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Install/Upgrade Guide

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Oracle Agile Product Lifecycle Management for Process Install/Upgrade Guide, Release 6.2.1

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Preface

The *Agile Product Lifecycle Management for Process Install/Upgrade Guide* contains instructions for installing and upgrading Oracle Agile Product Lifecycle Management (PLM) for Process.

This preface contains these topics:

- Audience
- Variability of Installations
- Related Documents
- Related Documents
- Conventions

Audience

This guide is intended for end users who are responsible for creating and managing information in Agile PLM for Process. Information about administering the system resides in the *Agile Product Lifecycle Management for Process Administrator User Guide*.

Variability of Installations

Descriptions and illustrations of the Agile PLM for Process user interface included in this manual may not match your installation. The user interface of Agile PLM for Process applications and the features included can vary greatly depending on such variables as:

- Which applications your organization has purchased and installed
- Configuration settings that may turn features off or on
- Customization specific to your organization
- Security settings as they apply to the system and your user account

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http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Related Documents

For more information, see the following documents in the Agile PLM for Process documentation set:

- *Agile Product Lifecycle Management for Process Administrator User Guide*
- *Agile Product Lifecycle Management for Process User Group Management User Guide*
- *Agile Product Lifecycle Management for Process Global Specification Management User Guide*
- *Agile Product Lifecycle Management for Process Supply Chain Relationship Management User Guide*
- *Agile Product Lifecycle Management for Process Configuration Guide*
- *Agile Product Lifecycle Management for Process Getting Started Guide*
- *Agile Product Lifecycle Management for Process Release Notes*. Up-to-date Release Notes and other documentation are posted on Oracle Technology Network (OTN) at this location:

  http://www.oracle.com/technetwork/documentation/agile-085940.html#plmprocess

Conventions

The following text conventions are used in this document:

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

1

Installation Requirements

This chapter provides requirements that should be met prior to installation of Agile PLM for Process. Topics in this chapter include:

- Checking for Latest Information and Instructions
- Installation Requirements

Checking for Latest Information and Instructions

Prior to installation refer to the following URLs for the latest information and instructions:

1. Oracle Software Delivery Cloud (OSDC) (http://edelivery.oracle.com/) provides the latest copy of the core software. Note the core software does not include all patches and hotfixes.
   a. After logging into OSDC, search on any of the following Release Descriptions**:**
      – Oracle Agile Formulation and Compliance for Process (6.2.1.0.0)
      – Oracle Agile New Product Development and Introduction for Process (6.2.1.0.0)
      – Oracle Agile Product Data Management for Process (6.2.1.0.0)
      – Oracle Agile Product Quality Management for Process (6.2.1.0.0)
      – Oracle Agile Product Supplier Collaboration for Process (6.2.1.0.0)
   b. Add the selected software to your cart where you will be able to specify the Platform/Language for each individual release. (Note: You may use the Back option to continue adding additional product releases for the download.)
   c. Continue with the required steps in OSDC to download the software.
2. Oracle Support: https://support.oracle.com. Oracle Support provides the latest patch releases and hotfixes. To gain access to the latest patches and hotfixes perform the following steps:
   a. Log into https://support.oracle.com. If you do not have a user ID, contact Oracle Support.
   b. Select a language from the **Language** drop-down, and then click **Sign-In**.
   c. Go to Patches & Updates.
   d. Under **Patch Search**, click "Product or Family (Advanced Search)".
      – Product is "Oracle Agile Product Lifecycle Management for Process".
      – Release is "{The release you are interested in}", i.e. "Agile PLM for Process 6.2.1.0.0"
      – Platform is "Microsoft Windows (64-bit)"

e. Click **Search**. The latest patches and hotfixes will be provided in the search results.

f. Download the appropriate patch releases or hotfixes.

3. Oracle Technology Network (OTN): (https://www.oracle.com/technetwork/documentation/agile-085940.html#plmprocess) provides documentation for Agile PLM for Process.

4. OTN Community Forum: (https://community.oracle.com/community/developer/english/agile_plm/agile_plm_for_process)

   Visit the OTN Community forum for the latest posts from customers, partners, and Oracle Product Development regarding the PLM for Process product line.

Installation Requirements

The Agile PLM for Process Software Requirements table shows the operating system and the other software supported or required for each component.

Software Requirements

Table 1–1 Software Requirements

Component	Operating System	Certified Software
Web Application Server	Microsoft Windows Server OS that is supported by the certified software	? IIS 8.5 on Microsoft Windows 2012 Server R2 ? IIS 8.0 on Microsoft Windows 2012 Server ? IIS 7.5 on Microsoft Windows 2008 Server R2 64-bit ? IIS 7.0 on Microsoft Windows 2008 Server SP1 64-bit
.NET Framework	Microsoft Windows Server OS that is supported by the certified software	Microsoft .NET Framework 4.5 + latest available service pack
Microsoft Database Server (Standard & Enterprise)	Microsoft Windows Server OS that is supported by the certified software	? Microsoft SQL Server 2014 ? Microsoft SQL Server 2012 R2 ? Microsoft SQL Server 2008 R2 ? Microsoft SQL Server 2008 SP1 or higher ? Microsoft SQL Server 2005 SP2 or higher
Oracle Database Server (Standalone and RAC) Note: Oracle Standard Edition does not support RAC	Any server OS that is supported by the certified software	? Oracle Database 12c (ODP.NET client 12c) ? Oracle Database 11gR2 (ODP.NET client 11gR2) ? Oracle Database 11g (ODP.NET client 11.1.0.6)
ODP.NET Client	Same as Application Server	? Oracle ODP.NET 12c ? Oracle ODP.NET 11gR2 for 11gR2 ? Oracle ODP.NET 11.1.0.6 for 11g Note: Oracle does not support Oracle 11g client on Microsoft Windows 2008 Server R2
Microsoft SQL Reporting Services	Microsoft Windows Server OS that is supported by the certified software	? Microsoft SSRS 2008 ? Microsoft SSRS 2005
Oracle BI Publisher	Any server OS that is supported by the certified software	? Oracle BI Publisher 11.1.1.7 ? Oracle BI Publisher 11.1.1.5
Web Client Browser	Microsoft Windows OS that is supported by the certified software	? Internet Explorer 10.0 and above ? Chrome 44.0 and above ? Firefox ESR 38.0 and above

Hardware Requirements

Minimum Requirements

The following table shows the minimum hardware needed to deploy Agile PLM for Process.

Web Application Server	Dual CPU Intel Xeon 3.0+ GHz 2 MB L2 Cache 8 GB RAM
DB Server	Dual CPU Intel Xeon 3.0+ GHz 2 MB L2 Cache 8 GB RAM Separate drives for data and log files
Remoting Container	Same as Web Application Server ***Note***: Remoting Container is lightweight and can be run on any existing application server.

Hardware Recommendations

The following table shows the typical hardware recommendations for production deployments of Agile PLM for Process.

Web Application Server	Quad Core, Dual CPU Intel Xeon 3.0+ GHz 2 MB L2 Cache 12+ GB RAM
DB Server	Quad Core, Dual CPU Intel Xeon 3.0+ GHz 2 MB L2 Cache 16+ GB RAM Separate drives for data and log files
Remoting Container	Same as Web Application Server ***Note***: Remoting Container is lightweight and can run on any existing application server.

2

Installation

This chapter discusses Agile PLM for Process installation and includes the following topics:

- Environment Readiness Pre-Installation Checklists
- Installation Tasks
- Start Services
- Verify the Installation

Overview

Installing Agile PLM for Process involves several steps, including:

- Understanding system requirements
- Performing pre-installation tasks (such as setting up the Web application server and database)
- Running the command prompt installation batch files
- Performing post-installation tasks, such as:
  - Configuring the remote container service
  - Performing some base application environment configurations
  - Testing the installation

Note: Some tasks required to complete this installation are technical in nature. Refer to Appendix G, "Skill Set Requirements and Recommendations" for a list of skills recommended for completing tasks included in this guide.

Environment Readiness Pre-Installation Checklists

This section discusses Web application server-related tasks that an Agile implementer must complete before installing the Agile application suite.

The application is configured out of the box to use Integrated SSPI. This technology is used to ensure the username and password is not stored as clear-text in any configuration files and is only applicable to environments using Microsoft SQL Server. This guide will only refer to settings as they pertain to SSPI. Refer to the *Agile Product Lifecycle Management for Process Security Configuration Guide* for secure Oracle DB setup and unsecure clear-text method.

Note: The clear-text method should ONLY be used in a non-production environment as your username and password is stored in clear-text in the configuration file.

Microsoft Application Server Checklist

Before installing the Agile PLM for Process application suite, complete all of the Microsoft IIS-related tasks in the following sections:

- Add Application Server Role
- Install and Configure Microsoft .NET 4.5.2
- User Creation
- Create and Configure IIS Application Pool Settings
- Create and Configure a Website
- Install Application Initialization Module
- Enable WebDAV for NPD Applications
- Installing Database Server

Add Application Server Role

Refer to Microsoft Windows Server documentation for deploying the server role, Application Server (IIS, ASP.NET). In order for the Virtual Directory setup batch files to work, you must install the IIS 6.0 Management Compatibility option.

Install and Configure Microsoft .NET 4.5.2

Prior to installing 6.2.1, you must install .Net 4.5.2. If it's not already installed, you can download it from http://www.microsoft.com/en-us/download/confirmation.aspx?id=42642.

User Creation

A local or domain application user needs to be created. The example user will be PLM4P_AppUser for the purposes of this document. PLM4P_AppUser will need access to the following:

Files

- Read access to the PLM4P_HOME directory
- Read/Write access to the PLM4P_HOME\logs directory
- Read/Write access to the PLM4P_HOME\XDocuments
- Read/Write access to WebDAV directory for NPD

- Read/Write access to system temp directory (i.e. c:\windows\temp)
- Full control over PLM4P_HOME\RemotingContainer

IIS

- Identity for Application Pool
  - For IIS, add user to IIS_IUSRS group

Service

- Execute and Run the Remoting Container Service

MSSQL Database

- db_datareader
- db_datawriter
- db_executor

> **Note:** XDocuments and WebDAV are configurable settings and may exist elsewhere within your environment. Once installed, refer to the *Agile Product Lifecycle Management for Process Configuration Guide* for location and details.

Create and Configure IIS Application Pool Settings

Create at least two Application Pools called **`PLM4P_MAIN`** and **`PLM4P_GSM`** with the following settings modified. All other default values can be ignored.

IIS Setting	Value
.Net Framework Version	v4.0
Enable 32-Bit Applications	False
Managed Pipeline Mod	Integrated
Queue Length	4000
Start Automatically	True
Start Mode	AlwaysRunning
Identity	PLM4P_AppUser
Idle Time-Out	0
Regular Time Interval	0
Ping Enabled	False
Rapid-Fail Protection	False

> **Warning: When configuring Agile PLM for Process, if utilizing Integrated SSPI in the database connectstring, then the Identity for each application pool must be a user with datareader and datawriter rights for the database.**

Create and Configure a Website

Website name defined below is an example and can be renamed if needed.

Create a website called PLM4P with the application pool set to **`PLM4P_MAIN`** and a Physical path of `'C:\inetpub\wwwroot'`. For a production environment, this site will need a valid SSL certificate to protect against data traversing the network in clear-text. Refer to the *Agile Product Lifecycle Management for Process Security Configuration Guide* for more information, as well as, information on how to setup without SSL for non-production environments.

Install Application Initialization Module

In 6.2.1, we take advantage of Microsoft's Application Initialization Module to initialize the application when starting the Application Pool instead of On Demand. This should improve application load times and reduce the manual intervention needed by IT to load the application after a restart.

If you are running IIS 8.0 or above, then you do not need to do anything. If you are running IIS 7.5 as part of Windows 2008 R2, you must install the Application Initialization Module. You can download it from:

http://www.iis.net/downloads/microsoft/application-initialization

Enable WebDAV for NPD Applications

If you are installing the Agile PLM4P NPD application, you must enable the WebDAV (Web Distributed Authoring and Versioning) protocol in Microsoft IIS to support in-place editing. Refer to Appendix C, "Installing WebDAV" for instructions.

Warning: WebDAV is fundamentally different in IIS7 and above and is not a supported platform when using an anonymous user. If you are installing the main application on IIS7 and above, then you must have a separate web server with IIS6 or Apache 2.2 installed for WebDAV.

Installing Database Server

Agile PLM for Process supports Oracle Database Server or Microsoft SQL Server. You must install one.

Option 1: Install and Configure Oracle Database Server

- Create the Oracle database server using Oracle Database Configuration Assistant.
- Choose **AL32UTF8** as the database character set and **UTF8** as the database national character set.

Install and Configure Oracle Database Client

The following Oracle Database Checklist can be used in conjunction with Oracle Database documentation containing installation instructions. Clients should use this checklist or the instructions in "Installing Database Server" on page 2-4, but not both, as they are separate installation methods. When installing the Oracle client:

- Install Oracle client on the server hosting the application that matches the Database version installed.
- Update the tnsnames.ora, located at %Oracle Client Home%\network\admin\tnsnames.ora, to include a new data source. This data source should point to the Oracle database that was set up.

- Build your connection string:

  "User Id=<user id>;Password=<password>;Data Source=<data source created in step 4>" where

  - User Id—db username
  - Password—passwd
  - Data Source—The name that you gave your tnsnames.ora entry

Option 2: Install and Configure Microsoft SQL Server

Refer to Microsoft SQL Server documentation for installation instructions. For information on MS SQL Reporting Server, which can be optionally installed, refer to the *Agile Product Lifecycle Management for Process Configuration Guide*. When installing, ensure the collation designator and sort order are Latin1_General.

SSL Checklist

SSL (Secure Sockets Layer) is a protocol from Netscape Communications Corporation that is designed to provide secure communications on the Internet. SSL is not required for an Agile installation but is strongly recommended for production environments.

SSL can be deployed in many ways. Most commonly, SSL will run within IIS or on an intermediary system such as a Reverse Proxy or SSL accelerator.

The Agile application suite can operate in any of these scenarios, but the HTTP scheme must be configured (via environmentvariables.config) to generate the desired relative URLs correctly (http vs. https). The default URLs are configured for https.

East Asian Language Support

If you plan to support East Asian languages in Agile Product Lifecycle Management for Process, you must install East Asian language support on the server.

To install East Asian language support on the server:

1. Access the Windows Control Panel dialog box by clicking **Start > Control Panel**.
2. Select **Date, Time, Language, and Regional Options > Regional and Language Options** and click the **Languages** tab.
3. Check the **Install Files for East Asian Languages** box.
4. Click **Apply** and **OK**.

Restore the Database and Setup Accounts

A prepared database is provided as part of your Agile software media from Agile Software. Using Microsoft SQL Server Management Studio, you will need to restore this database onto your local database server. You will also need to make sure that the user responsible for accessing the database has the appropriate account setup and assigned roles.

Option 1: Oracle Database

To restore the Oracle database:

1. Create an Oracle database user. A SQL script is provided to create the database user and set up user permissions for the application. Run the SQL script createuser.sql using Oracle SQL*Plus.
2. Create the predefined DUMP DIRECTORY for "Oracle Data Pump" command (one-time operation) in SQL*Plus.

   ```
   create directory <Dir_name> as '<Dir_physical_path>';
   ```

3. Note that the IMPDP client version has to match exactly the Oracle database server version. The client character set also needs to be set to the server character set. Import the Oracle database dump file CERTIFIEDDB_V6210.DMP from the command window:

   ```
   C:> set NLS_LANG=AMERICAN_AMERICA.AL32UTF8
   impdp <ORCL_dbuser>/<ORCL_dbpwd>@<datasource> directory=<Dir_name>
   dumpfile=<Dmp_filename> logfile=<Log_filename>
   ```

Option 2: Microsoft SQL Server Database

Restoring the Database

Refer to Microsoft SQL Server documentation for restoring a database.

The name and location of the database is `<media pack>\Database\Certified_DB_<version>.zip`

Note: If you do not already have a naming convention, it is recommend to include the environment name. For example: `plm4p_production.`

Setting Up User Permissions

Refer to Microsoft SQL Server documentation for setting up a user.

Recall and add the user created as part of the pre-installation environment checklist. For example, PLM4P_AppUser. At a minimum, this user must have the following two roles for the plm4p_ database:

- db_datareader
- db_datawriter

Installation Tasks

The Agile PLM suite is installed through a set of manual configuration steps. Several of the steps are automated with utility batch scripts for a default configuration. The overall process consists of the following steps:

- Set up the Installation Environment
- Installing the Core Bundle
- Install the Media Packs
- Create IIS Applications
- Registering Environment Components
- Registering .Net version 4.0
- Install the Reference Database
- Install Language Support for Supported Languages (Optional)
- Configure Applications
- Installing BI Publisher (Optional)
- Install WebDAV (Optional)

Installation Process

Set up the Installation Environment

Unzip each media pack zip archive to a temporary directory (i.e.; c:\INSTALL_HOME). Follow the directions detailed below for Core/Media Pack installation.

Installing the Core Bundle

Throughout the instructions below, the place where you extracted the media bundle files will be referred to as INSTALLER_HOME.

1. Open the containing directory for INSTALLER_HOME.
2. Extract Core.zip located in INSTALLER_HOME to a temporary directory (i.e. c:\temp). This will give you a directory structure like c:\temp\Apps, c:\temp\Config, etc. - this temporary directory will be referred to as TEMP_HOME.
3. Copy FileCompressionHelper.exe from INSTALLER_HOME to TEMP_HOME.
4. Open a command prompt and navigate to TEMP_HOME (i.e. >cd c:\temp)
5. Run the following (it is extremely important that you perform this decompression before moving on to install any additional media pack bundle files):

   ```
   FileCompressionHelper.exe -d
   ```

6. When the distribution is complete, move the contents of TEMP_HOME to PLM4P_HOME.

Install the Media Packs

For each media bundle you will follow the same process outlined below. The one exception is with the NPD media bundle installation. With NPD, there is no need to perform step 6.

1. If there are any files remaining in your TEMP_HOME, remove them.

2. Unzip the media pack zip file located in your INSTALLER_HOME directly to TEMP_HOME.
3. Confirm media bundle names for the ZIP files, where the name can be one of:

   MP1.zip for the PDM install

   MP2.zip for the FC install

   MP3.zip for the PSC install

   MP4.zip for the NPD install

   MP5.zip for the PQM install
4. Copy `FileCompressionHelper.exe` from INSTALLER_HOME to TEMP_HOME.
5. Open a command prompt and navigate to TEMP_HOME (i.e.; >cd c:\Temp).
6. Run the following (it is extremely important that you perform this decompression before moving on to install any additional media pack bundle files):

   ```
   FileCompressionHelper.exe –d
   ```
7. When the distribution is complete, move the contents of TEMP_HOME to PLM4P_HOME.
8. You will receive a warning that a Web and config directory already exist; accept this to move the contents into these directories.
9. Accept the warning to overwrite the configuration file `PLM4P_HOME\Config\Core\FeatureDeployment\<mediapack>-FeatureConfig.config`.

Create IIS Applications

1. Open a command prompt and navigate to the directory INSTALLER_HOME\Installer\Tools. For this step you must run the command prompt as Administrator.
2. To install the core website virtual directories, choose one of the following options:
   - **Option 1, Creating a single application pool**—To install the core website virtual directories, type the following where the values <PLM4P_HOME>, <siteid> and <AppPool> are replaced with the values associated with your specific environment:

     ```
     SetupCoreVirtualDirectories.bat <PLM4P_HOME> <siteid> <AppPool>
     ```
   - **Option 2, Splitting the applications into separate application pools**—To manually create the virtual directories needed for the individual applications within the core application bundle, type the following. You will need to repeat this script for each of the different applications within core. Refer to the SetupCoreVirtualDirectories.bat file to determine the applications within core.

     ```
     SetupVirtualDirectories.bat drl <siteid> <PLM4P_HOME> <AppPool> drl
     ```
3. Each media bundle has an associated Setup<MediaBundle>VitualDirectories.bat batch file where <MediaBundle> is PDM, FC, SupplierCollab, NPD, or PQM. To install the necessary virtual directories for each installed media bundle, repeat the process outlined in step 2, replacing <Media Bundle> appropriately.

Registering Environment Components

1. Register event logs.
   a. Open a command prompt and navigate to **INSTALLER_HOME\Installer\Tools**.

b. Run the following batch file:

```
>SetupEventLogs.bat
```

c. You will be asked to verify the addition of each event log to your system event logs. Click **Yes/Ok** through all of the event log additions.

2. Install the Remoting Container Service as a single instance (normal installation).

Note: This step needs to be done only once per PLM4P_HOME. If you have multiple instances of the Agile PLM suite running on the same server, you will need to perform this installation once per instance. Refer to Appendix F, "Installing Remoting Container" for more instructions.

---

a. Open a command prompt and navigate to **INSTALLER_HOME\Installer\Tools**.

b. Stop IIS. From the command prompt type the following:

```
>iisreset /stop
```

c. Run the following batch file with <PLM4P_HOME> replaced by your specific PLM4P_HOME directory:

```
>InstallRemotingContainerService.bat <PLM4P_HOME>
```

Warning: When configuring Agile PLM for Process, if utilizing Integrated SSPI in the database connectstring, then the logon account for the remote container service must be a user with datareader and datawriter rights for the database.

Registering .Net version 4.0

1. Open a command prompt and navigate to **INSTALLER_HOME\Installer\Tools**.
2. Run the following command:

```
>RegisterASP_4_0.bat
```

Install the Reference Database

There is a reference database that is located under INSTALLER_HOME\Database. Restore this database to your database server by following the instructions outlined under the "Restore the Database and Setup Accounts" on page 2-5 and "Setting Up User Permissions" on page 2-6 section earlier in this guide.

Install Language Support for Supported Languages (Optional)

If you want to apply 6.2.1.0 National Language Support (NLS) for the supported languages, see Appendix D, "Installing National Language Support" for instructions.

Configure Applications

Review the *Agile Product Lifecycle Management for Process Configuration Guide* to apply the configuration changes required to complete the installation.

Installing BI Publisher (Optional)

As an optional step, you can install BI Publisher for Printing and/or Reporting. See Appendix E, "Installing BI Publisher" for more information.

Install WebDAV (Optional)

For the NPD media bundle, create the WebDAV folder. Some parts of the Agile suite use WebDAV to allow in-place editing of certain document types. To allow for this, a setting is available in the <PLM4P_HOME>/config/Custom/ EnvironmentSettings.config file for the WebDAV virtual folder. In cases for which WebDAV is required, create a WebDAV virtual folder and allow the anonymous user to access (read and write) the physical folder location on the hard drive. Refer to Appendix C, "Installing WebDAV" for instructions.

Start Services

Start the Remote Container Service

Using Computer Management, restart the remote container service:

1. Right click **My Computer** and select **Manage** from the shortcut menu to display the Computer Management dialog box.
2. Under **Services and Applications**, select **Service** to display a list of services in the right pane.
3. Locate RemoteContainerService and select it.
4. Select the **Start the Service** option in the top left portion of the Services pane.

Note: For troubleshooting purposes, if the service starts and then stops, check the log file under

```
<PLM4P_HOME>\logs\remoteContainer-stdout.log
```

to determine the root cause.

Note: For additional troubleshooting ONLY, the remote container service can be run from the cmd line as follows:

```
<PLM4P_HOME>\remotingcontainer\remotingcontainer
/normal
```

Restart the Web Application Server

Restart the IIS Web application server from the command prompt:

1. Open a command prompt.
2. Enter the following command:

```
C:\iisreset
```

Verify the Installation

Log in to the Agile PLM4P user portal and verify that the installation is functioning correctly. We recommend that you perform a variety of post-installation tests to ensure that all the applications are functioning correctly. For more information, see Appendix B, "Verification Tests".

3

Upgrading

This chapter discusses upgrading Agile PLM for Process. Topics in this chapter include:

- Upgrade Requirements
- Pre-Upgrade Tasks
- Upgrade Tasks
- Stop Services and Backup
- Installing 6.2.1
- Upgrade Database Tasks
- Post-Upgrade Database Tasks (from 6.1.x or earlier)
- Restarting Services

Upgrade Requirements

You need version 6.2.1 of Agile PLM for Process installed in order to upgrade.

Pre-Upgrade Tasks

Install .Net 4.5.2

Prior to installing 6.2.1, you must install .Net 4.5.2. If it's not already installed, you can download it from http://www.microsoft.com/en-us/download/confirmation.aspx?id=42642

Install Application Initialization Module

In 6.2.1, we take advantage of Microsoft's Application Initialization Module to initialize the application when starting the Application Pool instead of On Demand. This should improve application load times and reduce the manual intervention needed by IT to load the application after a restart.

If you are running IIS 8.0 or above, then you do not need to do anything. If you are running IIS 7.5 as part of Windows 2008 R2, you must install the Application Initialization Module. You can download it from:

http://www.iis.net/downloads/microsoft/application-initialization

Verify IIS Application Pool Settings

The following table represents the settings that are potentially different from the default value.

IIS Setting	Value
.Net Framework Version	v4.0
Enable 32-Bit Applications	False
Managed Pipeline Mod	Integrated
Queue Length	4000
Start Automatically	True
Start Mode	AlwaysRunning
Identity	PLM4P_AppUser
Idle Time-Out	0
Regular Time Interval	0
Ping Enabled	False
Rapid-Fail Protection	False

Upgrading from 6.1.x or Earlier

If you are upgrading from 6.1.x or earlier, please see https://community.oracle.com/docs/DOC-995480 for additional required steps prior to upgrading to 6.2.1.

Determine Database Executor Role

The database user must have the ability to execute stored procedures on the PLM4P database. For an MSSQL database where the user is not `dbowner`, you may need to add a new database role and grant this role to your database user. Consult your database administrator for any conflicts.

1. Run the following to create the role:

```
CREATE ROLE db_executor
GRANT EXECUTE TO db_executor
```

2. Grant this role to your database user (ex. PLM4P_AppUser).

Potentially Required If Capturing Tare Weight Data

If you are using the tare weight field on Packaging Material Specifications you could run into migration issues. See the 6.2 version of the *Agile Product Lifecycle Management for Process Release Notes* for more information on the feature and the migration impact.

To get a detailed report after upgrading:

1. Install PreInstall utility by running the script.
   - For Oracle:

     `<Hotfix_Home>\Installer\Tools\UpgradeUtilities\TareWeight\Oracle\util_TwMig_PreInstall_ORCL.sql`

   - For SQL Server:

     `<Hotfix_Home>\Installer\Tools\UpgradeUtilities\TareWeight\SQLServer\util_`

```
TwMig_PreInstall.sql
```

2. Execute the PreInstall utility like below. This action will create the backup tables for Packaging tare weight, base UOM and UOM conversions.

   (Table name: tmp_mig_gsmTareWeight, tmp_mig_specAvailUOMJoin)

   - For SQLServer:

     ```
     exec util_TwMig_PreInstall;
     ```

   - For Oracle:

     ```
     begin
       util_TwMig_PreInstall();
     end;
     ```

Required: Back up Tare Weights When Set With Volume Category

In v6.2.0, when Available UOM Category is set to 'Volume', Tare Weight is set as [Volume Category] per [all other categories (except Mass Category)]. However, the Tare Weight UOM rule has been changed in v6.2.1: Volume is now working in the same way with Length/Other/Units Categories except Mass.

The new Tare Weight will be [Mass Category] per [Volume Category]. So after upgrading to v6.2.1, Tare Weights that were set with Volume Category in v6.2.0 will be removed. We will store them in a temporary table.

See Document,

https://community.oracle.com/docs/DOC-997383 for instructions on how to create a temporary table.

Optional: Correct Duplicate Data Before Migrating to Contact Profiles

See the 6.2 version of the *Agile Product Lifecycle Management for Process Release Notes* for more information on the feature and the migration impact.

See Document,

https://community.oracle.com/docs/DOC-914004 for instructions on how to identify and correct potential bad data.

Upgrade Tasks

This chapter discusses the basic steps required to upgrade the Agile application suite to the 6.2.1 version. The main steps in the upgrade process include:

1. "Stop the Web Application Server" on page 3-4
2. "Stop the Remote Container Service" on page 3-4
3. "Back Up your Database" on page 3-4
4. "Archive your PLM4P_HOME Directory" on page 3-5
5. "Installing 6.2.1" on page 3-6
6. "Setup the Installation Environment" on page 3-6
7. "Installing the Core Bundle" on page 3-6
8. "Install the Media Pack Apps" on page 3-6

9. "Create New Application and Event Logs" on page 3-7
10. "Upgrade Database Tasks" on page 3-8
11. "Post-Upgrade Database Tasks (from 6.1.x or earlier)" on page 3-9
12. "Restarting Services" on page 3-10
13. "Verifying the Installation" on page 3-10

Stop Services and Backup

Stop the Web Application Server

1. Verify there are no active sessions on the Web application server (see Appendix A, "Checking for Active Web Application Server Sessions").
2. Stop the web server. At a command prompt, enter the following:

```
c:\> iisreset /stop
```

Stop the Remote Container Service

Recovery Manager (RMAN) is the recommended method of backing up your Oracle database and may be accessed via Enterprise Manager.

1. Right-click **My Computer** and select **Manage** from the shortcut menu to display the Computer Management dialog box.
2. Under Services and Applications, select **Service** to display a list of services in the right pane.
3. Locate the RemoteContainer Service and click it.
4. Select the **Stop the Service** option in the top left-hand portion of the Services pane.

Back Up your Database

Oracle

1. Open Enterprise Manager.
2. Configure backup settings.
   a. Select **Enterprise Manager > Availability > Backup Settings**.
   b. Set the disk backup location and backup type. Be sure to use a meaningful name for the backup for future reference.
3. Schedule the backup.
   a. Select **Enterprise Manager > Availability > Schedule Backup**.
   b. Select either the Oracle-Suggested Backup strategy or your own customized strategy. The Oracle-Suggested Backup strategy makes a one-time whole-database backup. To use the Oracle strategy, for backup type, select **Full Backup**. For Schedule, select **One Time (Immediately)**.
4. Review and submit the backup. The Review screen allows you to review your selections and submit the job.

Microsoft SQL Server

Using SQL Server Enterprise Manager, back up the previous deployment of the database. Be sure to use a meaningful name for the backup for future reference; for example, Agile 6.1.1.5 - Full Backup.

1. Open SQL Server Management Studio.
2. In the left pane under Databases, locate the database instance to back up.
3. Right-click the database and select **Tasks > Back Up...** from the shortcut menu.
4. Select the destination for your backup. Select the **Add...** button to the right of the **Back up to:** text area. A dialog box will appear in which you can choose where to store the backup file. After you have chosen a name, click the **OK** button.
5. Click the **OK** button at the bottom of the dialog and the backup process will begin.

Archive your PLM4P_HOME Directory

The first step in the upgrade process is to manually archive the previous installation, as described below. This step is very important. As with any major or minor release, you cannot overlay 6.2.1 on top of your existing installation or you will encounter errors related to missing or incorrect DLL files.

Move (i.e. cut) all of the directories other than XDocuments and Logs directories to your designated archive location. It is recommended that you name the containing directory as the version that you are upgrading from (i.e. v6.1.1 - installation).

Installing 6.2.1

For each deployment, you will need to install the Core package first. This package needs to be installed only once per server instance.

After installing the Core package, depending on your installation, you will install one to five media packs. Each media pack is installed in the same manner outlined below.

Setup the Installation Environment

Unzip each media pack zip archive to a temporary directory (i.e.; c:\INSTALL_HOME). Follow the directions detailed below for Core/Media Pack installation.

Installing the Core Bundle

Throughout the instructions below, the place where you extracted the media bundle files will be referred to as INSTALLER_HOME.

1. Open the containing directory for `INSTALLER_HOME`.
2. Extract `Core.zip` located in `INSTALLER_HOME` to a temporary directory (i.e. c:\temp). This will give you a directory structure like c:\temp\Apps, c:\temp\Config, etc. - this temporary directory will be referred to as `TEMP_HOME`.
3. Copy `FileCompressionHelper.exe` from `INSTALLER_HOME` to `TEMP_HOME`.
4. Open a command prompt and navigate to `TEMP_HOME` (i.e. >cd c:\temp)
5. Run the following (it is extremely important that you perform this decompression before moving on to install any additional media pack bundle files):

   ```
   FileCompressionHelper.exe -d
   ```

6. When the distribution is complete, move the contents of `TEMP_HOME` to `PLM4P_HOME`.

Install the Media Pack Apps

For each media bundle you will follow the same process outlined below. The one exception is with the NPD media bundle installation. With NPD, there is no need to perform step 6.

1. If there are any files remaining in your `TEMP_HOME`, remove them.
2. Unzip the media pack zip file located in your `INSTALLER_HOME` directly to `TEMP_HOME`.
3. Confirm media bundle names for the ZIP files, where the name can be one of:
   - MP1.zip for the PDM install
   - MP2.zip for the FC install
   - MP3.zip for the PSC install
   - MP4.zip for the NPD install
   - MP5.zip for the PQM install
4. Copy `FileCompressionHelper.exe` from `INSTALLER_HOME` to `TEMP_HOME`.
5. Open a command prompt and navigate to `TEMP_HOME` (i.e.; >cd c:\Temp).
6. Run the following (it is extremely important that you perform this decompression before moving on to install any additional media pack bundle files):

   ```
   FileCompressionHelper.exe -d
   ```

7. When the distribution is complete, move the contents of TEMP_HOME to PLM4P_HOME.
8. You will receive a warning that a Web and config directory already exist; accept this to move the contents into these directories.
9. Accept the warning to overwrite the configuration file PLM4P_HOME\Config\Core\FeatureDeployment\<media pack>-FeatureConfig.config.

Create New Application and Event Logs

IIS Application Updates

New virtual directories are needed as part of this upgrade. To add these virtual directories, please re-run the following batch files.

1. INSTALLER_HOME\Installer\Tools\SetupCoreVirtualDirectories.bat <PLM4P_HOME> <siteid> <AppPool>
2. INSTALLER_HOME\Installer\Tools\SetupPDMVirtualDirectories.bat <PLM4P_HOME> <siteid> <AppPool>
3. INSTALLER_HOME\Installer\Tools\SetupFCVirtualDirectories.bat <PLM4P_HOME> <siteid> <AppPool>
4. INSTALLER_HOME\Installer\Tools\SetupSupplierCollabVirtualDirectories.bat <PLM4P_HOME> <siteid> <AppPool>
5. INSTALLER_HOME\Installer\Tools\SetupNPDVirtualDirectories.bat <PLM4P_HOME> <siteid> <AppPool>

If you purchased and are configuring PQM, you must create the IIS application and add the event log.

6. To create the IIS application and associated virtual directories, from a command prompt, run:

   INSTALLER_HOME\Installer\Tools\SetupPQMVirtualDirectories.bat <PLM4P_HOME> <siteid> <AppPool>

Remapped Event Logs

We have created all new Event Logs using a standard format of P4P-<app>. For more information, see the *Agile Product Lifecycle Management for Process Release Notes*.

1. Run the following command from a command prompt to create all the Event Logs:

   INSTALLER_HOME\Installer\Tools\SetupEventLogs.bat

2. Update retention and rollover policies for the new Event Logs. This is only applicable if you have modified the default settings for each Event Log.
3. Update any monitoring software that is monitoring Event Logs. This is only applicable if you are monitoring for PLM4P events from a third party application.
4. Archive and Remove old PLM4P Event Logs.

Upgrade Database Tasks

PKID Migration

If you have not run the PKID Migration Utility for either Microsoft SQL Server or Oracle Database Server, please see https://community.oracle.com/docs/DOC-995480 for information on this important step. If you are not sure, you can have your DBA execute the following SQL query to determine if you have run the PKID Migration Utility:

Oracle Database Server

```
select distinct KeyManager from orclassmetainfo where KeyManager like '%Number%';
```

Microsoft SQL Server

```
select distinct KeyManager from orclassmetainfo where KeyManager like '%Base36%';
```

If a record is returned, then you have already run the PKID Migration Utility and you may continue.

Apply 6.2.1 Database Upgrade Script

To run the database upgrade script:

1. Open a command prompt and navigate to the directory where you unzipped the upgrade package.
2. Change directories (cd) to the Installer/ApplyScripts directory.
3. If you are running on v6.1.1.x versions, you must upgrade to v6.2.0 then v6.2.1. Run the following:
   - If upgrading Oracle DB Server:

     ```
     ApplyScripts -c "user id =; password=; data source=" -dbvendor orcl -pre
     pre-v6.2.0-orcl.sql -f v6.2.0-orcl.xml

     ApplyScripts -c "user id =; password=; data source=" -dbvendor orcl -f
     v6.2.1-orcl.xml
     ```

   - If upgrading Microsoft SQL Server:

     ```
     ApplyScripts -c "server=; uid=; password=; database=" -pre pre-v6.2.0.sql
     -f v6.2.0.xml

     ApplyScripts -c "server=; uid=; password=; database=" -f v6.2.1.xml
     ```

4. Confirm that the database upgrade script was applied successfully when the system prompts you with the following message:

   ```
   "Complete - with no errors"
   ```

PPKG Migration

Printed Packaging Specifications have been deprecated. Packaging material specifications should now be used to represent printed packaging. If you are still using printed packaging specifications they will need to be migrated to packaging specifications. You can use the printed packaging migration utility to automatically convert all printed packaging specifications to packaging specifications. Please refer to PPKG migration Guide located at `Feature Pack 4.2\Apps\PPKGMigration\docs` for instruction on migration.

Important: If you are using NPD PPKG activity links, please contact Support before migrating printed packaging specifications.

Post-Upgrade Database Tasks (from 6.1.x or earlier)

Potentially Required If Capturing Tare Weight Data

If you are using the tare weight field on Packaging Material Specifications you could run into migration issues. See the 6.2 version of the *Agile Product Lifecycle Management for Process Release Notes* for more information on the feature and the migration impact.

1. Execute the PostInstall utility like below. This action will do a full scan on existing Packaging specifications. Then a migration would be performed on target database if no conflict found.
   - For SQL Server:

     ```
     exec util_TwMig_PostInstall;
     ```

   - For Oracle:

     ```
     begin
       util_TwMig_PostInstall();
     end;
     ```

2. The utility in step 1 will give a migration report.

When "Result" equals "MIGRATED", it says the corresponding specification data has been migrated successfully;

When "Result" equals "CONFLICT", it says the specification should be migrated BUT the utility cannot determine how to resolve that. Please contact support for assistance.

Optional: Segment—Migrate Existing ISPs and Strategic Briefs to Include a Segment

See the 6.2 version of the *Agile Product Lifecycle Management for Process Release Notes* for more information on the feature.

See Document,

https://community.oracle.com/docs/DOC-914003 for instructions on how to identify and correct potential bad data.

Reconfigure Settings

Using a third party compare utility, preferably an XML compare utility, compare and merge all files in the PLM4P_HOME\Config folder and subfolders from your previous deployment.

Note: You will not be able to use a compare utility for EnvironmentVariables.config. Instead, use a text-based editor to enter your variables previously located in EnvironmentVariables.config and EnvironmentSettings.config.

Reinstall all Solution Packs

See the Feature Pack for installation instructions for each Solution Pack that you previously had installed.

Restarting Services

Restart the Remote Container Service

Using Computer Management, restart the remote container service:

1. Right-click **My Computer** and select **Manage** from the shortcut menu to display the Computer Management dialog box.
2. Under Services and Applications, select **Service** to display a list of services in the right pane.
3. Locate the RemoteContainer Service and click it.
4. Select the **Start the Service** option in the top left portion of the Services pane.

Restart the Web Application Server

Using a command prompt, restart the IIS Web application server:

1. Open a command prompt.
2. Enter the following command:

```
C:\iisreset
```

Verifying the Installation

Log in to the Agile PLM4P user portal and verify that the installation is functioning correctly. We recommend that you perform a variety of post-installation tests to ensure that all the applications are functioning correctly. For more information, see Appendix B, "Verification Tests".

4

Working with Multiple Servers

This chapter provides guidance for working with multiple servers. Topics in this chapter include:

- Architecture Environment Strategy
- Topology Example of Production Environment
- Multiple Server Configuration

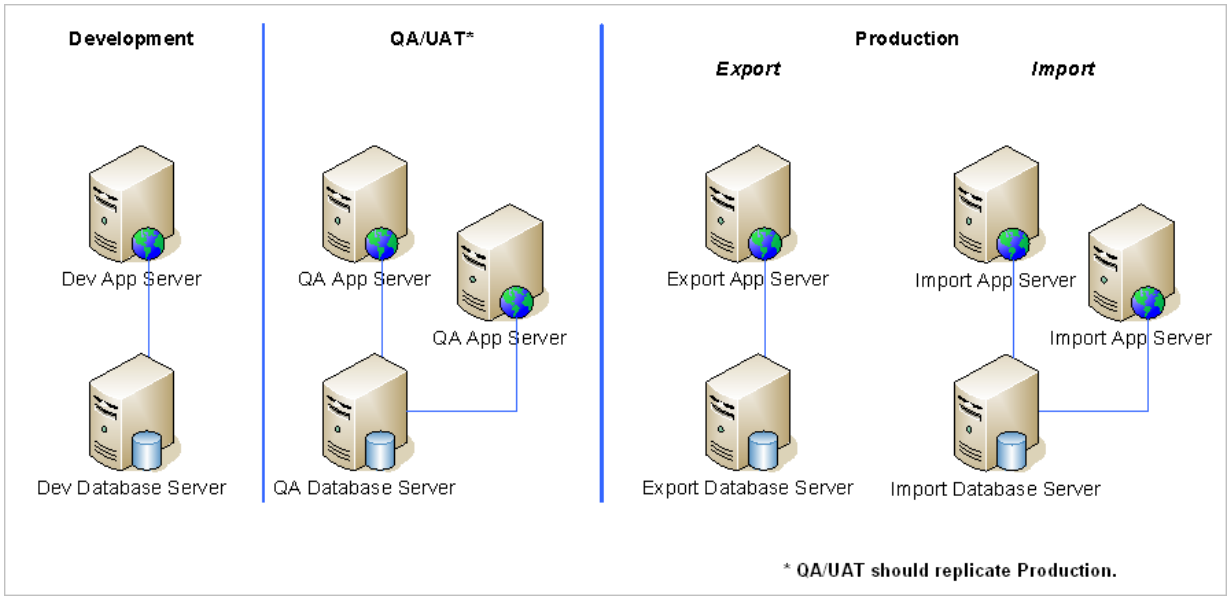
Architecture Environment Strategy

A good environment strategy supports the following project/business needs:

- Support the application upgrade process.
- Provide a structured process for migration (development, test, user acceptance) of bug fixes, new features, functionality, and configurations. Specifically focusing on allowing reasonable access to environments during migration.
- Provide a means for preparing/staging data for transfer into a production environment.

Figure 4–1 shows a sample environment.

Figure 4–1 Sample architecture



Verifying Environment Strategy

Use the following questions to help verify your environment strategy:

- What is the path for upgrading the application from version x to version y?
- What is the process for testing production issues? Which environments will be available for testing: Development, QA/UAT, and/or Production?
- Where will end users be trained on the application?
- Where will extensible solutions be developed?
- Where will hot fixes be initially applied? What is the path for migrating hot fixes to production?
- Where will data loading be tested/verified?
- How will multiple tasks be supported?

Also consider the following:

- Migrating from version x to version y and configuring the application to support new functionality.
- Testing new functionality and supporting production configurations and hot fixes.
- If the implementation is split into multiple projects, how will different project teams share environments?

Development

The development environment typically is used as a place to:

- Deploy new releases (first place)
- Develop extensible solutions
- Use for initial test and troubleshooting
- Use for prototyping and discovery
- Make configuration changes, which are then applied in QA

Quality Assurance/User Acceptance Testing

The Quality Assurance (QA)/User Acceptance Testing (UAT) environment typically is deployed to closely match the Production environment, and is used as a place to:

- Include load balancers, etc.
- Formally test configuration changes
- Perform periodic refreshes from the Production environment
- Consider data security/access
- Perform training tasks

Production/Export

The Production/Export environment typically is used as a place to:

- Perform data/user/workflow administrative tasks
- Act as the data staging/acceptance environment
- Complete administrative data changes , then export the changes to other environments

Note: The Production/Export environment must be on same version as import environments.

Production/Import

The Production/Import environment typically is used as a place where:

- The user community interacts with data on a day to day basis.
- Administrative data changes are pushed from the export environment to the import environment
- Configuration changes are pushed from QA

Export/Import

If an environment has applications servers to support the export and import structure, then note the following:

The general business process:

- Admin creates records via the export application.
- Admin exports records via the export application.
- Admin imports record via the import application.

Applications that support the export/import process:

- User Group Manager (UGM)—Users and groups are exported and imported
- Workflow Administration (WFA)—Workflows are exported and imported
- Data Admin (ADMN)—Allergens, additives, extended attributes, and other administrative data are exported and imported

When managing the Export/Import structure the databases must be kept synchronized. If changes are made directly in the import application environment, and the exact changes (including primary keys) are not applied to the export environment as well, the Export/Import relationship is broken.

To reestablish the Export/Import relationship the following steps must be performed:

1. Copy or backup the import database.
2. Restore the import database to the export database.

The relationship is now restored. Make changes to data via the export application and import via the import application.

Imports and Exports are only possible if both environments use the same version.

Example 1—Export v6.2.1 can push to Import v6.2.1

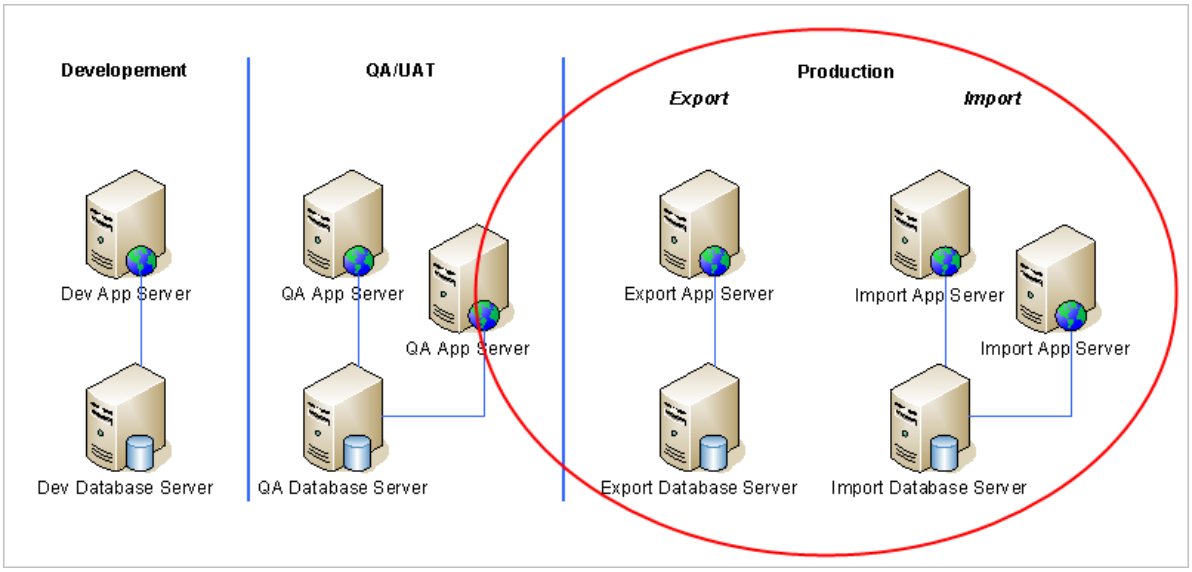
Example 2—Export v6.2.1 cannot push to Import v6.2.0

These examples demonstrate that users, workflows and administrative data cannot be updated or moved when application versions are different.

Topology Example of Production Environment

Figure 4–2 depicts the hardware/software topology options for a production environment.

Figure 4–2 Topology example, Production environment

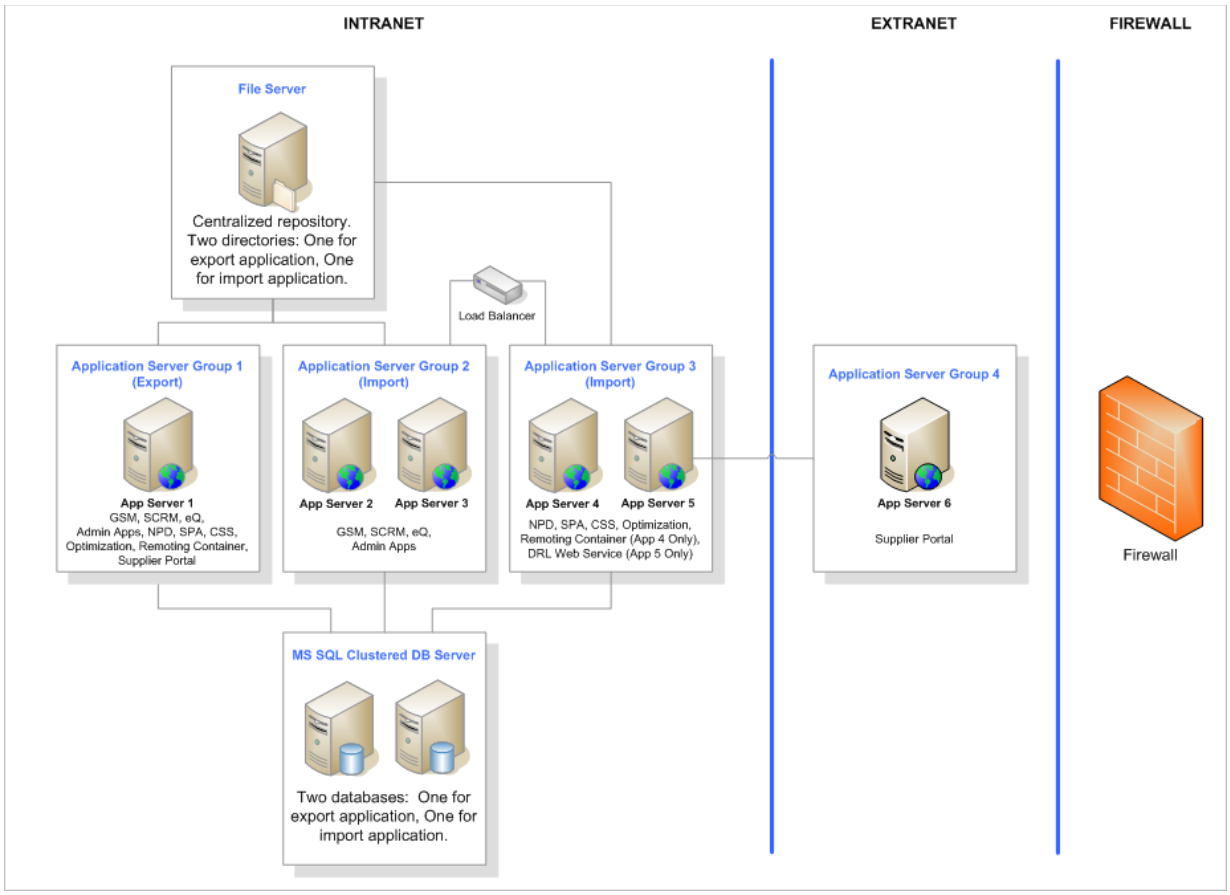


Topology Example A

Example A, shown in Figure 4–3, highlights:

- Database clustering
- Load balancing
- Separate and centralized file server

Figure 4–3 Topology Example A

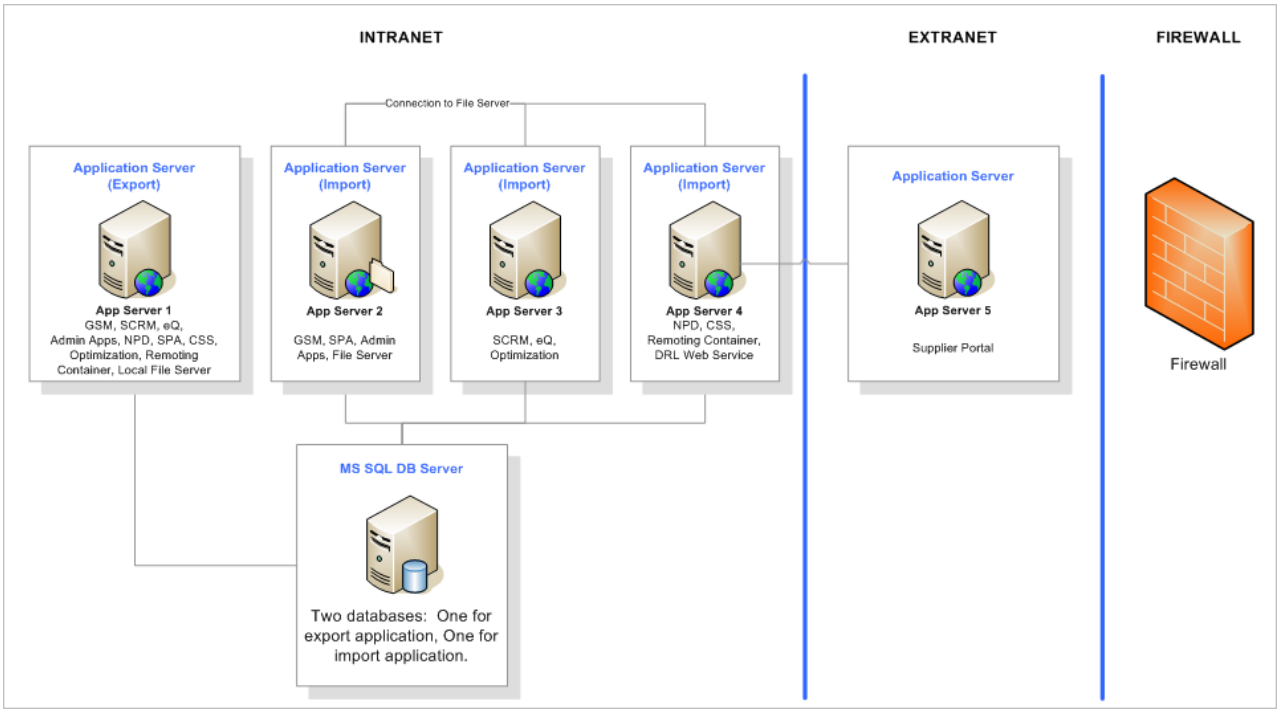


Topology Example B

Topology B example, shown in Figure 4–4, highlights:

- Standard database
- Logically distributed applications
- Centralized file server shared with application server

Figure 4–4 Topology example B



Multiple Server Configuration

Following are the settings for configuring an environment with multiple servers running different application modules. Currently, two scenarios are provided. This includes one for multiple servers with NO reverse proxy, and one for multiple servers with a reverse proxy.

Files Modified

`%PLM4P_HOME%\Config\EnvironmentVariables.config`

`%PLM4P_HOME%\Config\Custom\EnvironmentSettings.config`

Recommended Configuration

In this scenario, assume the customer has chosen to use a reverse proxy or hardware load balancer. Application URLs should be configured in `EnvironmentVariables.config` as **Client-Server**, meaning it is the URL the client will see and use in Internet Explorer. Web Service URLs should be configured in `EnvironmentVariables.config` as **Server-Server**, meaning the web service call will NOT be passed to the client. In this reverse proxy or hardware load balancer scenario, Table 4–1 shows the recommended configuration. Note that the applications assigned to servers are examples and will vary based on your needs.

Table 4–1 Recommended Scenario including a load balancer

Server Name	Friendly URL	App Modules
RPServer001	plm.xenodev.com	N/A
AppServer001	plmapp1.xenodev.com	GSM, SCRM, Portal
AppServer002	plmapp2.xenodev.com	NPD, DRL
AppServer003	plmapp3.xenodev.com	WFA, UGM

Note: The main application URL is https://plm.xenodev.com.

SSL Configuration (Optional)

A single SSL certificate will need to be purchased and installed on the reverse proxy or load balancer, corresponding to the main application URL.

App Configuration

The following is an example, only. There are additional application URLs that are not listed below. For example, the SSL certificate is installed on the load balancer and not the application server. Client traffic through the load balancer is encrypted. Web services are not. If the customer wanted to, they could install an SSL certificate on each app server and then Server2.URL could be https://plmapp1.xenodev.com.

1. Open the `%PLM4P_HOME%\Config\EnvironmentVariables.config` file:

```
# Server Topology Information
Prodika.Server1.URL = https://plm.xenodev.com
Prodika.Server2.URL=http://plmapp1.xenodev.com
Prodika.SCHEME =https


# Application URL Information
```

```
Prodika.GSM.URL=@@VAR:Prodika.Server1.URL@@/gsm
Prodika.GSMInterApp.URL=@@VAR:Prodika.Server2.URL@@/gsm
Prodika.SCRM.URL=@@VAR:Prodika.Server1.URL@@/scrm
Prodika.NPD.URL=@@VAR:Prodika.Server1.URL@@/npd
Prodika.Portal.URL=@@VAR:Prodika.Server1.URL@@/portal
# DRL Attachment is used for file upload by the WebApp and
WebService
Prodika.DRLService.URL=@@VAR:Prodika.Server2.URL@@/drl
Prodika.DRLAttachment.URL=@@VAR:Prodika.Server1.URL@@/drl
Prodika.DRL.URL=@@VAR:Prodika.Server1.URL@@/drl
Prodika.WFA.URL=@@VAR:Prodika.Server1.URL@@/wfa
Prodika.UGM.URL=@@VAR:Prodika.Server1.URL@@/ugm
```

Result

The application suite is separated on multiple servers. GSM and Portal run on AppServer001, NPD runs on AppServer002, etc. No matter what application is opened, the user will always see **https://plm.xenodev.com/<module>** as the URL in the browser. Web Service calls, as such for GSMInterApp and DRL, will be passed internally, from server to server.

Optional Configuration

In some cases, a customer does not have or has chosen not to use a reverse proxy or a hardware load balancer. Application URLs should be configured in `EnvironmentVariables.config` as **Client-Server**, meaning it is the URL the client will see and use in Internet Explorer. Web Service URLs should be configured in `EnvironmentVariables.config` as **Server-Server**, meaning the web service call will NOT be passed to the client. In this scenario with no reverse proxy or hardware load balancer, Table 4–2 shows the recommended configuration. Note that the applications assigned to servers are examples and will vary based on your needs.

Table 4–2 Optional Scenario, with no load balancer

Server Name	Friendly URL	App Modules
AppServer001	plm.xenodev.com	GSM, SCRM, Portal
AppServer002	plmapp2.xenodev.com	NPD, DRL
AppServer003	plmapp3.xenodev.com	WFA, UGM

Note: The main application URL is https://plm.xenodev.com.

SSL Configuration (Strongly Recommended for Production Environments)

An SSL certificate will need to be purchased and installed on each application server, corresponding to the friendly URL provided.

App Configuration

The following is an example, only. There are additional application URLs that are not listed below.

1. Open the %PLM4P_HOME%\Config\EnvironmentVariables.config file:

```
# Server Topology Information
Prodika.Server1.URL = https://plm.xenodev.com
Prodika.Server2.URL=https://plmapp2.xenodev.com
Prodika.Server3.URL=https://plmapp3.xenodev.com
Prodika.SCHEME =https

# Application URL Information
Prodika.GSM.URL=@@VAR:Prodika.Server1.URL@@/gsm
Prodika.GSMInterApp.URL=@@VAR:Prodika.Server1.URL@@/gsm
Prodika.SCRM.URL=@@VAR:Prodika.Server1.URL@@/scrm
Prodika.NPD.URL=@@VAR:Prodika.Server2.URL@@/npd
Prodika.Portal.URL=@@VAR:Prodika.Server1.URL@@/portal
# DRL Attachment is used for file upload by the WebApp and
WebService

Prodika.DRLService.URL=@@VAR:Prodika.Server2.URL@@/drl (see
note)
Prodika.DRLAttachment.URL=@@VAR:Prodika.Server2.URL@@/drl
Prodika.DRL.URL=@@VAR:Prodika.Server2.URL@@/drl
Prodika.WFA.URL=@@VAR:Prodika.Server3.URL@@/wfa
Prodika.UGM.URL=@@VAR:Prodika.Server3.URL@@/ugm
```

Result

The application suite is separated on multiple servers. GSM and Portal run on AppServer001, NPD runs on AppServer002, etc. The user will see the corresponding URL based on the application that is opened. For example, when the user opens GSM, the user will see **https://plm.xenodev.com/GSM** as the URL in the browser. Subsequently, when the user opens NPD, the user will see **https://plmapp2.xenodev.com/NPD** as the URL in the browser.

A

Checking for Active Web Application Server Sessions

This appendix describes the two checks that you should perform to make sure there are no active user sessions on the server.

> **Note:** We recommend that you notify all users in advance that you are performing the upgrade, to give them time to shut down their connections.

Check the Performance System Monitor for Active Sessions

Using Performance System Monitor, check to see how many people currently have active sessions.

1. Select **Start > Run**.
2. In the Run dialog box, type `perfmon` and click **OK** to bring up the Performance dialog box.
3. Select the **System Monitor** option in the left pane to bring up the System Monitor dialog box.
4. In the bottom portion of the System Monitor dialog box, a list of counters is displayed. Right-click in this area and select **Add Counters** from the shortcut menu to display the Add Counters dialog box.
5. Select the **Select Counters from Computer** option and select your Web application server.
6. From the Performance Object drop-down list, select **ASP.NET Apps v2.0.50727**.
7. Select the **Select Counters From List** option and from the associated scrolling list, choose **Sessions Active**, and then click **Add**.
8. Click **Close** to close the Add Counters dialog box.
9. Using the new active sessions counter, you can view the active sessions for the Web application server by selecting its row in the counter list at the bottom of the System Monitor dialog box. In particular, look at the number of active sessions in the Last field. If this number is greater than 2 active sessions, it is likely that users are logged on to the server. Contact the user(s) to have them log off before you shut down the Web application server.
10. You can save the active sessions counter by right-clicking it and selecting **Save As** from the shortcut menu. You may wish to save this counter to your desktop for future use.

Check the Event Viewer for Last Login

Using IIS Computer Management, check the Event Viewer log for Agile to see when the last user login occurred.

1. Right-click **My Computer** and select **Manage** from the shortcut menu to display the Computer Management dialog box.
2. Under System Tools, select **Event Viewer**.
3. Locate and double-click the Portal-Prodika log under Event Viewer.
4. Review the log to see when the last user login occurred. If a recent login has occurred, it is likely that a user is still logged on to the server. Contact the user to have them log off before you shut down the Web application server.

B

Verification Tests

Verification Tests

Perform the following verification tests after installation or upgrade.

- Global Specification Management Test
- Printing Test
- Attachment Test
- Reporting Test
- Supply Chain Relationship Management Test
- Nutrition Surveillance Management Test
- eQuestionnaire Test
- New Product Development Test
- Product Quality Scorecard Test
- Component Catalog Test
- Computer Aided Compliance Screening Test
- Supplier Portal Test
- User Group Administration Test
- Workflow Administration Test
- Product Quality Management Test
- Manage Core Data Test
- Manage Data Caches Test

Login Information

In order to perform the recommended verification tests, you will need the user name and password for the user account having access to all applications. The standard username and password that ships with the certified database is:

Username: prodikaadmin

Password: agile

Warning: After first login, you will be prompted to assign a new password.

User access is managed using the User Group Management (UGM) application. For more information on user management, see the *Agile Product Lifecycle Management for Process Administrator User Guide*.

To verify installation:

1. Turn on Agile PLM for Process.
2. Access the Agile application using Internet Explorer. Use the following Fully Qualified Domain Name (FQDN) URL:

   `https://server.domain.tld/portal`

   Warning: Be sure to use a fully qualified domain name rather than just a servername. Example: `https://app.prodika.com/portal` **vs.** `https://app/portal`.

3. Type your use name and password, and press the **Enter** key. You will be prompted to change your password.
4. Type a new password in the **Password** field, and again in the **Repeat Password** field, and press the **Enter** key.

   Note: The following installation verification tests assume that you have installed the entire Agile application suite. If this is not the case, omit tests for applications that you have not installed.

   Warning: You must be assigned the correct Agile roles to perform these installation verification tests. For more information on roles, see the *Agile Product Lifecycle Management for Process User Group Management User Guide*.

Global Specification Management Test

Before performing this test, note that specifications, once created, cannot be deleted from GSM. Therefore, creating specifications for verification purposes contributes to the proliferation of meaningless specifications. If specifications already exist in the system, you may wish to skip this test.

The purpose of this test is to verify that GSM is properly functioning.

To perform the GSM test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, select **GSM > Material Specifications**.
3. Click **Create New**. A new material specification is displayed.
4. Type a specification name in the **Spec Name** field.
5. Complete the Approved for Use In section at the bottom of the page.
6. Click **Save & Close**.
7. From the left navigation panel, select **GSM > Material Specifications**.

8. Conduct a blind search by clicking **Reset** and then **Search** or specify search criteria to retrieve the specification that you just created.
9. In the Search Results table, click the row containing the specification you created. The selected specification is displayed.
10. Click **Workflow**.
11. Type any value in the **Comments** field.
12. Click the move step forward icon. If additional dialog boxes appear, it confirms that GSM is functioning.

> **Note:** To remove the test data in a production environment, restore your database, restart the Remoting Container, and then restart the application pools. This returns the environment to the default installation state.

Printing Test

The purpose of this test is to verify that the Agile Printing Service is correctly functioning.

To perform the Printing test:

1. Log in to Agile Product Lifecycle Management for Process.
2. From the left navigation panel, select **GSM > Material Specifications**.
3. Search for the specification that you created in "Global Specification Management Test" on page B-2.
4. Click **Print** in the action menu.
5. In the resulting Print dialog box under Current Specification > Sections, select any check box.
6. Click **Print** again. The specification is rendered in PDF format in a separate window.
7. Close the window once the PDF is successfully displayed and proceed to the next test.

Attachment Test

The purpose of this test is to verify that the Attachments feature is correctly functioning.

To perform the Attachment test:

1. Navigate to any trade specification in GSM.
2. Select the Supporting Documents tab.
3. Click **Edit** to put the specification in edit mode.
4. Select the Attachments/Procedures link under Supporting Documents.
5. Click **Add New** button.
6. In the **Title** field, type `test`.
7. Click the **Browse…** button, select a file, and then select **Open**.

> **Note:** The size of the selected file must be less than the designated limit.

8. Click the **Upload** button. The first upload may take up to 30 seconds to complete.
9. Click **Done** in the Attachment Detail window.

10. Click **Done** in the Attachment/Procedures window.

Reporting Test

The purpose of this test is to verify that the Prodika Reporting Service is correctly functioning.

To perform the Reporting test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, click **RPT (Reporting)**.
3. Search for the specification that you created in "Global Specification Management Test" on page B-2.
4. Click **Generate Report**.
5. In the resulting dialog, type a report name in the **Report Name** field and then click **Save**.
6. In the left navigation panel, select **Ad Hoc Reports > Reports Queue**.
7. The resulting Reports Queue should contain an entry for your report. Refresh this view periodically by toggling from Reports Queue to Reporting and back, to see the status of your report update. If the report status fails to update, there is likely a problem with the Reporting Service.
8. When the report status indicates `Complete`, click the hyperlinked name of the report to download the report.

Supply Chain Relationship Management Test

The purpose of this test is to verify that the SCRM application is correctly functioning.

To perform the SCRM test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, select **SCRM > Company Profiles**.
3. Conduct a blind search and select any company profile from the Search Results table to verify that it is displayed correctly.
4. If the company profile is displayed, click **Cancel** and proceed to the next test.

Nutrition Surveillance Management Test

The purpose of this test is to verify that the NSM application is correctly functioning.

To perform the NSM test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, select **NSM > Nutrient Analysis**.
3. Click **Create New**.
4. If the Nutrient Analysis template is displayed, click **Cancel** and proceed to the next test.

eQuestionnaire Test

The purpose of this test is to verify the eQ application is correctly functioning.

To perform the eQ test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, select **eQ > Material Questionnaires**.
3. Click **Create New**.

4. Fill out all required information, including representative data for each compliance section.
5. Send the eQ to yourself.
6. Open the eQ.
7. Fill in all required information.
8. Add an attachment.
9. Click **Completed - Send to** to send the eQ back.

New Product Development Test

The purpose of this test is to verify that the NPD application is correctly functioning.

To perform the NPD test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, select **NPD > New Product Development > Projects**.
3. Conduct a blind search and select any project from the Search Results table to verify that it is displayed correctly. If so, NPD has passed the test.
4. If no projects are found, click **Create New**.
5. Select a business unit and project type in the resulting dialog box and then click **Done**.
6. If the NPD (Stage 1) template is displayed, click **Cancel** and proceed to the next test.

Product Quality Scorecard Test

The purpose of this test is to verify that the PQS application is correctly functioning.

To perform the PQS test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, select **PQS > Lot Samples**.
3. Click **Create New**. The Lot Sample page loads.
4. In the **Code Data or Sample ID** field, type any text.
5. Click **Next**. The Select Specification page loads.
6. In the Specification section, click the search icon next to the **Specification** field. A Specification Search dialog box appears.
7. In the resulting Search dialog box, type criteria to find and select the material specification that you created in "Global Specification Management Test" on page B-2.
8. If the material specification is displayed, the test has succeeded.
9. Click **Close**, and proceed to the next test.

Component Catalog Test

The purpose of this test is to verify that the Component Catalog service is correctly functioning.

To perform the Component Catalog test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, select **GSM > Component Catalog**.
3. Conduct a blind search and select any catalog term from the Search Results table.
4. If the catalog term is displayed successfully, click **Cancel** and proceed to the next test.

5. If no catalog terms are found, click **Create New**.
6. Type a name for the catalog term in the **Component Catalog** field.
7. Click **Save & Close**.

Computer Aided Compliance Screening Test

The purpose of this test is to verify that the CACS application is correctly functioning.

To perform the CACS test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, select **CACS**.
3. Conduct a blind search and select any computer aided compliance screen from the Search Results table to verify that it is displayed correctly.
4. If no computer aided compliance screens are found, click **Create New**.
5. Type a name for the screen in the **Title** field and a description in the **Description** field.
6. Click **Save & Close**.

Supplier Portal Test

The purpose of this test is to verify that the Supplier Portal application is correctly functioning. First, log in to Supplier Portal and create a new registrant request:

1. Access Supplier Portal at https://server.domain.tld/supplierportal.
2. Select a **Language**, and on the login page click **click HERE if you have not registered with this site**. This link depends on configuration `<add key="SP.SupplerSelfRegistration.Enabled" value="true"/>`.
3. Follow the screens, filling out all required data. Once you are done, click **Submit**. You have now submitted a registration request. Make note of your User Name and Password.

To perform the SCRM test to verify registration, you need the [SUPPLIER_PORTAL_ADMIN] role and shared “Country” association (the user’s Associated Countries include the registered contact’s assigned country):

1. You will receive email notification with the ‘click here to access new registrants’ link attached.
2. Click the link in the email to open the supplier’s registered request, or log in to Agile PLM for Process using the user name and password described in step 3 above.
3. From the left navigation panel, select the **SCRM > Action Items > New Registrations** tab.
4. The registration request you just submitted should be displayed in the New Registrations (Country Assigned) grid.

> **Note:** You need to be a contact administrator to log in to SCRM. The associated role is [CONTACT_CREATOR]. Refer to the *Agile Product Lifecycle Management for Process Supply Chain Relationship Management User Guide* for more information on this role.

User Group Administration Test

The purpose of this test is to verify that the UGM application is correctly functioning.

To perform the UGM test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, select **UGM > Groups**.
3. Conduct a blind search and select any group from the Search Results table to verify that it is displayed correctly.

Workflow Administration Test

The purpose of this test is to make sure that the WFA application is correctly functioning.

To perform the WFA test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, click **WFA (Workflow Administration)**.
3. Click **Create New**.
4. If the process template is displayed successfully, click **Cancel** and proceed to the next test.

Product Quality Management Test

The purpose of this test is to make sure that the PQM application is correctly functioning.

To perform the PQM test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, select **PQM > Issues**.
3. Conduct a blind search and select any issue from the Search Results table to verify that it is displayed correctly. If so, PQM has passed the test.
4. If no issues are found, click **Create New**.
5. Enter a title, and select a type and workflow on the Issue page, and then click **Save & Close**.

Manage Core Data Test

The purpose of this test is to verify that the ADMN (Manage Core Data) application is correctly functioning.

To perform the ADMN test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, select **ADMN > GSM Compliance > Additives**.
3. If the additives currently in the system are displayed successfully, click **Cancel** and proceed to the next test.

Manage Data Caches Test

The purpose of this test is to verify that the CACHE application is correctly functioning.

To perform the CACHE test:

1. Log in to Agile PLM for Process.
2. From the left navigation panel, click **CACHE (Manage Data Caches)**.
3. If the Schedule Cache Flush page is displayed successfully, the test has succeeded.

You can now use the scheduled Cache Flush Queue feature to see details for the different applications that been flushed. For more information, refer to the *"Using CACHE to Manage*

Caches” chapter of the *Agile Product Lifecycle Management for Process Administrator User Guide*.

C

Installing WebDAV

This appendix contains instructions for installing and configuring WebDAV.

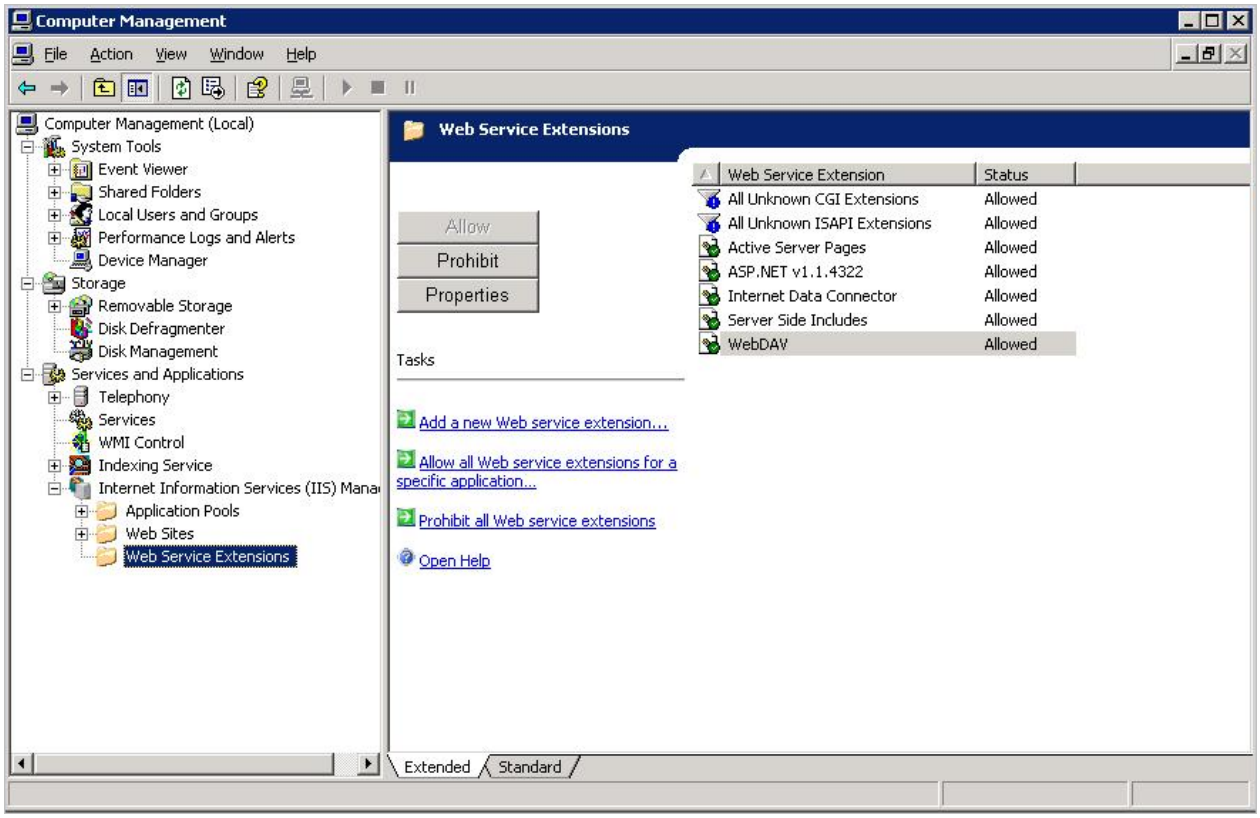
Warning: If you are installing the main application on IIS7 or above, then you must have a separate web server with IIS6 or Apache 2.2 installed for WebDAV.

Enabling WebDAV

To make sure that Web Sharing is enabled in IIS:

1. Open the IIS Manager, and then select **Web Service Extensions**.
2. Enable WebDAV if it is not already set to "Allowed," as Figure C–1 shows below:

Figure C–1 Enabling WebDAV



Creating the Directory Structure

To configure WebDAV:

1. Create the directory structure as follows:

```
WebDAV\
    WebDAV\PDFComments
    WebDAV\NPDWorkArea
```

Figure C–2 Directory Structure

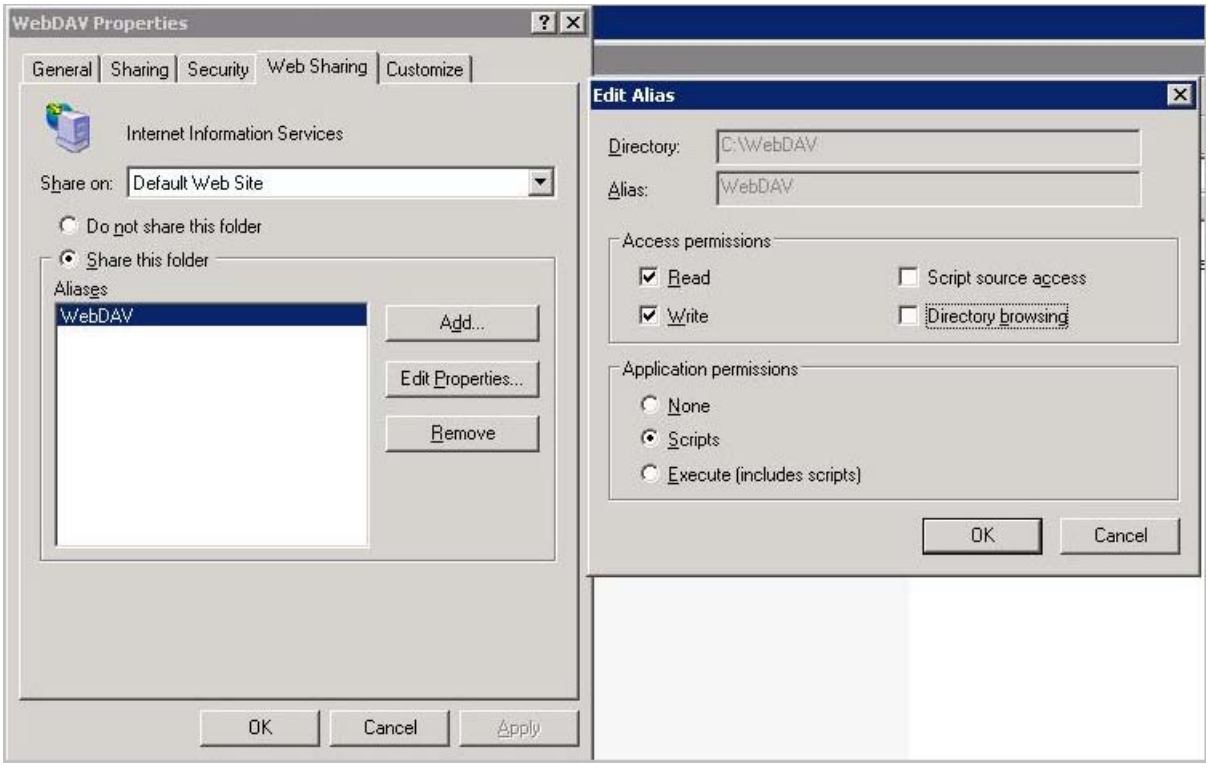


Sharing the WebDAV Directory

To share the WebDAV directory:

1. Right click on the WebDAV Directory and select **Properties**.
2. Select the Web Sharing tab.
3. Share the folder as WebDAV.
4. Click **Edit Properties**.
5. Check **Read**, **Write** and allow **Scripts**, as Figure C–3 shows below.

Figure C–3 Properties

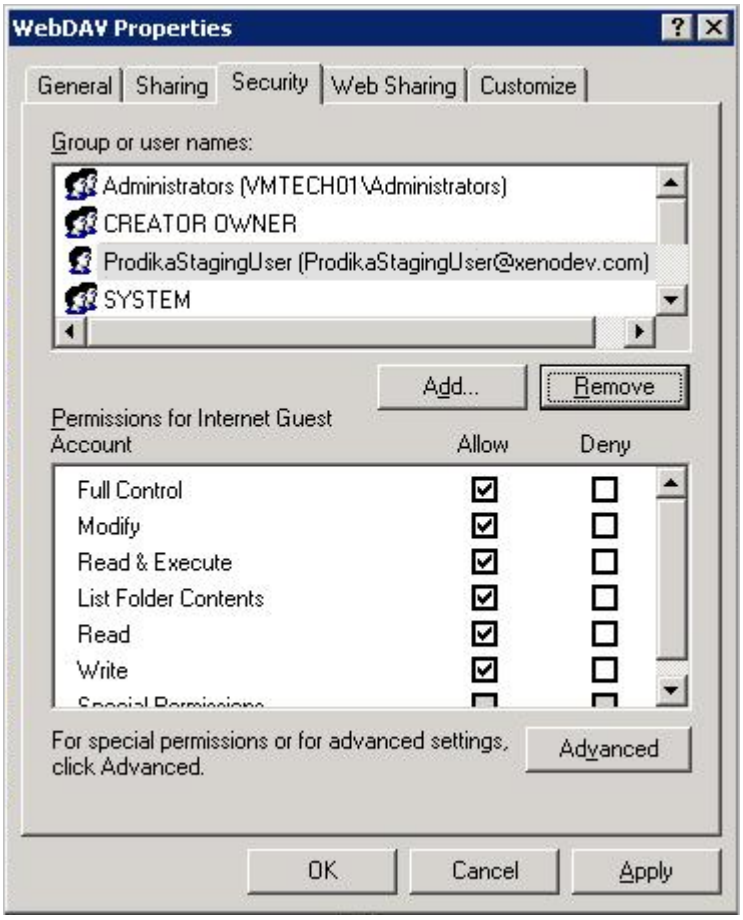


Editing Folder Permissions

To edit folder permissions:

1. Click on the **Security** tab.
2. Give the user that the Application Pool runs as full control, and apply to all sub directories, as Figure C–4 shows below.

Figure C–4 Properties

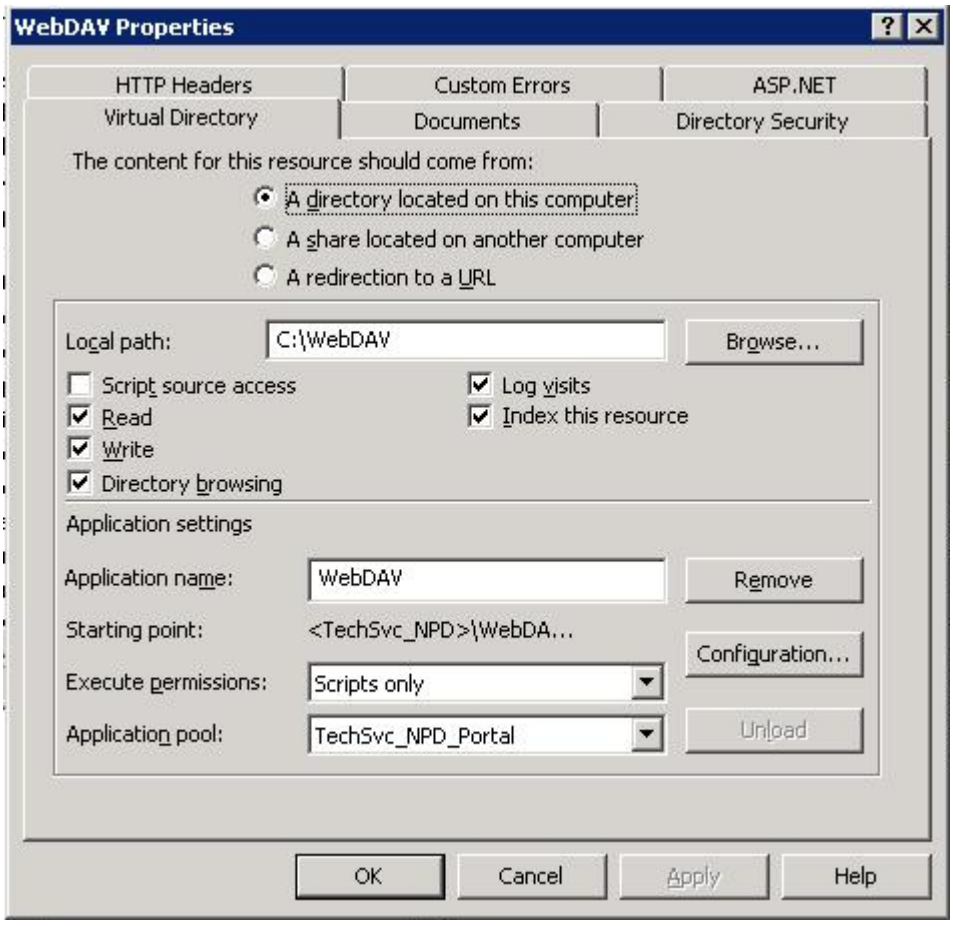


Verifying the IIS Directory Security is Configured Correctly

To verify IIS directory security:

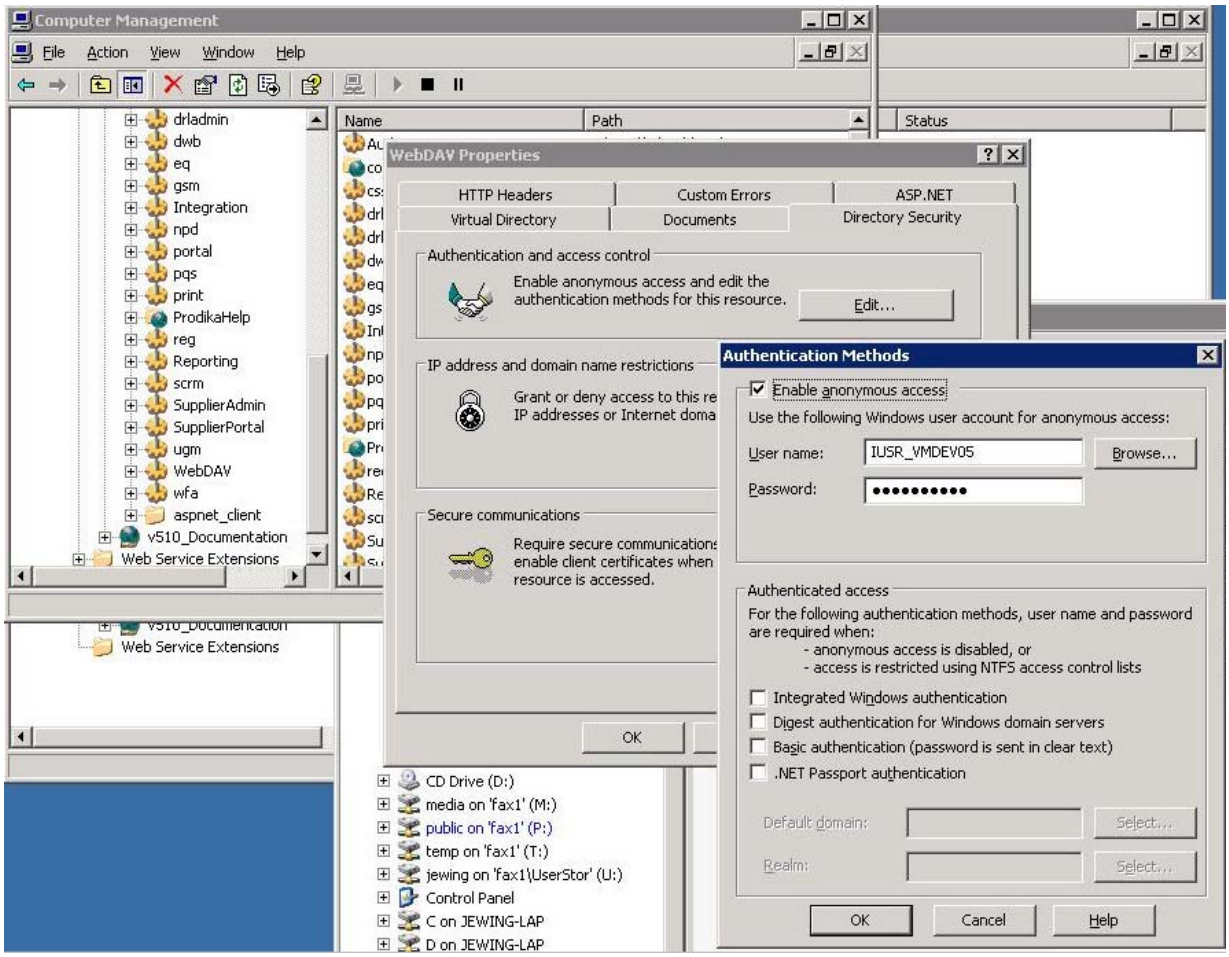
1. Locate the WebDAV virtual directory, then right click and select **Properties**.
2. Verify that the directory has Write permission, as Figure C–5 shows.

Figure C–5 Virtual Directory



3. Click the **Directory Security** tab.
4. Select **Edit** under Authentication and access control.
5. Verify that Anonymous access is enabled, as shown in Figure C–6.

Figure C–6 Authentication



Enabling WebDAV in Apache: (Basic Configuration)

To enable WebDAV in Apache:

1. Install Apache 2.2.
2. Uncomment the following lines in `httpd.conf`:

```
LoadModule dav_module modules/mod_dav.so
LoadModule dav_fs_module modules/mod_dav_fs.so
LoadModule dav_lock_module modules/mod_dav_lock.so
Include conf/extra/httpd-dav.conf
```

3. Sample `httpd-dav.conf`:

```
...
DavLockDB "C:/Program Files (x86)/Apache Software
Foundation/Apache2.2/var/DavLock"
Alias /webdav "c:/webdav"
<Directory "c:/webdav">
    Dav On
    Order Allow,Deny
    Allow from all
</Directory>
...
```

4. Create `DavLock` directory based on setting in `httpd-dav.conf`.

Configuring the Application

To configure WebDAV for a single server setup:

1. Edit Environment Settings under `PLM4P_HOME\custom\config\EnvironmentSettings.config`
2. Map the following settings in the config to the appropriate directories/URLS. To test, you can enable directory browsing on the web dav virtual directory.

   - `<config key="PDFWorkArea" value="https://demo.prodika.com/WebDAV/npdworkarea/"; />`
   - `<config key="PDFWorkAreaUNC" value="C:\WebDAV\NPDWorkArea\" />`
   - `<config key="PDFCommentRepository" value="https://demo.prodika.com/WebDAV/PDFComments"; />`
   - `<config key="PDFCommentRepositoryUNC" value="C:\WebDAV\PDFComments\" />`
   - `<config key="OfficeDocWorkArea" value="https://demo.prodika.com/WebDAV/npdworkarea/"; />`
   - `<config key="OfficeDocWorkAreaUNC" value="C:\WebDAV\NPDWorkArea\" />`

   Note: If Apache is using a non-standard HTTP port, then you will need to reflect that in your environmentsettings.config file. For example:

   `https://demo.prodika.com:8080/webdav/npdworkarea/`

To configure WebDAV for a multiple server setup:

1. Share the web dav directory as webdav on server A resulting in `\\<server a>\webdav`
2. Set appropriate share and security permissions as follows:

   The user running app pool on server B must have RW share and security access to \\<server A>\webdav.
3. Use `\\<hostname>\webdav\pdfcomments\` and `\\<server A>\webdav\npdworkarea` for UNC paths in config on server B.

D

Installing National Language Support

This appendix contains instructions for installing and configuring National Language Support (NLS).

Installing Language Support

As an optional installation step, customers may apply 6.2.1.0 National Language Support (NLS) for Simplified Chinese, Traditional Chinese, Korean, French, German, Italian, Spanish or Portuguese.

Pre-Upgrade Checklist

1. Archive the previous installation.
2. Back up your current database.
3. Stop the Remoting Container service.
   a. Open **Services > Start > Administrative Tools > Services**.
   b. Locate the **RemoteContainerService** service and perform a Stop operation.
4. Stop IIS. From a command prompt, type the following:

```
> iisreset /stop
```

> **Note:** Specific fonts are used when displaying these language characters in the UI as well as when printing. Verify you have the following fonts installed on the server:
>
> Simplified Chinese: **SimSun**
>
> Traditional Chinese: **SimSun**
>
> Korean: **Gulim**

Apply Database Scripts

To apply the 6.2.1.0 scripts:

(For SQL Server)

1. Open a command prompt and navigate to the directory where you unzipped the upgrade package.
2. Change directories (cd) to the Installer/ApplyScripts directory.

3. Apply the scripts using the following calls to the ApplyScripts.exe utility:

   a. Apply the scripts to load Korean translation:

   ```
   > ApplyScripts -c "server=<database_
   server>;uid=<user>;password=<password>;database=<database>" -f v6.2.1_
   Korean_LangPack.xml
   ```

   b. Apply the scripts to load Simplified Chinese translation:

   ```
   > ApplyScripts -c "server=<database_
   server>;uid=<user>;password=<password>;database=<database>" -f v6.2.1_
   Chinese_LangPack.xml
   ```

   c. Apply the scripts to load Traditional Chinese translation:

   ```
   > ApplyScripts -c "server=<database_
   server>;uid=<user>;password=<password>;database=<database>" -f v6.2.1_
   ChineseTW_LangPack.xml
   ```

   d. Apply the scripts to load French translation:

   ```
   > ApplyScripts -c "server=<database_
   server>;uid=<user>;password=<password>;database=<database>" -f v6.2.1_
   French_LangPack.xml
   ```

   e. Apply the scripts to load German translation:

   ```
   > ApplyScripts -c "server=<database_
   server>;uid=<user>;password=<password>;database=<database>" -f v6.2.1_
   German_LangPack.xml
   ```

   f. Apply the scripts to load Italian translation:

   ```
   > ApplyScripts -c "server=<database_
   server>;uid=<user>;password=<password>;database=<database>" -f v6.2.1_
   Italian_LangPack.xml
   ```

   g. Apply the scripts to load Portuguese translation:

   ```
   > ApplyScripts -c "server=<database_
   server>;uid=<user>;password=<password>;database=<database>" -f v6.2.1_
   PortugueseBR_LangPack.xml
   ```

   h. Apply the scripts to load Spanish translation:

   ```
   > ApplyScripts -c "server=<database_
   server>;uid=<user>;password=<password>;database=<database>" -f v6.2.1_
   Spanish_LangPack.xml
   ```

4. After the ApplyScripts call, you can confirm that the database upgrade scripts have been applied successfully when the system prompts you with the following message:

   ```
   "Complete - with no errors"
   ```

(For Oracle Database)

1. Open a command prompt and navigate to the directory where you unzipped the upgrade package.
2. Change directories (cd) to the Installer/ApplyScripts directory.
3. Apply the scripts using the following calls to the ApplyScripts.exe utility:

   a. Apply the scripts to load Korean translation:

   ```
   > ApplyScripts -c "User Id=<user>;Password=<password>;Data
   Source=<datasource>" -dbvendor orcl  -f v6.2.1_Korean_LangPack-orcl.xml
   ```

   b. Apply the scripts to load Simplified Chinese translation:

   ```
   > ApplyScripts -c "User Id=<user>;Password=<password>;Data
   Source=<datasource>" -dbvendor orcl  -f v6.2.1_Chinese_LangPack-orcl.xml
   ```

   c. Apply the scripts to load Traditional Chinese translation:

   ```
   > ApplyScripts -c "User Id=<user>;Password=<password>;Data
   Source=<datasource>" -dbvendor orcl  -f v6.2.1_ChineseTW_LangPack-orcl.xml
   ```

   d. Apply the scripts to load French translation:

   ```
   > ApplyScripts -c "User Id=<user>;Password=<password>;Data
   Source=<datasource>" -dbvendor orcl  -f v6.2.1_French_LangPack-orcl.xml
   ```

   e. Apply the scripts to load German translation:

   ```
   ApplyScripts -c "User Id=<user>;Password=<password>;Data
   Source=<datasource>" -dbvendor orcl -f v6.2.1_German_LangPack-orcl.xml
   ```

   f. Apply the scripts to load Italian translation:

   ```
   ApplyScripts -c "User Id=<user>;Password=<password>;Data
   Source=<datasource>" -dbvendor orcl -f v6.2.1_Italian_LangPack-orcl.xml
   ```

   g. Apply the scripts to load Portuguese translation:

   ```
   > ApplyScripts -c "User Id=<user>;Password=<password>;Data
   Source=<datasource>" -dbvendor orcl -f v6.2.1_
   PortugueseBR_LangPack-orcl.xml
   ```

   h. Apply the scripts to load Spanish translation:

   ```
   > ApplyScripts -c "User Id=<user>;Password=<password>;Data
   Source=<datasource>" -dbvendor orcl -f v6.2.1_
   Spanish_LangPack-orcl.xml
   ```

4. After the ApplyScripts call, you can confirm that the database upgrade scripts have been applied successfully when the system prompts you with the following message:

   ```
   "Complete - with no errors"
   ```

Post-Upgrade Checklist

1. Start the Remoting Container Service.
   a. Open **Services > Start > Administrative Tools > Services**.
   b. Locate the **RemoteContainerService** service and perform a Start operation.
   c. Verify that the RemotingContainerService started correctly.
2. Start IIS. From a command prompt, type the following:

```
> iisreset /start
```

E

Installing BI Publisher

This appendix contains instructions for installing and configuring BI Publisher.

BI Publisher for Printing and Reporting

Oracle Business Intelligence Publisher (BI Publisher) has been integrated with the Printing and Reporting applications. Printing and Reporting have separate configurations settings, and BI Publisher can be configured for Printing, Reporting, or both.

Requirements: See "Installation Requirements" on page 1-1 for supported versions of BI Publisher. Please note that Oracle only keeps the latest three version for product download. To make sure http xml feed works well, you must use one of these three versions. For other versions, the http xml feed cannot work.

When installing BI Publisher, you will be prompted to enter an administrator username and password for administering the BI Publisher reports. This username and password will also grant access to a BI Publisher web service used by Agile PLM for Process to processes printing and reporting requests. To enter these values into Agile PLM for Process, launch the Setup Assistant tool and enter the username and password for BI Publisher. For more information, refer to the *Agile Product Lifecycle Management for Process Configuration Guide*.

Note that when setting up BI Publisher for Reporting, you will need to set up a database connection to the Agile PLM for Process database. This may involve installing relevant JDBC drivers, setting up the DataSource in BI Publisher, and configuring the connection string and database driver class. Refer to the Oracle BI Publisher documentation for details.

Note: The BI URL in environment variables has changed if you are using the new version, 11.1.1.x, of OBIEE with release 6.2.1.

Printing Using BI Publisher

To configure BI Publisher for Printing, you will need to update Agile PLM for Process configuration settings and set up BI Publisher to process the incoming data using BI Publisher's report templates.

Print data is sent to the BI Publisher web service as XML data; the relevant BI Publisher report template takes the incoming XML data and can then transform it using a custom XSL as needed.

Configuring Agile PLM for Process

1. Update the `\config\environmentvariables.config` file:

Key	Value
Prodika.Print.BIPublisherIntegration.EndPoint	For version 11.1.1.5 and 11.1.1.7: http://[hostname]:7001/xmlpserver/services/v2/SecurityService|http://[hostname]:7001/xmlpserver/services/v2/ReportService

> **Note:** Prodika.ReportService.SysUser and SysPassword are now set using the Setup Assistant. Refer to the *Agile Product Lifecycle Management for Process Configuration Guide* for instructions.

2. Update the \config\Extensions\PrintSettings.config file. This file contains the print configurations for the various print items, such as specifications, NPD printing, etc. You will need to update this file to setup a print manager using the BIPublisher and use it in the print items:

   a. Open the \config\Extensions\PrintSettings.config.

   b. Setup a new print manager using BIPublisher in PrintManagers section. We have supplied an example in that file but it is comment out. You can uncomment the section and then change it or create a new one according to your actual configuration of BIPublisher. The following example shows how to setup a print manager named "BIPublisherFORender":

```
<PrintManager id="BIPublisherFORender" outputExtension="pdf">
    <Pipes>
        <Pipe id="StandardXml" sequence="1"
        objectURL="Class:Xeno.PLM4P.Printing.PrintPipes.XmlPrintPipeFactory,PrintSe
        rvice"/>

        <Pipe id="StandardTransformation" sequence="2"
        objectURL="Class:Xeno.PLM4P.Printing.PrintPipes.XDocServiceTransformationPr
        intPipeFactory,PrintService"/>

        <Pipe id="BIPublisherFORender" sequence="3"
        objectURL="Class:Xeno.Prodika.Printing.PrintPipes.OracleBIPublisher.v11_1_
        1_5.BIPublisherFORenderPrintPipeFactory,PrintService">

            <add key="EndPoint"
            value="@@VAR:PLM4P.Print.BIPublisherIntegration.EndPoint@@"/>

            <add key="ReportPath"
            value="/PLM4PPrint/ProdikaPrintFO/ProdikaPrintFO.xdo"comments="Overrida
            ble on the print template by specifying reportPathattribute"/>

            <add key="ReportTemplate" value="FOTemplate" comments="Overridable on
            the print template by specifying reportTemplate attribute"/>

        <add key="ReportFormat" value="PDF" comments="Overridable on the print
        template by specifying reportFormat attribute"/>

        </Pipe>
    </Pipes>
```

```
</PrintManager>
```

By this configuration, we can set the correct version of the adapter connect to BIP services.

The value of the underlined part of the example could be one of the below:

– For BIPublisher 11.1.1.7:

```
objectURL="Class:Xeno.Prodika.Printing.PrintPipes.Ora-
cleBIPublisher.v11_1_1_7.BIPublisherFORenderPrintPipe-
Factory,PrintService"
```

– For BIPublisher 11.1.1.5:

```
objectURL="Class:Xeno.Prodika.Printing.PrintPipes.Ora-
cleBIPublisher.v11_1_1_5.BIPublisherFORenderPrintPipe-
Factory,PrintService"
```

The values of "ReportPath", "ReportTemplate" and "ReportFormat" should be set according to the actual configuration on BIPublisher server. They could be overriden by the values in "PrintTemplate" node.

c. Update the specification (or other print item) type you want to print to use the BI publisher print manager. You can add the following to an existing entry, or create a new entry:

```
printmanager="BIPublisherFORender" reportPath="Your custom
BI Publisher report path"
```

Configuring BI Publisher for Printing

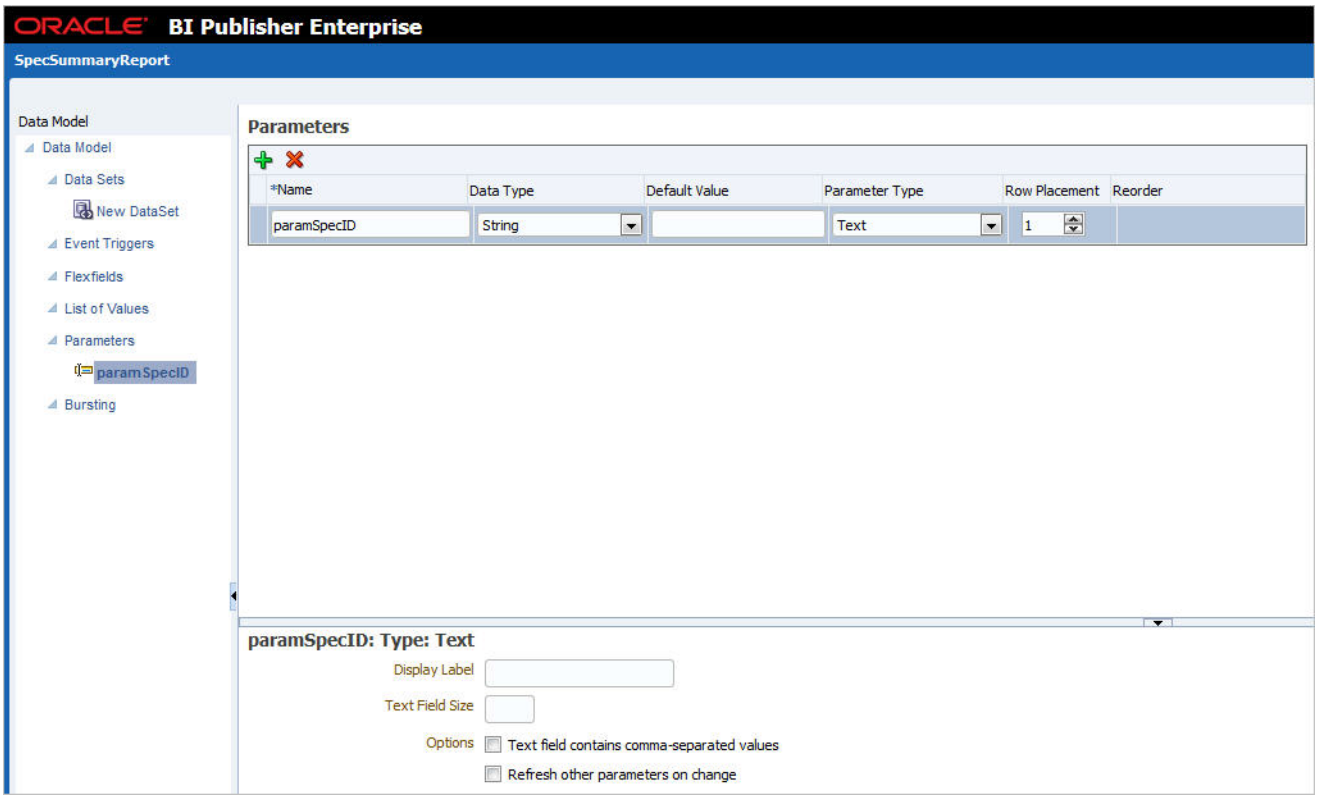
Setting up BI Publisher for Printing involves creating a BI Publisher report, configuring its Data Model to link it to Agile PLM for Process, and setting up the possible layouts. In this section, an example report configuration is presented, but other configurations are possible.

1. Log in to BI Publisher.

   For 11.1.1.5 and 11.1.1.7:
   http://<YourBIServerURL>:7001/xmlpserver/

2. In the Reports tab, click the **Shared Folders** link.
3. Create a new folder (ex: PLM4PPrint).
4. In the new folder, click the **Create a new report** link on the left, enter a report name (ex: PLM4PPrintFO) and click the **Create** button.
5. Click the **Edit** link.
6. Click **Parameters**, then click the **New** icon.

Figure E–1 Parameters option, Parameter page



a. Make entries in the following fields:

Name—Enter **DocKey**. This is a required field.

Data Type—Select **String** from the drop-down list. This is a required field.

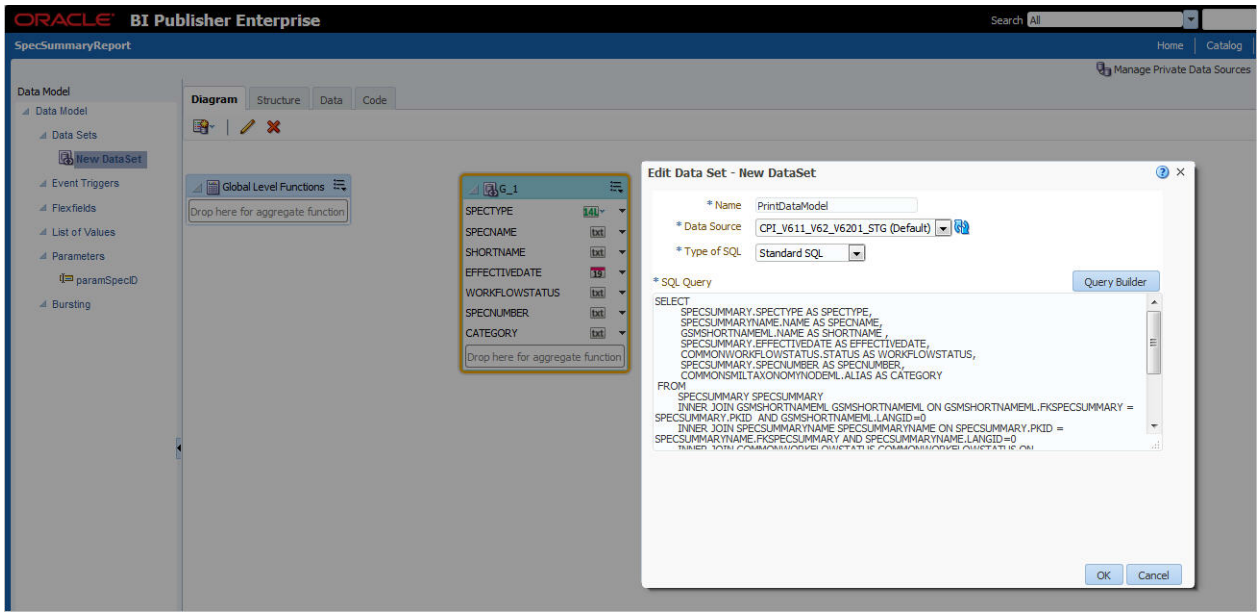
Default Value—Leave this field blank.

Parameter Type—Select **Hidden** from the drop-down list. This is a required field.

b. Click **Save**.

7. Click **Data Model**, then click the **New** icon, as shown in Figure E–2.

Figure E–2 PrintDataModel option, Edit Data Set page



a. Make entries in the following fields:

Name—Name of the data model. This is a required field.

URL—Enter `http://{application URL}/gsm/PopUps/docstream.aspx` where {application URL} is the address of the application. This is a required field.

Method—Select **GET** from the drop-down list. This is a required field.

b. Click **Add Parameter** to display the Parameters Name and Value fields.

c. Make the following entries:

Name—The name of the parameter that you created in step a. This is a required field.

Value (Parameter)—Select **DocKey** from the drop-down list. This is a required field.

d. Click **Save**.

8. Click **Layout** to set up the report layout.

   a. In the Manage Template Files section, upload your XSL template to use. In this scenario, we created and uploaded a simple XSL "pass-through" file called `ReportTemplate.xsl`, as such:

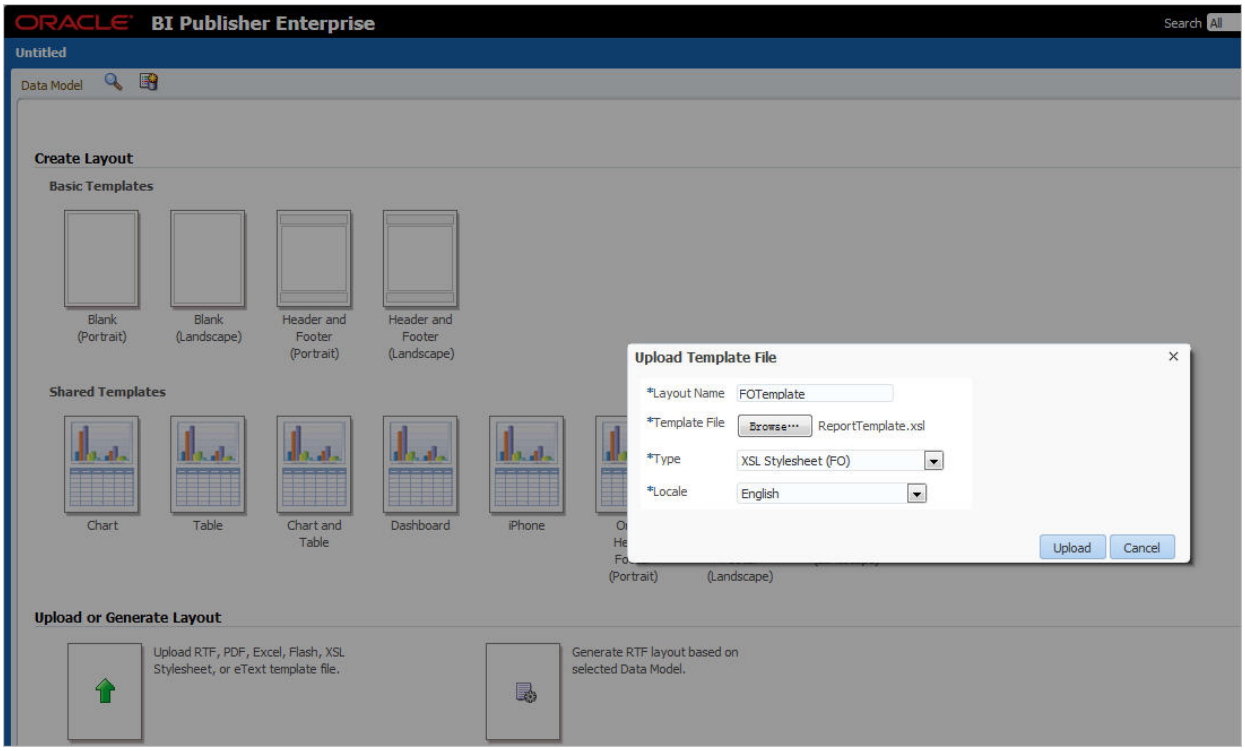
```
<?xml version='1.0'?>
<xsl:stylesheet version="1.0"
xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
    <xsl:template match="/">
         <xsl:copy-of select="/" />
    </xsl:template>
</xsl:stylesheet>
```

However, you can easily create your own transformation rules yourself.

   b. Click **New** to create a new report layout, as shown in Figure E–3.

Note: You can create multiple layouts and then declare the desired layout in the `PrintSettings.config` file.

Figure E–3 Layouts, FOTemplate option, Layout page



c. Make the following entries:

Layout Name—The name of the report layout. This is a required field.

Template File—Click **Browse** to select the **ReportTemplate.xsl** file. This is a required field.

Type— Select **XSL Stylesheet (FO)** from the drop-down list. This is a required field.

Locale—Definition needed. This is a required field.

d. Click **Upload**.

Your report should now be available for printing. Make sure that the link to the report matches the `reportPath` value in the `PrintSettings.config` file. (While editing the report in BI Publisher, right-click on the **View** link in the top right and select **Copy Shortcut** to get the value).

If your Printing includes any images, such as logos, make sure they are available to BI Publisher, by adding them to the BI publisher directory. The location will depend on the path used.

Reporting Using BI Publisher

The Agile PLM for Process Reporting application allows clients to organize, configure, secure, and launch custom reports. The configuration is managed in the `CustomerReportExtensions.xml` located in the `\Config\Extensions\` directory. Reports and their parameters are presented in PLM for user entry; their values are then passed to custom BI Publisher reports to process the parameters, query data sources, and generate the report.

To use BI Publisher for Reporting, you will need to update Agile PLM for Process configuration settings, set up custom reports in BI Publisher, and update the Agile PLM for Process Reporting configurations accordingly.

For details on configuring custom PLM reports, refer to the *Agile Product Lifecycle Management for Process Custom Report Configuration Guide*.

Configuring Agile PLM for Process

1. Update the `\config\environmentvariables.config` file:

Key	Value
PLM4P.ReportServer.URL	For 11.1.1.5 and 11.1.1.7: http://[hostname]:7001
PLM4P.ReportService.URL	Use one of the following: PLM4P.ReportService.OracleBIPublisher11_1_1_5.URL PLM4P.ReportService.OracleBIPublisher11_1_1_7.URL

Note: Prodika.ReportService.SysUser and SysPassword are now set using the Setup Assistant. Refer to the *Agile Product Lifecycle Management for Process Configuration Guide* for instructions.

2. Update the \config\Extensions\CustomerReportExtensions.xml file to set up the custom reports for the Reporting application. Details can be found in the *Agile Product Lifecycle Management for Process Reporting Guide*, included in extensibility packs.

Configuring BI Publisher Reports

Refer to Oracle BI Publisher documentation for creating and setting up reports in BI Publisher.

F

Installing Remoting Container

This appendix contains instructions for installing and configuring Remoting Container.

Overview

The Remoting Container is a companion application for the Agile PLM for Process (PLM4P) application. The Remoting Container application is a collection of services which handle specialized background processing for the PLM4P application.

This document details the functions of the services housed in the Remoting Container, configuration settings and setup requirements, and troubleshooting methods. It will also address common questions about the Remoting Container, such as whether a service can be run on multiple machines in the same environment, and which services should stand alone in their own Remoting Container instance.

Services

As of release v6.2.1.0.0, there are twelve services that can be configured to run in the Remoting Container:

1. Authentication Bridge Service
2. Report Processing Service
3. Authorization Bridge Service
4. Taxonomy Denormalizing Service
5. Object Level Security Denormalizing Service
6. Smart Issue Service
7. Syndication Service
8. Data Import Processor
9. DRL Repository Cleanup
10. Spec Revision Update Service
11. Most Recently Used Expiration Service
12. Database Eventing Expiration Service

Each of the services listed above can be configured on or off using the EnvironmentSettings.config file. This value can be set with the “isActive” attribute of the “Service” node at the xpath “EnvironmentSettings/RemotingContainer/RemoteServices/Service” of the EnvironmentSettings.config file.

```
<EnvironmentSettings>
    …
    <RemotingContainer>
        …
        <!-- Set the following services isActive flag to 'true' or 'false' -->
            <RemoteServices configChildKey="name">
                <Service
                    name="AuthenticationBridgeService"
                    port="@@VAR:Prodika.AuthenticationBridge.Port@@"
                    isActive="true" />
                <Service
                    name="ReportProcessingService"
                    port="@@VAR:Prodika.Reporting.Port@@"
                    isActive="true" />
                <Service
                    name="AuthorizationBridgeService"
                    port="@@VAR:Prodika.AuthorizationBridge.Port@@"
                    isActive="true" />
                <Service
                    name="TaxonomyDenormalizingService"
                    port="@@VAR:Prodika.TaxonomyDenormalization.Port@@"
                    isActive="true" />
                <Service
                    name="OLS Denorm Service"
                    port="@@VAR:Prodika.OLSDenormalization.Port@@"
                    isActive="true" />
                <Service
                    name="SmartIssue Service"
                    port="@@VAR:Prodika.SmartIssue.Port@@"
                    isActive="true" />
                <Service
                    name="Syndication Service"
                    port="@@VAR:Prodika.Syndication.Port@@"
                    isActive="false" />
                <Service
                    name="Data Import Processor"
                    port="@@VAR:Prodika.DataImport.Port@@"
                    isActive="true" />
                <Service
                    name="DRL Repository Cleanup"
                    port="@@VAR:Prodika.DRLRepositoryCleanup.Port@@"
                    isActive="false" />
                <Service
                    name="Spec Revision Update Service"
                    port="@@VAR:PLM4P.SpecRevisionUpdateService.Port@@"
                    isActive="@@VAR:PLM4P.SpecRevisionUpdateService.Enabled@@"></Se
                    rvice>
                <Service
                    name="Most Recently Used Expiration Service"
                    port="@@VAR:PLM4P.MRUExpirationService.Port@@
                    isActive="@@VAR:PLM4P.MRUExpirationService.Enabled@@"></Service
                    >
                <Service
                    name="Database Eventing Expiration Service"
                    port="@@VAR:PLM4P.DBEventingExpirationService.Port@@"
                    isActive=="@@VAR:PLM4P.DBEventingExpirationService.Enabled@@"><
                    /Service>
            </RemoteServices>
            …
    </RemotingContainer>
```

```
</EnvironmentSettings>
```

To remove the risk of one service falling over and taking down every other service, no Remoting Container instance should be configured to run all of the available services. The process of splitting services up into parallel Remoting Container instances will be detailed later in this appendix.

Authentication Bridge Service

The Authentication Bridge Service is responsible for confirming valid user sessions. When this service is running users can navigate between applications, such as going from Portal to GSM, without the need to authenticate for each new application. The Authentication Bridge Service is also required for Single Sign-On solutions to work properly.

Configuration Notes

The Authentication Bridge Service should be paired in a Remoting Container instance with the Authorization Bridge Service.

Report Processing Service

The Report Processing Service handles ad hoc report requests made in the application. SQL Server Reporting is done directly on the database and does not utilize this service. Report requests are queued in the 'ReportRequest' table of the database by the PLM4P reporting application via the web interface. This service regularly polls the report request queue to check for new requests, and when found, the report is process and the request is removed from the queue.

The Report Processing Service also checks the list of generated reports once daily and deletes any reports that have exceeded their grace period.

Configuration Notes

In any environment in which ad hoc reporting will be used, this service should be moved into its own Remoting Container instance.

The body and subject line of the emails sent by this service upon completion of the report request are stored in the database as translations, and thus can be overridden if desired. However, the "from" address of the email is hard coded as reporting@prodika.com and cannot be changed.

Authorization Bridge Service

The Authorization Bridge Service is used to supply cross application authorization for the PLM4P application. This service caches user access privileges in a claims token as the user navigates. When a user attempts to access another application, such as a document in DRL stored on a spec in GSM, the claims token is passed to the new application (DRL) to prove that the user has access to the parent object and therefore may access the child object, the document in this case. The default time to live for a claims token is 600 seconds, but can be configured to any other length.

To prevent aberrant behavior in the PLM4P application, this service should always be active.

Configuration Notes

This service should be paired with Authentication Bridge Service in a single Remoting Container instance. Default configurations can be edited in the RemotingContainer.exe.config file of the RemotingContainer directory under the xnode path "configuration/AuthorizationBridge".

```
<configuration>
    …
    <AuthorizationBridge
    LeaseManagerUrl="Class:Xeno.Prodika.Services.Authorization.DefaultTokenLeas
    eManager,GeneralServices$10" TimeToLive="600" />
    …
</configuration>
```

LeaseManagerUrl defines the token lease manager. This value should not be changed.

TimeToLive specifies how long a claims token is valid. The default is 10 minutes.

Taxonomy Denormalizing Service

The Taxonomy Denormalizing Service rebuilds and updates the 'commonSMILChildrenAncestor' and 'commonSMILAncestorsDescendants' SMIL taxonomy tables as well as the 'commonBUChildrenAncestor', 'commonBUAncestorsDescendants', and 'comBUAncestorsDescSecondary' BU taxonomy tables. This is done once every minute.

Configuration Notes

This service should be paired in a single Remoting Container instance with OLS Denorm Service. No other services should be active for this Remoting Container instance.

Object Level Security Denormalizing Service

The Object Level Security Denormalizing Service functions very similarly to the Taxonomy Denormalizing Service. Once every minute this service polls the 'securityPrivilege' table for the comprehensive list of groups, security classifications and read levels. As a rule, the higher the read level the greater the privileges are.

Configuration Notes

This service should be hosted in the same Remoting Container instance as the Taxonomy Denormalizing Service. No other services should be active for this Remoting Container instance.

Smart Issue Service

The Smart Issue Service handles the background processing for Smart Issue requests. This service must be active in order for the Smart Issue feature to function correctly. It is recommended that only one instance of the Smart Issue Service should be active at any time; however, it is possible to run the service in parallel for an environment.

It should be noted for potential troubleshooting purposes that this service will notify the console of the Smart Issue request number being processed when the Remoting Container is run in a command prompt (see section 4.1 for more details). Also, this service will write to the "SmartIssue]Prodika" event log to indicate at which stage of processing a given Smart Issue request stands.

Configuration Notes

The Smart Issue Service should stand alone in its own Remoting Container instance.

Syndication Service

The Syndication Service handles CSS data syndication and other polling processes such as NPD Auto Approval.

Configuration Notes

This service should always run in a Remoting Container instance by itself.

Please check each of the following tables to ensure that CSS is configured correctly: SyndicateConfigurations, SyndicateNamespaceConfig, SyndicatePublisherConfig, Syndicates, SyndicateSubscriptionConfigs, and SyndicateSubscriptions. For a more detailed explanation of configuring CSS, please refer to the *Agile Product Lifecycle Management for Process Content Synchronization and Syndication Configuration Guide*.

To configure NPD Auto Approval, first confirm that the Prodika.RemotingContainer.SysUser user specified in the environmentvariables.config file has the NPD_SA privilege. Also, please verify that the Prodika.RemotingContainer.SysPassword for that user is valid. Then, run the following five insert commands:

```
insert into syndicates ( pkid, name, factory, configuration, configParams,
subscriptionHandler, lastRun, fkContainer, sequenceNumber, namespaceid, active
)
    SELECT
    '38374721-626F-4D82-881F-4BEFEC2F5515',
    'NPDAutoApprove',
'Singleton:Xeno.Prodika.Services.Syndication.PersistingPollingSyndicateFactory,
SyndicationLib',
    '2CC7BA4A-811E-473E-9FF1-6512A76DACE3',
    NULL,
'Singleton:Xeno.Prodika.Services.Syndication.StandardSubscriptionConfigurationH
andler,SyndicationLib',
    NULL,
    NULL,
    1,
    N'GSM_SPEC_NOTIFICATION',
    1
    FROM DUAL
    WHERE NOT EXISTS(SELECT 1 FROM syndicates WHERE pkid =
    '38374721-626F-4D82-881F-4BEFEC2F5515');
insert into syndicateConfigurations ( pkid, name, factory, configParams )
    SELECT
    '2CC7BA4A-811E-473E-9FF1-6512A76DACE3',
    'npdAutoApproveConfig',
'Class:Xeno.Prodika.Services.Syndication.PollingSyndicateConfigFactory,Syndicat
ionLib',

'NameValuePair:poller=Class:Xeno.Prodika.NPD.Service.AutomatedWorkflow.Poller.A
utoApprovePoller,NPDService&pollingFrequency=86400000&pollCount=-1&startdate=10
/05/2003 02:00:00'
    FROM DUAL
    WHERE NOT EXISTS(SELECT 1 FROM syndicateConfigurations WHERE pkid =
    '2CC7BA4A-811E-473E-9FF1-6512A76DACE3');
insert into SyndicateSubscriptions ( fkSyndicate, fkSubscriptionConfig )
    SELECT
    '38374721-626F-4D82-881F-4BEFEC2F5515',
    'C8450D8F-64E4-40D3-946E-E597198399CE'
    FROM DUAL
    WHERE NOT EXISTS(SELECT 1 FROM SyndicateSubscriptions WHERE fkSyndicate =
    '38374721-626F-4D82-881F-4BEFEC2F5515' and fkSubscriptionConfig =
    'C8450D8F-64E4-40D3-946E-E597198399CE');
insert into SyndicatePublisherConfig ( pkid, name, factory, configHandler )
    SELECT
    'BE746A81-1753-43D0-85C6-CC43CD04F04C',
    'npdAutoApprovePublisher',
'Class:Xeno.Prodika.NPD.Service.AutomatedWorkflow.Publisher.AutoApprovePublishe
```

```
r,NPDService',
'Class:Xeno.Prodika.NPD.Service.AutomatedWorkflow.Publisher.NPDPublisherConfig,
NPDService'
    FROM DUAL
    WHERE NOT EXISTS(SELECT 1 FROM SyndicatePublisherConfig WHERE pkid =
    'BE746A81-1753-43D0-85C6-CC43CD04F04C');
insert into SyndicateSubscriptionConfigs ( pkid, name, fkPublisherConfig,
configParams )
    SELECT
    'C8450D8F-64E4-40D3-946E-E597198399CE',
    'npdAutoApprove',
    'BE746A81-1753-43D0-85C6-CC43CD04F04C',
    'NameValuePair:AutoApproveComments='
    FROM DUAL WHERE NOT EXISTS(SELECT 1 FROM SyndicateSubscriptionConfigs WHERE
    pkid = 'C8450D8F-64E4-40D3-946E-E597198399CE');
```

Data Import Processor

The Data Import Processor polls every 5 minutes to see if any packages have been imported to its environment. If an import package is discovered, this service will decrypt the package and enter any new data or update existing data.

Configuration Notes

This service should be configured to run alone in its own Remoting Container instance. Default configurations can be edited in the RemotingContainer.exe.config file of the RemotingContainer directory under the xnode path “configuration/ImportRequestProcessor”.

```
<configuration>
        …
    <ImportRequestProcessor>
            <AppSettings>
                <add key="WaitInSecondsToStart" value="30" />
                <add key="PollingIntervalInSeconds" value="300" />
            </AppSettings>
    </ImportRequestProcessor>
        …
</configuration>
```

WaitInSecondsToStart defines the amount of time to wait after a package has been discovered before beginning the import process. This time should not be set below 30 seconds to ensure that the package has been fully uploaded before the Data Import Processor attempts to decrypt it.

PollingIntervalInSeconds specifies how frequently this service will check for an import package. The default is 5 minutes.

DRL Repository Cleanup

The DRL Repository Cleanup Service checks the ‘DRLPrintIntegrationCleanup’ table for references to DRL items that should be deleted. The DRL items that are stored in this table are the output of BI Publisher printing.

The BI Publisher will create an FO file for every instance it is used to print. The references to these files are stored in the ‘DRLPrintIntegrationCleanup’ table of the database. At the configured interval, default is 30 minutes, the DRL Repository Cleanup will poll this table and check each reference to see if it has expired. If so, the DRL item will be removed.

Please note that this service is only necessary if using BI Publisher for printing.

Configuration Notes

This service should stand alone in its own Remoting Container instance. Default configurations can be edited in the RemotingContainer.exe.config file of the RemotingContainer directory under the xnode path “configuration/DRLRepositoryCleanup”.

```
<configuration>
    …
    <DRLRepositoryCleanup>
        <AppSettings>
            <add key="TableName" value="DRLPrintIntregrationCleanup" />
            <add key="XDocLibrary" value="WsBasedDrlLibrary" />
            <add key="PollingIntervalInSeconds" value="1800" />
        </AppSettings>
    </DRLRepositoryCleanup>
    …
</configuration>
```

TableName is the database table that this service will look to in search of items to delete. This value should not be changed.

XDocLibrary is the type of DRL library. This value should not be changed.

PollingIntervalInSeconds defaults to 1800 seconds (30 minutes).

Spec Revision Update Service

The Spec Revision Update Service changes the data stored of the Get Latest Revision functionality, before that, Get Latest Revision is only a UI trick.

Configuration Notes

This service should stand alone in its own Remoting Container instance. Default configurations can be edited in the RemotingContainer.exe.config file of the RemotingContainer directory under the xnode path "configuration/SpecRevisionUpdateProcessor" or CustomerSettings/GSM/SpecRevisionUpdateProcessor in CustomerSettings.config.

```
<SpecRevisionUpdateProcessor >
      <AppSettings configChildKey="key">
           <add key="WaitInSecondsToStart" value="60" />
           <add key="PollingIntervalInSeconds" value="1800" />
            <add key="ErrorNotifyFromAddress"
        value="@@VAR:Prodika.From.EmailAddress@@" />
            <add key="ErrorNotifyToAddress"
        value="@@VAR:Prodika.To.EmailAddress@@"/>
      </AppSettings>
     <SpecRevisionProcessors configChildKey="name">
               <!--<SpecRevisionProcessor name="FormulationInputs">
               <envvar name="SpecRetrieverFactoryURL"
               value="Class:Xeno.Prodika.GSMLib.CustomAssociations.Service.Ret
               rievers.LatestIssueByTagsCommonSpecRetrieverFactory,GSMLib$gsmF
               ormulationInputs|fkMaterial|SpecID|4" />

               <envvar name="SpecReplacerFactoryURL"
               value="Class:Xeno.Prodika.GSMLib.CustomAssociations.Service.Rep
               lacers.FormulationInputReplacerFactory,GSMLib"/>

        </SpecRevisionProcessor>-->

            <!--<SpecRevisionProcessor name="FormulationOutputs">
```

```
                    <envvar name="SpecRetrieverFactoryURL"
                    value="Class:Xeno.Prodika.GSMLib.CustomAssociations.Service.Ret
                    rievers.LatestIssueByTagsCommonSpecRetrieverFactory,GSMLib$gsmF
                    ormulationOutput|fkReferencedMaterial|SpecID|4" />

                    <envvar name="SpecReplacerFactoryURL"
                    value="Class:Xeno.Prodika.GSMLib.CustomAssociations.Service.Rep
                    lacers.FormulationOutputReplacerFactory,GSMLib"/>

          </SpecRevisionProcessor>-->
        </SpecRevisionProcessors>
    </SpecRevisionUpdateProcessor>
```

PollingIntervalInSeconds defaults to 1800 seconds (30 minutes).

Most Recently Used Expiration Service

The MRU expiration service checks the data in table commonObjectMRULog and removes the items that are more than specific number of days old.

Configuration Notes

This service should stand alone in its own Remoting Container instance. Default configurations can be edited in the RemotingContainer.exe.config file of the RemotingContainer directory under the xnode path "configuration/MostRecentlyUsedExpirationService" or CustomerSettings/Core/MostRecentlyUsedExpirationService in CustomerSettings.config.

```
    <MostRecentlyUsedExpirationService>
          <AppSettings>
               <add key="SecondsToWaitBeforeStarting" value="30" />
               <add key="PollingIntervalInDays" value="1" />
               <add key="ItemExpirationInDays" value="30" />
               <add key="NumberOfHistoricalItemsForSearches" value="50" />
          </AppSettings>
    </MostRecentlyUsedExpirationService>
```

PollingIntervalInSeconds defaults to 1 day.

Database Eventing Expiration Service

The database eventing expiration service delete records from the CommonEventingLog table that are a specific number of days old. See Database Eventing Expiration Service in Event Framework documentation for more information.

Configuration Notes

This service should stand alone in its own Remoting Container instance. Default configurations can be edited in the RemotingContainer.exe.config file of the RemotingContainer directory under the xnode path "configuration/DatabaseEventingExpirationService" or CustomerSettings/Core/DatabaseEventingExpirationService in CustomerSettings.config.

```
    <DatabaseEventingExpirationService>
          <add key="SecondsToWaitBeforeStarting" value="60" />
          <add key="PollingIntervalInDays" value="1" />
          <add key="ItemExpirationInDays" value="20" />
    </DatabaseEventingExpirationService>
```

PollingIntervalInSeconds defaults to 1 day.

Setting Up Remoting Container as Multiple Instances

This section describes a method for distributing the Remoting Container Services over multiple Remoting Container instances.

Remoting Container Service Groupings

The recommended grouping of Remoting Container Services by Remoting Container instances is as follows:

Instance 1

Authentication Bridge Service

Authorization Bridge Service

Instance 2

Taxonomy Denormalizing Service

Object Level Security Denormalizing Service

Instance 3

Smart Issue Service

Instance 4

Data Import Processor

Instance 5

Syndication Service*

Instance 6

Report Processing Service**

Instance 7

DRL Repository Cleanup***

Instance 8

Spec Revision Update Service

Instance 9

Most Recently Used Expiration Service

Instance 10

Database Eventing Expiration Service

* necessary if using CSS syndication or NPD auto approve

** necessary only if using Ad Hoc Reporting

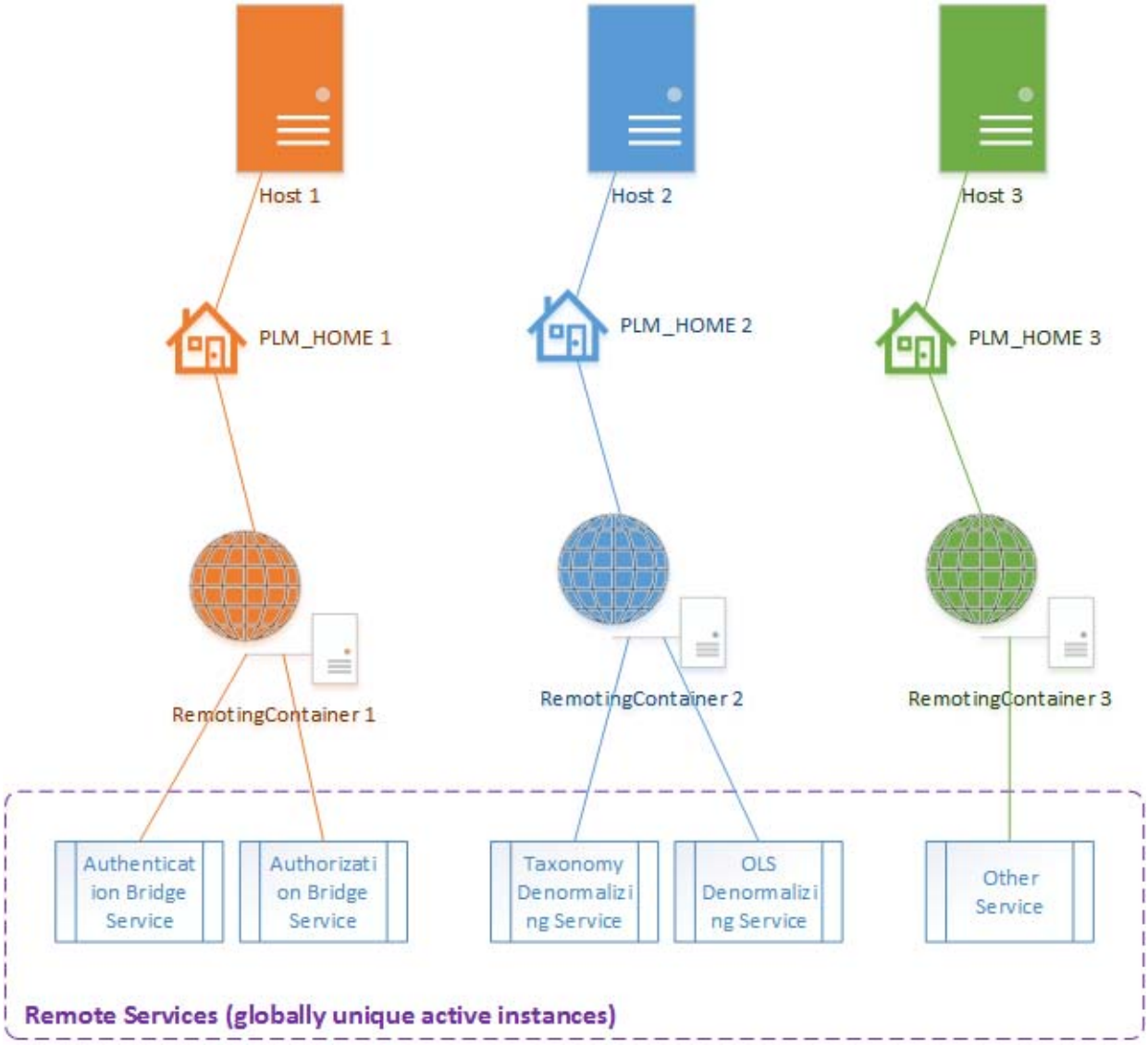
***necessary only if using BI Publisher printing

Configuring Multiple Remoting Container Instances

When configuring multiple Remoting Container instances, each RemotingContainer instance requires its own unique directory path and Windows service instance, as well as its own unique <PLM4P_HOME>.

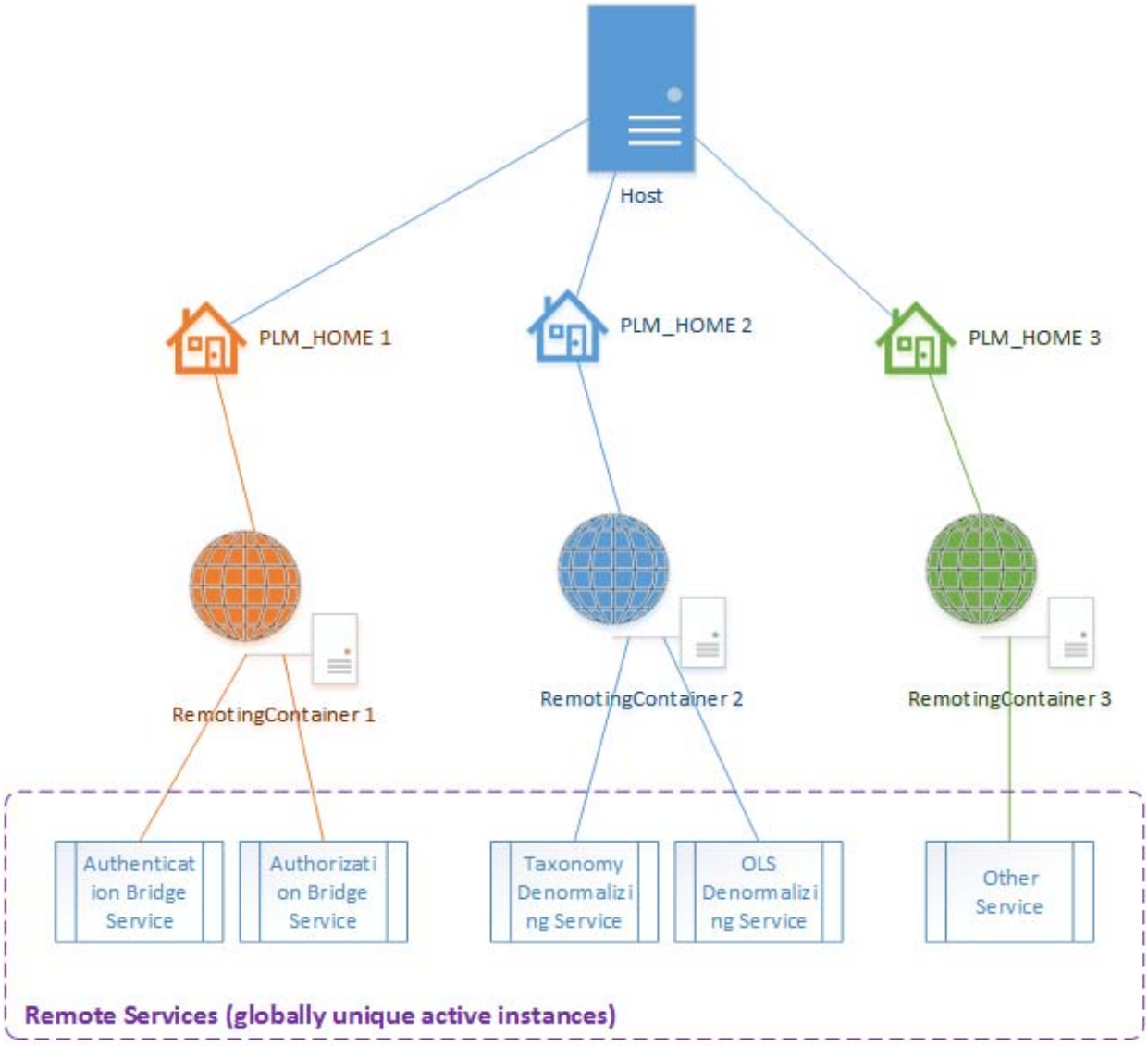
It's recommended to deploy them as a balance scope to ensure stability and enhance performance.

Figure F–1 Multiple RemotingContainer instances on multiple balanced hosts



Alternatively, the distribution can also be located in the same host server for probable hardware resource restriction. Either way, each RemotingContainer instance should work with a copied <PLM4P_HOME>.

Figure F–2 Multiple RemotingContainer instances on single host



Using Figure F–1 as an example, let's walk through an installation.

Goal

Host 1: RemotingContainer Instance 1:

Authentication Bridge Service

Authorization Bridge Service

Host 2: RemotingContainer Instance 2:

Taxonomy Denormalizing Service

Object Level Security Denormalizing Service

Host 3: RemotingContainer Instance 3,4,5…

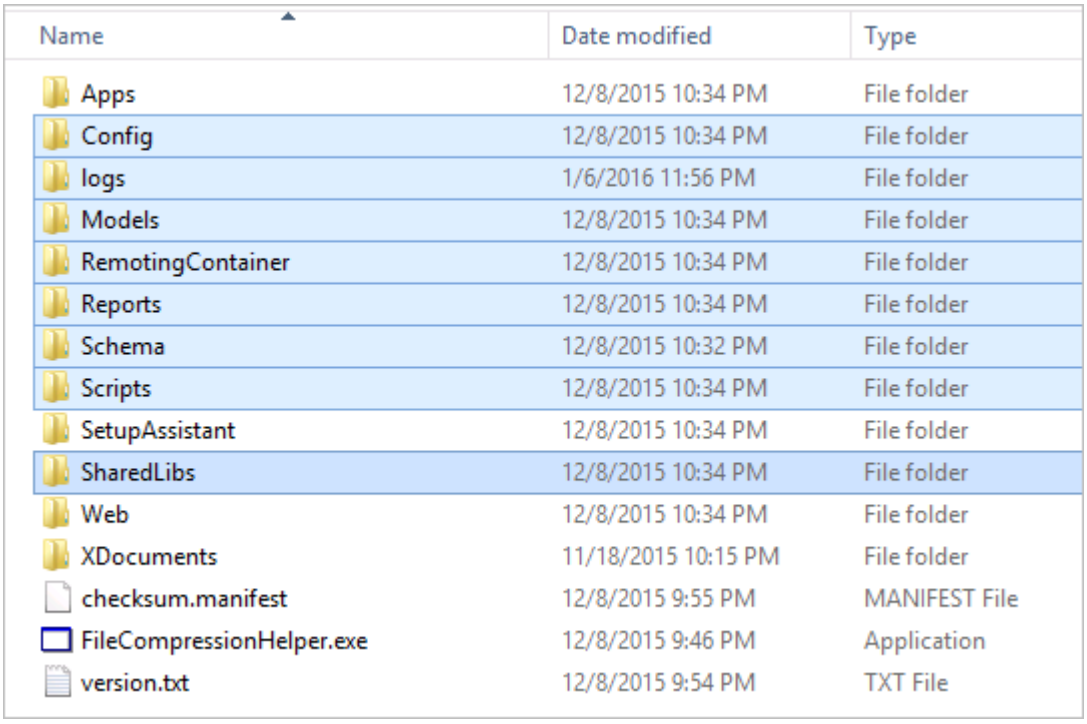
One instance for one service

Pre Installation

1. Prior to beginning these steps, it is necessary to stop both the Remoting Container and Internet Information Server (IIS) Services.
2. Make sure you have linked host 1 together with RemotingContainer instance 1 as described in "Install the Remoting Container Service as a single instance (normal installation)." on page 2-9. On host 2, you must copy the entire PLM4P_HOME directory from host 1 for it to function properly.

   At least these directories are required in the new PLM4P_HOME of the new host: Config, logs, Models, RemotingContainer, Reports, Schema, Scripts and SharedLibs. The directory structure should look similar to this:

Figure F–3 Directory structure



RemotingContainer Instance 1 @ Host 1

Edit file "<PLM4P_HOME>\Config\environmentvariables.config", and set `PLM4P.AuthenticationBridge.Enabled` and `PLM4P.AuthorizationBridge.Enabled` to “true” while others equal “false”.

Figure F–4 Host 1

```
## REMOTING CONTAINER SERVICES ##
PLM4P.AuthenticationBridge.Enabled          = true
PLM4P.AuthorizationBridge.Enabled           = true
PLM4P.TaxonomyDenormalization.Enabled       = false
PLM4P.OLSDenormalization.Enabled            = false
PLM4P.Syndication.Enabled                   = false
PLM4P.DataImport.Enabled                    = false
PLM4P.DRLRepositoryCleanup.Enabled          = false
PLM4P.SmartIssue.Enabled                    = false
PLM4P.SpecRevisionUpdateService.Enabled     = false
PLM4P.MRUExpirationService.Enabled          = false
PLM4P.DBEventingExpirationService.Enabled   = false
PLM4P.Reporting.Enabled                     = false
```

RemotingContainer Instance 2 @ Host 2

Edit file "<PLM4P_HOME>\Config\environmentvariables.config", and set `PLM4P.TaxonomyDenormalization.Enabled` and `PLM4P.OLSDenormalization.Enabled` to “true” while others equal “false”.

Figure F–5 Host 2

```
## REMOTING CONTAINER SERVICES ##
PLM4P.AuthenticationBridge.Enabled          = false
PLM4P.AuthorizationBridge.Enabled           = false
PLM4P.TaxonomyDenormalization.Enabled       = true
PLM4P.OLSDenormalization.Enabled            = true
PLM4P.Syndication.Enabled                   = false
PLM4P.DataImport.Enabled                    = false
PLM4P.DRLRepositoryCleanup.Enabled          = false
PLM4P.SmartIssue.Enabled                    = false
PLM4P.SpecRevisionUpdateService.Enabled     = false
PLM4P.MRUExpirationService.Enabled          = false
PLM4P.DBEventingExpirationService.Enabled   = false
PLM4P.Reporting.Enabled                     = false
```

RemotingContainer Instance 3 @ Host 3

Use similar settings as described in instance #1 and instance #2. Make sure each inner service has only one active instance in the overall deployment.

Service Creation

Once the directory structure is set up and all of the changes have been made, the extra RemotingContainer instances must be created as Windows services.

The most direct method for doing this is to follow the initial steps about installation script “InstallRemotingContainerService.bat” as described in the above section. The script can be found from “<PLM4P_HOME>\ Scripts\Installer” after the initial installation.

```
>InstallRemotingContainerService.bat <PLM4P_HOME>
```

Warning: When configuring Agile PLM for Process, if utilizing Integrated SSPI in the database connectstring, then the logon account for the remoting container service must be a user with datareader and datawriter rights for the database.

Note that if the approach of single host deployment as shown in Figure F–2 was taken, it is strongly recommended you manually edit the specific line of "InstallRemotingContainerService.bat" prior to running it.

```
REM If you need to install multiple remotingcontainer services on a single server, change it here.
SET RemoteContainerServiceName=RemoteContainerService
```

Restarting the Remoting Container and Internet Information Server (IIS) Services

Restart both the RemotingContainers and Internet Information Server (IIS) Services.

Troubleshooting Methods

Almost all of the problems the Remoting Container will experience will fall into one of three categories: the Remoting Container will not start up, the Remoting Container terminates unexpectedly, or the Remoting Container is running but isn't doing anything. This section will break these problems up and provide a general approach to each type of issue. However, the best way to diagnose what type of problem the Remoting Container instance is experiencing is to run the Remoting Container from the command line.

Please note that this section only advises on problems specific to the Remoting Container application. If the environment will not load a login page, then there is a problem with the setup of the PLM4P application that supersedes any Remoting Container errors, and must be addressed first.

Using the Command Prompt

First, verify that the Remoting Container instance under investigation is not running. This can be done by going to Administrative Tools > Services, then searching for the Remoting Container instance's name.

Now, open a command prompt (Start > Command Prompt). Enter the full path of the RemotingContainer.exe file in the console and append "/normal" to start the Remoting Container. Example:

```
C:\>D:\Prodika\RemotingContainer_2\RemotingContainer\RemotingContainer.exe
/normal
```

If the console prints "Press enter key to stop service...", then the Remoting Container started correctly. Otherwise, follow the methods described for troubleshooting startup problems described below.

Startup Problems

This is perhaps the easiest of the Remoting Container problems to address because the problem is almost always an error in setup. If the Remoting Container fails immediately upon startup, then attempting to run it from a command prompt will yield a stack trace. Use the exception

type as a clue to the problem. Here are a few common exception types and their most common causes:

MetaDataException – The database version does not match the Remoting Container's version. This is typically only encountered after an upgrade to the application. Verify that the upgrade script has been run against the database and that the new application files are in place for the Remoting Container as well as the rest of the application.

SocketException – One or more of the services are attempting to bind to a port that is already being used. Unless the ports have been modified in the environmentvariables.config file, this indicates that two of the Remoting Container instances are attempting to host the same service, or this Remoting Container instance was not stopped in Services (refer to section 4.1). This is not allowed. Refer to "Services" on page F-1 of this document to learn how to disable a service.

Unexpected Termination

When a Remoting Container instance terminates unexpectedly, the first step to resolving the issue is to seek out the stack trace. If the error occurs regularly, this can easily be obtained via the command line. The resolution to this problem will largely depend on the service that is failing. If it is unknown which service is failing, use the stack trace as a hint, or run the Remoting Container from the command prompt with only one service activated, rotating through the services, until it can be determined from which service the exception is being thrown.

Once the failing service has been determined, review the setup and configuration instructions for that particular service. Additionally, be sure to verify that all of the configuration values specified in the environmentvariables.config file are valid (for example SysUser and SysPassword).

Running Without Working

The Remoting Container will start regardless of whether or not any of the services are configured to be active. So, confirm that the service in question is active for the Remoting Container instance being investigated before proceeding. Please note that each Remoting Container instance has its own 'Config' directory. Refer to section 2 of this document to learn how to configure a service to be active.

Follow the steps described in "Using the Command Prompt" on page F-14 to start the Remoting Container in a command prompt. This will do little to help, since no stack trace will be generated, but services such as Smart Issue and Syndication will write to the console to indicate that they are functioning properly. If nothing is written to the console, verify the configuration values specified in the environmentvariables.config file are valid, and review the configuration notes section in this document for the service in question.

Frequently Asked Questions

The following list details common issues and suggestions for solving them.

1. What's the difference between the Remoting Container service and the Remoting Container Services talked about in this document?

   Tip: Each Windows service that is created for a Remoting Container is referred to as a Remoting Container instance. The Remoting Container application is capable of hosting specialized background tasks. These tasks are the nine Remoting Container Services detailed in this document.

2. I have a distributed environment; do I need to setup the Remoting Container Services on each of my machines?

   Tip: A Remoting Container Service should not be running in two locations of the same environment (Production, Preproduction, Testing, etc.). This is true for a single server environment as well. While you can setup multiple Remoting Container instances, the services they host must not step on each other.

3. Can I run one of the Remoting Container Services in parallel?

   Tip: No. Other than Smart Issue, a Remoting Container Service should never be active for more than one Remoting Container instance of a given environment (Production, Preproduction, Testing, etc.).

4. How can I tell if the Remoting Container is running?

   Tip: Go to Start > Administrative Tools > Services. Scroll through the list of services to find the Remoting Container. Under the Status column should be the word "Started". If that is missing, then the Remoting Container instance is not running. You can attempt to start it by right clicking the line and selecting **Start**. Refresh the Services list to confirm that the Remoting Container instance is actually running. If "Started" does not appear in the Status column after attempting to start the Remoting Container instance, refer to the section on troubleshooting methods.

5. Can I load balance the Remoting Container?

   Tip: No. Although the PLM4P application does support load balancing, the Remoting Container does not. Each individual service (Authentication, Authorization, Report Processing, etc.) may only be active exactly one time for each environment (Production, Preproduction, Testing, etc.), with the exception of Smart Issue.

6. I have a clustered environment; can I run the services on each of the machines in my clustered environment?

   Tip: You may distribute the Remoting Container instances amongst the servers in your clustered environment, but each Remoting Container Service (Authorization, Authentication, Data Import, etc.) can be active on exactly one server per environment (Production, Preproduction, Testing, etc.), with the exception of Smart Issue.

7. Does the Remoting Container need to run on an environment which is hosting the Web applications (i.e. GSM, SCRM, etc.)?

   Tip: It's not necessary that the Remoting Container run from a server that is also handling web hosting duties, but in order for it to work in this type of environment, the directory structure detailed in section 3.2.1 must be maintained. Additionally, the .NET framework must be installed, and the Remoting Container instances must still be created as Windows services. Multiple Remoting Container instances may be setup following the instructions of section 3.2.

G

Skill Set Requirements and Recommendations

Skill Set

Refer to the following matrix for guidance on what skills are recommended for members of your technology team.

Table G–1 Skill Set Requirements and Recommendations

Skill Set	Description	Resource
Windows Server OS	Required skill for the management of the OS	Systems Administrator
IIS	Required skill for the implementation and management of IIS	Systems Administrator
Oracle Database Server or Microsoft SQL Server	Required skill for the implementation and management of the DB	DBA
Performance Tuning Oracle Database Server or Microsoft SQL Server	Highly recommended skill for the DB monitoring and tuning of PLM4P specific to your environment and business use cases	DBA
SQL	Required skill for reporting development	DBA
	Recommended skill for triage and development	Developer
JScript	Required skill for the development of Calculated Extended Attributes	Developer
C#	Required skill for customization of the application suite using extensions, such as validations, workflow actions, etc.	Developer
JavaScript	Required skill for the development of Calculated Extended Attributes, User Interface Extensions, and Validations	Developer
XML	Required skill for the development of extensions and printing	Developer
XSD	Required skill for the development of printing	Developer
BI Publisher or Microsoft SQL Server Reporting Services	Required skill for custom report creation	Developer

H

Installation Troubleshooting

This appendix contains a list common issues that may occur after installation.

Troubleshooting Tips

The following list details common issues and suggestions for solving them.

1. How can I compare my recent build with an older build to see if configuration values have changed?

   Tip: Use the Config Rollup URL to check the rolled up configuration settings for various applications. The URL is:

   `http://<serverName>/<appName>/WebCommon/AdminForms/ConfigRollup.aspx`

2. Clicking upload when adding a DRL attachment causes the window to simply blink.

   Tip: Ensure you've waited at least 30 seconds on the first attempt.

   Tip: Ensure the web.config for your .NET version has the machine key entry.

3. Message displayed is "trust relationship could not be established".

   Tip: Verify that the Web site your using has a signed certificate.

   Tip: If not testing SSL DRL attachments, configure them to use HTTP and ensure the "PLM4P.GSMInterApp.URL" property is using HTTP.

4. Message displayed is "The remote certificate is invalid according to the validation procedure."

   Tip: Be sure to configure the **DRL.WebServices.Login** and **DRL.WebServices.Password** credentials using the Setup Assistant tool. The user specified should be an Agile PLM for Process user. For more information, refer to the *Agile Product Lifecycle Management for Process Configuration Guide*.

5. NPD edit-in-place documents are read-only.

   Tip: The user connecting to the IIS share does not have permissions to the underlying folder on the server. Grant full permissions by assigning the 'Everyone' permission setting on that folder. If that solves the problem, lock down the folder with tighter permissions.

6. The Browser keeps redirecting to incorrect URLs or keeps jumping from HTTPS to HTTP.

   Tip: Make sure that the environmentvariables.config file has the right URLs.

   Tip: You can only have one HTTPS site on one machine. If you have more than one, it bounces back and forth between the two sites

   Tip: Make sure that you are not using HTTPS in the URL to access a http Web site. Using https in your URL will make the Server redirect your request to the default https Web site.

   Tip: Conversely, if the environmentvariables.config file is using https to access a http Web site, you would be redirected to the default https Web site incorrectly

7. Navigation to any page in the application results in a blank page after migrating to another version or a new version of .NET is installed.

   Tip: The wrong ASP.NET version may be registered with IIS. Run the “aspnet_regiis.exe” utility with the “-r” flag.

8. The rich text dialog box is prompting me with security issues concerning scripts.

   Tip: Ensure the page event and request validation are turned off.

9. What is drl.prodika.com?

   Tip: Make sure that you have the new URLs and https:.

10. I am prompted to login to every application.

    Tip: Is the remoting container running?

    Tip: Ensure you are using the trust bridge in “EnvironmentSettings.config”.

11. I have installed and receive the following error, or something similar, when I start the remoting container or application:

    "Exception Message: No more connections can be created. They are all being used."

    Tip: This usually indicates a problem with the connect string. Verify your values are correct and that the connect string is syntactically correct. Also, when connecting to an Oracle database, make sure you have added the adapter factory config key to environmentsettings.config. Please read the section titled, "Installing BI Publisher (Optional)" on page 2-9.

12. I have upgraded and receive the following error when I start the remotingcontainer:

    "Xeno.PLM4P.Common.PLM4PConfigurationException: Could not parse 'factory' attribute into an object on service tag ---> System.BadImageFormatException: Could not load file or assembly 'file:///E:\PLM\RemotingContainer\System.Data.dll'"

    Tip: We removed all DLLs from the %PLM4P_HOME%\remotingcontainer\ directory. This error indicates you performed an overlay on top of an existing %PLM4P_HOME%. Please read the section titled, "Installing 6.2.1" on page 3-6.

13. I have upgraded and receive an error that it could not load the Oracle.DataAccess.DLL.

    Tip: This is generally because you have the wrong Oracle client installed. Prior to 6.1.1, we only supported running PLM4P as a 32-bit application, regardless of OS bit level. Thus, it was required to download and install the 32-bit Oracle database client. In 6.2 and above, we now offer the ability to run the application as a 64-bit application on a 64-bit OS. If you switched from 32-bit to 64-bit, you will need to install the 64-bit Oracle database client on your server.

14. When I try to run applyscripts, I receive an error that it could not load the Oracle.DataAccess.DLL.

Tip: See Tip13. The Oracle client needs to match the OS. Additionally, applyscript does not need to be run from the server. If there is another workstation or server where you know applyscript works, you can try running it from there.

15. How can I determine the Site ID for a new website within IIS 7.0 or above?

    Tip:

    1. Open IIS Manager via Administrative Tools.
    2. Expand `<server_name>` node in the left pane.
    3. Highlight the **Web Sites** node in the left pane.
    4. The websites and their corresponding ID will be listed in the right pane.