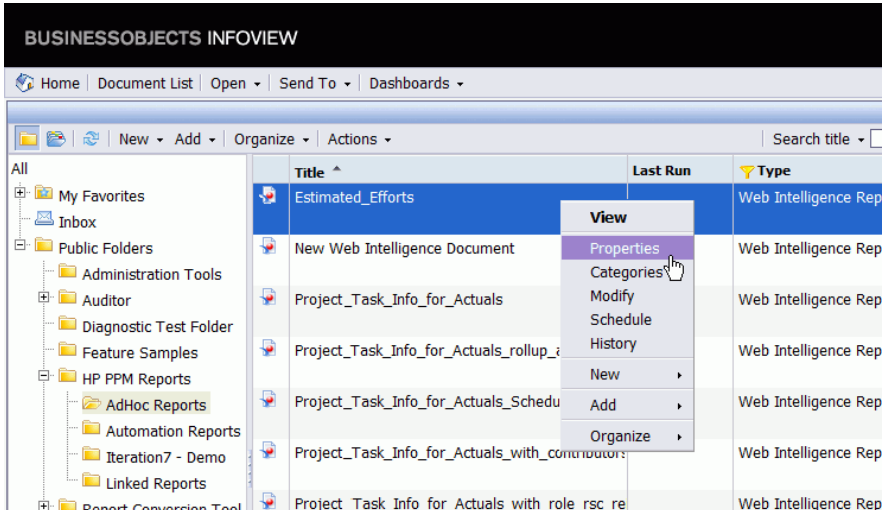
   - From the Operational Report portlet, log on to InfoView, and then run the query for the selected report.
   - From the Operational Report portlet, click a link in the **Report Name** list, log on to InfoView, and then run the query for the selected report.

Adding Ad Hoc Operational Reports to the Reporting Portlets

In addition to the preconfigured reports that HP supplies, you can also display your ad hoc operational reports through the Operational Report List portlet.

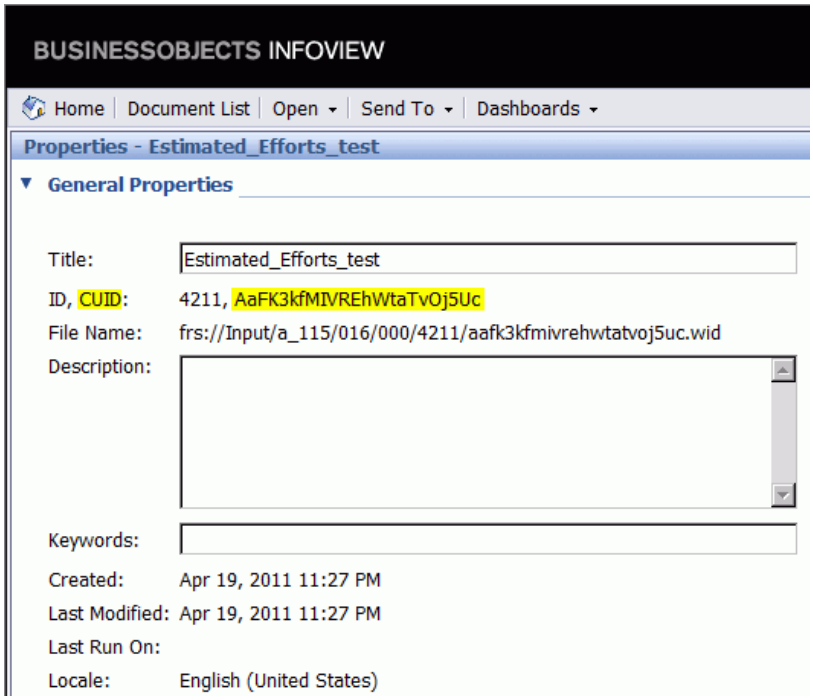
To display an ad hoc operational report in a portlet:

1. Log on to BusinessObjects InfoView and navigate to an ad hoc report that you want to add to the portlet report list.



2. Right-click the report, and then select **Properties** from the shortcut menu.

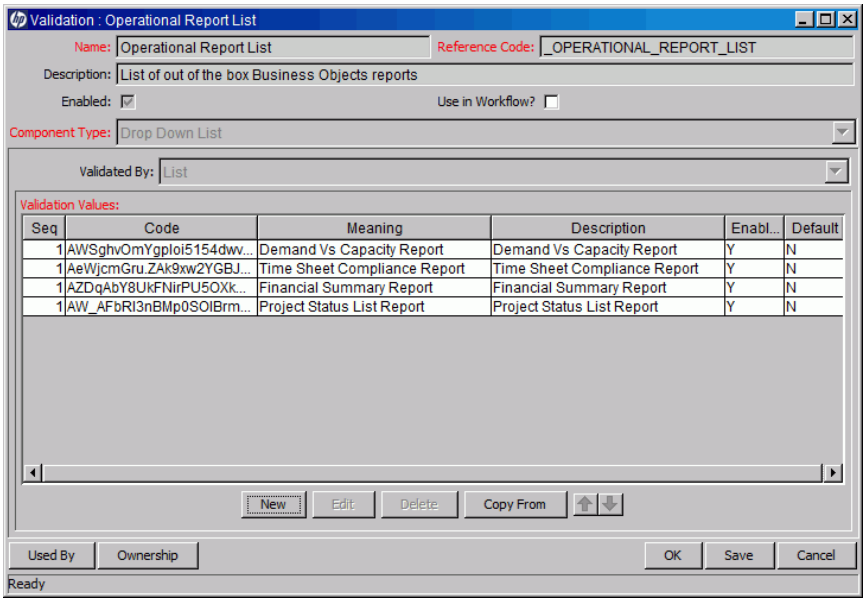
3. The General Properties window displays properties for the ad hoc report, include its title and CUID. Make a note of these.



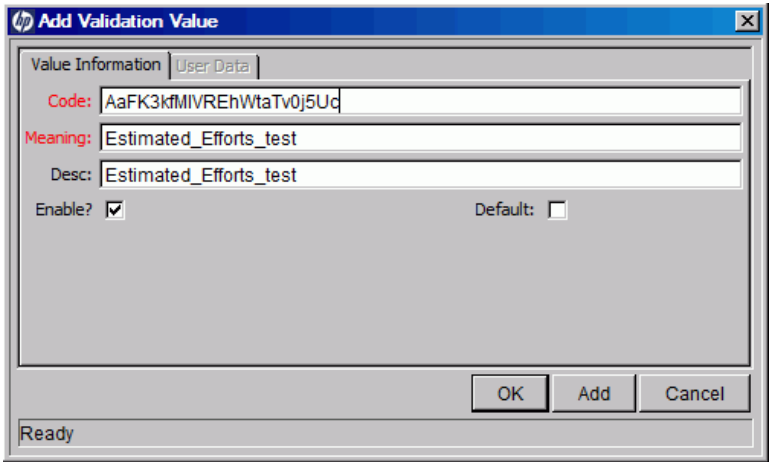
4. Log on to PPM Center and, from the menu bar, select **Open > Administration > Open Workbench.**

5. Open the Validation Workbench (from the PPM Workbench shortcut bar, select **Configuration > Validations**).

6. Find and open the Operational Report List validation.



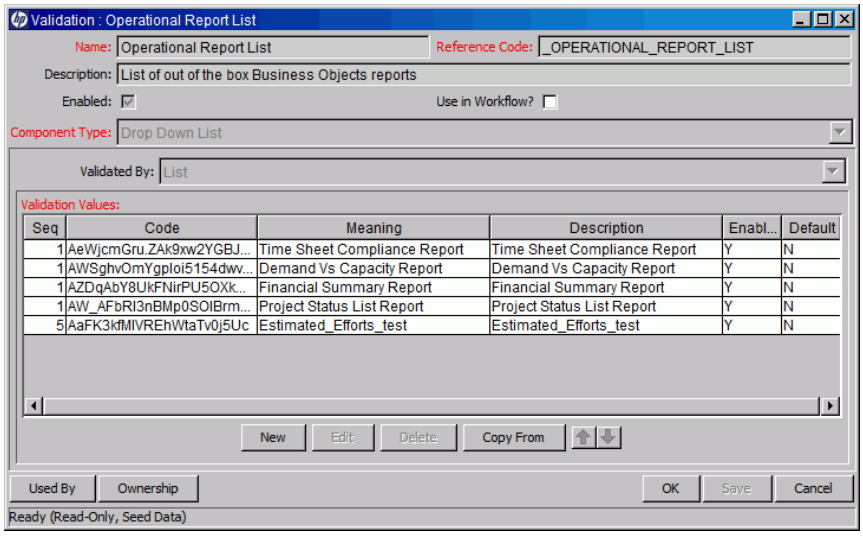
7. Under the **Validation Values** table, click **New.**



8. In the **Code** box, type the CUID for the ad hoc report and in the **Meaning** box, type the ad hoc report title (See step 3.)

9. Leave the **Enable** check box selected and click **OK.**

The new validation value is listed in the Validation window.



10. Refresh the PPM Dashboard page that contains the operational report portlets.

Your ad hoc report is now listed in the Operational Report List portlet. You can also select it from the **Report Name Filter** list for the Operational Report portlet. (See step 5 on page 152).

8 Reporting on PPM Center Request Custom Parameters

About Custom Parameters

In PPM Center, an administrator can configure up to 50 custom request parameters at the header level and any number of custom parameters at the request detail level. The Operational Reporting Kernel universe makes all of the custom parameters (at the request header level) and the first 100 custom parameters (at the request detail level) available for reporting. In Universe Designer and InfoView, you can access custom parameters in the Request Header Custom Parameters and Request Detail Custom Parameters folders under the Request Information class.

The objects that represent the custom parameters are named “Visible Parameter1”, “Visible Parameter2”, and so on, to model custom parameters in a generic way, much like Visible User Data objects represent custom data fields. The basic difference is that user data fields have the same definition for all request types, which is not true for custom parameter fields. Request custom parameters are defined in PPM Center within the context of request types. As a result, the meaning of a given custom parameter such as Parameter1 can be different for different request types.

Depending on your environment, you may have multiple request types that use custom parameters, each of which is mapped to a specific field name that is unique within the request type. Also, a given custom parameter such as “Parameter1” may be configured for more than one request type for custom fields which are very different in usage or meaning between request types. For example, Request Type 1 may include a custom parameter field Parameter10 that models “IT Organization name” while Request Type2 may also include a custom parameter field 10 that models “Solution description”. Parameter10

will represent the field IT Organization name for Request Type1 request and represent the field Solution description for the Request Type2.

If you plan to include custom parameters in your operational reports, use specific field names or object names in the report instead of the default names (such as Visible Parameter1), depending on the request type. Staying with the example Visible Parameter 10, keep in mind that if you use a query filter based on the object Visible Parameter10, you will want the report to show **IT Organization name** field values only for requests of the type Request Type1. Likewise, you want the report to show the **Solution description** field values only for requests of the type Request Type2.

The value of custom parameters are stored in the same underlying database table for all requests of different request types.

Exposing Custom Parameter Fields in Operational Reporting

The following sections describe how to expose custom parameter field values in the Operational Reporting schema and how to expose custom parameter field values in the Kernel universe.

Exposing Custom Parameter Field Values in the Kernel Universe

Because the custom parameters definitions vary between request types, a single universe object cannot map to a custom parameter field for all request types. Also, the field definition is not fixed, but is dynamic (which is stored in the parameter set fields for each request type defining custom parameter fields).

In this section, the following example custom parameter field and Visible Parameter objects are used to help describe how to customize your Visible Parameter object definitions.

Example:

In this PPM Center instance, Sample Request Type 1 and Sample Request Type 2 are configured as follows.

- Sample Request Type 1 includes three custom fields, defined as follows:
  - **IT Organization name** is mapped to Request header Visible Parameter2.
  - **IT Manager name** is mapped to Request detail Visible Parameter10.
  - **Business Impact** is mapped to Request detail Visible Parameter55 (that is, Parameter 5, batch number 2).
- Sample Request Type 2 includes three custom fields, defined as follows:
  - **Assigned Team** is mapped to Request header Visible Parameter2.
  - **Solution Description** is mapped to Request detail Visible Parameter55 (that is, Parameter 5, batch number 2).
  - **Workaround available** is mapped to Request detail Visible Parameter110 (that is, Parameter 10, batch number 3).

In this example, customization involves two tasks:

1. Change the name of the custom parameter objects in the Kernel universe so that they correspond to the field names configured for the request type in PPM Center.
2. Users will likely build different reports to display information for requests of different request types—especially, if the request types are configured with different types of custom parameters.

   Change the object definitions of the custom parameter objects so that reports display the value of the corresponding parameter in the context of the request type. This way, instead of displaying all values for all requests of different request types, reports display values based on the correct request type.

The following sections provide the procedures for performing these two tasks, using the example request types, custom parameters, and universe objects.

Renaming Custom Parameter Objects

To change the name of you customer parameter objects:

1. Log on to Universe Designer and open the Kernel universe.
2. In the list of universe classes and objects, expand the **Request Information** folder.
3. Under the **Request Information** folder, do the following:
   a. Copy the **Request Custom Header Custom Parameters** folder, paste the copy to the **Request Information** folder, and then change the name of the new folder to “Sample RequestType1 Header Custom Parameters”.
   b. Copy the **Request Detail Custom Parameters** folder, paste the copy to the **Request Information** folder, and then change the name of the new folder to “Sample RequestType1 Detail Custom Parameters”.
   c. Copy the **Request Custom Header Custom Parameters** folder, paste the copy to the **Request Information** folder, and then change the name of the new folder to “Sample RequestType2 Header Custom Parameters”.
   d. Copy the **Request Custom Detail Custom Parameters** folder, paste the copy to the **Request Information** folder, and then change the name of the new folder to “Sample RequestType2 Detail Custom Parameters”.
4. Under the **Sample RequestType1 Header Custom Parameters** folder:
   a. Double-click **Visible Parameter2.**

      The Edit Properties dialog box opens.
   b. In the **Name** box, select the existing value, and then type **`IT Organization name.`**
5. Under the **Sample RequestType1 Detail Custom Parameters** folder:
   a. Double-click **Visible Parameter10**.

      The Edit Properties dialog box opens.
   b. In the **Name** box, select the existing value, and then type **`IT Manager name.`**

c. Double-click **Visible Parameter55**.

   The Edit Properties dialog box opens.

d. In the **Name** box, select the existing value, and then type **`Business Impact.`**

6. Under the **Sample RequestType2 Header Custom Parameters** folder:

   a. Double-click **Visible Parameter2**.

      The Edit Properties dialog box opens.

   b. In the **Name** box, select the existing value, and then type **`Assigned Team.`**

7. Under the **Sample RequestType2 Detail Custom Parameters** folder:

   a. Double-click **Visible Parameter10**.

      The Edit Properties dialog box opens.

   b. In the **Name** box, select the existing value, and then type **`Solution Description.`**

8. If you plan to use all 100 of the Request Custom Detail Parameters in your reports, then under the **Sample RequestType2 Detail Custom Parameters** folder, make a copy of the **Visible Parameter100** object and change its name to "Workaround available".

   If you do not plan to use all the 100 Request Custom Detail Parameters in your reports, then choose any of the **Visible Parameter<*N*>** objects not in use and change its name to "Workaround available".

Changing Object Definitions

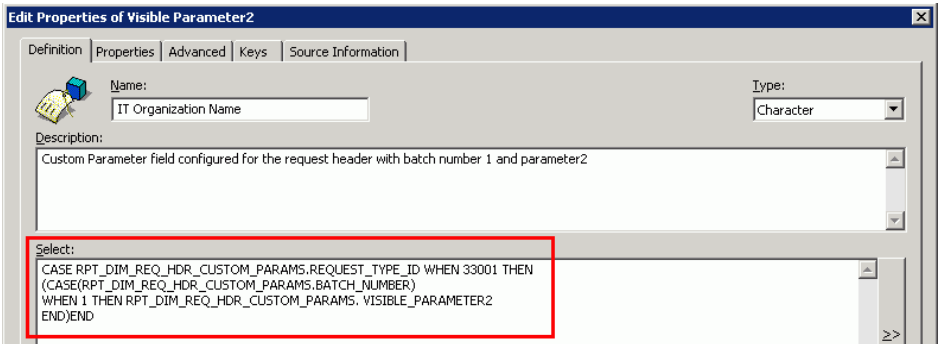
To change the definitions of objects in the folders you created in the steps described in *Renaming Custom Parameter Objects*:

1. Under the **Sample RequestType1 Header Custom Parameters** folder, double-click the **IT Organization name** object and provide the following information in the Edit Properties dialog box:

   a. In the **Description** box, type **`Custom parameter field configured for the request header with batch number 1 and parameter 2.`**

   b. In the **Select** box, add the following:

   ```
   CASE RPT_DIM_REQ_HDR_CUSTOM_PARAMS.REQUEST_TYPE_ID WHEN
   33001 THEN (CASE(RPT_DIM_REQ_HDR_CUSTOM_PARAMS.BATCH_
   NUMBER) WHEN 1 THEN RPT_DIM_REQ_HDR_CUSTOM_PARAMS.
   VISIBLE_PARAMETER1
   END)END
   ```



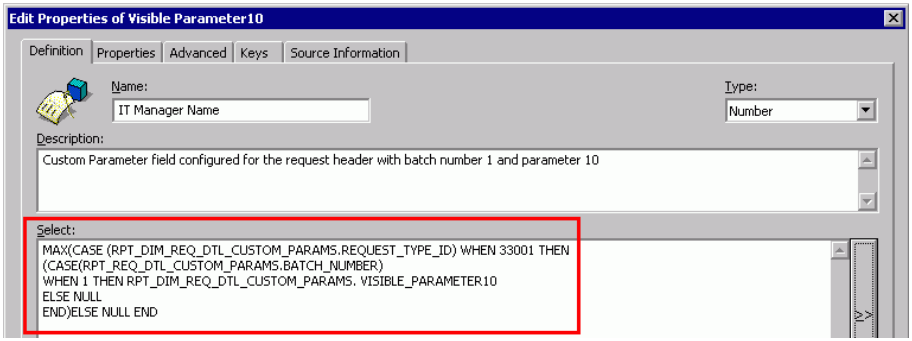
   Note the addition of the case statement for selecting the value of the custom parameter column based on the request type ID (33001 in this example). Use the request type id for your specific request type.

2. Under the **Sample RequestType1 Detail Custom Parameters** folder double-click the **IT Manager name** object and then provide the following information in the Edit Properties dialog box:

   a. In the **Description** box, type **`Custom parameter field configured for the request detail with batch number 1 and parameter 10.`**

b. In the **Select** box, add the following:

```
MAX(CASE (RPT_DIM_REQ_DTL_CUSTOM_PARAMS.REQUEST_TYPE_ID)
WHEN 33001 THEN (CASE(RPT_REQ_DTL_CUSTOM_PARAMS.BATCH_
NUMBER) WHEN 1 THEN RPT_DIM_REQ_DTL_CUSTOM_PARAMS.
VISIBLE_PARAMETER10
ELSE NULL
END)ELSE NULL END
```



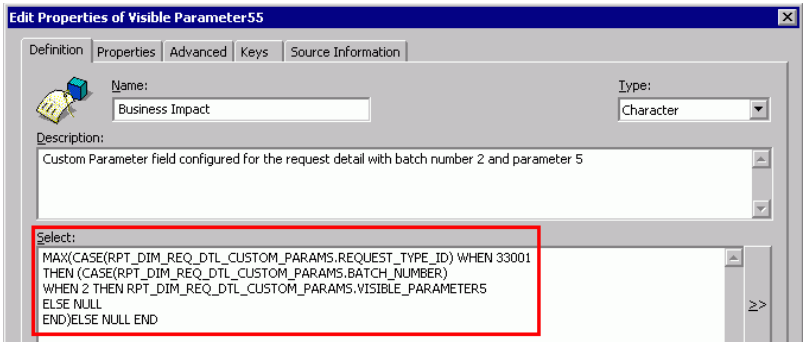
Note the addition of the case statement for selecting the custom parameter column value based on the request type id (33001 in this example). Use the request type ID for your specific request type.

3. Under the **Sample RequestType1 Detail Custom Parameters** folder double-click the **Business Impact** object and then provide the following information in the Edit Properties dialog box:

   a. In the **Description** box, type **`Custom parameter field configured for the request detail with batch number 2 and parameter 5.`**

   b. In the **Select** box, add the following:

```
MAX(CASE(RPT_DIM_REQ_DTL_CUSTOM_PARAMS.REQUEST_TYPE_ID)
WHEN 33001 THEN (CASE(RPT_DIM_REQ_DTL_CUSTOM_
PARAMS.BATCH_NUMBER) WHEN 2 THEN RPT_DIM_REQ_DTL_CUSTOM_
PARAMS.VISIBLE_PARAMETER5
ELSE NULL
END)ELSE NULL END
```

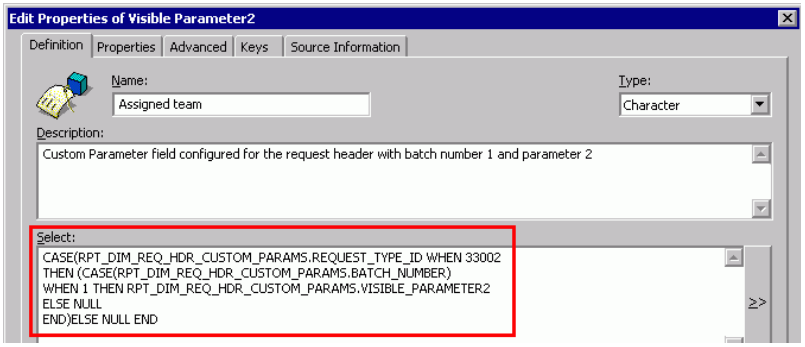


4. Under the **Sample RequestType2 Header Custom Parameters** folder double-click the **Assigned team** object and then provide the following information in the Edit Properties dialog box:

   a. In the **Description** box, type **`Custom parameter field configured for the request header with batch number 1 and parameter 2.`**

   b. In the **Select** box, add the following:

```
CASE(RPT_DIM_REQ_HDR_CUSTOM_PARAMS.REQUEST_TYPE_ID WHEN
33002 THEN (CASE(RPT_DIM_REQ_HDR_CUSTOM_PARAMS.BATCH_
NUMBER) WHEN 1 THEN RPT_DIM_REQ_HDR_CUSTOM_
PARAMS.VISIBLE_PARAMETER2
ELSE NULL
END)ELSE NULL END
```



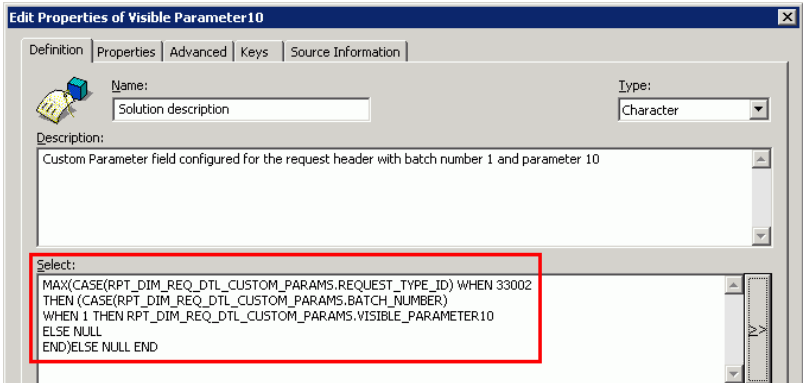
Note the addition of the case statement for selecting the value of the custom parameter column based on the request type ID (33002 in this example). Use the request type ID for your specific request type.

5. Under the **Sample RequestType2 Detail Custom Parameters** folder double-click the **Solution Description** object and then provide the following information in the Edit Properties dialog box:

   a. In the **Description** box, type **`Custom parameter field configured for the request detail with batch number 1 and parameter 10.`**

   b. In the **Select** box, add the following:

```
MAX(CASE(RPT_DIM_REQ_DTL_CUSTOM_PARAMS.REQUEST_TYPE_ID)
WHEN 33002 THEN (CASE(RPT_DIM_REQ_DTL_CUSTOM_
PARAMS.BATCH_NUMBER) WHEN 1 THEN RPT_DIM_REQ_DTL_CUSTOM_
PARAMS.VISIBLE_PARAMETER10
ELSE NULL
END)ELSE NULL END
```



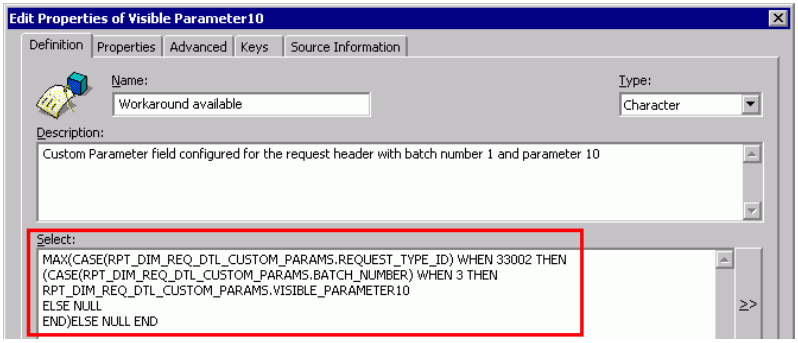
   Note the addition of the case statement for selecting the value of the custom parameter column based on the request type ID (33002 in this example). Use the request type ID for your specific request type.

6. Under the **Sample RequestType2 Detail Custom Parameters** folder double-click the **Workaround available** object and then provide the following information in the Edit Properties dialog box:

   a. In the **Description** box, type **`Custom parameter field configured for the request detail with batch number 1 and parameter 10.`**

b. In the **Select** box, add the following:

```
MAX(CASE(RPT_DIM_REQ_DTL_CUSTOM_PARAMS.REQUEST_TYPE_ID)
WHEN 33002 THEN (CASE(RPT_DIM_REQ_DTL_CUSTOM_
PARAMS.BATCH_NUMBER) WHEN 3 THEN RPT_DIM_REQ_DTL_CUSTOM_
PARAMS.VISIBLE_PARAMETER10
ELSE NULL
END)ELSE NULL END
```



Note the addition of the case statement for selecting the value of the custom parameter column based on the request type ID (33002 in this example). Use the request type ID for your specific request type.

Follow these procedures to configure all of the custom parameters for the request types that you intend to report on. The 50 request header custom parameters and 100 request detail custom parameters are exposed out of the box as placeholders. If you do not intend to use all those custom parameters, it is not necessary to modify all the object definitions, or even to keep the ones you do not plan to use. Keep and modify the object definitions only for the custom parameters that you intend to report on.

Similarly, custom parameters at the request header level and request detail level are exposed for Project Issue, Project Scope Change and Project Risk classes, you can follow the same procedures to rename the objects and modify the definition to control list of values for those objects to be displayed in the context of corresponding request types.

Exporting the Universes

After you modify the object names and definitions, you must export the Kernel universe. Open the RM Derived Universe, FM Derived Universe, TM Derived Universe and PM Derived Universe and export each of the universes for the changes to take effect.

A Troubleshooting

Troubleshooting for Operational Reporting

This section provides information about how to resolve problems that you may encounter after you have deployed Operational Reporting based on PPM Center version Content Pack 1.

The issues described in this section are:

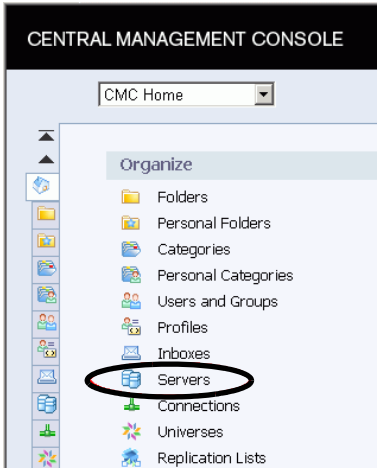
- *(HP-UX Only) Resetting Memory Thresholds*
- *Nonexistent Table or Materialized View Error*
- *Changed Package Time Stamp Error*
- *Invalid Cursor Error During ETL*
- *Error Using Oracle Client Version 9.x*
- *Folders and Objects Missing from Operational Reporting Universe*
  - *BusinessObjects Enterprise XI 3.1 Service Pack 2 is Not Installed*
  - *If BusinessObjects Enterprise XI 3.1 Service Pack 2 is Installed on Windows 2003*

(HP-UX Only) Resetting Memory Thresholds

A memory issue can sometimes prevent you from running reports from InfoView when the BusinessObjects server software is installed on HP-UX.

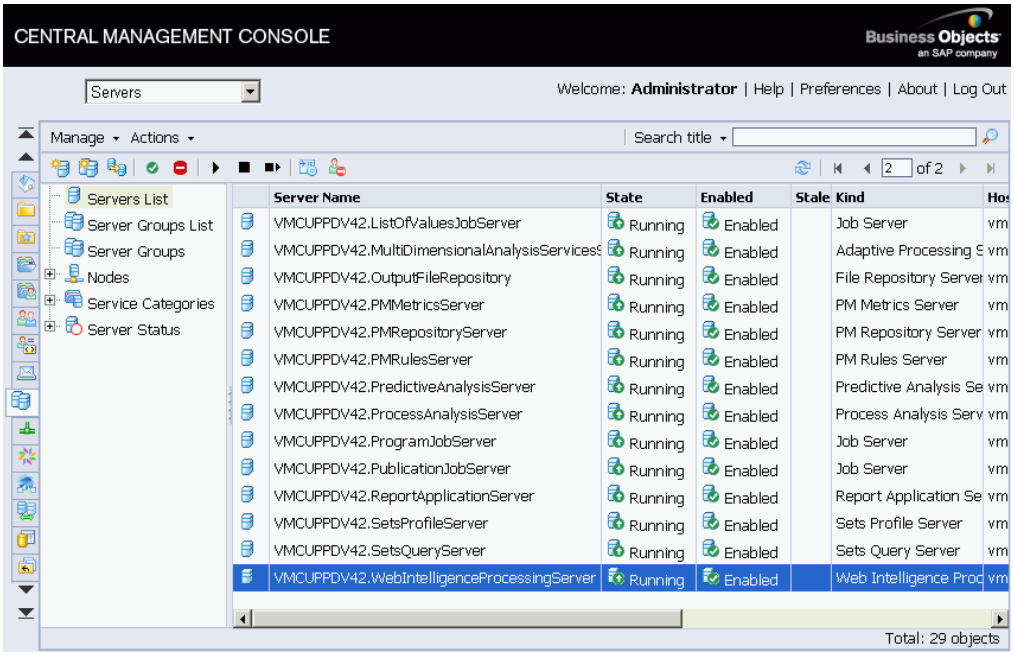
To resolve this issue, after you install BusinessObjects XI 3.1 SP2, do the following:

1. Start the BusinessObjects Enterprise Central Management Console (CMC). (Select **Start > All Programs > BusinessObjects 3.1 XI > BusinessObjects Enterprise > BusinessObjects Enterprise Central Management Console.**)

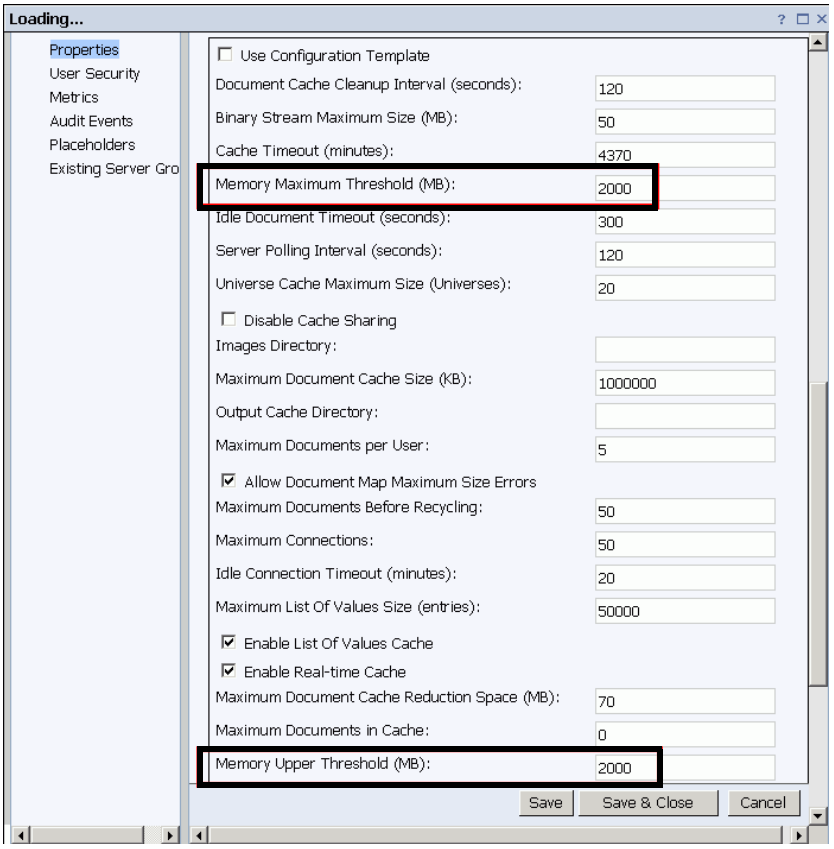


2. In the **Organize** column, click **Servers.**

3. In the **Server Name** column, double-click ***<BusinessObjects_Server_Host_Name>*WebIntelligenceProcessingServer.**

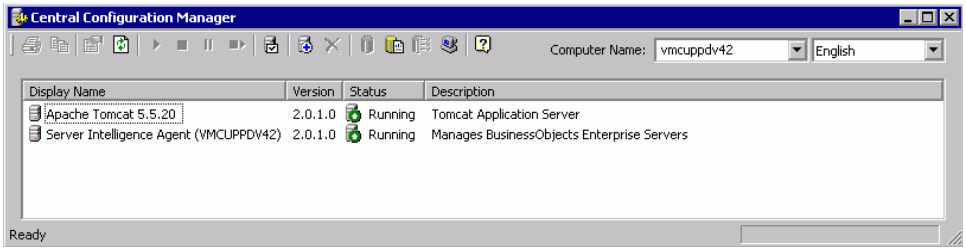


4. In the Properties window, scroll down to the **Web Intelligence Processing Service** section, and then replace the default values in both the **Memory Maximum Threshold (MB)** and **Memory Upper Threshold (MB)** boxes to 2000.



5. Click **Save & Close.**
6. Log out of CMC.
7. Start the Central Configuration Manager. (Select **Start > All Programs > BusinessObjects 3.1 XI > BusinessObjects Enterprise > Central Configuration Manager.)**
8. Restart the Apache Tomcat and Server Intelligence Agent servers from the Central Configuration Manager.

9. Verify that the Apache Tomcat and Server Intelligence Agent servers are up and running.



10. Verify that you can run your operational reports from InfoView.

Nonexistent Table or Materialized View Error

If a data in a table or a materialized view does not get refreshed during an ETL job, an error message similar to the following is displayed:

```
ORA-00942: table or view does not exist
ORA-06512: at "SYS.DBMS_SNAPSHOT", line 2566
ORA-06512: at "SYS.DBMS_SNAPSHOT", line 2779
ORA-06512: at "SYS.DBMS_SNAPSHOT", line 2748
ORA-06512: at line 4
```

To work around this problem:

1. Use a client tool to get the definition of the materialized view that is not refreshed during the ETL from your Oracle database schema.
2. Save the table or view definition in a file.
3. To drop the failed materialized view, run:

   ```
   "Drop Materialized View <Materialized_View_Name>" ;
   ```

4. Run the file that you saved in step 2.
5. Run the following:

   ```
   DBMS_MVIEW.refresh('<Materialized_View_Name>', 'cf');
   ```

Changed Package Time Stamp Error

During an ETL job, you may encounter the following error:

```
BEGIN
*
ERROR at line 1:
ORA-04062: timestamp of package "PPM_CDC_UTILS" has been
changed
ORA-06512: at "RPT_UPGRADE", line 668
ORA-06512: at "RPT_UPGRADE", line 1829
ORA-06512: at line 8
```

To resolve this issue, log on to the BusinessObjects host machine as sys user, and then run the following:

```
ALTER SYSTEM SET REMOTE_DEPENDENCIES_MODE = SIGNATURE;
```

Invalid Cursor Error During ETL

During an ETL job an error similar to the following may be generated:

```
Error:ORA-20000: Exception in move_up_window_ceiling() -1001
ORA-01001: invalid cursor
ORA-06512: at "PPM_CDC_UTILS", line 313, error code:-20000
```

If this occurs, do the following:

Log in to PPM Center database as a DBA and use the following command to flush the shared pool:

```
alter system flush shared_pool;
```

1. Error Using Oracle Client Version 9.x

If you are running Oracle client version 9.x, you may see the following error during a `sample_upgrade_rpt.bat` (`.sh`) or `sample_preupgrade_rpt.bat` (`.sh`) run:

```
ERROR:
ORA-06502: PL/SQL: numeric or value error: host bind array too
small
ORA-06512: at line 1
```

If this occurs, HP recommends that you use Oracle client version 10.x or later.

Folders and Objects Missing from Operational Reporting Universe

Folder names and objects are sometimes missing from an Operational Reporting universe when the BusinessObjects server software is installed on a Windows system. This can occur if BusinessObjects Enterprise XI 3.1 Service Pack 2 is not installed or if the Service Pack 2 installation failed at either the server or client level.

BusinessObjects Enterprise XI 3.1 Service Pack 2 is Not Installed

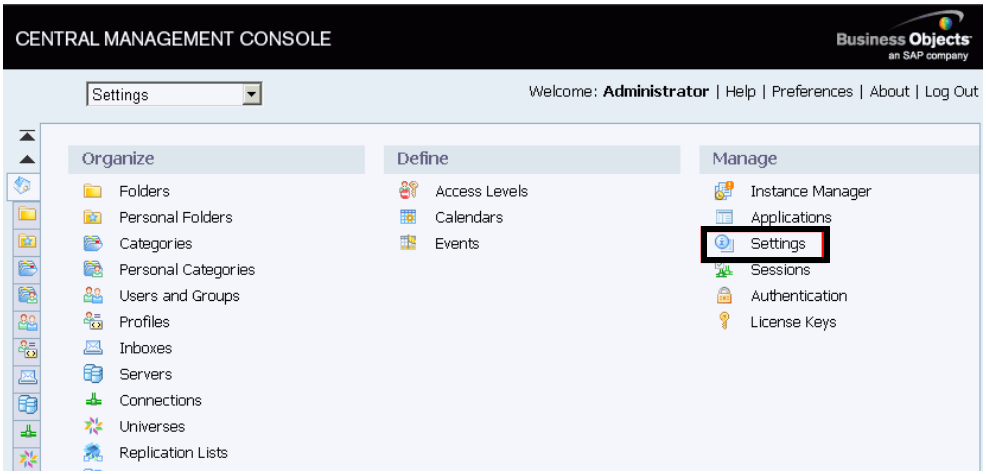
This section provides instruction on how to determine whether BusinessObjects Enterprise XI 3.1 Service Pack 2 is installed and what to do if it is not installed.

To determine whether BusinessObjects Enterprise XI 3.1 Service Pack 2 is installed on a Windows system:

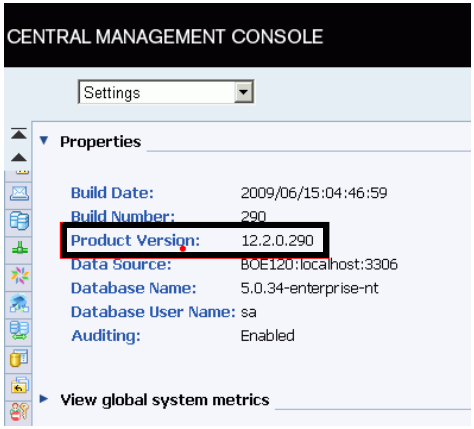
1. Log on to the Central Management Console server (installed on Windows or UNIX) as follows:
   a. Select **Start > All Programs > BusinessObjects XI 3.1 > BusinessObjects Enterprise> BusinessObjects Enterprise Central Management Console.**
   b. In the **User Name** box, type **`Administrator.`**
   c. In the **Password** box, type **`admin123.`**

   The Central Management Console home page opens.

2. In the **Manage** column, select **Settings.**



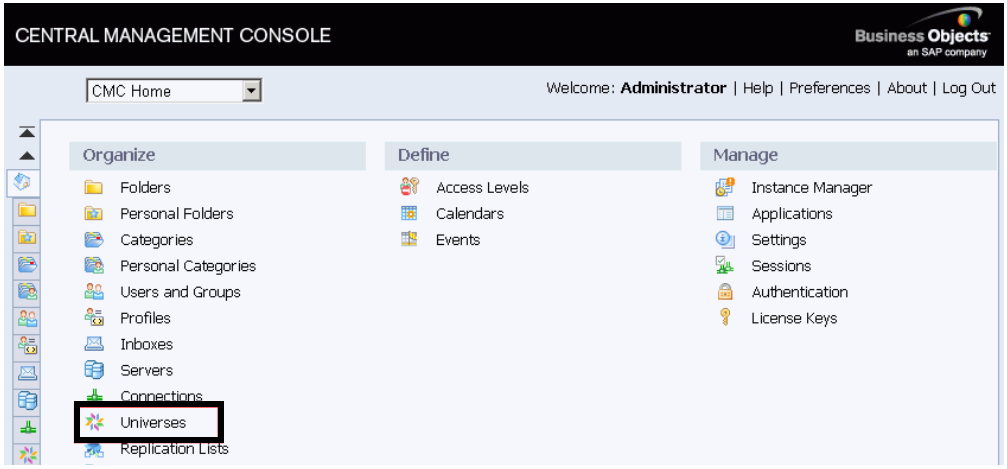
3. In the **Properties** section, check to make sure that the value listed for **Product Version** listed is **12.2.0.290.** This number represents Business Objects Enterprise XI 3.1 SP2.



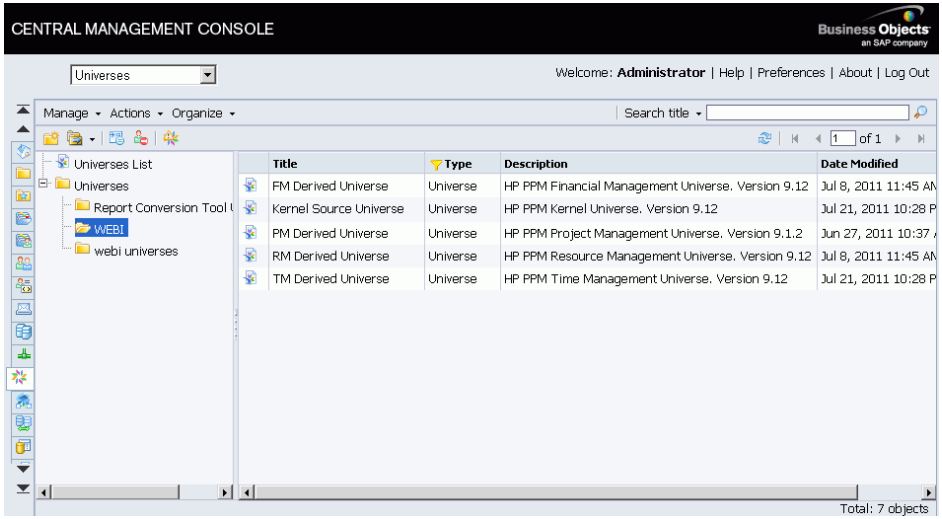
If BusinessObjects Enterprise XI 3.1 Service Pack 2 is *not* installed, do the following:

1. Upgrade to BusinessObjects XI 3.1 SP2 (For a Windows system, see *Installing BusinessObjects Enterprise XI 3.1, Service Pack 2* on page 32. For a UNIX system, see *Installing BusinessObjects Enterprise XI 3.1, Service Pack 2* on page 85.)

2. Start the BusinessObjects Enterprise Central Management Console (CMC). (Select **Start > All Programs > BusinessObjects 3.1 XI > BusinessObjects Enterprise > BusinessObjects Enterprise Central Management Console.**)



3. In the **Organize** column, click **Universes.**



4. In the left panel, expand the **Universes** folder, and select the **WEBI** folder.
5. In the right panel, select all of the PPM Center universes.
6. From the **Manage** menu, select **Delete.**

7. Re-import all the PPM Center universes. (For instructions for importing on a Windows system, see *Importing and Updating Universes and Reports* on page 49. For instructions for importing on a UNIX system, see *Importing and Updating Universes and Reports* on page 104.)
8. Set the connection in the Universe Designer. (For instructions, see ***Configuring the Operational Reporting* on page 54**.)
9. Export the universes.
10. Run your preconfigured operational reports.

If BusinessObjects Enterprise XI 3.1 Service Pack 2 is Installed on Windows 2003

On Windows 2003 systems, if the Windows Installer process has insufficient contiguous virtual memory to verify that the MSI package or the MSP package is correctly signed, BusinessObjects Enterprise XI 3.1 Service Pack 2 installation can fail, either on the BusinessObjects client or on the BusinessObjects server.

To resolve this issue:

1. Install the patch that Microsoft provides for windows 2003 as follows:
   a. Go to the Update for Windows Server 2003 (KB925336) page (`//www.microsoft.com/downloads/en/details.aspx?FamilyId=8EFFE1D9-7224-4586-BE2B-42C9AE5B9071&displaylang=en`) of the Microsoft Download Center.
   b. Download and then run the `WindowsServer2003-KB925336-x86-ENU.exe` file.
2. Perform step 2 on page 179 through step 10 on page 180.

Oracle Trace Log Control for ETL Performance Troubleshooting

This section applies to Operational Reporting for PPM Center Content Pack 1.2 or later.

This functionality is used to analyze ETL performance on Oracle side.

To troubleshoot the ETL performance,

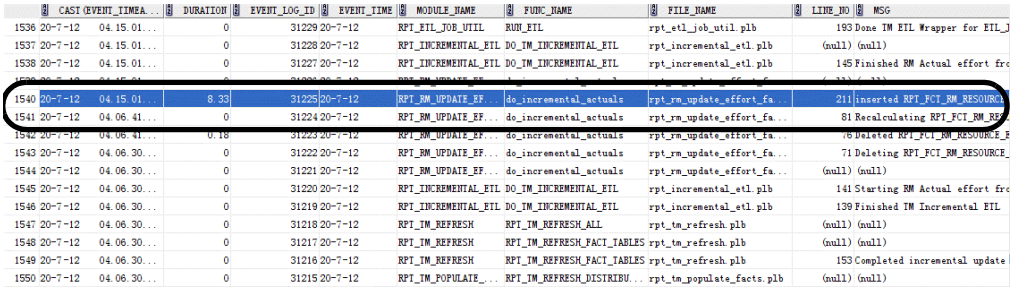
1. Find the SQLs that cost long time from the `rpt_event_log_detail` table.

   a. Run the following SQL:

   ```
   select cast(event_time as timestamp),
   round((event_time - lead(event_time,1) over
   (order by event_log_id desc))*24*60 ,2) duration, t1.*
   from rpt_event_log_detail t1 order by event_log_id desc;
   ```

   From the DURATION column of the returned results, you can find the SQLs that cost long time.

   For example, as shown in the screenshot below, Row 1540 costs 8.33 minutes.



	CAST(EVENT_TIMEA...	DURATION	EVENT_LOG_ID	EVENT_TIME	MODULE_NAME	FUNC_NAME	FILE_NAME	LINE_NO	MSG
1536	20-7-12 04.15.01...	0	31229	20-7-12	RPT_ETL_JOB_UTIL	RUN_ETL	rpt_etl_job_util.plb	193	Done IM ETL Wrapper for ETL_J
1537	20-7-12 04.15.01...	0	31228	20-7-12	RPT_INCREMENTAL_ETL	DO_IM_INCREMENTAL_ETL	rpt_incremental_etl.plb	(null)	(null)
1538	20-7-12 04.15.01...	0	31227	20-7-12	RPT_INCREMENTAL_ETL	DO_IM_INCREMENTAL_ETL	rpt_incremental_etl.plb	145	Finished RM Actual effort fr
1540	20-7-12 04.15.01...	8.33	31225	20-7-12	RPT_RM_UPDATE_EF...	do_incremental_actuals	rpt_rm_update_effort_fa...	211	inserted RPT_FCT_RM_RESOURC
1541	20-7-12 04.06.41...	0	31224	20-7-12	RPT_RM_UPDATE_EF...	do_incremental_actuals	rpt_rm_update_effort_fa...	81	Recalculating RPT_FCT_RM_RE
1542	20-7-12 04.06.41...	0.18	31223	20-7-12	RPT_RM_UPDATE_EF...	do_incremental_actuals	rpt_rm_update_effort_fa...	76	Deleted RPT_FCT_RM_RESOURCE_E
1543	20-7-12 04.06.30...	0	31222	20-7-12	RPT_RM_UPDATE_EF...	do_incremental_actuals	rpt_rm_update_effort_fa...	71	Deleting RPT_FCT_RM_RESOURCE_
1544	20-7-12 04.06.30...	0	31221	20-7-12	RPT_RM_UPDATE_EF...	do_incremental_actuals	rpt_rm_update_effort_fa...	(null)	(null)
1545	20-7-12 04.06.30...	0	31220	20-7-12	RPT_INCREMENTAL_ETL	DO_IM_INCREMENTAL_ETL	rpt_incremental_etl.plb	141	Starting RM Actual effort fr
1546	20-7-12 04.06.30...	0	31219	20-7-12	RPT_INCREMENTAL_ETL	DO_IM_INCREMENTAL_ETL	rpt_incremental_etl.plb	139	Finished IM Incremental ETL
1547	20-7-12 04.06.30...	0	31218	20-7-12	RPT_IM_REFRESH	RPT_IM_REFRESH_ALL	rpt_tm_refresh.plb	(null)	(null)
1548	20-7-12 04.06.30...	0	31217	20-7-12	RPT_IM_REFRESH	RPT_IM_REFRESH_FACT_TABLES	rpt_tm_refresh.plb	(null)	(null)
1549	20-7-12 04.06.30...	0	31216	20-7-12	RPT_IM_REFRESH	RPT_IM_REFRESH_FACT_TABLES	rpt_tm_refresh.plb	153	Completed incremental update
1550	20-7-12 04.06.30...	0	31215	20-7-12	RPT_IM_POPULATE_...	RPT_IM_REFRESH_DISTRIBU...	rpt_tm_populate_facts.plb	(null)	(null)

   b. Note down the file name, line number, and function name for the pervious rows (start record).

   In this example, you need to note down the information for Row 1541. The file name is `rpt_rm_update_effort_fact.plb`, the line number is `81`, and the function name is `do_incremental_actuals`.

2. Enable trace log for the SQLs you noted down.

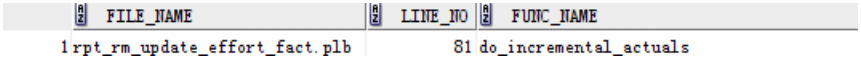
   a. Set the parameter `TRACE_LOG_FLAG` in the table `RPT_PARAMS` to `true` by running the following SQL:

      ```
      update RPT_PARAMS set PARAMETER_VALUE='TRUE' where
      PARAMETER_NAME='TRACE_LOG_FLAG';
      ```

   b. Enable trace log for the SQLs you noted down by adding the file name, line number, and function name of the rows to the `RPT_TRACE_DETAILS` table.

      If you add file name and set line number to `-1`, the SQL trace log stays open for the entire package body file (in this example, the `rpt_rm_update_effort_fact.plb` file) .

      In this example, you need to set the information as follows:

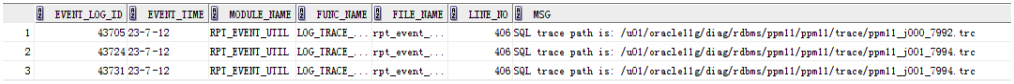
      

	FILE_NAME	LINE_NO	FUNC_NAME
1	rpt_rm_update_effort_fact.plb	81	do_incremental_actuals

      The specified SQLs will be traced during the next ETL running process.

3. After the next ETL is completed, find the trace log file path in the table `rpt_event_log_details` by running the following SQL:

   ```
   select * from rpt_event_log_detail where MSG like 'SQL trace
   path is%'
   ```

	EVENT_LOG_ID	EVENT_TIME	MODULE_NAME	FUNC_NAME	FILE_NAME	LINE_NO	MSG
1	43705	23-7-12	RPT_EVENT_UTIL	LOG_TRACE_...	rpt_event_...	406	SQL trace path is: /u01/oracle11g/diag/rdbms/ppm11/ppm11/trace/ppm11_j000_7992.trc
2	43724	23-7-12	RPT_EVENT_UTIL	LOG_TRACE_...	rpt_event_...	406	SQL trace path is: /u01/oracle11g/diag/rdbms/ppm11/ppm11/trace/ppm11_j001_7994.trc
3	43731	23-7-12	RPT_EVENT_UTIL	LOG_TRACE_...	rpt_event_...	406	SQL trace path is: /u01/oracle11g/diag/rdbms/ppm11/ppm11/trace/ppm11_j001_7994.trc

   The SQL trace log file path can be found from the MSG column of the returned results.

4. Log on to the computer where Oracle is installed.

5. Generate a formatted version of the SQL trace log file by running the following command:

```
cd <trace_file_path>
tkprof  <trace_file_path> <new_log_filename>
```

where <*trace_file_path*> is the SQL trace log file path you get in step 3; <*new_log_filename*> is the file name you specify for the target log file to be generated.

6. Open the new log file and find the SQLs that cost long time for analysis.

7. To close the SQL trace log, empty the table `RPT_TRACE_DETAILS` and disable the parameter `TRACE_LOG_FLAG` by running the following SQL:

```
truncate table RPT_TRACE_DETAILS;
update RPT_PARAMS set PARAMETER_VALUE='FALSE' where
PARAMETER_NAME='TRACE_LOG_FLAG';
```

Index