Datamart Setup Guide

Agile PLM Analytics 2.1.1

TP1118-2.1.1A

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Preface

The Agile documentation set includes Adobe® Acrobat™ PDF files. The Oracle Technology Network (OTN) Web site (http://www.oracle.com/technology/documentation/index.html) contains the latest versions of the Oracle|Agile PLM PDF files. You can view or download these manuals from the Web site, or you can ask your Agile administrator if there is an Oracle|Agile Documentation folder available on your network from which you can access the Oracle|Agile documentation (PDF) files.

Note To read the PDF files, you must use the free Adobe Acrobat Reader™ version 7.0 or later. This program can be downloaded from the Adobe Web site (http://www.adobe.com).

The Oracle Technology Network (OTN) Web site (http://www.oracle.com/technology/documentation/index.html) can be accessed through Help > Manuals in both the Agile Web Client and the Agile Java Client. If applicable, earlier versions of Oracle|Agile PLM documentation can be found on the Agile Customer Support Web site (http://www.agile.com/support).

If you need additional assistance or information, please contact support@agile.com or phone (408) 284-3900 for assistance.

Note Before calling Agile Support about a problem with an Oracle|Agile PLM manual, please have ready the full part number, which is located on the title page.

Readme

Any last-minute information about Oracle|Agile PLM can be found in the Readme file on the Oracle Technology Network (OTN) Web site (http://www.oracle.com/technology/documentation/index.html).

Agile Training Aids

Go to the Agile Training Web page (http://training.agile.com) for more information on Agile Training offerings.

Chapter 1

Introduction

This chapter includes the following:

What is Agile PLM Datamart?

The Agile PLM Datamart provides a platform and tools that let you conduct multidimensional analysis on Agile PLM data across the enterprise. Agile provides separate licenses for the following datamarts:

- Product Portfolio Management (PPM) Datamart
- Product Collaboration (PC) Datamart
- Product Quality Management (PQM) Datamart. Each Agile PLM Datamart product has the following components:
- Datamart – a multidimensional database with a set of common dimensions and a set of star schemas, each supporting a specific area of analysis – specifically, Product Collaboration, Product Portfolio Management, or Product Quality Management.
- Agile PLM Analytics Plugin – software for connecting to the Agile PLM server to retrieve metadata.
- ETL tasks – a collection of Extracting, Transforming, and Loading (ETL) tasks for DT/Studio; these are used to extract, transform, and load data into the Agile PLM Datamart.

Agile PLM Datamart schemas facilitate querying and reporting, which is valuable for analyzing performance trends and estimating future trends, and provides an intermediate store for historical Agile PLM data. Querying, reporting, and analysis require storage space and processing resources, and could have a significant impact on application performance if they ran against the transaction database. For this reason, Agile PLM and Agile PLM Datamart schemas have separate users, even though they can exist on the same database instance. The Agile PLM Datamart database schema is optimized for custom reporting, ad hoc queries, and analysis.

The Agile PLM Datamart contains all relevant data available in the Agile PPM, PC, and PQM solutions. The data model for the Agile PLM Datamart is different from the data model for the Agile PLM solutions in that it is better suited for querying and analysis. The Agile PLM Datamart is based on a modular decision-support architecture with a set of common dimensions. It comprises a set of star schemas—de-normalized Facts and a set of supporting Dimensions—each providing the basis for an area of functional analysis such as Financial Analysis, Time-to-Market Analysis, and so on.

Agile PLM Analytics is an open platform for analysis, based on industry-standard technologies. It

gives you direct access to your data and lets you import data from other sources.

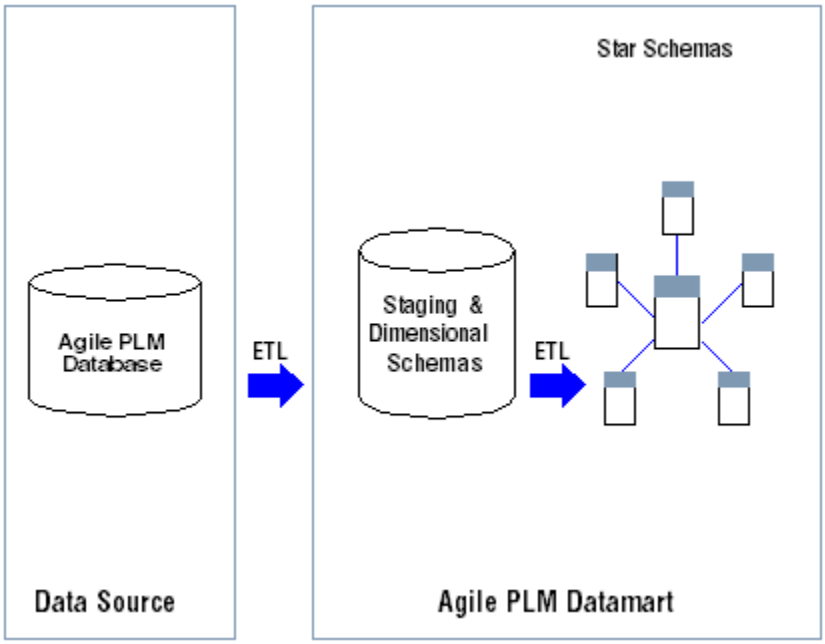
Who should Use Agile PLM Datamart?

The Agile PLM Datamart is useful to the following kinds of users:

- Users with operational business process responsibility, such as executives and project managers. These users can use the datamart for running standard reports and queries.
- Analysts or commodity managers who perform ad hoc queries and analyses in decision-making situations, such as time-to-market analysis, cost management, issues resolution, or portfolio score or trend analysis.
- Managers who can use the datamart to gather information about key performance indicators and historical trends.
- Information technology specialists who can integrate Agile PLM Datamart data with other datamarts or the company's data warehouse.

Agile PLM Datamart Architecture

Agile Analytics includes several components, as represented by the following diagram.



At the left of the diagram is the Agile PLM database, the transaction database that contains all Agile PLM data and is designed for executing business processes and user interface needs. External data sources are also represented at the left of the diagram.

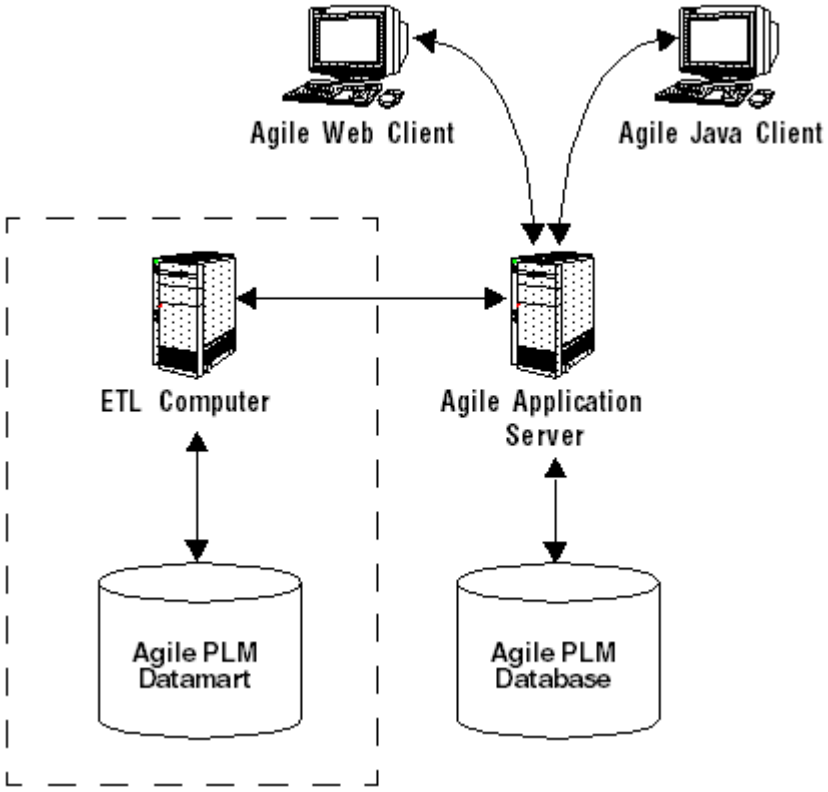
For example, with the help of Agile Solutions Delivery, you may implement an analytics solution that combines data from the Agile PLM database, external data sources, and additional flat files.

Using ETL tasks, the data is extracted from the data sources and loaded into relational schemas that comprise the Agile PLM Datamart:

1. Staging schema — a schema that contains raw data, which can be used for staging purposes before moving to other datamarts.
2. Dimensional schema — a star schema that enhances the performance of multidimensional queries. The dimensional schema summarizes transactions into multidimensional views for analysis and reporting, unlike the Agile PLM transactional database. User queries on the Agile PLM Datamart are extremely fast because the data consolidation has already been done.
3. Administration schema — an administration schema that assists in the extract, transform, and load operations, but primarily serves as an administration database.

Agile PLM Datamart Sample Configuration

The following figure shows a sample configuration for the Agile PLM Datamart.



Chapter 2

Requirements and Sizing

This chapter includes the following:

Important An Oracle database administrator should install the Agile PLM Datamart.

Software Requirements

This table gives information about the operating systems and other software used in the Agile PLM Datamart.

Components	Operating System	Other Software
PPM Datamart PC Datamart PQM Datamart	Windows 2003 Server	Oracle 9i R2 Enterprise Edition (9.2.0.1)* Oracle 10g R2 Enterprise Edition (10.2.0.1) * Agile PLM Analytics requires Oracle10g. If you are installing both Agile PLM Datamart and Agile PLM Analytics, Oracle9i is not supported.
ETL components	Windows 2003 Server	Embarcadero Technologies DT/Studio 2.3.1
Agile PLM Analytics Plugin	Windows 2003 Server	Oracle Application Server 10g (10.1.2.0.2) or BEA WebLogic Server 8.1 SP5 Agile PLM 9.2.1

Hardware Requirements

Before you can install Agile PLM Datamart server components, you must have at least 1 GB of available disk space available where the OS is installed, in addition to the minimum disk space requirements specified in this guide.

Important Agile PLM Datamart computers and databases should be dedicated to Agile and should not have other software installed, unless otherwise specified. Do not attempt to include other database schemas or use the Agile host server as the primary domain controller (PDC) or dynamic host configuration protocol (DHCP) server.

Disk compression must be disabled on Agile computers.

When choosing a hardware configuration, consider the number of total users, the number of concurrent users, the size of your database, the number of ECOs processed per day, and overall activity level. If you have questions about your system, Agile Technical Support or your Agile

Solutions Consultant can give guidance on whether you have small, medium, or large system requirements.

It is required that the computer on which you are installing Agile PLM Datamart components and the Oracle database have at least two physical drives or two partitions. This allows you to place the operating system on the C drive and use the D drive for Agile or Oracle components.

The following table provides a summary information of minimum hardware requirements based on database size.

Note These specifications are with Windows Operating System

Small database system (100 MB to 1 GB)	
CPU	Dual, 1.8 GHz Intel Xeon
RAM (GB)	1
Number and size of disks (partitions)	Four 18-GB
Medium database system (1 GB to 5 GB)	
CPU	Dual, 1.8 GHz Intel Xeon
RAM (GB)	2
Number and size of disks (partitions)	Four 18-GB
Large database system (2 GB to 16 GB)	
CPU	Four, 1.8 GHz Intel Xeon
RAM (GB)	4
Number and size of disks (partitions)	Nine 18-GB
Extra-large database system (5 GB to 38 GB)	
CPU	Eight, 1.8 GHz Intel Xeon
RAM (GB)	8
Number and size of disks (partitions)	Twelve 18-GB

The Agile PLM Datamart database uses Oracle 9.2.0.1.0 or 10.2.0.1. Recommended database hardware depends on your Agile PLM Datamart system configuration.

If you have only single processor computers and anticipate high network traffic, then the database and Agile Application Server should be installed on two different computers to avoid competition for resources on a single computer, which would outweigh any advantage gained from reduced network traffic.

Agile PLM Datamart Server Sizing

This section discusses the Agile PLM Datamart database design and architecture and provides sizing and capacity recommendations for practical deployment. The person who will installs and configures the Agile PLM Datamart should be knowledgeable about Oracle database administration.

The Agile PLM Datamart database is a Decision Support database that supports efficient OLAP. Consequently, its design and architecture is different from the Agile PLM database. OLAP is a resource intensive operation and the architecture goal is to optimize queries. The Agile PLM Datamart database has more memory sorting than the Agile PLM database and a larger temporary tablespace to accommodate long-running queries. To reduce full table scans, the database also has more indexes.

For production databases, Agile recommends that you follow Oracle's Optimal Flexible Architecture (OFA) guidelines. OFA is a popular specification for configuring high performance, low maintenance Oracle database systems.

Agile PLM Database Size

The target Agile PLM Datamart database size is directly related to the size of the source Agile PLM database. Therefore, it is strongly recommended that the Agile PLM Datamart database use the same database size model as the Agile PLM database. Typically the Agile PLM Datamart database size will be larger than that of the corresponding OLTP database since historical data is preserved in the datamart. The size of source data and the frequency of updates dictate how much space is needed over a given period of time.

Agile PLM Datamart Database Growth Pattern

For future growth plans, you should understand your database growth pattern and leave room for future growth. If the database data grows fast, then select a larger database size model or configure the database with more hardware resources, especially disk space.

Frequency of Running ETL

Depending on the frequency with which you extract data from the Agile PLM database and how long you intend to store the data on the Agile PLM Datamart database, you may need to plan for more disk space for the extracted data.

Reporting Usage

Reporting is a resource intensive operation. For heavy reporting usage of a separate OLAP tool (such as Agile Analytics) against the datamart, you should plan more hardware resource (additional CPUs and memory) to achieve best performance and concurrency.

Hardware Resource Plan for Database Models

The following table lists recommended hardware resources for different database size models.

Database Size	CPU	RAM	Disks (18 GB each)
Demo	1	512 MB	1
Small	2	1 GB	4
Medium	2	2 GB	4
Large	4	4 GB	8
Extra-Large	12	8 GB	12

Disk Space and Tablespace Configurations

While the proper sizing of extents minimizes dynamic extensions in the same segments, disk I/O contention within the same logical tablespace or physical data file can also be harmful.

You can improve disk I/O performance for multiple disk configurations by spreading the I/O burden across multiple disk devices. The following sections describe the use of multiple disks for the Oracle database server. It is always advisable to use more disks.

One-Disk Configuration

A one-disk configuration is best for a demonstration, pre-production, and testing environment. This configuration results in disk I/O contention. In addition, as both usage and database size increase, performance significantly declines. The one-disk configuration is intended for demo database applications only, and the configuration can be implemented as shown in the following table

Disk	Oracle Home	Tablespaces	Redo Logfiles
Disk 1	ORACLE_HOME	SYSTEM TOOL UNDO TEMP USERS INDX AGILE_DATA1 AGILE_DATA2 AGILE_DATA3 AGILE_INDX1 AGILE_ADW_DATA1 AGILE_ADW_DATA2 AGILE_ADW_DATA3 AGILE_ADW_DATA4 AGILE_ADW_DATA5 AGILE_ADW_DATA6 AGILE_ADW_INDX1 AGILE_ADW_INDX2 AGILE_ADW_INDX3 AGILE_STG_DATA1 AGILE_STG_DATA2 AGILE_STG_DATA3 AGILE_AAD_DATA1	LOG1 LOG2 LOG3 LOG4

There is no beneficial gain from OFA for the one-disk configuration from the perspective of disk I/O contention. There should be no significant impact on a current production database if you implement the default Oracle settings with a one-disk configuration.

Two-Disk Configuration

A two-disk configuration is best for a small database. To eliminate potential I/O contention, AGILE_DATA and AGILE_INDX data files are on separate disks. As usage and database size increases, performance declines.

Disk	Oracle Home	Tablespaces	Redo Logfiles
Disk 1	ORACLE_HOME	SYSTEM TOOL UNDO AGILE_DATA1 AGILE_DATA2 AGILE_DATA3 AGILE_ADW_DATA1 AGILE_ADW_DATA2 AGILE_ADW_DATA3 AGILE_ADW_DATA4 AGILE_ADW_DATA5 AGILE_ADW_DATA6 AGILE_STG_DATA1 AGILE_STG_DATA2 AGILE_STG_DATA3 AGILE_AAD_DATA1	LOG1 LOG2
Disk 2		TEMP USERS INDX AGILE_INDX1 AGILE_ADW_INDX1 AGILE_ADW_INDX2 AGILE_ADW_INDX3	LOG3 LOG4

Four-Disk Configuration

A four-disk configuration is best for an enterprise-level implementation of Agile. A four-disk configuration spreads the various data files, control files, and redo log files across multiple disk devices.

- The three control files can be mirrored onto three different disks for best recovery protection.
- All potential I/O demand-intensive data files can be distributed onto their own separate disk. Redo log files are completely isolated from the rest of the data files, as the log files can cause significant I/O contention during transactions if they are sharing disks with other data files. The UNDO data file is separated from the schema data files and log files as well, so I/O contention can be minimized.
- The Agile schema tablespaces can be isolated from the rest of the SYSTEM, TEMP, TOOL, and UNDO data files.

The four-disk configuration shown in the following table is recommended. For production database sites, the four-disk configuration represents the minimum requirements for an OFA implementation and provides the minimum hardware configuration for performance tuning.

Disks	Oracle_Home	Tablespaces	Redo Logfiles	Control files
Disk 1	ORACLE_HOME	SYSTEM TOOL UNDO	LOG1/2/3/4	Controlfile01
Disk 2		TEMP USERS INDX	Archive log file	Controlfile02
Disk 3		AGILE_DATA1 AGILE_DATA2 AGILE_DATA3 AGILE_ADW_DATA1 AGILE_ADW_DATA2 AGILE_ADW_DATA3 AGILE_ADW_DATA4 AGILE_ADW_DATA5 AGILE_ADW_DATA6 AGILE_STG_DATA1 AGILE_STG_DATA2 AGILE_STG_DATA3 AGILE_AAD_DATA1		Controlfile03
Disk 4		AGILE_INDX1 AGILE_ADW_INDX1 AGILE_ADW_INDX2 AGILE_ADW_INDX3		

Eight-Disk Configuration

In addition to the advantages associated with a four-disk configuration, an eight-disk configuration supports an enterprise-level implementation of Agile by further spreading various data files and redo log files across multiple disk devices. Separating potentially large datafiles should help I/O contention as physical disk I/O is inevitable, due to the share size of data, as shown in the following table

Disks	Oracle_Home	Tablespaces	Redo Logfiles	Control files
Disk 1	ORACLE_HOME	SYSTEM TOOL UNDO	LOG1/2/3/4	Controlfile01
Disk 2		TEMP USERS INDX	Archive log file	Controlfile02
Disk 3		AGILE_DATA1 AGILE_DATA2 AGILE_DATA3		Controlfile03
Disk 4		AGILE_ADW_DATA1 AGILE_ADW_DATA2 AGILE_ADW_DATA3		
Disk 5		AGILE_ADW_DATA4 AGILE_ADW_DATA5 AGILE_ADW_DATA6		
Disk 6		AGILE_STG_DATA1 AGILE_STG_DATA2 AGILE_STG_DATA3		
Disk 7		AGILE_AAD_DATA1 AGILE_INDX1		

Disk 8		AGILE_ADW_INDX1 AGILE_ADW_INDX2 AGILE_ADW_INDX3		

Twelve-Disk Configuration

Further separating the AGILE_DATA and AGILE_INDX tablespaces, twelve-disk configurations can be implemented as shown in the following table.

Disks	Oracle_Home	Tablespaces	Redo Logfiles	Control files
Disk 1	ORACLE_HOME	SYSTEM TOOL	LOG1/2/3/4	Controlfile01
Disk 2		USERS INDX	Archive log file	Controlfile02
Disk 3		UNDO		Controlfile03
Disk 4		TEMP		
Disk 5		AGILE_DATA1 AGILE_DATA2 AGILE_DATA3		
Disk 6		AGILE_ADW_DATA1 AGILE_ADW_DATA2		
Disk 7		AGILE_ADW_DATA3 AGILE_ADW_DATA4		
Disk 8		AGILE_ADW_DATA5 AGILE_ADW_DATA6		
Disk 9		AGILE_STG_DATA1 AGILE_STG_DATA2		
Disk 10		AGILE_STG_DATA3 AGILE_AAD_DATA1		
Disk 11		AGILE_INDX1 AGILE_ADW_INDX1		
Disk 12		AGILE_ADW_INDX2 AGILE_ADW_INDX3		

Chapter 3

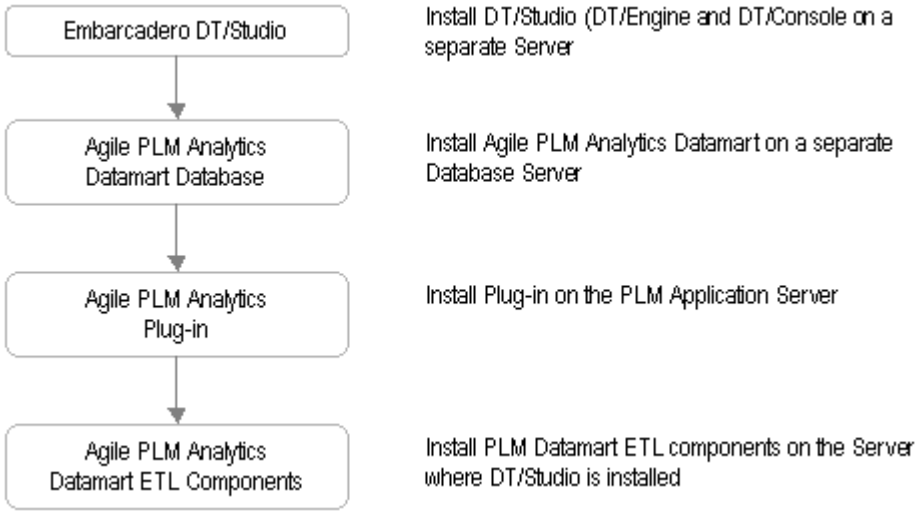
Agile PLM Datamart Installation

This chapter includes the following:

Installation Process

Agile PLM Datamart is designed to run optimally on multiple computers. This guide is presented with separate chapters for certain Agile PLM Datamart components. To set up an Agile PLM Datamart system, you should install the components in the order shown in the following figure.

Agile PLM Datamart component installation order



Installing and Testing the Software

Install and test this release on a designated development server before installing it on your production environment. Your development environment should mirror your production environment as closely as possible to provide accurate testing results.

Important It is important to validate the installation of this release and confirm your integrations are working correctly as part of your minimum due diligence. Any problems or questions noted during your development system testing should be resolved before installing this release on your production environment.

Pre-Installation Requirements

Before installing the Agile PLM Datamart software, you need to log in to your computer with local Administrator privileges and check the following:

- Make sure you can ping all servers, including the database server, on which you plan to install Agile PLM components. For example, try pinging the database server from the application server.
- Verify the Domain Name System (DNS) hostname of each server on which you plan to install Agile PLM Datamart components. In DNS, the fully qualified domain name consists of the hostname, then a period, then the domain name.

  Note When you are prompted by the Agile PLM Datamart installer to enter a hostname, enter the fully qualified domain name of the server.
- Your Agile PLM application server must be installed and running on a separate computer.
- You must have local Administrator rights to the servers on which you plan to install Agile PLM Datamart components.

Agile PLM Datamart Requirements

Before you start the installation, your Agile PLM database server (Oracle database 10g or 9i R2) must be installed and running on a separate computer.

Agile PLM – Analytics Plug-in Requirements

Before you start the installation:

- You must stop the Web proxy server used for Agile PLM.
- For Oracle Application Server, make sure the Agile PLM Application Server is running.
- For Weblogic Application Server, stop the Agile PLM Application Server.

  Note If you have an application server cluster, install the plug-in on the repository host server only. During installation, the Agile application is repackaged and redeployed to all servers in the cluster.

After the installation, restart the Agile PLM Application Server (if necessary) and the Web proxy server used for Agile PLM.

Datamart ETL Task Requirements

Before you start the installation:

- Make sure Agile PLM application server is installed and running and using the most current license key. See Updating the Agile License Key 15.
- Make sure the Agile PLM Datamart database is installed and running.
- Install Embarcadero DT/Studio 2.3.1 components. This includes DT/Engine and DT/Console. See Installing Embarcadero DT/Studio "Embarcadero DT/Engine Installation" 77.
- Make sure you have configured DT/Engine to connect to a database repository. For example,

you can create a separate database user for DT/Engine on the Agile PLM Datamart computer or on another Oracle database.

Updating the Agile License Key

When you purchase the Agile PLM Datamart, you should receive a new license key from Agile Software. Make sure you update the license key for your Agile PLM system. Your license key controls which Agile PLM Datamart ETL tasks can be run against the server.

To update your Agile license key using Agile Java Client:

1. Copy your new Agile license key to the Clipboard.
2. Start the Agile Java Client, and log in as an administrator.
3. Click the Admin tab.
4. Under Server Settings, double-click the Licenses node. The Licenses window appears.
5. In the License Key field, paste your new Agile license key.
6. Click Save.
7. Restart the Agile PLM application server.

Note If you update the Agile license key after installing Agile PLM Datamart ETL tasks, you must also restart the DTEngineManagerService and the DT/Engine on the ETL computer.

Agile PLM Datamart Installer

The Agile PLM Datamart installer is a Java program. The installation of all components follows the same initial process up through the screen where you select the components to install.

Before running the installer, make sure

- You have enough available disk space.
- You have disabled virus protection.

  If virus protection is enabled, components used in the installer can be falsely identified as being infected and lockup the installation. You can turn the virus protection on after the installation is complete.

Note For information about any screen during the installation, click Help.

To start the Agile PLM Datamart installer on Windows:

1. Log in to the computer using a login with local Administrator permissions.
2. In the Disk1\Windows directory, <double-click> the setup.exe file.

   Note It is recommended that you do not install the PLM Datamart on the same drive with the operating system. You should install the PLM Datamart directly under the root directory (for example D:\PLM_Datamart). There must be at least 1 GB of available disk space for the PLM Datamart installation.
3. In a few moments, the Welcome screen appears. Click Next. The License Agreement screen appears.

4. Read the Agile PLM Datamart license agreement. If you want to continue the installation choose I accept and click Next. The Customer Information screen appears.
5. Type your user name and company name. Your user name must be at least five characters. Click Next. The Choose Component(s) screen appears.
   - Database Server creates an instance of the Agile PLM Datamart on your database server.
   - Agile PLM - Analytics Plug-in installs additional libraries for integration with the Agile PLM server.
   - Datamart ETL Tasks installs software for extracting, transforming, and loading Agile PLM data into the datamart.

Note	Generally, you should not install all components on the same computer. When you select a component, a description of it appears in the Description area.

If you need to install the Agile PLM Analytics Plugin, see Installing the Agile Analytics Plugin.

If you need to install the Datamart ETL Tasks, see Installing the Datamart ETL Tasks.

Installing the Datamart Database Server

This process follows the Choose Component(s) screen.

To install the database server:

1. Select Database Server. Click Next.

   The Destination Location screen appears.
2. Specify a temporary location for the database instance scripts. Click Next.

   The Choose Database Version screen appears.
3. Choose Oracle 10g unless you are upgrading with an existing Oracle 9i database. Click Next.

   The Oracle Database Base & Home Directories screen appears.
4. Specify the path for the Oracle base and home directories. Click Next.

   The Instance screen appears.
5. Specify the instance name you are creating. The default instance name is AADM. Click Next.

   The Database Size Estimate screen appears.

   Each database size has minimum memory and hardware requirements. This choice should be made after considering existing disk space and anticipated size of your Datamart data.
6. Choose the size you anticipate needing for the PLM Datamart database. Click Next.

   The Database Security and Datamart User Information screen appears.
   - Internal / Sys Password - The SYS user owns all base tables and the user-accessible view of the data dictionary. The default SYS password is Oracle.
   - SYSTEM Password - The SYSTEM user is used to create tables and views for administrative information and internal tables and views used by various Oracle tools. The default SYSTEM password is manager.
   - Datamart Admin User Password - The default password is aad.
   - Datamart Staging Schema Password - The default password is ast.

- Datamart Dimensional Schema Password - The default password is adw.

7. Accept the defaults if you do not know the information required for each field. Click Next.

   The Tablespaces (Data Files) screen appears.

   Select the location of Oracle tablespaces (data files). You should accept the default settings, unless you have additional hard drives with sufficient space available that allow you to distribute the files across multiple hard drives.

8. The defaults are typically within the oracle\oradata directory. Accept the defaults if you do not know the path required for each field. Click Next.

   A second Tablespaces (Data Files) screen appears.

9. Select the location of Oracle tablespaces used for dimensional and staging data. You should accept the default settings. Click Next.

   The Control Files screen appears.

   The data files to assign in this panel are:

   - Control File 1
   - Control File 2
   - Control File 3

   Control files are used to track the location of database files on the system. A control file contains the database name, the name of the database files, and the names of the redo log files. The control file also stores archive history.

10. Select the location of Oracle control files. You should accept the default settings, unless you have additional hard drives with sufficient space available that allow you to distribute the files across multiple hard drives. Click Next.

    The Oracle Log Files screen appears.

11. Redo log files record changes made in an Oracle database. These files should be stored separately from the datafiles. If a database or hard disk fails, you can use the redo log files to update the database data back to the instant the failure occurred.

    As records changes, it cycles through the redo log files. If an Archive Log is enabled, Oracle will archive a redo log before overwriting it. The archived redo logs plus the online redo logs provide a complete history of changes made to the database.

12. Type a path to store redo log files. You should accept the default setting unless you have additional hard drives with sufficient space available that allow you to distribute the files across multiple hard drives. Click Next.

    The Pre-Installation Summary screen appears.

13. Check the information listed. If everything appears correct, click Install. If you need to change information, click Previous until you find the fields that need to be changed.

14. When the progress indicator stops, you will receive a screen indicating that the install is complete. Click Done.

If you need to install the Analytics Plugin or the Datamart ETL Tasks, restart the Datamart installer as specified in Starting the Agile PLM Datamart Installer on Windows.

Depending on the components you installed, you may need to restart your computer. To complete the installation of the Agile PLM Datamart Database, you must:

- Check the installation log files to make sure the database was created successfully.
- If this is the first time you have created a database on that computer, add and configure an Oracle Listener. See Adding and Configuring the Database Listener (18).

Checking Installation Logs on the Database Server

After you install Agile PLM Datamart components on the database server, go to the <AnalyticsTemp> location to check for installation log files. The following log files appear:

- Service.log – log showing whether the database instance and database password file were created.
- check_connection.log – log showing whether the installer was able to establish a connection to the newly created database instance.
- DBInstall.log – installation log for creation of common tables used by the Agile PLM Datamart.
- PPM.log – Product Portfolio Management Datamart installation log.
- PC.log – Product Collaboration Datamart installation log.
- PQM.log – Product Quality Management Datamart installation log.
- AdvancedPPM.log – PPM Analytics installation log.

Adding and Configuring the Database Listener

The Oracle Listener supports client connections to the database. If this is the first time Oracle has been installed on the current computer, you need to add and configure a new Listener.

If an Oracle database instance was previously installed on the computer before you installed the Agile PLM Datamart database, you can skip adding a new Listener. However, you still need to configure the Listener address for the Agile PLM Datamart, as described below.

To add a new Listener address:

1. If the Agile PLM Datamart is the first database instance created on this computer, the Net Configuration Assistant Welcome screen appears.

   If there is already a Listener, click Finish. Otherwise, continue.
2. Select Listener Configuration. Click Next.
3. Select Add to add a listener to the database. Click Next.
4. Accept the default listener name, LISTENER, in the Listener Name dialog box. Click Next.
5. Accept TCP as the Selected Protocol. Click Next.
6. Accept the standard port of 1521. Click Next.
7. Select No when asked to configure another listener. Click Next.
8. The Listener configuration is complete. Click Next.
9. Click Finish to close the Oracle Net Configuration Assistant window.

To configure a new Listener address for the Agile PLM Datamart:

1. Start the Oracle Net Manager by choosing Start > Programs > Oracle - OraHome92 > Configuration

and Migration Tools > Net Manager.

2. In the Oracle Net Manager window, double-click the Local folder and select the Listeners folder.
3. Click the name of the newly created listener, LISTENER.
4. Select Database Services in the Listening Locations drop-down list.
   a. Click Add Database.
   b. In the dialog box that appears, make the following changes:
      - Global Database Name: aadm
      - Oracle Home Directory: oracle_home
      - SID: aadm

Note	If you used a different global database name during the database installation, change the information as appropriate.

5. Choose File > Save Network Configuration to save your changes.
6. Stop and restart the Oracle Listener service.
   a. Select Start > Settings > Control Panel > Administrative Tools > Services.
   b. In the Services dialog box, locate and select the Oracle Listener.
   c. Right-click and choose Stop.
   d. After the service stops, right-click and select Start.
   e. After it restarts, close all open dialog boxes and windows.

Deleting an Existing Agile PLM Datamart Database Instance

When you purchase the Agile PLM Datamart, you can obtain licenses for any combination of the PPM Datamart, PC Datamart, and PQM Datamart. If you later obtain additional Agile datamart licenses, you can choose whether to install over the existing database instance or to delete the existing database instance and create a new instance.

If you install over an existing Agile PLM Datamart database instance, there will be several errors in the installation logs that say that the database, tablespaces, and database users already exist. You can ignore these errors.

If you've already installed the Agile PLM Datamart and have obtained additional datamart licenses from Agile, you can delete the existing database instance manually by using one of the following approaches. Afterward, you can then install a fresh database instance.

To delete a database instance using Oracle's Database Configuration Assistant:

1. Choose Start > All Programs > oracle_home > Configuration and Migration Tools > Database Configuration Assistant.
2. Click Next.
3. Choose Delete a Database. Click Next.
4. Enter Username and Password
5. Select the SID associated with the Agile PLM Datamart. The default SID is aadm. Enter a database username and password (such as system/manager). Click Finish.

   The Summary dialog box appears.
6. Click OK to continue.

A confirmation dialog box appears.

7. Click Yes to continue.

   After the database is deleted, you are prompted whether to perform another operation.

8. Click No to exit.

Starting the Database Manually

If you restart the database server and notice that the database is idle even though the Oracle Service is running, you can start the database manually using the STARTUP command.

To start the database manually:

1. Open a Command Prompt window.
2. Start SQL*Plus without connecting to the database:

   <prompt> sqlplus /nolog

3. Connect to Oracle as SYSDBA:

   SQL> CONNECT system/<SYSTEM_PASSWORD> as sysdba

4. Start the database:

   SQL> STARTUP

5. Disconnect from Oracle:

   SQL> DISCONNECT

6. Exit from SQL*Plus:

   SQL> EXIT

Installing the Agile Analytics Plugin

This process follows the Choose Component(s) screen.

To install the Agile PLM Analytics Plugin:

1. Select Agile PLM Analytics Plugin. Click Next. The Application Server Type screen appears.
2. Choose either Oracle Application Server or Bea Weblogic Server.
   - If you choose Oracle Application Server, the Oracle Application Server Home screen appears.

     Specify the location of the Oracle Application Sever home (the default is c:\OraHome). Click Next.

     The Chose PLM Version screen appears.

     Select one from the supported PLM versions and click Next.
   - If you choose Bea Weblogic Server, the Weblogic Application Server Home screen appears. Specify the location of the Weblogic Application Sever home. Click Next.

   The Agile PLM Server Home Directory screen appears.
3. Type the directory where Agile PLM is installed. This directory is also referred to as the Agile home. The default Agile home is root:\Agile\Agile21. Click Install.

4. If you chose Oracle Application Server, you may receive messages about stopping Oracle and redeploying Agile. Click Yes or OK to continue.
5. When the progress indicator stops, you will receive a screen indicating that the install is complete. Click Done.

If you need to install the Datamart ETL Tasks, restart the Datamart installer as specified in Starting the Agile PLM Datamart Installer on Windows. Depending on the components you installed, you may need to restart your computer.

Installing the Datamart ETL Tasks

This process follows the Choose Component(s) screen on page 3-4.

To install the Datamart ETL tasks:

1. Select Datamart ETL Tasks. Click Next.

   The Installation Location screen appears.
2. Type the directory where you want to install Agile Analytics components. This directory is also referred to as the Agile Home. Click Next.

   The Agile PLM DT Engine Details screen appears.

   The default administrator username is dtadmin and the default administrator password is dtadmin123.
3. Type the administrator username and password for DT/Engine. Click Next.

   The Agile PLM Database Details screen appears.

   Note The database must be running and you must have a net service configured to connect to it.

   - Agile Database Host Name is the fully qualified domain name of the computer where the Agile PLM database server is installed.
   - Agile Database Port is the database port. For Oracle. The default database port is 1521.
   - Agile Database SID is the Oracle System Identifier that refers to the instance of the Oracle database running on the server. The default SID is agile9.
   - Agile Database User is the database user. The default user is agile.
   - Agile Database User Password is the password for the Agile PLM database user. The default is tartan.

     Note If your Agile PLM database is configured to use different values than the defaults listed above, specify that information instead. If you do not know these values, contact your Agile PLM database server administrator.
4. Type your source Agile PLM database information. Click Next.

   The PLM Datamart Details screen appears.

   Note The database must be running and you must have a net service configured to connect to it.

   - PLM Datamart Database Host Name is the fully qualified domain name of the computer where the Agile PLM Datamart database server is installed.
   - PLM Datamart Database Port is the database port. For Oracle, the default database port is

1521.

- PLM Datamart Database SID is the Oracle System Identifier that refers to the instance of the Oracle database running on the Agile PLM Datamart server. The default SID is aadm.
- PLM Datamart Admin User Password is the Admin schema (AAD) database user password for the Agile PLM Datamart. The default password is aad.
- PLM Datamart Staging Schema Password is the Staging schema (AST) database user password for the Agile PLM Datamart. The default password is ast.
- PLM Datamart Dimensional Schema Password is the Dimensional schema (ADW)database user password for the Agile PLM Datamart. The default password is adw.

Note	If your Agile PLM Datamart database is configured to use different values than the defaults listed, specify that information instead. If you do not know these values, see the database administrator responsible for your Agile PLM Datamart database server.

5. Type your destination Agile PLM Datamart database information. Click Next.

   The Agile Analytics Login URL screen appears.

   This is the same URL that Agile SDK programs use to connect to the Agile PLM server.

   Format: *<protocol>://<fully_qualified_hostname>/<virtualPath>*

   Example: *http://plm.agile.agilesoft.com/Agile*

6. Specify the fully qualified URL to access the Agile PLM server. Click Next.

   The Choose PLM Version screen appears.

   Choose the Agile PLM version you currently have installed.

Note	If you select Agile 9.2.1 PLM, click Next and continue to steps from 6a. If you select either Agile 9.2.1.3 PLM or Agile 9.2.2 PLM or Agile 9.2.2.1 PLM, skip to step 7.

   The Application Server Type screen appears.

   a. Select the application server type on which PLM is running. Click Next.The Start of Fiscal Year screen appears.
   b. Specify the day and month that begins your company's fiscal year. Click Next. The Pre-Installation Summary Window appears.
   c. Review the information. Click Install. The Installation Complete screen appears.
   d. You can chose to restart your computer now or later, but it must be restarted for the changes to take affect. Click Done.

   Continue to the section Checking the Installation Log on the ETL Server.

7. If you select either Agile 9.2.1.3 PLM or Agile 9.2.2 PLM or Agile 9.2.2.1 PLM, click Next.

   The Get User Input screen appears.

   a. Type the PLM user name and password, which was created in PLM for the ETL user. Click Next.

      The Application Server Type screen appears.

   b. Select the application server type on which PLM is running. Click Next.

      The Start of Fiscal Year screen appears.

   c. Specify the day and month that begins your company's fiscal year. Click Next.

The Pre-Installation Summary Window appears.

d. Review the information. Click Install.

The Installation Complete screen appears.

e. You can chose to restart your computer now or later, but it must be restarted for the changes to take affect. Click Done.

Checking the Installation Log on the ETL Server

After you install Agile PLM Datamart ETL tasks on the ETL computer, check the following file for any errors:

agile_home\Install\logs\Agile_PLM_Datamart_InstallLog.log

It lists all the ETL tasks that are installed. If you encountered any errors, you may need to re-install. If you are unable to resolve a problem by r-einstalling, contact Agile Support.

Agile PLM Datamart ETL Folders

After Agile PLM Datamart ETL components are installed, the <AgileAnalyticsHome> folder has the following subfolders:

Folder	Contains
bin	Extract, Transform, and Load (ETL) scripts used to extract and load Agile PLM data.
classes	Java classes used to do the extraction and loading of data.
config	Configuration files.
ETL	Extraction, transformation, and load scripts.
lib	Java libraries used by the ETL scripts.
logs	Log files generated by the Agile PLM Datamart ETL scripts.
schema	Contains the schema documentation for the Agile PLM Datamart.

Uninstalling Agile PLM Datamart ETL Tasks

If you want to undeploy Agile PLM Datamart ETL tasks from the DT/Engine repository, you can uninstall them using Agile's uninstall program. To remove DT/Studio components, use uninstall programs provided with DT/Console and DT/Engine.

To remove Agile PLM Datamart ETL tasks:

1. On the ETL computer, make sure the DTEngineManagerService is started.
2. Choose Start > Programs > Agile > Agile PLM Datamart > Uninstall Agile PLM Datamart.

   The uninstaller program starts.
3. Click Uninstall.
4. Click Done when finished.

Agile PLM Datamart Installation using Ant DB Scripts on Solaris

Before executing Agile Datamart Installer on Solaris, please ensure that the following are installed

- Apache-ANT
- JDK
- Oracle

Installing Apache-ANT

1. Download ant 1.7.0 zip from the location http://ant.apache.org/bindownload.cgi (http://ant.apache.org/bindownload.cgi)
2. Unzip the files in a folder, say apache_ant
3. Download ant-contrib.jar from http://svn.middleware.georgetown.edu/view/branches/Rel_1_3/lib/ant-contrib.jar?view=log&root=java-idp&pathrev=2104 (http://svn.middleware.georgetown.edu/view/branches/rel_1_3/lib/ant-contrib.jar?view=log&root=java-idp&pathrev=2104)

   Alternately, you can download ant-contrib-1.0b2-bin.zip from http://prdownloads.sourceforge.net/ant-contrib/ant-contrib-1.0b2-bin.zip?download (http://prdownloads.sourceforge.net/ant-contrib/ant-contrib-1.0b2-bin.zip?download) and extract ant-contrib.jar from it.
4. Move ant-contrib.jar to lib in apache_ant directory.
5. Set the ANT_HOME environment variable in .profile file (specify the path up to the parent folder of bin)

   ANT_HOME=/u01/oracle/apache_ant/apache-ant-1.7.0; export ANT_HOME
6. Add an entry for ANT, in the PATH environment variable also, up to the bin folder.

   For example: PATH=$PATH:$ANT_HOME/bin; export PATH
7. Re-login or execute ./.profile to bring the changes to effect.

Installing JDK

1. Download the OS specific JDK version from http://java.sun.com/javase/downloads/index.jsp (http://java.sun.com/javase/downloads/index.jsp)
2. Unzip the files to a folder, say j2sdk
3. Enable install permissions - chmod +x jdk-1_5_0<update>-solaris-sparcv9.sh

   If you have downloaded j2sdk-1_4_2_12-solaris-sparcv9.sh then execute chmod +x jdk-1_4_2_12-solaris-sparcv9.sh
4. Run the self-extracting binary by executing the command ./jdk-1_5_0<update>-solaris-sparcv9.sh or ./jdk-1_4_2_12-solaris-sparcv9.sh, as applicable.

5. Add an entry for jdk in the PATH environment variable
6. Point upto the parent directory structure where java.exe exists

   PATH=$PATH:/u01/oracle/j2sdk1.4.2_12/bin/sparcv9;export PATH

Creating the Agile PLM Datamart Database on Solaris

To create the Agile Datamart database on Solaris:

1. Login as oracle user.
2. FTP AntDBScripts.zip to DBFILES_ORIG_LOCATION/AntDBScripts folder in Binary format.
3. Unzip AntDBScripts.zip.
4. Change mode of Solaris AntDBScripts folder: chmod -R 777 ./AntDBScripts
5. Set the environment variables, ORACLE_HOME, ORACLE_SID, PATH

   export ORACLE_HOME =/u01/app/oracle/product/10.2.0/db_1
   export ORACLE_SID=AADM
   export PATH=$PATH:$ORACLE_HOME/bin

   You can also modify the .profile file of oracle user

   ORACLE_SID=AADM; export ORACLE_SID
6. Re-login or execute ./.profile to bring these changes into effect
7. Go to InstallerScripts folder under AntDBScripts and configure SolarisDBInstaller.properties - /AntDBScripts/InstallerScripts/SolarisDBInstaller.properties according to the OPTION, viz., 1, 2, 3, 4 you select.

Options

Specify the option for the following

1. Creates new instance, new tablespaces

2. Use existing instance, creates new tablespaces

3. Use existing instance, existing tablespaces

4. Replaces tokens in all SQL files

OPTION = 1

Specify DB Type if you choose OPTION=1 and OPTION =2, Otherwise no need. Options are Small, Medium, Large

```
DB_TYPE = Large
```

Specify Oracle version [10g/9i] if you choose OPTION=1 and OPTION=2 and OPTION=3, Otherwise no need.

```
ORACLE_VERSION = 9i
```

This is the folder where the source code is unzipped

```
DBFILES_ORIG_LOCATION = /u01/oracle
```

Specify Character Set if you choose OPTION=1.Otherwise no need.

```
CharecterSet = UTF8
```

Database Instance Name if you choose OPTION=1.Otherwise no need.

```
DB_SID = AADM
```

Password for User AAD (Administration Schema) which gets created during installation. Specify this for all options.

```
AAD_PASSWORD = aad
```

Password for User AST (Staging Schema) which gets created during installation. Specify this for all options.

```
AST_PASSWORD = ast
```

Password for User ADW (Datamart Schema) which gets created during installation. Specify this for all options.

```
ADW_PASSWORD = adw
```

Specify ORACLE_HOME directory if you choose OPTION=1. Otherwise no need.

```
ORACLE_HOME = /u01/app/oracle/product/10.2.0/Db_1
```

sys user password if you choose OPTION=1. Otherwise no need.

```
ORACLE_INTERNAL_USER_PASSWORD = oracle
```

system user password. Specify this for all options.

```
ORACLE_SYSTEM_USER_PASSWORD = manager
```

These are the file folder paths where respective table space data files have to be created

Make sure that you create a folder with Database instance name (ex: AADM) in the respective folders

include forward slash "/" at the end of folder path

This is for System Table space and SYSAUX Table space files if you choose OPTION=1. Otherwise no need.

```
SYSTEM_FILE_LOCATION = /u01/oracle/oradata/
```

This is for Redo Log files if you choose OPTION=1.Otherwise no need.

```
LOGFILE_LOCATION = /u01/oracle/oradata/
```

This is for Temporary Table space files if you choose OPTION=1. Otherwise no need.

```
TEMPFILE_LOCATION = /u01/oracle/oradata/
```

This is for Control files if you choose OPTION=1. Otherwise no need.

```
CONTROLFILE_LOCATION =  /u01/oracle/oradata/
```

This is for Undo Table space files if you choose OPTION=1. Otherwise no need.

```
UNDOFILELOCATION = /u01/oracle/oradata/
```

This is for Datamart Table space files if you choose OPTION=1 or OPTION=2. Otherwise no need.

```
DATAFILE_LOCATION = /u01/oracle/oradata/
```

Specify no. of tablespaces (Both data and index) if you choose OPTION=1 and OPTION=2, Otherwise no need.

```
NO_OF_TABLESPACES = 15
```

specify the new TS names to be created if you choose OPTION=1 and OPTION=2. Otherwise no need.

```
TS1 = AGILE_DATA1
TS2 = AGILE_DATA2
TS3 = AGILE_DATA3
TS4 = AGILE_INDX1
TS5 = AGILE_AAD_DATA1
TS6 = AGILE_ADW_DATA1
TS7 = AGILE_ADW_DATA2
TS8 = AGILE_ADW_DATA3
TS9 = AGILE_ADW_DATA4
TS10 = AGILE_ADW_DATA5
TS11 = AGILE_ADW_DATA6
TS12 = AGILE_ADW_INDX1
TS13 = AGILE_STG_DATA1
TS14 = AGILE_STG_DATA2
TS15 = AGILE_STG_DATA3
```

Update table space size in Small/Medium/Large.properties file for corresponding DB_TYPE if you choose OPTION=1 and OPTION=2. Otherwise no need.

Specify the Datafile name for new TableSpace if you choose OPTION=1 and OPTION=2. Otherwise no need.

```
TS1_DATAFILENAME = AGILE_DATA1
TS2_DATAFILENAME = AGILE_DATA2
TS3_DATAFILENAME = AGILE_DATA3
TS4_DATAFILENAME = AGILE_INDX1
TS5_DATAFILENAME = AGILE_AAD_DATA1
TS6_DATAFILENAME = AGILE_ADW_DATA1
TS7_DATAFILENAME = AGILE_ADW_DATA2
TS8_DATAFILENAME = AGILE_ADW_DATA3
TS9_DATAFILENAME = AGILE_ADW_DATA4
TS10_DATAFILENAME = AGILE_ADW_DATA5
TS11_DATAFILENAME = AGILE_ADW_DATA6
TS12_DATAFILENAME = AGILE_ADW_INDX1
TS13_DATAFILENAME = AGILE_STG_DATA1
TS14_DATAFILENAME = AGILE_STG_DATA2
```

```
TS15_DATAFILENAME = AGILE_STG_DATA3
```

Mapping of Table spaces to DM Tablespaces Specify this for all options.

```
AGILE_DATA1 = AGILE_DATA1
AGILE_DATA2 = AGILE_DATA2
AGILE_DATA3 = AGILE_DATA3
AGILE_INDX1 = AGILE_INDX1
AGILE_AAD_DATA1 = AGILE_AAD_DATA1
AGILE_ADW_DATA1 = AGILE_ADW_DATA1
AGILE_ADW_DATA2 = AGILE_ADW_DATA2
AGILE_ADW_DATA3 = AGILE_ADW_DATA3
AGILE_ADW_DATA4 = AGILE_ADW_DATA4
AGILE_ADW_DATA5 = AGILE_ADW_DATA5
AGILE_ADW_DATA6 = AGILE_ADW_DATA6
AGILE_ADW_INDX1 = AGILE_ADW_INDX1
AGILE_STG_DATA1 = AGILE_STG_DATA1
AGILE_STG_DATA2 = AGILE_STG_DATA2
AGILE_STG_DATA3 = AGILE_STG_DATA3
```

Steps to run Database creation file

1. Go to <DBFILES_COPY_LOCATION>/AntDBScripts/InstallerScripts directory.
2. Enter the command ./SolarisAnt_Installer.sh
3. Log files are created in the following location

   <DBFILES_COPY_LOCATION>/Solaris/Logs

Agile PLM Datamart Installation using Ant DB Scripts on Windows

Before executing Agile Datamart Installer in Windows, please ensure that the following are installed

- Apache-ANT
- JDK
- Oracle

Installing Apache-ANT

1. Download ant 1.7.0 zip from the location http://ant.apache.org/bindownload.cgi (http://ant.apache.org/bindownload.cgi)
2. Unzip the files in a folder, say apache_ant

3. Set the ANT_HOME as Windows environment variable.

   For example: ANT_HOME=D:\apache_ant\apache-ant-1.7.0

4. Download ant-contrib.jar from http://svn.middleware.georgetown.edu/view/branches/Rel_1_3/lib/ant-contrib.jar?view=log&root=java-idp&pathrev=2104 (http://svn.middleware.georgetown.edu/view/branches/rel_1_3/lib/ant-contrib.jar?view=log&root=java-idp&pathrev=2104)

   Alternately, you can download ant-contrib-1.0b2-bin.zip from http://prdownloads.sourceforge.net/ant-contrib/ant-contrib-1.0b2-bin.zip?download (http://prdownloads.sourceforge.net/ant-contrib/ant-contrib-1.0b2-bin.zip?download) and extract ant-contrib.jar from it.

5. Move ant-contrib.jar to ANT_HOME\lib directory.

6. Add an entry for ANT, in the PATH environment variable also.

   For example: PATH=%PATH%;D:\apache_ant\apache-ant-1.7.0\bin

Installing JDK

1. Download Widows JDK version from http://java.sun.com/j2se/1.4.2/download.html (http://java.sun.com/javase/downloads/index.jsp)
2. Run the downloaded executable file j2sdk-1.4.2_14.windows-i586-p.exe, say j2sdk1.4.2_14
3. Set the JAVA_HOME as Windows environment variable

   For example: JAVA_HOME=C:\j2sdk1.4.2_14

4. Add an entry for JDK path in the PATH environment variable

   For example: PATH = %PATH%;C:\j2sdk1.4.2_14\bin

Creating the Agile PLM Datamart Database on Windows

To create the Agile Datamart database on Windows:

1. Unzip AntDBScripts.zip.
2. Go to InstallerScripts folder under AntDBScripts folder and configure WinDBInstaller.properties at /AntDBScripts/InstallerScripts/WinDBInstaller.properties according to the OPTION you select, viz., 1, 2, 3, 4. See below.

Options

Specify the option for the following

1. Creates new instance, new tablespaces

2. Use existing instance, creates new tablespaces

3. Use existing instance, existing tablespaces

4. Replaces tokens in all SQL files

OPTION = 1

Specify DB Type if you choose OPTION=1 and OPTION =2, Otherwise no need. Options are

[Small/Medium/Large]

```
DB_TYPE = Large
```

Specify Oracle version [10g/9i] if you choose OPTION=1 and OPTION=2 and OPTION=3, Otherwise no need.

```
ORACLE_VERSION = 10g
```

This is the folder where the source code is unzipped [Specify this for all options]

```
DBFILES_ORIG_LOCATION = D:/Database
```

This is Insatll directory where The original source files get copied to. [Specify this for all options]

```
DBFILES_COPY_LOCATION = D:/Database/Analyticstmp
```

Specify Character Set if you choose OPTION=1.Otherwise no need.

```
CharecterSet = UTF8
```

Database Instance Name. Otherwise no need.

```
DB_SID = AADM
```

Password for User AAD (Administration Schema) which gets created during installation. Specify this for all options.

```
AAD_PASSWORD = aad
```

Password for User AST (Staging Schema) which gets created during installation. Specify this for all options.

```
AST_PASSWORD = ast
```

Password for User ADW (Datamart Schema) which gets created during installation. Specify this for all options.

```
ADW_PASSWORD = adw
```

Specify ORACLE_HOME directory [Specify this for all options]

```
ORACLE_HOME = D:/oracle/product/10.1.0/Db_1
```

sys user password [Specify this for all options]

```
ORACLE_INTERNAL_USER_PASSWORD = oracle
```

system user password. [Specify this for all options]

```
ORACLE_SYSTEM_USER_PASSWORD = manager
```

These are the file folder paths where respective table space data files have to be created

Make sure that you create a folder with Database instance name (ex: AADM) in the respective folders

include forward slash "/" at the end of folder path

This is for System Table space and SYSAUX Table space files if you choose OPTION=1. Otherwise no need.

```
SYSTEM_FILE_LOCATION = D:/oracle/product/10.1.0/oradata/
```

This is for Redo Log files if you choose OPTION=1.Otherwise no need.

```
LOGFILE_LOCATION = D:/oracle/product/10.1.0/oradata/
```

This is for Temporary Table space files if you choose OPTION=1. Otherwise no need.

```
TEMPFILE_LOCATION = D:/oracle/product/10.1.0/oradata/
```

This is for Control files if you choose OPTION=1. Otherwise no need.

```
CONTROLFILE_LOCATION =  D:/oracle/product/10.1.0/oradata/
```

This is for Undo Table space files if you choose OPTION=1. Otherwise no need.

```
UNDOFILELOCATION = D:/oracle/product/10.1.0/oradata/
```

This is for Datamart Table space files if you choose OPTION=1. Otherwise no need.

```
DATAFILE_LOCATION = D:/oracle/product/10.1.0/oradata/
```

Specify no. of tablespaces (Both data and index) if you choose OPTION=1 and OPTION=2, Otherwise no need.

```
NO_OF_TABLESPACES = 15
```

Specify the new TS names to be created if you choose OPTION=1 and OPTION=2. Otherwise no need.

```
TS1 = AGILE_DATA1
TS2 = AGILE_DATA2
TS3 = AGILE_DATA3
TS4 = AGILE_INDX1
TS5 = AGILE_AAD_DATA1
TS6 = AGILE_ADW_DATA1
TS7 = AGILE_ADW_DATA2
TS8 = AGILE_ADW_DATA3
TS9 = AGILE_ADW_DATA4
TS10 = AGILE_ADW_DATA5
TS11 = AGILE_ADW_DATA6
TS12 = AGILE_ADW_INDX1
TS13 = AGILE_STG_DATA1
TS14 = AGILE_STG_DATA2
TS15 = AGILE_STG_DATA3
```

Update table space size in Small/Medium/Large.properties file for corresponding DB_TYPE if you choose OPTION=1 and OPTION=2. Otherwise no need.

Specify the Datafile name for new TableSpace if you choose OPTION=1 and OPTION=2. Otherwise no need.

```
TS1_DATAFILENAME = AGILE_DATA1
TS2_DATAFILENAME = AGILE_DATA2
TS3_DATAFILENAME = AGILE_DATA3
TS4_DATAFILENAME = AGILE_INDX1
```

```
TS5_DATAFILENAME = AGILE_AAD_DATA1
TS6_DATAFILENAME = AGILE_ADW_DATA1
TS7_DATAFILENAME = AGILE_ADW_DATA2
TS8_DATAFILENAME = AGILE_ADW_DATA3
TS9_DATAFILENAME = AGILE_ADW_DATA4
TS10_DATAFILENAME = AGILE_ADW_DATA5
TS11_DATAFILENAME = AGILE_ADW_DATA6
TS12_DATAFILENAME = AGILE_ADW_INDX1
TS13_DATAFILENAME = AGILE_STG_DATA1
TS14_DATAFILENAME = AGILE_STG_DATA2
TS15_DATAFILENAME = AGILE_STG_DATA3
```

Mapping of Table spaces to DM Tablespaces [Specify this for all options]

```
AGILE_DATA1 = AGILE_DATA1
AGILE_DATA2 = AGILE_DATA2
AGILE_DATA3 = AGILE_DATA3
AGILE_INDX1 = AGILE_INDX1
AGILE_AAD_DATA1 = AGILE_AAD_DATA1
AGILE_ADW_DATA1 = AGILE_ADW_DATA1
AGILE_ADW_DATA2 = AGILE_ADW_DATA2
AGILE_ADW_DATA3 = AGILE_ADW_DATA3
AGILE_ADW_DATA4 = AGILE_ADW_DATA4
AGILE_ADW_DATA5 = AGILE_ADW_DATA5
AGILE_ADW_DATA6 = AGILE_ADW_DATA6
AGILE_ADW_INDX1 = AGILE_ADW_INDX1
AGILE_STG_DATA1 = AGILE_STG_DATA1
AGILE_STG_DATA2 = AGILE_STG_DATA2
AGILE_STG_DATA3 = AGILE_STG_DATA3
```

Steps to run database creation file

1. Go to <DBFILES_ORIG_LOCATION>/AntDBScripts/InstallerScripts
2. Run WinAnt_Installer.bat
3. Log files are created in the following location

   <DBFILES_COPY_LOCATION>/Windows/Logs

Chapter 4

PLM Data Coverage

This chapter includes the following:

Overview

Agile PLM Analytics Datamart is a modular product that can be configured to Load Data from PC, PQM and PPM modules by enabling corresponding Licenses. The following tables give you the extent of Data coverage configured in the current release of Agile PLM Datamart.

Class Attributes - Summary

Module	Base Class	Class
Common	Change	Change Orders
		Change Requests
		Deviations
		Manufacturer Orders
		Site Change Orders
		Stop Ships
	Customers	Customer
	File folders	File folders
	Items	Documents
		Parts
	Suppliers	Suppliers
	User Groups	User Groups
	Users	users
PC	Manufacturer Parts	Manufacturer Parts
	Manufacturers	Manufacturers
	Sites	Sites
PQM	PSR	Non-conformance Reports
		Problem Reports
	QCR	Audits
		Corrective & Preventive Actions
PPM	Programs	Activities
		Gates
	Discussions	Discussions

Class Attributes - Common

Base Class	Class	Tab	Attributes	Datamart
Changes	Change Orders	Title Block	Cover page attributes	Yes
	Change Requests	Page Two	P2 & Infinite flex	Yes
	Deviations	Page Three	P3 & Infinite flex	Yes
	Manufacturer Orders	Affected Item	Standard attributes	Yes
	Site Change Orders	Affected Item	P2 attributes on Affected Item tab	No

Base Class	Class	Tab	Attributes	Datamart
Suppliers	Supplier	Title Block	Cover page attributes	Yes
		Page Two	P2 & Infinite flex	Yes
		Page Three	P3 & Infinite flex	Yes
		Contact Users	Standard attributes	No
		RFx Routing	Standard attributes	No

Class Attributes - PC

Base Class	Class	Tab	Attributes	Datamart
Manufacturer Parts	Manufacturer Parts	Title Block	Cover page attributes	Yes
	Manufacturers	Page Two	P2 & Infinite flex	Yes
		Page Three	P3 & Infinite flex	Yes
		Suppliers	Standard attributes	No
		Suppliers	P2 attributes	No
		Where Used	Standard attributes	No
		Attachments	Standard attributes	No
		History	Standard attributes	No
Sites	Sites	Title Block	Cover page attributes	Yes
		Page Two	P2 & Infinite flex	Yes
		Page Three	P3 & Infinite flex	Yes
		Attachments	Standard attributes	No
		History	Standard attributes	No

Class Attributes - PPM

Base Class	Class	Tab	Attributes	Datamart
Programs	Activities	Title Block	Cover page attributes	Yes
		Page Two	P2 & Infinite flex	Yes
		Page Three	P3 & Infinite flex	Yes
		Schedule	Standard attributes	No
		Dependencies	Standard attributes	No
		Team	Standard attributes	Yes
		Team	P2 attributes	No
		Deliverables	Standard attributes	Yes
		Deliverables	P2 attributes on Affected by table	No
		Deliverables	P2 attributes on Affects table	No
		Relationships	Relationships	No
		Links	P2 attributes	No
		Workflow	Standard attributes	Yes
		Workflow	P2 attributes	No
		Discussion	Discussion	Yes
		Discussion	Action Item standard attributes	Yes
		Discussion	Action Item P2 attributes	No
		Attachments	Standard attributes	Yes
		Attachments	P2 attributes	No
		History	Standard attributes	No
Programs	Gates	Title Block	Cover page attributes	Yes
		Page Two	P2 & Infinite flex	Yes
		Page Three	P3 & Infinite flex	Yes
		Dependencies	Standard attributes	No
		Approval Items	Standard attributes	Yes
		Approval Items	P2 attributes	Yes
		Team	Standard attributes	Yes
		Team	P2 attributes	No
		Deliverables	Standard attributes	Yes
		Deliverables	P2 attributes on Affected by table	No
		Deliverables	P2 attributes on Affects table	No
		Relationships	Relationships	No
		Links	Standard attributes	Yes
		Links	P2 attributes	No
		Workflow	Standard attributes	Yes

Class Attributes - PQM

Base Class	Class	Tab	Attributes	Datamart
Problem Service Requests	Problem Reports	Title Block	Cover page attributes	Yes
	Non conformance reports	Page Two	P2 & Infinite flex	Yes
		Page Three	P3 & Infinite flex	Yes
		Affected Item	Standard attributes	Yes
		Affected Item	P2 attributes on Affected Item tab	Yes
		Affected Item	Read through attributes on Affected Item tab	Yes
		Workflow	Standard attributes	Yes
		Relationships	Standard attributes	Yes
		Relationships	P2 attributes on Affected by table	No
		Relationships	P2 attributes on Affects table	No
		References	Standard attributes	No
		References	P2 attributes on References tab	No
		Attachments	Standard attributes	No
		Attachments	P2 attributes	No
		History	Standard attributes	No
Quality Change requests	Corrective & Preventive action	Title Block	Cover page attributes	Yes
	Audits	Page Two	P2 & Infinite flex	Yes
		Page Three	P3 & Infinite flex	Yes
		Affected Item	Standard attributes	Yes
		Affected Item	P2 attributes on Affected Item tab	Yes
		Affected Item	Read through attributes on Affected Item tab	Yes
		Workflow	Standard attributes	Yes
		Relationships	Standard attributes	Yes
		Relationships	P2 attributes on Affected by table	No

Chapter 5

List Attributes Configuration

This chapter includes the following:

Scope

Whenever Agile PLM is customized for List Attributes, the ListAttributes.xml (found at <AA_HOME>\Analytics\config\Common) will need to be reconfigured. Follow the rules given below to configure this file.

Business rules for configuring the XML

1. Multiple Dimension Tables can be created for the same List

   Irrespective of the class and Attribute_Id, when the List_Id is same, you can map a List Attribute to different Table_Name.

   Example

   ```
   <List_Table Attrib_Name="Workflow" Attribute_Id="3742" List_Id="3641"
   Table_Name="WORKFLOW_ADW_PC_DIM" />

   <List_Table Attrib_Name="Workflow" Attribute_Id="4868" List_Id="3641"
   Table_Name="WORKFLOW_ADW_PQM_DIM" />
   ```

   Here, List_Id "3641" is mapped to two different tables - WORKFLOW_ADW_PC_DIM and WORKFLOW_ADW_PQM_DIM.

2. Multiple Lists cannot be mapped to the same Dimension Table

   Mapping multiple Lists to same Dimension Table leads to XML Configuration Error as different List_Id cannot point to the same Table_Name. This is because every list dimension table contains single list value.

   The following, for example, is incorrect -

   ```
   <List_Table Attrib_Name="Workflow" Attribute_Id="3742" List_Id="3641"
   Table_Name="WORKFLOW_ADW_PC_DIM" />

   <List_Table Attrib_Name="Workflow" Attribute_Id="4868" List_Id="5482"
   Table_Name="WORKFLOW_ADW_PC_DIM" />
   ```

   Incorrect configuration will lead to abortion of the task and the following error message -

   common.P1ListAttibuteXMLValidator:validate [ERROR] Configuration Error: Cannot re-

Map ListID: 5482 to TableName: WORKFLOW_ADW_PC_DIM. This table already mapped with listID :3641

Logfile name - CoverPageListDimensionCreator.log

3. Table_Name should NOT be the any of the following, as these are OOTB (Out-of-the-box) Dimension Tables

```
COMDTY_ADW_COM_DIM
CTGRY_ADW_COM_DIM
CUST_ADW_COM_DIM
DISP_ADW_PQM_DIM
FMODE_ADW_PQM_DIM
LFCYL_ADW_COM_DIM
ORIGTR_ADW_PQM_DIM
PRDLINE_ADW_COM_DIM
QANLYST_ADW_PQM_DIM
SEV_ADW_PQM_DIM
SUPP_ADW_COM_DIM
WKFLW_ADW_COM_DIM
```

If any of these tables are configured in ListAttributes.xml file, the task will abort, displaying the following error message -

common.P1ListAttibuteXMLValidator: validate [ERROR] Configuration Error: COMDTY_ADW_COM_DIM : is OOTB Dimension table. Use different table name in the XML

Logfile name - CoverPageListDimensionCreator.log

Changing default List_Id to a new List_Id

Changing default List_Id to a new List_Id

1. Whenever you change the List value of an Attribute in Agile PLM, you are required to reconfigure the ListAttributes.xml file.

   If the List of an Attribute has been changed to point to another List, you will need to enter the List_Id of new List, manually.

   Example

   Original Configuration

```
<List_Table
      Attrib_Name="Workflow"
      Attribute_Id="3742"
      List_Id="3641"
      Table_Name="WORKFLOW_ADW_PC_DIM" />
```

   Configuration changes required

```
<List_Table
      Attrib_Name="Workflow"
      Attribute_Id="3742"
      List_Id="84256"
      Table_Name="WORKFLOW_ADW_PC_DIM" />
```

In PLM, the workflow attribute points to the list attribute 3641 by default. If attribute is reconfigured with list id 84256 then this change should be made in XML also (manually). If you don't do so, the following error message will be displayed in the log

common.P1ListAttibuteXMLValidator:validate [ERROR] Please Check ListAttributes.xml: In PLM the Class: Activities, Attibute id: 3742 is assigned with the List Id: 84256.

Logfile name - CoverPageListDimensionCreator.log

The table WORKFLOW_ADW_PC_DIM will be created with default value. In this case task will not abort.

2. Before changing the XML you need to focus on the following
   - The Class that needs to be changed
   - The Attribute whose List_Id will be changed

   Consider the table name if it is assigned with the previous List_Id (3641) in some other attribute in the XML then we should use the new table name

   Example

   Before change

   Attribute_Id: 3742 List_Id: 3641 WORKFLOW_ADW_PC_DIM

   Attribute_Id: 7458 List_Id: 3641 WORKFLOW_ADW_PC_DIM

   After change the List_Id for Attribute_Id 3742

   Wrong configuration

   Attribute_Id: 3742 List_Id: 84256 WORKFLOW_ADW_PC_DIM

   Attribute_Id: 7458 List_Id: 3641 WORKFLOW_ADW_PC_DIM

   Now new list id 84256 mapped with WORKFLOW_ADW_PC_DIM and list id 3641 also mapped with WORKFLOW_ADW_PC_DIM. This will lead the configuration error. In this situation we should provide the different table name for the newly assign list id;

   Correct configuration

   Attribute_Id: 3742 List_Id: 84256 WORKFLOW_1_ADW_PC_DIM

   AttributeID: 7458 List_Id: 3641 WORKFLOW_ADW_PC_DIM

   Make sure that WORKFLOW1_ADW_PC_DIM table name not mapped with some other list id.

Disabling the Dimension Table from being created

1. If you disable an attribute in PLM, then the corresponding attribute tag needs to be commented out in the

XML

Example

If you disable the attribute Workflow in Class_Name "Manufacturer Orders" then comment the corresponding tag in XML as following

```
<Class Class_Name="Manufacturer Orders" Class_Id="1450">
<List_Table
      Attrib_Name="Product Line(s)"
      Attribute_Id="1003"
      List_Id="291"
      Table_Name="PRDLINE_ADW_PC_DIM" />
<List_Table
      Attrib_Name="Change Type"
      Attribute_Id="1069"
      List_Id="1450"
      Table_Name="CHANGE_TYPE_ADW_PC_DIM" />
<List_Table
      Attrib_Name="Originator"
      Attribute_Id="1050"
      List_Id="361"
      Table_Name="ORIGINATOR_ADW_PC_DIM" />


<! -- <List_Table Attrib_Name="Workflow" Attribute_Id="3742"
List_Id="3641" Table_Name="WORKFLOW_ADW_PC_DIM" /> --- >
<List_Table
      Attrib_Name="Component Engineer"
      Attribute_Id="1480"
      List_Id="750"
      Table_Name="COMP_ENGINEERS_ADW_PC_DIM" />
<List_Table
      Attrib_Name="Status"
      Attribute_Id="1030"
      List_Id="733"
      Table_Name="STATUS_ADW_PC_DIM" />
<List_Table
      Attrib_Name="Change Category"
      Attribute_Id="1060"
      List_Id="411"
      Table_Name="CTGRY_ADW_PC_DIM" />
```

```
    <List_Table
         Attrib_Name="Reason Code"
         Attribute_Id="1049"
         List_Id="351"
         Table_Name="REASONCODE_ADW_PC_DIM" />
  </Class>
```

If this configuration is not incorporated in XML, the following error message will be displayed in the log

common.P1ListAttibuteXMLValidator:validate [ERROR] Please Check ListAttributes.xml: In PLM the Class: Manufacturing Order, Attribute Id: 3742 is disabled, Please reconfigure ListAttributes.xml

Logfile name - CoverPageListDimensionCreator.log

The WORKFLOW_ADW_PC_DIM table will be created with default value. Task will not abort.

Chapter 6

Datamart Administration

This chapter includes the following:

Overview of Agile PLM Datamart Administration

Agile PLM Datamart administration is fairly straightforward, mainly because the Agile PLM Datamart database is a separate database that must be maintained and administered separately from the Agile PLM server. For effective use of Agile PLM Datamart, data must be extracted from the Agile PLM server, transformed, and loaded to the Agile PLM Datamart database on a regular basis. The Agile PLM Datamart includes DT/Studio, an ETL engine from Embarcadero Technologies, to manage the ETL process.

Configuring Custom Agile PLM Fields

Users with Administrator privileges can configure custom fields on Page Two and Page Three for any Agile PLM subclass. Data for enabled Cover Page, Page Two, and Page Three attributes is loaded into flattened summary tables in the Agile PLM Datamart. These summary tables use the naming convention XXX_XXX_CDW_SUM.

A separate summary table is created for each subclass. If you subsequently enable or disable attributes on the Cover Page, Page Two, or Page Three, when you run the ETL tasks again they automatically create a new summary table to reflect your changes.

Summary Tables

When you run the Agile Analytics task chain in DT/Console, it runs an ETL task called COM_CREATE_ADW_COM_SUM that retrieves metadata from the Agile PLM server and creates a configuration file called Configuration.xml in the root:\..\config\Common folder. After that, the ETL task then uses information from the Configuration.xml file to execute DDL SQL commands that create the summary tables on the Datamart.

Since a separate summary table is created for each subclass, there is a performance hit for each subclass of data that must be loaded into the Datamart. It is advisable to disable data extraction on subclasses that you do not want loaded into the Datamart by modifying the Configuration.xml file. Similarly, the attributes that are not required for data extraction can also be disabled.

If you modify the Configuration.xml file, you will need to exclude the ETL task COM_CREATE_ADW_COM_SUM from the task chain. Otherwise, the COM_CREATE_ADW_COM_SUM task will generate a new Configuration.xml file, overwriting the one you modified.

Turning ON the Summary Table Creation

To turn ON the Summary table creation for a fresh ETL installation:

1. Ensure that Agile PLM Datamart tasks are installed.
2. Stop the DT/Engine service.
3. Modify the adw_com_datasource.properties file and adw_com_taskchain.list files (the default path is <AA_Home>\ETL\Common\) by adding the following tasks to the end of the task chain:

   ,COM_CREATE_ADW_COM_SUM,COM_LOAD_ADW_COM_SUM
4. Restart the DT/Engine service.
5. Start the Agile Analytics task chain through DT/Console.

To turn ON the Summary table creation after at least one ETL run:

1. Ensure that Agile PLM Datamart tasks are installed.
2. Stop the DT/Engine service.
3. Add the following tasks to the task chain:

   COM_CREATE_ADW_COM_SUM

   COM_LOAD_ADW_COM_SUM
4. Modify the adw_com_datasource.properties file and adw_com_taskchain.list files (the default path is <AA_Home>\ETL\Common\) by adding the following tasks to the end of the task chain:

   ,COM_CREATE_ADW_COM_SUM,COM_LOAD_ADW_COM_SUM
5. Copy the COM_CREATE_ADW_SUM.xml and COM_LOAD_ADW_COM_SUM.xml files from the <AA_Home>\ETL\Common|templatexmls folder into the <DT_Home>\storage folder.
6. Restart the DT/Engine service.
7. Run the following tasks from DT/Console in the specified order:
   - COM_PRE_TASK
   - COM_CREATE_ADW_COM_SUM
   - COM_LOAD_ADW_COM_SUM

Turning OFF the Summary Table Creation

To turn OFF the Summary table creation:

1. Ensure that Agile PLM Datamart tasks are installed.
2. Stop the DT/Engine service.
3. Modify the adw_com_datasource.properties file and adw_com_taskchain.list files (the default path is <AA_Home>\ETL\Common\) by removing the following tasks from the task chain:

   ,COM_CREATE_ADW_COM_SUM,COM_LOAD_ADW_COM_SUM
4. Restart the DT/Engine service.
5. Log in to DT/Console and delete COM_CREATE_ADW_COM_SUM and COM_LOAD_ADW_COM_SUM from the tasks.
6. Start the Agile Analytics task chain through DT/Console.

Turning ON the ADVPA Tasks

Note Before you begin, please ensure that the DT/Engine is running.

1. Go to the folder <AA_HOME>\ETL\
2. Run UnInstallAgileTasks.bat to un-install all the Tasks & Task Chains
3. Open InstallAgileTasks.py in a word editor
   a. Delete the entry - PA_PCA_PQA_PAEXT_TaskChain.xml
   b. Add a new entry - PAEXT_PA_RPM_PCA_PQA_TaskChain.xml
4. Copy the following files to <DT_HOME>\Storage\

File Location	File Name
<AA_HOME>\ ETL\Staging\Common\templatexmls	PLM_AST_COM_ALL.xml
<AA_HOME>\ ETL\Staging\PA\templatexmls	PLM_AST_PA_ALL.xml
<AA_HOME>\ ETL\Staging\PCA\templatexmls	PLM_AST_PCA_ALL.xml
<AA_HOME>\ ETL\Staging\PQA\templatexmls	PLM_AST_PQA_ALL.xml
<AA_HOME>\ ETL\PA\templatexmls	PLM_ADW_PA_ALL.xml
<AA_HOME>\ ETL\PCA\templatexmls	PLM_ADW_PCA_ALL.xml
<AA_HOME>\ ETL\PQA\templatexmls	PLM_ADW_PQA_ALL.xml
<AA_HOME>\ ETL\Common\templatexmls	PLM_ADW_COM_ALL.xml
<AA_HOME>\ ETL\Common\templatexmls	PLM_AA_POST_TASK.xml
<AA_HOME>\ ETL\ADVPA\templatexmls	PLM_ADW_ADVPA_ALL.xml
<AA_HOME>\ ETL\PA_EXT\templatexmls	PLM_ADW_PA_EXT_ALL.xml

5. Run InstallAgileTasks.bat located at AA_HOME\ETL
6. Make sure isFullLoad and initialize properties are set to "1" in all of the following files

File Location	File Name

<AA_HOME>\ ETL\Staging\Common	ast_com_custom.properties
<AA_HOME>\ ETL\Staging\PA	ast_pa_custom.properties
<AA_HOME>\ ETL\Staging\PCA	ast_pca_custom.properties
<AA_HOME>\ ETL\Staging\PQA	ast_qa_custom.properties
<AA_HOME>\ ETL\Common	adw_com_custom.properties
<AA_HOME>\ ETL\PA	adw_pa_custom.properties
<AA_HOME>\ ETL\PCA	adw_pca_custom.properties
<AA_HOME>\ ETL\PQA	adw_pqa_custom.properties
<AA_HOME>\ ETL\PA_EXT	adw_pa_ext_custom.properties
<AA_HOME>\ ETL\ADVPA	dw_advpa_custom.properties

7. Make sure AA_HOME\ETL\Staging\Recoverylogic.properties file has the entry CanRunAST = 1
8. Restart DT Engine Manager Service
9. Login to DTEngine through DTConsole
10. Start Agile Analytics task chain

Turning OFF the ADVPA Tasks

Note Before you begin, please ensure that the DT/Engine is running.

1. Go to the folder <AA_HOME>\ETL\
2. Run UnInstallAgileTasks.bat to de-deploy the Tasks & Task Chains
3. Open InstallAgileTasks.py in a word editor
   a. Remove the entry - PAEXT_PA_RPM_PCA_PQA_TaskChain.xml
   b. Add the entry - PA_PCA_PQA_PAEXT_TaskChain.xml
4. Copy the following files to <DT_HOME>\Storage\

File Location	File Name
<AA_HOME>\ ETL\Staging\Common\templatexmls	PLM_AST_COM_ALL.xml
<AA_HOME>\ ETL\Staging\PA\templatexmls	PLM_AST_PA_ALL.xml
<AA_HOME>\ ETL\Staging\PCA\templatexmls	PLM_AST_PCA_ALL.xml
<AA_HOME>\ ETL\Staging\PQA\templatexmls	PLM_AST_PQA_ALL.xml
<AA_HOME>\ ETL\PA\templatexmls	PLM_ADW_PA_ALL.xml
<AA_HOME>\ ETL\PCA\templatexmls	PLM_ADW_PCA_ALL.xml
<AA_HOME>\ ETL\PQA\templatexmls	PLM_ADW_PQA_ALL.xml
<AA_HOME>\ ETL\Common\templatexmls	PLM_ADW_COM_ALL.xml
<AA_HOME>\ ETL\Common\templatexmls	PLM_AA_POST_TASK.xml
<AA_HOME>\ ETL\PA_EXT\templatexmls	PLM_ADW_PA_EXT_ALL.xml

5. Run InstallAgileTasks.bat located at AA_HOME\ETL
6. Make sure isFullLoad and initialize properties are set to "1" in all of the following files

File Location	File Name
<AA_HOME>\ ETL\Staging\Common	ast_com_custom.properties
<AA_HOME>\ ETL\Staging\PA	ast_pa_custom.properties
<AA_HOME>\ ETL\Staging\PCA	ast_pca_custom.properties
<AA_HOME>\ ETL\Staging\PQA	ast_qa_custom.properties
<AA_HOME>\ ETL\Common	adw_com_custom.properties
<AA_HOME>\ ETL\PA	adw_pa_custom.properties
<AA_HOME>\ ETL\PCA	adw_pca_custom.properties
<AA_HOME>\ ETL\PQA	adw_pqa_custom.properties
<AA_HOME>\ ETL\PA_EXT	adw_pa_ext_custom.properties

7. Make sure AA_HOME\ETL\Staging\Recoverylogic.properties file has the entry CanRunAST = 1
8. Restart DT Engine Manager Service
9. Login to DTEngine through DTConsole
10. Start Agile Analytics task chain

Configuring Page 2 & Page 3 for Agile PC, PPM & PQM

This section provides general examples of the Extnfields.xml file. Contact Agile for specific requirements.

Before configuring the Extnfields.xml file, you should:

- Have good understanding of the JavaClient.
- Know the dimension and measure fields for the P2 and P3 attributes.

Configuring Page 2 and Page 3 for your Agile Analytics - PC, PPM & PQM environment requires customizing the PCExtnfields.xml, PPMExtnfields.xml & Extnfields.xml files, respectively. These files are required to create the extension tables in the Datamart, which in turn help create the corresponding materialize views.

Important If the table names are not provided, the task will fail.

Tables

PC	PPM	PQM
CHNG_ADW_EXT_FCT	ACT_ADW_EXT_FCT	PSR_ADW_EXT_DIM
CHNG_ADW_EXT_DIM	ACT_ADW_EXT_DIM	PSR_ADW_EXT_FCT
		QCR_ADW_EXT_DIM
		QCR_ADW_EXT_FCT

Obtaining Class and Subclass IDs

When configuring XML you need the class ID (for Page 2 attributes) and subclass ID (for Page 3 attributes). This information is available only in the source database and does not readily appear in the Java client.

To obtain the class ID and subclass ID:

1. Login into the Java client.
2. Click the Admin tab, then select Data Settings > Classes.
3. Double-click on Classes.
4. Copy the name and replace it with <Class_Name> in the query.

   Query to get Class ID

   ```
   SELECT ID,NAME FROM nodetable WHERE description LIKE '<Class_Name>'
   ```

   Query to get Subclass ID

   ```
   SELECT ID, NAME FROM nodetable WHERE parentid IN (SELECT ID FROM
   nodetable WHERE parentid IN (SELECT ID FROM nodetable WHERE
   description LIKE '<Class_Name>') AND objtype = 14
   ```

   Example for classid

   ```
   SELECT ID,NAME FROM nodetable WHERE description LIKE 'Problem Reports'
   ```

   Example for Subclassid

   ```
   SELECT ID, NAME FROM nodetable WHERE parentid IN (SELECT ID FROM
   nodetable WHERE parentid IN (SELECT ID FROM nodetable WHERE
   description LIKE 'Problem Reports') AND objtype = 14)
   ```

5. Execute queries on the source database to get the ClassID and SubclassID (in the format *<username>/ <password>@<ORACLE_SID>*, the default is agile/tartan@agile9).

Page 2 & Page 3 XML Structure

PC

You need to configure the PCExtnfields.xml file for Page 2 and Page 3. This file is located in <AA_Home>/config/PCA folder

```
<?xml version="1.0" encoding="UTF-8"?>
<ExtnFields version="1.0" timestamp="Thu Jun 14 11:40:38 IST 2007" Enable="Y">
    <CHNGFields
            FetchCount="5000"
            BatchCount="1000"
            StagingTableName ="CHANGES_AST_COM"
            StagingFlexTableName ="CHANGES_AST_COM_FLX"
            DatamartFactTableName ="CHNG_ADW_EXT_FCT"
```

```
            DatamartDimensionTableName ="CHNG_ADW_EXT_DIM">
        </CHNGFields>
    </ExtnFields>
```

PPM

You need to configure the PPMExtnfields.xml file for Page 2 and Page 3. This file is located in <AA_Home>/config/PA folder.

```
    <?xml version="1.0" encoding="UTF-8"?>
    <ExtnFields version="1.0" timestamp="Thu Jun 14 09:24:57 IST 2007" Enable="Y">
        <PRGFields
            FetchCount ="5000" BatchCount ="1000"
            StagingTableName ="ACT_AST_PPM"
            StagingFlexTableName ="ACT_AST_PPM_FLX"
            DatamartFactTableName ="ACT_ADW_EXT_FCT"
            DatamartDimensionTableName ="ACT_ADW_EXT_DIM">
        </PRGFields>
    </ExtnFields>
```

PQM

You need to configure the PCExtnfields.xml file for Page 2 and Page 3. This file is located in <AA_Home>/config/Common folder

```
    <?xml version="1.0" encoding="UTF-8" ?>
    <ExtnFields version="1.0" timestamp="2004-01-30T18:30:00 PDT" Enable="Y">
        <PSRFields
            FetchCount="5000"
            BatchCount="1000"
            StagingTableName="PRODUCT_SERVICE_REQUES_AST_PQM"
            StagingFlexTableName="PRODUCT_SERVICE_RE_AST_PQM_FLX"
            DatamartFactTableName="PSR_ADW_EXT_FCT"
            DatamartDimensionTableName="PSR_ADW_EXT_DIM">
        </PSRFields>
        <QCRFields
            FetchCount="5000"
            BatchCount="1000"
            StagingTableName="QUALITY_CHANGE_REQUEST_AST_PQM"
            StagingFlexTableName="QUALITY_CHANGE_REQ_AST_PQM_FLX"
            DatamartFactTableName="QCR_ADW_EXT_FCT"
```

```
                DatamartDimensionTableName="QCR_ADW_EXT_DIM">
        </QCRFields>
    </ExtnFields>
```

Where:

FetchCount	=	Minimum value: 1000, maximum value: 5000
BatchCount	=	Minimum value: 1000, maximum value: 2000
StagingTableName	=	Staging tablename located in the staging database
StagingFlexTableName	=	Staging tablename located in the staging database
DatamartFactTableName	=	Extension fact table tablename
DatamartDimensionTableName	=	Extension dimension table tablename

Page 2 & Page 3 String Structures

Page 2 String Structure

```
<ExtnField
    ID=""
    AttributeId=""
    DataMartColumnName=""
    isMeasure=""
    isDimension=""
    ListId=""
    ListName=""
    PageType=""
    DataType=""
    Length=""
    ListTableName=""/>
```

Page 3 String Structure

```
<ExtnField
    ID=""
    SubClassId=""
    AttributeId=""
    DataMartColumnName=""
    isMeasure=""
    isDimension=""
    ListId=""
    ListName=""
    PageType=""
    DataType=""
    Length=""
    ListTableName=""/>
```

Where:

ID	=	Class ID
SubClassId	=	The subclass ID of the specified attribute. For Page 3 only.
AttributeId	=	The BaseID value available in JavaClient.

DataMartColumnName	=	For a table, all column names should be unique following Oracle column naming standards. All column names can contain only characters, numbers, and underscores. No special characters are allowed.
isMeasure	=	Yes or No
isDimension	=	Yes or No
ListId	=	All list attributes should be correctly mentioned, as per JavaClient.
ListName	=	The name you want to appear with the data, as per JavaClient.
PageType	=	P2 or P3

DataType =

Attribute Type	Data Type	Max. Length
Text	VARCHAR2	255
List	VARCHAR2	255
Multilist	VARCHAR2	4000
Multitext	VARCHAR2	4000
Headings	VARCHAR2	510
Money	Money	38.6*
Numeric	Number	38.6*
Date	VARCHAR2	255

Length	=	The maximum number of characters expected from DataType.
ListTableName	=	Used to create a table for all list attributes. For two different list attributes with the same ListID and with two different list table names given, two dimension tables are created and one table if we have give same table name or both the list attributes. Or this depends on the configuration.

* For Money and Numeric attribute types, the maximum length supports 38 characters, six of which can be to the right of the decimal.

Sample Configured Strings

Page 2

```
<ExtnField
    ID="4878"
    AttributeId="2002"
    DataMartColumnName="DATE_PAGETWO"
    isMeasure="YES"
    isDimension="YES"
    ListId=""
    ListName=""
    PageType="P2"
    DataType="VARCHAR2"
    Length="255"
    ListTableName=""/>
```

```
<ExtnField
    ID="4878"
    AttributeId="2021"
    DataMartColumnName="LIST_PAGE_TWO"
    isMeasure="YES"
    isDimension="YES"
    ListId="12868"
    ListName="Priority"
    PageType="P2"
    DataType="VARCHAR2"
    Length="255"
    ListTableName="PRIORITY_DIM"/>
```

```
<ExtnField
    ID="4878"
    AttributeId="30445"
    DataMartColumnName="MULTILIST_PAGETWO"
    isMeasure="YES"
    isDimension="YES"
    ListId="2000000108"
    ListName="Launch Year List"
    PageType="P2"
    DataType="VARCHAR2"
    Length="4000"
    ListTableName="LAUNCHYEAR_DIM"/>
```

```
<ExtnField
    ID="4878"
    AttributeId="1313"
    DataMartColumnName="TEXT_PAGETWO"
    isMeasure="YES"
    isDimension="YES"
    ListId=""
    ListName=""
    PageType="P2"
    DataType="VARCHAR2"
    Length="255"
    ListTableName="" />
```

Page 3

Note Page 3 fields must include the Subclass ID.

```
<ExtnField
    ID="4878"
    SubClassID="30126"
    AttributeId="1535"
    DataMartColumnName="DATE_PAGETHREE"
    isMeasure="YES"
    isDimension="YES"
    ListId=""
    ListName=""
    PageType="P3"
    DataType="VARCHAR2"
    Length="255"
    ListTableName=""/>
```

```
<ExtnField
    ID="4878"
    SubClassID="30126"
    AttributeId="1544"
    DataMartColumnName="LIST_PAGETHREE"
    isMeasure="YES"
    isDimension="YES"
    ListId="31073"
    ListName="Bom List"
    PageType="P3"
    DataType="VARCHAR2"
    Length="255"
    ListTableName="BOMLIST_DIM"/>
```

```
<ExtnField
    ID="4878"
    SubClassID="30126"
    AttributeId="8154"
    DataMartColumnName="MONEY_PAGETHREE"
    isMeasure="YES"
    isDimension="YES"
    ListId=""
    ListName=""
    PageType="P3"
    DataType="MONEY"
    Length=      "38,6"
    ListTableName=""/>
```

```
<ExtnField
    ID="4985"
    SubClassID="30199"
    AttributeId="1595"
    DataMartColumnName="MULTILIST_PAGETHREE"
    isMeasure="YES"
    isDimension="YES"
    ListId="6504"
    ListName="Severity"
    PageType="P3"
    DataType="VARCHAR2"
    Length="4000"
    ListTableName="SEVERITY_DIM"/>
```

Sample XML Configuration for PQM

Place the configured *PSR strings* in between PSRFields as shown in the following example:

```
<?xml version="1.0" encoding="UTF-8" ?>
<ExtnFields version="1.0" timestamp="2004-01-30T18:30:00 PDT" Enable="Y">
    <PSRFields
            FetchCount="5000"
```

```
BatchCount="1000"
StagingTableName="PRODUCT_SERVICE_REQUES_AST_PQM"
StagingFlexTableName="PRODUCT_SERVICE_RE_AST_PQM_FLX"
DatamartFactTableName="PSR_ADW_EXT_FCT"
DatamartDimensionTableName="PSR_ADW_EXT_DIM">
        <!-- Page 2 String -->
        <ExtnField
                ID="4878"
                AttributeId="2002"
                DataMartColumnName="DATE_PAGETWO"
                isMeasure="YES"
                isDimension="YES"
                ListId=""
                ListName=""
                PageType="P2"
                DataType="VARCHAR2"
                Length="255"
                ListTableName=""/>
        <!-- Page 3 String -->
        <ExtnField
                ID="4878"
                SubClassID="30126"
                AttributeId="1544"
                DataMartColumnName="LIST_PAGETHREE"
                isMeasure="YES"
                isDimension="YES"
                ListId="31073"
                ListName="Bom List"
                PageType="P3"
                DataType="VARCHAR2"
                Length="255"
                ListTableName="BOMLIST_DIM"/>
</PSRFields>
```

<!-- Follow the previous steps to configure *QCR strings* by placing the configured QCR

strings in between QCRFields as shown in the following example. -- >

```
<QCRFields
        FetchCount="5000"
        BatchCount="1000"
        StagingTableName="QUALITY_CHANGE_REQUEST_AST_PQM"
        StagingFlexTableName="QUALITY_CHANGE_REQ_AST_PQM_FLX"
        DatamartFactTableName="QCR_ADW_EXT_FCT"
        DatamartDimensionTableName="QCR_ADW_EXT_DIM">
                <!-- Page 2 -->
                <ExtnField
                        ID="4428"
                        AttributeId="2002"
                        DataMartColumnName="DATE_PAGETWO"
                        isMeasure="YES"
                        isDimension="YES"
                        ListId=""
                        ListName=""
                        PageType="P2
                        DataType="VARCHAR2"
                        Length="255"
                        ListTableName=""/>
                <!-- Page 3 -->
                <ExtnField
                        ID="4428"
                        SubClassID="30199"
                        AttributeId="1595"
                        DataMartColumnName="MULTILIST_PAGETHREE"
                        isMeasure="YES"
                        isDimension="YES"
                        ListId="6504"
                        ListName="Severity"
                        PageType="P3"
                        DataType="VARCHAR2"
                        Length="4000"
```

```
                    ListTableName="SEVERITY_DIM"/>

    </QCRFields>
</ExtnFields>
```

Place the configured Extnfields.xml in the *<AA_Home>/config/Common* folder before starting the AgileAnalytics Task chain.

Sample XML Configuration for PPM

Place the configured *PPM strings* in between PRGFields as shown in the following example:

PRGFields for PPM are available at <AA_HOME>\ config\PA\PPMExtnfields.xml

```
<?xml version="1.0" encoding="UTF-8" ?>
<ExtnFields version="1.0" timestamp="Thu Jun 14 09:24:57 IST 2007" Enable="Y">
    <PRGFields
            FetchCount="5000"
            BatchCount="1000"
            StagingTableName="ACT_AST_PPM"
            StagingFlexTableName="ACT_AST_PPM_FLX"
            DatamartFactTableName="ACT_ADW_EXT_FCT"
            DatamartDimensionTableName="ACT_ADW_EXT_DIM">
                <!-- Page 2 String -->
                <ExtnField
                        ID="18022"
                        AttributeId="2002"
                        DataMartColumnName="DATE_PAGETWO"
                        isMeasure="YES"
                        isDimension="YES"
                        ListId=""
                        ListName=""
                        PageType="P2"
                        DataType="VARCHAR2"
                        Length="255"
                        ListTableName=""/>
                <!-- Page 3 String -->
                <ExtnField
```

```
                    ID="18022"
                    SubClassID="30126"
                    AttributeId="1544"
                    DataMartColumnName="LIST_PAGETHREE"
                    isMeasure="YES"
                    isDimension="YES"
                    ListId="31073"
                    ListName="Bom List"
                    PageType="P3"
                    DataType="VARCHAR2"
                    Length="255"
                    ListTableName="BOMLIST_DIM"/>
        </PRGFields>
    </ExtnFields>
```

Place the configured PPMExtnfields.xml at <AA_HOME>\ config\PA folder before starting the AgileAnalytics Task chain.

Sample XML Configuration for PC

Place the configured *PC strings* in between CHNGFields as shown in the following example:

CHNGFields for PC available at <AA_HOME>\ config\PCA\PCExtnfields.xml

```
    <ExtnFields version="1.0" timestamp="Thu Jun 14 11:40:38 IST 2007" Enable="Y">
        <CHNGFields
                FetchCount="5000"
                BatchCount="1000"
                StagingTableName="CHANGES_AST_COM"
                StagingFlexTableName="CHANGES_AST_COM_FLX"
                DatamartFactTableName="CHNG_ADW_EXT_FCT"
                DatamartDimensionTableName="CHNG_ADW_EXT_DIM">
                    <!-- Page 2 String -->
                    <ExtnField
                        ID="6000"
                        AttributeId="2002"
                        DataMartColumnName="DATE_PAGETWO"
                        isMeasure="YES"
                        isDimension="YES"
```

```
                ListId=""
                ListName=""
                PageType="P2"
                DataType="VARCHAR2"
                Length="255"
                ListTableName=""/>
        <!-- Page 3 String -->
        <ExtnField
                ID="18022"
                SubClassID="30126"
                AttributeId="1544"
                DataMartColumnName="LIST_PAGETHREE"
                isMeasure="YES"
                isDimension="YES"
                ListId="31073"
                ListName="Bom List"
                PageType="P3"
                DataType="VARCHAR2"
                Length="255"
                ListTableName="BOMLIST_DIM"/>
    </CHNGFields>
</ExtnField>
```

Place the configured PCExtnfields.xml at <AA_HOME>\config folder before starting the AgileAnalytics Task chain.

Configuring Affected Items Page 2 for Agile PC & PQM

This section provides general examples of the ExtnItmfields.xml file. Before configuring this file, you should:

- have good understanding of the JavaClient.
- know the dimension and measure fields for the P2 attributes.

See Page 2 String Examples for Affected Items for information on obtaining class and subclass IDs.

Configuring Page 2 for your Agile Analytics - PC & PQM environment requires customizing the PCExtnItmfields.xml & ExtnItmfields.xml files. These files are required to create the extension tables in the Datamart, which in turn helps create the corresponding materialize views. If the table names

are not provided, the task will fail.

Tables for PQM are

PSRITM_ADW_EXT_DIM

PSRITM_ADW_EXT_FCT

QCRITM_ADW_EXT_DIM

QCRITM_ADW_EXT_FCT

Tables for PC are

CHNGITM_ADW_EXT_DIM

CHNGITM_ADW_EXT_FCT

String Structure for Page 2 configuration

An example string for Page 2 appears as follows:

```
<ExtnFieId
    ID=""
    AttributeId=""
    DataMartColumnName=""
    isMeasure=""
    isDimension=""
    ListId=""
    ListName=""
    PageType=""
    DataType=""
    Length=""
    ListTableName=""/>
```

Where:

ID	=	Class ID
SubClassId	=	The subclass ID of the specified attribute. For Page 3 only.
AttributeId	=	The BaseID value available in JavaClient.
DataMartColumnName	=	For a table, all column names should be unique following Oracle column naming standards. All column names can contain only characters, numbers, and underscores. No special characters are allowed.
isMeasure	=	Yes or No
isDimension	=	Yes or No
ListId	=	All list attributes should be correctly mentioned, as per JavaClient.

ListName	=	The name you want to appear with the data, as per JavaClient.
PageType	=	P2

DataType	=	Attribute Type	Data Type	Max. Length
		Text	VARCHAR2	255
		List	VARCHAR2	255
		Multilist	VARCHAR2	4000
		Multitext	VARCHAR2	4000
		Money	Money	38,6*
		Numeric	Number	38,6*
		Date	VARCHAR2	255
Length	=	The maximum number of characters expected from DataType.		
ListTableName	=	Used to create a table for all list attributes. For two different list attributes with the same ListId, only one table will be created.		
		* For Money and Numeric attribute types, the maximum length supports 38 characters, six of which can be to the right of the decimal.		

Sample Page 2 String for Affected Items

PC

You need to configure the PCExtnItmfields.xml file for Page 2. The configurable field parameters appear in bold. This file must reside in the <AA_Home>/config/PCA

```
<?xml version="1.0" encoding="UTF-8"?>
<ExtnFields version="1.0" timestamp="Tue Jun 19 16:48:11 IST 2007" Enable="Y">
    <CHNGITMFields
            FetchCount="5000"
            BatchCount="1000"
            StagingTableName="CHANGES_AST_COM"
            StagingAffItmTableName="CHNGITM_AST_COM"
            StagingAffItmFlexTableName="REV_AST_COM_FLX"
            StagingItmFlexTableName="ITEMS_AST_COM_FLX"
            ItmTableColumnName="CHANGE"
            DatamartFactTableName="CHNGITM_ADW_EXT_FCT"
            DatamartDimensionTableName="CHNGITM_ADW_EXT_DIM">
    </CHNGITMFields>
```

```
</ExtnFields>
```

PQM

You need to configure the ExtnItmfields.xml file for Page 2. This file must reside in the <AA_Home>/config/Common folder.

```
<?xml version="1.0" encoding="UTF-8" ?>
<ExtnFields version="1.0" timestamp="2004-01-30T18:30:00 PDT" Enable="Y">
    <PSRITMFields
            FetchCount="5000"
            BatchCount="1000"
            StagingTableName="PRODUCT_SERVICE_REQUES_AST_PQM"
            StagingAffItmTableName="PSRITM_AST_PQM"
            StagingAffItmFlexTableName="PSRITM_AST_PQM_FLX"
            StagingItmFlexTableName="ITEMS_AST_COM_FLX"
            ItmTableColumnName="PSR_ID"
            DatamartFactTableName="PSRITM_ADW_EXT_FCT"
            DatamartDimensionTableName="PSRITM_ADW_EXT_DIM">
    </PSRITMFields>
    <QCRITMFields
            FetchCount="5000"
            BatchCount="1000"
            StagingTableName="QUALITY_CHANGE_REQUEST_AST_PQM"
            StagingAffItmTableName="QCRITM_AST_PQM"
            StagingAffItmFlexTableName="QCRITM_AST_PQM_FLX"
            StagingItmFlexTableName="ITEMS_AST_COM_FLX"
            ItmTableColumnName="QCR_ID"
            DatamartFactTableName="QCRITM_ADW_EXT_FCT"
            DatamartDimensionTableName="QCRITM_ADW_EXT_DIM">
    </QCRITMFields>
</ExtnFields>
```

Where:

FetchCount	=	Minimum value: 1000, maximum value: 5000
BatchCount	=	Minimum value: 1000, maximum value: 2000
StagingTableName	=	Staging tablename located in the staging database
StagingAffItmTableName	=	Staging Affected Item table name
StagingAffItmFlexTableName	=	Staging Affected Item Flex table name

FetchCount	=	Minimum value: 1000, maximum value: 5000
BatchCount	=	Minimum value: 1000, maximum value: 2000
StagingTableName	=	Staging tablename located in the staging database
StagingItmFlexTableName	=	Staging Item Flex table located in the staging database
ItmTableColumnName	=	Staging Affected Item Column name
DatamartFactTableName	=	Extension fact table tablename
DatamartDimensionTableName	=	Extension dimension table tablename

Sample Configuration for PSRItmFields

```
<ExtnField
    ID="4878"
    AttributeId="6636
    DataMartColumnName="P2_4878Conforming_1"
    isMeasure="YES"
    isDimension="YES"
    ListId=""
    ListName=""
    PageType="P2"
    DataType="VARCHAR2"
    Length="255"
    ListTableName=""/>
<!-- Place the configured PSRItmFields strings in between PSRITMFields as shown in the following example -->
    <PSRITMFields
            FetchCount="5000"
            BatchCount="1000"
            StagingTableName="PRODUCT_SERVICE_REQUES_AST_PQM"
            StagingAffItmTableName="PSRITM_AST_PQM"
            StagingAffItmFlexTableName="PSRITM_AST_PQM_FLX"
            StagingItmFlexTableName="ITEMS_AST_COM_FLX"
ItmTableColumnName="PSR_ID"
            DatamartFactTableName="PSRITM_ADW_EXT_FCT"
            DatamartDimensionTableName="PSRITM_ADW_EXT_DIM">
            <ExtnField
                    ID="4878"
```

```
                AttributeId="6636"
                DataMartColumnName="P2_4878Conforming_1"
                isMeasure="YES"
                isDimension="YES"
                ListId=""
                ListName=""
                PageType="P2
                DataType="VARCHAR2"
                Length="255
                ListTableName=""/>
    </PSRITMFields>
<!-- Follow the previous steps to configure QCRItmFile strings and place the configured
QCRItmFile strings in between QCRItmFields as shown in the following example -->
    <QCRFields
        FetchCount="5000"
        BatchCount="1000"
        StagingAffItmTableName="QCRITM_AST_PQM"
        StagingAffItmFlexTableName="QCRITM_AST_PQM_FLX"
        StagingItmFlexTableName="ITEMS_AST_COM_FLX"
        ItmTableColumnName="QCR_ID"
        DatamartFactTableName="QCRITM_ADW_EXT_FCT"
        DatamartDimensionTableName="QCRITM_ADW_EXT_DIM">
        <ExtnField
            ID="4428"
            AttributeId="4140"
            DataMartColumnName="P2_4428Date01_1"
            isMeasure="YES"
            isDimension="YES"
            ListId=""
            ListName=""
            PageType="P2
            DataType="VARCHAR2"
            Length="255"
            ListTableName=""/>
    </QCRFields>
<!-- Place the configured ExtnItmfields.xml in the <AA_Home>/config/Common folder before starting
```

the AgileAnalytics Task chain. -->

Using DT/Studio to Run Agile PLM Datamart ETL Scripts

After you install Agile PLM Datamart ETL components, the *<AA_HOME>\ETL* folder contains XML scripts used to extract, transform, and load data. In DT/Studio, these scripts are also referred to as task definition files. They perform the following functions:

- Extract data from the Agile PLM database.
- Transform the records so they adhere to the structure in the Agile PLM Datamart database schema.
- Load the data into the Agile PLM Datamart database.

How Your Agile License Key Affects ETL Tasks

Your ability to run ETL tasks for individual Agile PLM Datamart modules is based on your Agile license key. For example, if you have a license key only for the PQM Datamart, you cannot run PPM Datamart and PC Datamart ETL tasks.

Starting an Agile PLM Datamart Task in DT/Studio

You can run Agile PLM Datamart ETL scripts using DT/Console, a Java application. The XML scripts are DT/Studio task definition files.

To run an Agile PLM Datamart ETL script:

1. Make sure DT/Engine Manager is started.
2. Start DT/Console by clicking Start > Programs > Embarcadero DT/Studio 2.3.1 > Embarcadero DT/Console 2.3.1 > DT/Console 2.3.1.
3. If this is the first time you are running DT/Console or if you do not automatically connect to the DT/Engine, you are prompted to log in. Enter the username and password, and click OK.

   Note The default DT/Engine username/password is dtadmin/dtadmin123. For information about changing the DT/Engine password, see Changing the DT/Engine Password.
4. After logging in, open the Tasks node. By default, the following tasks appear:
   - PLM_AA_POST_TASK – Increments the batch number by one for Agile PLM Datamart data loads.
   - PLM_ADW_COM_ALL – Loads common Agile PLM data from the staging schema into the dimensional schema of the Agile PLM Datamart.
   - PLM_ADW_PA_ALL – Loads data related to PPM from the staging schema into the dimensional schema of the Agile PLM Datamart.
   - PLM_ADW_PA_EXT_ALL – Loads data related to PPM baseline information from the staging schema into the dimensional schema of the Agile PLM Datamart.
   - PLM_ADW_PCA_ALL – Loads data related to Product Collaboration from the staging schema into the dimensional schema of the Agile PLM Datamart.

- PLM_ADW_PQA_ALL – Loads data related to Product Quality Assurance from the staging schema into the dimensional schema of the Agile PLM Datamart.
- PLM_AST_COM_ALL – Extracts common Agile PLM data from the Agile PLM database and loads it into the staging schema of the Agile PLM Datamart.
- PLM_AST_PA_ALL – Extracts PPM data from the Agile PLM database and loads it into the staging schema of the Agile PLM Datamart.
- PLM_AST_PCA_ALL – Extracts Product Collaboration data from the Agile PLM database and loads it into the staging schema of the Agile PLM Datamart.
- PLM_AST_PQA_ALL – Extracts PQM data from the Agile PLM database and loads it into the staging schema of the Agile PLM Datamart.

Note	A task chain called Agile Analytics runs all the above tasks.If no tasks appear in the Tasks node, it could be because the DT/Repository has not been set. Forinformation on how to set the repository, see the separate DT/Studio documentation.

5. Select the task chain (Agile Analytics) and click the Start button.

Note	Before starting to extract Agile PLM data, make sure the Agile PLM application server and the Agile PLM database are both up and running.

When you run a DT/Studio task such as PLM_AST_PA_ALL, it actually calls several subtasks to move data from the Agile PLM database to the Agile PLM Datamart database. The subtasks extract and load all Agile PLM data, not just the information that changed since the last time you ran the task.

The time it takes to perform a data load depends on the size of data contained in your Agile PLM system. It can take several hours.

Weekly or nightly batch runs are recommended, but multiple batches may be processed as required. You can use the DT/Console scheduler to schedule a task to run automatically.

The results from each task that you run are stored in task log files, which are accessible from the Log tab in DT/Console.

Recommended Order of Tasks

The Agile Analytics task chain runs Agile PLM Datamart tasks in the following order:

1. PLM_AST_COM_ALL
2. PLM_AST_PA_ALL
3. PLM_AST_PCA_ALL
4. PLM_AST_PQA_ALL
5. PLM_ADW_COM_ALL
6. PLM_ADW_PA_ALL
7. PLM_ADW_PCA_ALL
8. PLM_ADW_PQA_ALL
9. PLM_ADW_PA_EXT_ALL
10. PLM_AA_POST_TASK

Of course, it's really only essential to run the tasks that load data into the staging schema first (PLM_AST_COM_ALL, PLM_AST_PA_ALL, PLM_AST_PCA_ALL, and PLM_AST_PQA_ALL). What you do with the staged data is completely up to you. Once the data is in the staging area, you can perform other transformations before loading the data into the dimensional schema.

Stopping a DT/Studio Task

DT/Studio runs a task until it and its subtasks are finished. You can stop a task from running at any time. If you want to stop a task from running mid-task, you must first close DT/Console and then stop and restart DT/Engine.

To stop an Agile task running in DT/Studio:

Because Agile tasks run in a separate Java program, rather than stopping DT/Console as described above, simply close DT/Console and then stop DT/Engine. When you are ready for your task to run again start DT/Engine and then open DT/Console. Whether or not your task resumes running where it left off or starts again from the beginning depends on the properties you set for the task. For more information, see the next section.

Modifying a Task's Properties

You can restart a task that you've stopped. How the task behaves when you restart it depends on settings contained in the task's custom.properties file. The custom.properties files are located in the <AA_HOME>\ETL subfolders (Common, PA, PCA, PQA, Staging).

For example, if the isFullLoad property is set to 1 (True), the task runs from beginning to end. If isFullLoad is set to 0 (False), then the task runs from the last subtask that completed successfully.

The following table lists the properties you can set for each task.

Property	Description
debug	Sets whether logging is enabled. Default is 1 (true).
isFullLoad	Sets whether to perform a full load of data, or to resume from the last subtask that was completed. Default is 1 (true).
initialize	Sets whether to deploy the task to the repository. Default is 1 (true).
dbtype	Sets the database type.
CUSTOM_TASK	The specified custom task is used to move some statistical data to a table in the administrative schema of the Agile PLM Datamart. Do not modify this setting.
PRE_TASK	Sets global variables for DT/Engine before running the task.
POST_TASK	Resets global variables for DT/Engine after running the task.

Checking the Task Log

After running a DT/Studio task, you can check Log tab to see if the data loaded successfully. If any of the task chains fail, you need to identify which of the subtasks failed and then view the task's file-based log.

To view the file-based log for a DT/Studio task:

1. Select the Tasks node in the navigation pane in the left.
2. In the right pane, click the End Date/Time column to sort by the end date.
3. Scroll down until you see a task that aborted. The status column will read “Aborted.”
4. Right-click the aborted task, and choose View File Based Log from the shortcut menu.
5. Select a transformer that’s red, which means it failed.
6. Click Refresh to view the log.

Note The physical log files for DT/Studio tasks are stored in the <DT_HOME>\logs\task folder.

Scheduling DT/Studio Tasks

DT/Console provides a simple scheduling tool that lets you run tasks on a recurring basis, such as daily or weekly.

You should schedule extractions and loading of data during off-hours, such as at night when very few users are accessing the Agile PLM and Agile Datamart databases.

Note Before using the DT/Console scheduler, confirm that the system date and time on your computer are accurate.

To schedule DT/Studio tasks:

1. In DT/Console, select the task and click the  Add Schedule button.

   The Schedule Properties dialog box appears.
2. Specify the schedule name, start date, start time, and recurrence settings (such as whether the task runs on a daily basis). Click OK.
3. When prompted that the schedule has been added, click OK.

Changing the Datamart Password

This task describes how to change the Datamart user password using the Datamart Password Change Utility.

To change the PLM Datamart password:

1. From the command prompt, run Datamart_Password.bat found in AA_HOME\ETL folder.
2. At the prompt, enter a new password for the AAD, AST, and ADW users.

   If no password is entered for three consecutive times, the Datamart Password Change Utility will exit without effecting any change to existing passwords.

Changing the DT/Engine Password

This task describes how to change the DT/Engine user password using the DT/Engine Password Change Utility.

To change the DT/Engine password:

1. Log in to DT/Engine with default username (dtadmin) and password (dtadmin123).
2. Right-click on the user row and select Change Password from the menu.
3. In the Change Password dialog:
   a. Type in the old password (dtadmin123).
   b. Type in the new password (for example, dtadmin321).
   c. Confirm by retyping the new password.
   d. When you are finished, click OK.
4. Execute DTEngine_Password.bat with the new password.

   First, change the directory to your Analytics "home"\ETL directory, for example:

   cd D:\Agile921\Analytics\ETL
5. At the prompt, type DTEngine_Password.bat and the new password. So, using our example password:

   D:\Agile921\Analytics\ETL>DTEngine_Password.bat dtadmin321

   Note If no password is entered three consecutive times, the DT/Engine Password Change Utility will exit without effecting any change to existing passwords.
6. Restart DT/Engine Manager Service.
7. Start DT/Engine 2.3.1.
8. Start DT/Console and log in to DT//Engine with username (dtadmin) and the new password (in our example, dtadmin321).
9. You can now initiate a PLM Analytics task chain.

Changing the DT/Engine Repository Password

The DT/Engine stores data in normalized form in a metadata repository. The repository provides security, version control, and rollback capability. It also allows you to generate reports.

Note The password must first be changed in the database before you change it in DT/Console. The DT/Engine may not be able to connect to the database if you do not synch up the passwords in the database and DT/Console.

To change the DT/Engine repository password:

1. Open *DT/Console.*
2. Click on the node.

   You are prompted for a username and password.
3. Type *username* and *password*

   The default username is dtadmin.

   The default password is dtadmin123.

   Note The password may have been changed by another user.

Click OK.

4. Choose Edit > Properties > DT/Engine Properties.

   The DT/Engine Properties dialog box appears.

   Note You should not change any other settings in this dialog box unless you have knowledge of the outcome.

5. In the Password field, type a new password and click Set.
6. Click OK to close the dialog box.
7. Close and restart DT/Console for the change to take effect
8. Stop and restart DT/Engine.

Chapter 7

Embarcadero DT/Engine Installation

This chapter includes the following:

About DT/Studio 2.3.1

This appendix provides a summary of installation steps for DT/Studio 2.3.1, a suite of Java-based ETL tools from Embarcadero Technologies. For complete installation instructions as well as hardware and software requirements, please see the separate DT/Studio documentation from Embarcadero Technologies.

DT/Studio includes the following components:

- DT/Engine – A data integration engine that can move and transform data between heterogeneous databases and files. DT/Engine's ETL tool extracts the data from the source Agile PLM system, performs transformation needed on the source data, and loads the data into the Agile PLM Datamart.
- DT/Console – The monitoring component of DT/Studio. DT/Console is an administrative interface that lets you monitor the DT/Engine and remotely manage and schedule ETL tasks.

Agile requires that you install Embarcadero Systems DT/Studio on a Windows 2003 computer. DT/Engine can point to a metadata repository (such as an Oracle database) on a Windows computer. You can install DT/Engine and DT/Console in any order.

If a previous version of either DT/Engine or DT/Console is installed already, uninstall it before installing version 2.3.1.

DT/Engine Repository

DT/Engine stores data in normalized form in a metadata repository. The repository provides security, version control, and rollback capability. It also allows you to generate reports.

Agile recommends using the same database server you are using for the Agile PLM Datamart for the DT/Engine repository database. Either create a new database instance on the Agile PLM Datamart computer, or add a new user to the Agile PLM Datamart instance called DTUSER (or something similar).

Note When creating the DT/Repository user, please make sure the user is assigned the resource and connect privileges in the database.

When you install DT/Engine, you are prompted to specify the repository database. If you prefer, you can install DT/ Engine without specifying a repository. However, you will need to specify and configure the repository later using DT/Console.

Downloading DT/Studio 2.3.1 Software

You can download DT/Studio software, documentation, and patches from Agile's public FTP server. For more information, contact Agile Software Operations.

Installing DT/Engine 2.3.1

To install DT/Engine:

1. Start the dtengine-2_3_1-windows-setup.exe program.

   The Welcome screen appears. Click Next.

   The License screen appears.

2. Read the Embarcadero license agreement. If you want to continue the installation choose I accept and click Next.

   The Location screen appears.

3. Specify the directory in which to install the product or accept the default. Click Next.

4. Confirm the installation settings. Click Next.

   The Shortcuts screen appears.

5. Choose whether to install shortcuts for DT/Engine on the desktop or the Start menu. Click Next.

   The Repository Database screen appears.

6. Choose Yes to configure the repository database. Click Next.

   The Configure Database Repository screen appears.

7. Select the database type (for example, OracleServer9i) from the drop-down list. Type the hostname, service name, an existing username and password, and the port (1521). Click Next.

   Note For the service name, use the instance name you created when you set up the DT/Engine repository, as specified in "DT/Engine Repository".The username and password should also match those you created in the DT/Engine repository.

8. If a DT/Engine database repository already exists on that database, you are prompted to set or recreate the repository. Choose Recreate. You will then receive a confirmation message. Click OK.

   The Specify Password for DTADMIN screen appears.

9. Type the username (the default is dtadmin) and password (the default is dtadmin123). Click Next.

Note For information about changing the DT/Engine password, see Changing the DT/Engine Password.

The JVM Settings screen appears.

10. Set the JVM minimum and maximum heap values to 1024. Click Next.

    Refer to About JVM Heap Size for additional information.

    The Configure Properties screen appears.

11. Accept the default configuration properties. Click Next.

    The Installation Complete screen appears.

12. Enable *Start DTEngine Manager* Service. Click Finish.

13. You should receive a message that the service started. Click OK.

Installing DT/Console 2.3.1

To install DT/Console:

1. Start the dtconsole-2_3_1-win32-setup.exe program.
2. The Welcome screen appears. Click Next.

   The License screen appears.
3. Read the Embarcadero license agreement. If you want to continue the installation choose I accept and click Next.

   The Location screen appears.
4. Specify the directory in which to install the product or accept the default. Click Next.
5. Confirm the installation settings. Click Next.

   The Shortcuts screen appears.
6. Choose whether to install shortcuts for DT/Console on the desktop or the Start menu. Click Next.
7. The Installation Complete screen appears. Click Finish.

Applying the Cumulative Patch for DT/Engine 2.3.1, Build 2655_r5

You need to obtain the DT/Engine patch from Embarcadero Technologies. It is a compressed file labeled password_patch_dt_2.3.1. Extract the files into an available location.

To apply the DT/Engine patch:

1. Stop the DT/Engine and DTEngineManagerService.
   a. Go to Control Panel > Administrative Tools > Services.
   b. Highlight DTEngineMangerService, right-click, and select Stop.

2. Make sure the DT_HOME environment variable is pointing to the directory where DT/Engine is installed (for example, D:\Program Files\Embarcadero\DTStudio\DTEngine2.3.1).
   a. Highlight My Computer, right-click, and select Properties.
   b. Select the Advanced tab.
   c. Click Environment Variables.
   d. In the System Variable area, highlight DT_Home, and click Edit.

      The Edit System Variable dialog box appears.
   e. Confirm the path in the Variable Value field corresponds to the installed location of DT/Engine. Click OK until you close all open dialog boxes.
3. Back up the dtpatchtool.jar file located in %DT_HOME%\lib. Copy the dtpatchtool.jar provided as part of this patch to %DT_HOME%\lib.

4. Open a command prompt window and change to the bin directory and run the dtpatchtool.bat file from the command prompt. This starts a patch tool shell, as shown in the following example.

5. Type the following commands to retrieve information about the current DT/Engine version.

   DTPatchTool> info

6. If your current version is earlier than build 2655, apply the patch using the following syntax:

   DTPatchTool> apply <patch_file_path>

   For example, if the patch is located in d:\patch, enter the following command:

   DTPatchTool> apply d:\patch\2655_r5.jar

Note Do not start the DT/Engine and DTEngineManager service at this time.

Backing Up and Upgrading Files

After you apply the patch to DT/Engine for build 2655, you now must backup several files and folders before upgrading them.

Upgrading consolecomm.jar for DT/Console 2.3.1

You must copy the consolecomm.jar file from DT/Engine to DT/Console.

To upgrade consolecomm.jar for DT/Console:

1. Stop DT/Console.
   a. Go to Control Panel > Administrative Tools > Services.
   b. Highlight DTConsoleMangerService, right-click, and select Stop.
2. Back up the consolecomm.jar file.
   a. Locate the consolecomm.jar file at the DT/Console installation location.
   (The default location is *root:**Program Files**Embarcadero*\ *DTStudio**DTConsole2.3.1**lib*)
   b. Copy the consolecomm.jar file and rename the copy consolecomm.jar.bk.
3. After installing the DT/Engine patch for build 2655, copy %DT_HOME%\lib\consolecomm.jar to %DT_CONSOLE_INSTALL_DIR%\lib.
4. Restart DT/Console.
   a. Go to Control Panel > Administrative Tools > Services.
   b. Highlight DTConsoleMangerService, right-click, and select Start.

Upgrading the DT/Engine 2.3.1 JVM

You must also upgrade the DT/Engine JVM.

To upgrade the DT/Engine JVM:

1. Stop the DT/Engine. If you are running the engine manager service, shut it down.
2. Create a new jdk1.4 folder.
   a. Locate the jdk1.4 folder.
   (The default location is *root:**Program Files**Embarcadero*\ *DTStudio**DTConsole2.3.1*\)
   b. Rename the jdk1.4 folder to jdk1.4_old.
   c. Create a new folder and name it jdk1.4.
3. Copy the dtengine-2_3_1-win32-installer.exe file.
   a. Locate the dtengine-2_3_1-win32-installer.exe file.
   (The default location is *root:*\.. *DTEngineInstalls**DT 2.3.1*)
   b. Copy the dtengine-2_3_1-win32-installer.exe file.
   c. Paste the copy into the jdk1.4 folder.

(The default location is *root:\Program Files\Embarcadero\ DTStudio\DTConsole2.3.1*)

4. From the jdk1.4 folder, double-click the dtengine-2_3_1-win32-installer.exe file. This self-extracting installer extracts the new JDK files into the jdk1.4 folder.
5. Re-start the engine or engine manager service.

Managing DT/Engine 2.3.1 JVM Heap Size

After you install DT/Engine, you can modify the JVM heap values to tune performance.

To modify DT/Engine JVM heap values:

1. Stop the DT/Engine. If you are running the engine manager service, shut it down.
2. Got to DT/Engine bin folder - %DT_HOME%/bin.
3. Open dtengine.ja in a text editor.
4. Confirm the values for the two java heaps are 1024 and the java stack is 256, as shown in the following example:

   %IF_EXISTS%("INIT_JAVA_HEAP", "@INIT_JAVA_HEAP@1024m")

   %IF_EXISTS%("MAX_JAVA_HEAP", "@MAX_JAVA_HEAP@1024m")

   %IF_EXISTS%("INIT_JAVA_STACK", "@INIT_JAVA_STACK@256k")

5. Start the DT/Engine and DTEngineManagerService.
   a. Go to Control Panel > Administrative Tools > Services.
   b. Highlight DTEngineMangerService, right-click, and select Start.

About JVM Heap Size

The JVM heap is a repository for live objects, dead objects, and free memory. When a JVM runs out of memory in the heap, all execution in the JVM stops. A garbage collection algorithm then goes through memory and frees space that is no longer required by the application.

JVM Heap Size determines when the VM starts collecting DT/Engine garbage (deallocating unused Java objects). The smaller the heap, the more often garbage is collected. To minimize the time spent on garbage collection and maximize server efficiency:

- Make sure that the heap size is not larger than the available free RAM on your system. Typically, you should use 80% of the free RAM available for your JVM.
- Lower the heap size if you find that your system is spending too much time collecting garbage.
- Set the Minimum Heap Size equal to the Maximum Heap Size. Setting the minimum heap size equal to the maximum heap size yields a higher performance throughput than setting the values differently. Setting equal values also prevents the JVM from spending time incrementing the heap.

Chapter 8

Oracle Installation

This chapter includes the following:

Installing Oracle 10g on Windows

Before installing Oracle, you must:

- Check to see that the Microsoft NTFS file system is used instead of FAT or FAT32, and convert the file system if necessary. See Checking the Windows File System for directions.
- Determine the name of the Windows computer where Oracle is to be installed.

  Note — It is required that the computer on which you are installing the Oracle database have at least two physical disks or two logical partitions. This allows you to place the operating system on the C drive and use the D drive for Oracle components. The examples in this chapter use a C and D drive.
- Be sure that you have Administrator privileges within Windows on the computers where you are installing Oracle and Agile PLM Datamart.
- Disable disk compression, if you are using it.
- Disable virus protection, if you are using it. Components used in the installer can be falsely identified as being infected and lock up the installation. You can turn the virus protection on after the installation is complete.

Network Check

Before proceeding, it is important to confirm two settings to prevent difficulties from occurring.

Confirming Computer Name and Hostname Identities

The computer where Oracle is installed must use the same value as both its computer name and its DNS hostname. The following procedures can be used to identify the current values.

To determine the computer name for Windows:

1. Right-click the My Computer icon on the desktop, and choose Properties in the shortcut menu.
2. In the System Properties dialog box, click the Computer Name tab.

3. Note the name listed in the Full Computer Name field.

Confirming the Server Date

It is important to adjust the date and time of the computer. The date and time need to be correct when you work with your production data.

To confirm the date and time, click the Date/Time icon in the Windows Control Panel. Be sure to verify the Time Zone setting as well.

Note If you change the date or time after Agile PLM Datamart has been installed and started, you need to stop and restart Oracle immediately after the change.

Checking the Windows File System

Agile recommends that servers use NTFS (NT File System) rather than FAT or FAT32 (File Allocation Table), as NTFS is more robust.

To determine the file system type:

1. Check the file system used on the computer. Choose Start > Settings > Control Panel > Administrative Tools > Computer Management. Under Computer Management in the left pane, expand Storage and select Disk Management.

   The Disk Administration windows opens.

   There must be at least two partitions or hard drives. If your computer uses NTFS, proceed with the Oracle installation. If your computer uses a FAT or FAT32 file system, Agile recommends converting it to NTFS before proceeding.

Important Converting the file system deletes all current files on the drive. Backup all necessary files before converting the file system to NTFS.

To convert the file system to NTFS:

2. Right-click on the drive you want to reformat and choose Format in the shortcut menu.
3. In the File System field, change the file system type to NTFS.
4. Click Start.

The process takes several minutes. On completion, restart the system. You can proceed with the Oracle installation.

For Servers Configured with DHCP

If your server is configured with DHCP (Dynamic Host Configuration Protocol), there is a known issue with the Oracle 10g installation. The installation fails and the following message appears:

Thrown When the IP address of a host cannot be determined

There are two possible solutions:

- Copy the Oracle 10g installation software to your local disk and perform an off-network

installation.

- Install the Microsoft Loopback adapter on the DHCP server, then add one entry to the hosts file.

To install the Microsoft Loopback adapter:

1. Click Start > Control Panel > Add/Remove Hardware. The Add/Remove Hardware wizard appears.
2. Click Next.
3. Choose Yes, I have already connected the hardware, then click Next.
4. Choose Add a new hardware device, then click Next.
5. Choose Install the hardware that I manually select from a list, then click Next.
6. Select Network adapters, then click Next.
7. In the Manufacturers list, select Microsoft.
8. In the Network Adapter list, select Microsoft Loopback Adapter, then click Next.
9. Click Next to install the adapter.
10. Click Finish.

To configure the hosts file:

1. Open the hosts file, located at C:\Windows\System32\drivers\etc.
2. Add the following entry to the hosts file:

   10.10.10.10 hostname.domain hostname

   For example, if the full machine name of your database server is db1.agile.agilesoft.com, the entry in the hosts file would be:

   10.10.10.10 db1.agile.agilesoft.com db1
3. Save the file.

To configure the loopback IP address on the network:

1. On the database server, right-click the My Network Places icon.
2. Choose Properties to display the Network and Dial-up Connections window.
3. Locate a connection with the device name of Microsoft Loopback Adapter. This connection is usually Local Area Connection 2.
4. Right-click this connection icon.
5. Choose Properties to display the Local Area Connection 2 Properties dialog box.
6. On the General tab, select Internet Protocol (TCP/IP), then click Properties to display the Internet Protocol (TCP/IP) properties dialog box.
7. On the General tab, choose Use the following IP Address.

8. Enter the following values:

   IP address: 10.10.10.10

   Subnet mask: 255.255.255.0

9. Click OK.
10. Click Close.
11. On completion, restart the system. You can proceed with the Oracle installation.

Installing Oracle 10g Release 2 on Windows

These instructions describe how to install and configure Oracle 10g to run with Agile PLM Datamart. There are two Oracle installation CDs - one for the Oracle database and one for Oracle companion components.

Note Throughout the instructions, default values are shown (such as the installation path or the service name). If you change any of these values during the installation, update the information specific to your installation where appropriate.

Important Make sure the Distributed Transaction Coordinator service is stopped.

To install Oracle 10g:

12. Insert the Oracle database installation CD. You may have to navigate to the CD drive.
13. Double-click the Setup icon.
14. The Oracle Universal Installer command window and welcome screen appear. Click Next.

    The Installation Method window appears.

15. Select Basic Installation. Make sure the Oracle Home Location is on the D drive at *d:\oracle\product\10.2.0\db_1* which is the default if you have two disks.
16. Select Enterprise Edition as the Installation Type. Click Next.

    Note Do not check Create Starter Database. You will create the Agile database with the Database Configuration Utility. The Product Specific Prerequisite Checks window appears.

17. The Oracle Universal Installer verifies that your server meets the minimum requirements for installing and configuring the options you have selected. If your system passes, a summary window appears. Click Next.
18. Click Install.
19. Click Exit when the installation is complete.
20. Remove the Oracle database CD from the CD drive.
21. Insert the Oracle companion CD. You may have to navigate to the CD drive.
22. Double-click the Setup icon. The Oracle Universal Installer command window and welcome screen appear. Click Next.

    The Select A Product To Install window appears.

23. Select Oracle Database 10g Products 10.2.0.1.0. Click Next.

    The Specify Home Details window appears.

24. Select the Oracle Home where you installed the Oracle 10g database. Click Next.

    The Product Specific Prerequisite Checks window appears.

25. The Oracle Universal Installer verifies that your server meets the minimum requirements for installing and configuring the options you have selected. If your system passes, a summary window appears. Click Next.

26. Click Install.

27. Click Exit when the installation is complete. This completes the Oracle installation.

Installing Oracle Patch 4547817

After you create the database instance for the Agile PLM Datamart (see Installing the Datamart Database Server), try starting the OracleServiceAADM service. If the service starts but the database remains idle, you should install Oracle patch 4547817.

To install Oracle patch 4547817:

1. Download Oracle patch 4547817 from Oracle Metalink https://metalink.oracle.com
2. Stop all Oracle services on the database server.
3. Run setup.exe from Disk1 folder for the patch. This program upgrades Oracle to 10.2.0.2.
4. Start the Oracle database service OracleServiceAADM
5. Open a Command Prompt window.
6. Start SQL*Plus and log in as the SYS user:

   ```
   sqlplus sys/oracle as sysdba
   ```

   It should say "connected to an idle instance".

7. Start the database in upgrade mode

   ```
   SQL> startup upgrade;
   ```

8. Run the catupgrd.sql script, which is located in $ORACLE_HOME/rdbms/admin.

   ```
   SQL> @d:\oracle\product\10.2.0\db_1\RDBMS\ADMIN\catupgrd.sql
   ```

9. Run the Registry Editor (regedit). Make sure the *ORA_<SID>_AUTOSTART* value in the registry key *HKEY_LOCAL_MACHINE\SOFTWARE\ORACLE\KEY_OraDb10g_home1* is set to TRUE.

10. Restart the server.

    Oracle should now start the database when the service is started.

Installing Oracle 9i On Windows

Important Agile PLM Analytics requires Oracle10g. If you are installing both Agile PLM Datamart and Agile PLM Analytics, Oracle9i is not supported.

Before installing Oracle, you must:

- Check to see that the Microsoft NTFS file system is used instead of FAT or FAT32, and convert the file system if necessary. See Checking the Windows File System or directions.
- Determine the name of the Windows computer where Oracle is to be installed. The target installation folder for the Oracle database is recommended to be d:\oracle\ora92.

  Note It is required that the computer on which you are installing the Oracle database have at least two physical drives or two partitions. This allows you to place the operating system on the C drive and use the D drive for Oracle components. The examples in this chapter use a C and D drive.

- Be sure that you have Administrator privileges within Windows on the computers where you are installing Oracle and Agile PLM Datamart.
- Disable disk compression, if you are using it.
- Disable virus protection, if you are using it. Components used in the installer can be falsely identified as being infected and lock up the installation. You can turn the virus protection on after the installation is complete.

The following sections provide more information about these procedures.

Network Check

Before proceeding, it is important to confirm two settings to prevent difficulties from occurring.

Confirming Computer Name and Hostname Identities

The computer where Oracle is installed must use the same value as both its computer name and its DNS hostname. The following procedures can be used to identify the current values.

To determine the computer name for Windows:

1. Right-click the My Computer icon on the desktop, and choose Properties in the shortcut menu.
2. In the System Properties dialog box, click the Computer Name tab.
3. Note the name listed in the Full Computer Name field.

Confirming the Server Date

It is important to adjust the date and time of the computer. The date and time need to be correct when you work with your production data.

To confirm the date and time, click the Date/Time icon in the Windows Control Panel. Be sure to verify the Time Zone setting as well.

Note If you change the date or time after Agile PLM Datamart has been installed and started, you need to stop and restart Oracle immediately after the change.

Checking the Windows File System

Agile recommends that servers use NTFS (NT File System) rather than FAT or FAT32 (File Allocation Table), as NTFS is more robust.

To determine the file system type:

1. Check the file system used on the computer. Choose Start > Settings > Control Panel > Administrative Tools > Computer Management. Under Computer Management in the left pane, expand Storage and select Disk Management.

   The Disk Administration windows opens.

   There must be at least two partitions or hard drives. If your computer uses NTFS, proceed with the Oracle installation. If your computer uses a FAT or FAT32 file system, Agile recommends converting it to NTFS beforeproceeding.

   Note Converting the file system deletes all current files on the drive. Backup all necessary files before converting the file system to NTFS.

2. Right-click on the drive you want to reformat and choose Format in the shortcut menu.
3. In the File System field, change the file system type to NTFS.
4. Click Start.

The process takes several minutes. On completion, restart the system. You can proceed with the Oracle installation.

Installing Oracle 9i Release 2 on Windows

These instructions describe how to install and configure Oracle 9i to run with Agile PLM Datamart.

Note Throughout the instructions, default values are shown (such as the installation path or the service name). If you change any of these values during the installation, update the information specific to your installation where appropriate.

Important Make sure the Distributed Transaction Coordinator service is stopped.

To install Oracle 9i:

5. Insert the Oracle database installation CD. You may have to navigate to the CD drive. Click Next.
6. The Oracle Universal Installer welcome screen appears. Click Next.

   The File Locations window appears.
7. Make sure the Oracle home folder is on the D drive at d:\oracle\ora92. Next.

   Note If you are installing Oracle on a different drive, specify that drive instead.

   The Available Products window appears.
8. Select Oracle9i Database 9.2.0.1.0. Click Next.

   The Installation Types window appears.
9. Select Enterprise Edition. Click Next.

Note If you have more than 4 CPUs, you must use Oracle 9i R2 Enterprise Edition. The Standard Edition license only allows you to install on a server having up to 4 CPUs.

The Database Configuration window appears.

10. Select Software Only. Click Next.

    The Oracle Services for Microsoft Transaction Server window appears.

11. Accept the default 2030 port number. Click Next.
12. Review the information to ensure that you have enough disk space. Click Install.

    The Install window appears and displays a progress meter.

13. Insert the remaining CDs when prompted and browse to the \stage folder to continue the installation.
14. Click Exit when the installation is complete.

    The Add Databases to tree dialog appears.

15. Click Cancel.
16. Choose File > Exit from the Oracle Enterprise Manager Console window.

Editing the sqlnet.ora File

For databases installed on Windows Server computers, you must check the sqlnet.ora file to make sure authentication services are configured correctly.

To edit the sqlnet.ora file:

1. Go to the d:\oracle\ora92\network\admin folder.
2. In a text editor, open the sqlnet.ora file and look for the following parameter:

   SQLNET.AUTHENTICATION_SERVICES
   If the parameter is set to (None), you do not need to edit the file.

3. If the parameter is set to (NTS), place a pound symbol (#) at the beginning of the line so it appears as follows:

   # SQLNET.AUTHENTICATION_SERVICES= (NTS)

Note If you do not want to comment out the line, you can change (NTS)to (NONE).

4. Save and close the file. This completes the Oracle installation.

Installing Oracle on Solaris

Important An Oracle database administrator should install this product.

Installation Sequence

This chapter provides information for installing an Agile PLM Datamart database on Sun Solaris. Before you begin, make sure that you have reviewed all relevant Oracle documentation and

ensured the computer meets the minimum system requirements.

Important For best results, start with a clean system (no previous versions of Oracle).

The installation process consists of four major steps:

5. Prepare an installation environment.
6. Install Oracle 9i Release 2 or Oracle 10g Release 2.
7. Run the Agile PLM Datamart database scripts to create the Agile PLM Datamart database.
8. Configure Oracle network connectivity and set additional Oracle functionality.

Oracle Source Documentation

Before you begin, it is important to be familiar with all the information about installing the Oracle database on Solaris, and with the Optimal Flexible Architecture (OFA) reference material for administrators. See the following Oracle documents:

- Oracle 9i Installation Guide Release 2 (9.2.0.1.0) for UNIX Systems: AIX-Based Systems, Compaq Tru64 UNIX, HP 9000 Series HP-UX, Linux Intel, and Sun Solaris.
- Oracle 9i Administrator's Reference Release 2 (9.2.0.1.0) for UNIX Systems: AIX-Based Systems, Compaq Tru64 UNIX, HP 9000 Series HP-UX, Linux Intel, and Sun Solaris in Appendix G: “Optimal Flexible Architecture.”

  These documents are available on the Oracle Technology Network at:
  http://otn.oracle.com/documentation/oracle9i.html
  http://otn.oracle.com/documentation/oracle9i.html
- Oracle 10g Installation Guide Release 1 (10.1) for UNIX Systems: AIX-Based Systems, hp HP-UX PA-RISC (64-bit), hp Tru64 UNIX, Linux x86, and Solaris Operating System (SPARC)
- Oracle Database Administrator’s Guide 10g Release 2 (10.2)

  These documents are available on the Oracle Technology Network at:
  http://www.oracle.com/technology/documentation/database10gR2.html
  (http://www.oracle.com/technology/documentation/index.html)

Note Agile has made every attempt to be OFA-compliant. Any deviation from OFA guidelines are noted.

System Requirements

Before installing Oracle, ensure that your system configuration meets the minimum hardware requirements. If you are using a stand-alone system or hosting multiple instances, consider using the recommended hardware requirements for the specific environment to ensure acceptable performance. For information on specific system requirements, see the Agile PLM Capacity Planning and Deployment Guide.

It is suggested that a Solaris system administrator and Oracle database administrator are available to monitor system activity and determine resource requirements.

Preparing the Host Computer

This section describes how to prepare the installation environment on Solaris, such as creating the necessary groups and user accounts.

Note Oracle 9i Release 2 uses three CDs. To avoid changing CDs during the installation, you should create an area containing the Oracle installation files.

To create the Oracle user account:

1. Log in to the system as root.
2. Create a home directory for the Oracle user:

   # mkdir -p /u01/oracle [Enter]
3. Create two groups called oinstall and dba:

   # groupadd oinstall [Enter]

   # groupadd dba [Enter]
4. Create the Oracle user:

   # useradd -d /u01/oracle -s /bin/sh -g

   oinstall -G dba oracle [Enter]

   where:

   /u01/oracle is the Oracle user home directory

   /bin/sh is the Oracle user login shell

   oinstall is the primary group for the Oracle

   userdba is the secondary group for the Oracle user
5. Set the Oracle user password, and change the Oracle home file ownership:

   # passwd oracle [Enter]

   Enter password:

   # chown oracle:dba /u01/oracle [Enter]
6. Create the Oracle installation directory:

   # mkdir -p /u01/app/oracle [Enter]

   # chown oracle:oinstall /u01/app/oracle [Enter]

You must now copy the Agile PLM Datamart database scripts.

To copy the Agile PLM Datamart database utilities:

1. Change to the Oracle user, and create a temporary directory named “aadmtmp:”

   # su - oracle [Enter]

   $ mkdir /u01/oracle/aadmtmp [Enter]
2. If you obtained the Portfolio Analytics installation bundle from the Agile FTP site, uncompress it at the root of your drive.

   If you obtained a Portfolio Analytics CD, insert the CD and copy the aadmdb.tar.Z file from the CD to the aadmtmp directory:

$ cd /cdrom [Enter]

$ cd /CD1_Agile/DB/Oracle9i or 10g

$ cp aadmdb.tar.Z /u01/oracle/aadmtmp [Enter]

Note If you are installing and upgrading the database from the Agile installation CDs for Windows, but have a Solaris database, the database scripts can be found in the CD1_Agile\Windows\DB\Solaris directory.

3. Change to the aadmtmp directory, and uncompress the files from the aadmdb.tar.Z file:

   $ cd /u01/oracle/aadmtmp [Enter]

   $ uncompress aadmdb.tar.Z [Enter]

4. Extract the aadmdb.tar file:

   $ tar -xvf aadmdb.tar [Enter]

   The aadmdb.tar.Z file contains the following files:

   - aadm.sh — Bourne shell script for creating the database and schema
   - profile.txt — oracle user .profile template
   - system.txt — system kernel parameters
   - dbora — setup for the database automatic shutdown and startup

To modify the system kernel parameters:

1. Change to the root user, and back up the /etc/system file:

   $ su - [Enter]

   # cp /etc/system /etc/system_save [Enter]

2. Verify the following /etc/system kernel parameters. If the parameters do not exist, go to the next step.

set shmsys:shminfo_shmmax	4294967295
set shmsys:shminfo_shmmin	1
set shmsys:shminfo_shmmni	100
set shmsys:shminfo_shmseg	32
set semsys:seminfo_semmns	1000
set semsys:seminfo_semmni	100
set semsys:seminfo_semmsl	500
set semsys:seminfo_semopm	100
set semsys:seminfo_semvmx	32767

Important If you have been running the host computer as an Oracle database server, you have to check with your Solaris system administrator before changing these parameters. For these parameter settings, you can also refer to the Oracle 9i or Oracle 10g installation

documentation.

Note	Restart the computer if you modify the /etc/system file.

3. The previous kernel parameters are set in the distributed system.txt file. Append system.txt to /etc/system if this is the first time you are configuring the host computer as the database server.

   # cat /u01/oracle/aadmtmp/system.txt >> /etc/system

Note	Use >> to append. If you have accidentally used >, you need to recover the original /etc/system file by using cp system_save system.

4. Restart the system to make the new kernel configuration take effect.

Note	If you do not restart the system, the database creation will fail. You may need to check with your Solaris system administrator for support.

To set up Oracle environmental variables:

1. Log in to the system as the Oracle user.
2. Create the environmental parameter file .profile to include:

```
PATH=$PATH:/usr/local/bin:/usr/ccs/bin:/usr/openwin/bin:/usr/bin/X11
export PATH
ORACLE_HOME=/u01/app/oracle/product/9.2.0SE; export ORACLE_HOME
ORACLE_BASE=/u01/app/oracle; export ORACLE_BASE
PATH=$PATH:$ORACLE_HOME/bin; export PATH
ORACLE_SID=aadm; export ORACLE_SID
TNS_ADMIN=/var/opt/oracle; export TNS_ADMIN
NLS_LANG=American_America.UTF8; export NLS_LANG
```

Note	If you are using Oracle 10g, substitute /u01/app/oracle/product/109.2.0SE for the Oracle home.

3. The environmental parameters in the previous step are set in the distributed profile.txt file. If this is the first time you are configuring the host computer as a database server, copy the profile.txt file to .profile:

   $ cat aadmtmp/profile.txt > .profile [Enter]

4. Update the environmental setting:

   $ . ./.profile [Enter]

Making the Oracle Installer Available

To simplify the Oracle installation, you can copy the data from the Oracle installation CDs onto the Solaris computer. Use the instructions in “Installing Oracle 9i” in the Agile PLM Database Installation Guide for Oracle to copy the data from the installation CDs.

Creating the Agile PLM Datamart Database

This section describes how to create the Agile PLM Datamart database instance and schemas.

To create the Agile PLM Datamart database:

1. Log in to the computer as the Oracle user.
   a. If necessary, edit the .profile file to change Oracle SID. By default, Agile CM uses aadm as the Oracle SID:

      $ vi .profile [Enter]

   b. Modify the value, where ORACLE_SID=aadm by replacing aadm with the SID you want to use.

Important Check the /var/opt/oracle/oratab file and make sure that the specified Oracle SID has not been used. Specifying an existing Oracle SID can corrupt that database instance.

Note	Generally, the SID length is four alphanumeric characters. This avoids lengthy database filenames for associated database files.

   c. Run .profile to make the SID changes take effect:

      $ . ./.profile [Enter]

2. In a second terminal session, log in to the computer as the root user.
3. Create a directory named “oradata.”

Note	The aadm.sh file uses a dummy mount point /mpt. You must change /mpt to match your mount points. For OFA compliance, it is highly recommended that you create at least four mount points (preferably on four different disks across multiple controllers) to optimize disk I/O.

   For example, if you have mount points at /u01 and /u02, you can create an oradata folder on each mount point.

      # mkdir -p /u01/oradata

      # chown oracle:dba /u01/oradata

4. In the session where you are logged in as the Oracle user, create a $ORACLE_BASE/admin directory:

      $ mkdir -p /u01/app/oracle/admin [Enter]

   You must now run the aadm.sh script.

5. Change to the /u01/oracle/aadmtmp directory.
6. Modify the aadm.sh script to match the mount points on your computer, and then copy the script to the Oracle user home directory (/u01/oracle).

Important Make sure ORACLE_SID matches the one you set for .profile, which should have taken effect after you ran . ./.profile.

Note	The aadm.sh file uses a dummy mount point /mpt. You must change /mpt to match your mount points. For OFA compliance, it is highly recommended that you create at least four mount points (preferably on four different disks across multiple controllers) to optimize disk I/O.

   The values in the script that can be modified appear in bold. You should limit your editing only

to these bold values.

For example, if you have a mount point created at /u01, you can modify aadm.sh and quickly recreate it in the Oracle user home directory by issuing one command.

$ cat /u01/oracle/aadmtmp/aadm.sh | sed -e "s/mpt\/u01\/g" > /u01/oracle/aadm.sh

$ chmod u+x /u01/oracle/aadm.sh

Note The following code lists variables in bold that you may want to revise besides dummy mount point /mpt

```
##!/bin/sh
#
#  ============================================================
#  Copyright (c) 1995-2005 Agile Software Corporation
#  All Rights Reserved.
#
#  This is unpublished proprietary source code of Agile
#  Software Corporation. The copyright notice above does not evidence
#  any actual or intended publication of such source code.
#  ============================================================
#
# Oracle_sid default as aadm
#
ORACLE_SID=aadm# Oracle SID for the database
AASYSPW=oracle# Oracle sys passwd for the database
AASYSTEMPW=manager# Oracle system passwd for the database
AST=ast# Oracle account for AST schema
ASTPW=ast# Oracle passwd for AST
AAD=aad# Oracle account for AAD schema
AADPW=aad# Oracle passwd for AAD
ADW=adw# Oracle account for ADW
ADWPW=adw# Oracle password for ADW
#
# Parameters determine location of datafiles, controlfiles and
logfiles
#
DATABASE_SYSTEM=/mpt/oradata/${ORACLE_SID}# SYSTEM tablespace mount
point
DATABASE_TOOLS=/mpt/oradata/${ORACLE_SID} # TOOLS tablespace mount
point
DATABASE_UNDO=/mpt/oradata/${ORACLE_SID} # RBS tablespace mount point
DATABASE_TEMP=/mpt/oradata/${ORACLE_SID} # TEMP tablespace mount point
```

```
DATABASE_USERS=/mpt/oradata/${ORACLE_SID} # USERS tablespace mount
point

DATABASE_INDX=/mpt/oradata/${ORACLE_SID} # INDX tablespace mount point

DATABASE_AGILE_DATA1=/mpt/oradata/${ORACLE_SID}# AGILE_DATA1
tablespace mount point

DATABASE_AGILE_INDX1=/mpt/oradata/${ORACLE_SID}# AGILE_INDX1
tablespace mount point

DATABASE_AGILE_DATA2=/mpt/oradata/${ORACLE_SID}# AGILE_DATA2
tablespace mount point

DATABASE_AGILE_INDX2=/mpt/oradata/${ORACLE_SID}# AGILE_INDX2
tablespace mount point

DATABASE_AGILE_DATA3=/mpt/oradata/${ORACLE_SID}# AGILE_DATA3
tablespace mount point

DATABASE_AGILE_INDX3=/mpt/oradata/${ORACLE_SID}# AGILE_INDX3
tablespace mount point

DATABASE_AGILE_DATA4=/mpt/oradata/${ORACLE_SID}# AGILE_DATA4
tablespace mount point

DATABASE_AGILE_INDX4=/mpt/oradata/${ORACLE_SID} # AGILE_INDX4
tablespace mount point

DATABASE_LOGFILES1=/mpt/oradata/${ORACLE_SID} # REDOLOG file 1 mount
point

DATABASE_LOGFILES2=/mpt/oradata/${ORACLE_SID} # REDOLOG file 2 mount
point

DATABASE_LOGFILES3=/mpt/oradata/${ORACLE_SID} # REDOLOG file 3 mount
point

DATABASE_LOGFILES4=/mpt/oradata/${ORACLE_SID} # REDOLOG file 4 mount
point

DATABASE_CONTROL1=/mpt/oradata/${ORACLE_SID} # CONTROL file 1 mount
point

DATABASE_CONTROL2=/mpt/oradata/${ORACLE_SID} # CONTROL file 2 mount
point

DATABASE_CONTROL3=/mpt/oradata/${ORACLE_SID} # CONTROL file 3 mount
point

DATABASE_ARCHIVE=/mpt/oradata/${ORACLE_SID}/arch # ARCHIVELOGS mount
point

#

# Parameters determine character set used

#

CHARACTER_SET=UTF8

NATIONAL_CHARACTER_SET=UTF8
```

7. Run the aadm.sh script from the Oracle user home directory:

   $ cd [Enter]

   $ ./aadm.sh [Enter]

Note	If you are unable to create files, you may have to give the system user full privileges to the u01 directory.

8. You are prompted about the database size that you want to install.

   You should use the regular database size unless you have consulted with an Agile Solutions Consultant or database administrator to ensure that the computer meets the minimum requirements for the specified database size.

   The script will run for awhile.

Continue to the next section for post-installation tasks.

Post-Installation Tasks

This section describes how to configure Oracle Net Manager, and set the automatic startup and shutdown features for the database.

Setting Up Oracle Net Manager

To set up Oracle Net Manager:

1. Log in as root and change the ownership of the /var/opt/oracle directory:

   # chown -R oracle:dba /var/opt/oracle [Enter]

2. Switch to the Oracle user, and change to the Oracle network directory:

   # su - oracle [Enter]

   $ cd /u01/app/oracle/product/9.2.0SE/network/admin [Enter]

3. 3 Move all the files to the directory defined by environmental parameter TNS_ADMIN, which is /var/opt/oracle:

   $ mv * /var/opt/oracle [Enter]

Setting Up Automatic Shutdown and Startup for the Database

To set up the Oracle database to automatically shut down and start up when the host computer starts up and shuts down:

1. Log in the system as root.
2. Create a file named “dbora” in the /etc/init.d directory:

   # cat /u01/oracle/aadmtmp/dbora > /etc/init.d/dbora[Enter]

3. Link to the dbora file:

   # ln -s /etc/init.d/dbora /etc/rc0.d/K10dbora [Enter]

   # ln -s /etc/init.d/dbora /etc/rc2.d/S99dbora [Enter] Configuring the listener.ora File

To configure the listener.ora file:

1. Start Net Manager:

   $ netmgr &

2. Within the Local folder, open the Listeners folder and select LISTENER.

Check to see if the following settings appear in one of the Address tabs:

- Protocol: TCP/IP
- Host: the host computer where the Oracle database is installed
- Port: 1521

a. If the information does not appear, click Add Address.

   A new Address tab appears.

b. Type these settings:
   - Protocol: TCP/IP
   - Host: the host computer where the Oracle database is installed
   - Port: 1521

c. Select Database Service in the Listener Location drop-down list.

d. Click Add Database.

   In the dialog box that appears, make the following changes:
   - Global Database Name: aadm
   - Oracle Home Directory: oracle_home

     For Oracle 9i, enter /u01/app/oracle/product/9.2.0SE

     For Oracle 10g, enter /u01/app/oracle/product/109.2.0SE
   - SID: aadm

3. Choose File > Save Network Configuration to save your changes.
4. Close Net Manager.

Configuring the tnsnames.ora File (Optional)

1. In the Oracle Net Manager window, double-click the Local folder and select the Service Naming folder.
2. Click Create in the toolbar to add a service name.

   The Net Service Name Wizard starts
3. In the Net Service Name field, type the name of the computer where the Oracle database is located (usually the current computer). Click Next.
4. You are prompted to select a network protocol. Select TCP/IP (Internet Protocol) and click Next.
5. Type the name of the computer where Oracle is located in the Hostname field (the same name you typed in step 3). Accept 1521 as the default port number. Click Next.
6. Select Oracle8i or later as the service name, and type aadm in the field. Click Next.
7. Click Test to test the service.

   The test initially fails because the default uses the incorrect login.
8. Click Change Login to reset the username and password.
9. Type ast in the Username field and ast in the Password field and then click OK.
10. Click Test.

    You should now see a message indicating that the test was successful.
11. Click Close.

12. Click Finish to exit the Net Service Name Wizard.
13. From the Net Manager menu, choose File > Save Network Configuration to save the service name.

This completes the installation and configuration for the Agile PLM Datamart on an Oracle database on Solaris.

Chapter 9

Troubleshooting

This chapter includes the following:

Datamart Installation

This section provides troubleshooting tips for Agile PLM Datamart database installation.

Setting the OracleServiceAADM Service to Start Automatically

When you restart the database server, make sure the Agile PLM Datamart database instance started. If it did not start, it may be because the OracleServiceAADM service is not configured to start automatically when the machine is restarted. To fix this problem, open the Windows Services window, right-click the OracleServiceAADM service, and choose Properties from the shortcut menu. On the General tab, select Automatic for the Startup Type field.

Listener Configuration

If the Oracle database listener is not properly configured, ETL tasks will not be able to connect to the Datamart. For instructions on configuring the listener, see Adding and Configuring the Database Listener (18).

Creating a Product Profile Table

After you create the datamart database and look at the installation logs, you may see the following warning:

Error accessing PRODUCT_USER_PROFILE
Warning: Product user profile information not loaded!
You may need to run PUPBLD.SQL as SYSTEM

If a Product Profile table doesn't exist on your database server, you can create one manually.

To create a Product Profile table:

1. Open a Command Prompt window.
2. Go to the oracle_home\sqlplus\admin directory.
3. Start SQL*Plus and log in as system/manager:

```
D:\> sqlplus system/manager
```

4. Type @pupbld.sql and press Enter.

   The Product Profile table is created.

Manually Installing the Analytics Plug-In for Windows

To manually install the plug-in for Windows:

1. Stop the application server.2
2. Update the application.ear file with the Agile Analytics plug-in JAR files.
3. Create a folder named d:\AgileAnalyticsTmp.
4. Copy the application.ear file from the AGILE_HOME\agileDomain\applications\ folder and paste it into the D:\AgileAnalyticsTmp folder.
5. CD D:\AgileAnalyticsTmp.
6. Set the Java environment as follows:

```
SET JAVA_HOME=%AGILE_HOME%\jdk
SET PATH=.;%JAVA_HOME%\bin
SET CLASSPATH=.;%JAVA_HOME%\lib\tools.jar
```

7. Extract application.ear into D:\AgileAnalyticsTmp folder using the following command.

```
jar -xvf application.ear
```

8. Copy the analytics.jar file from the AA_HOME\ ServerComponents folder into the D:\AgileAnalyticsTmp folder.
9. Copy the analyticsclasses.jar file from the AA_HOME\ ServerComponents folder into the D:\AgileAnalyticsTmp\APP-INF\lib folder.
10. Modify the application.xml file located in the D:\AgileAnalyticsTmp\META-INF\ folder by adding the following entry:

```
Find        <security-role id="SecurityRole_1">
Replace     <module id="Analytics">
            <ejb>analytics.jar</ejb>
            </module>
            <security-role id="SecurityRole_1">
```

11. Delete the application.ear file located in the D:\AgileAnalyticsTmp\ folder.
12. Update agileclasses.jar for LicenseKeyAgile9.class.
13. Create a temp folder in the D:\AgileAnalyticsTmp\APP-INF\lib folder.
14. Copy the agileclasses.jar file from the D:\AgileAnalyticsTmp\APP-INF\lib folder to the D:\AgileAnalyticsTmp\APP-INF\lib\temp folder.
15. Extract agileclasses.jar
16. jar -xvf agileclasses.jar
17. Delete agileclasses.jar
18. Go to the D:\AgileAnalyticsTmp \APP-INF\lib\temp\com\agile\admin\license folder and rename the file LicenseKeyAgile9.class to LicenseKeyAgile9.class.bak.

19. Paste new LicenseKeyAgile9.class provided.
20. Repack the agileclasses.jar file.
21. Open a command prompt window and go to the D:\ AgileAnalyticsTmp\APP-INF\lib\temp folder.
22. Execute jar -cvf agileclasses.jar *.*
23. Rename the agileclasses.jar file to agileclasss.jar.bak present at D:\ AgileAnalyticsTmp\APP-INF\lib
24. Copy the agileclasses.jar file from the D:\AgileAnalyticsTmp\APP-INF\lib\temp folder and paste it into the D:\AgileAnalyticsTmp\APP-INF\lib folder.
25. Delete the temp folder in D:\ AgileAnalyticsTmp\APP-INF\lib folder.
26. Package the files into application.ear using the following command:

    D:\AgileAnalyticsTmp\
    jar -cvf application.ear *.*

27. Copy the application.ear file located in the AGILE_HOME\agileDomain\applications\ folder and replace it with the application.ear file located in the d:\AgileAnalyticsTmp\ folder.

    Note Be sure to use a backup of the original file.

28. Undeploy Agile.
29. Go to the AGILE_HOME\agileDomain\bin folder.
30. Execute UnDeployAgile.cmd
31. DeployAgile.
32. Go to the AGILE_HOME\agileDomain\bin folder.
33. Execute the DeployAgile.cmd.

Plugin Installation in Clustered Environments

This section provides information about installing the Agile PLM–Analytics Plugin in clustered environments.

In general, the Analytics Plugin should be installed on all Agile Application Servers in the cluster. After installing the Plugin, Agile PLM should be restarted on all servers in the cluster.

Plugin Installation in Clustered Environment with BEA Weblogic Server

For clustered environment with BEA Weblogic Server, the Agile PLM–Analytics Plugin must be installed on the administrative server and all managed servers.

Plugin Installation in Clustered Environment with Oracle Application Server

For clustered environment with Oracle Application Server, the Agile PLM–Analytics Plugin must be installed on the repository host server where Agile PLM is installed. It is not required to install the Plugin on non-repository host servers in the cluster.

Error from Non-repository Host Server

When installing the Plugin on OAS – specifically, on the repository host server – you may see an error from non-repository host server(s). This would occur after re-deployment of Agile PLM by the Plugin Installer. To resolve this error, restart all non-repository host servers.

ETL Tasks Installation

This section provides troubleshooting tips for Agile PLM Datamart ETL tasks installation.

ETL Environment Variables and Classpath Settings

There are a few settings required for the Java code to be called successfully from the ETL task. For example, if the Java classpath is not set correctly, you'll get errors when you try to run the ETL tasks.

AA_HOME Environment Variable

There should exist an Windows Environment variable by the name AA_HOME and this variable should have the path to the folder where Agile PLM Datamart ETL tasks are installed (for example, D:\Agile\Agile921\Analytics).

Classpaths

Make sure the classes folder for Agile PLM Datamart ETL tasks (for example, D:\Agile\Agile921\Analytics\classes) is included in the classpath. All JAR files contained in <AA_HOME>\lib folder should also be included in the classpath.

Creating and Maintaining the Repository

The following error may be displayed in the DT/Engine logs or DT/Engine console window.

The database and the filesystem repositories are not in sync.

Note Some of the tasks may abort or produce incorrect results when executed.

To resolve this error, drop the current DT/Engine repository and recreate it.

To recreate the DT Repository from DT Console:

1. In the DT/Console Explorer, right-click the DT/Engine and select DT/Engine Properties from the shortcut menu.
2. Click Drop, and then click OK to confirm the drop. Click OK again when the repository is successfully dropped.
3. Click Create, and then click OK.
4. Click Set.
5. If prompted, log in again. (If you checked Connect Automatically when you logged in, you will

not see this prompt.)

6. Click OK to dismiss the message that the repository exists and is current. Place the below list of files in the DT/Engine storage folder

   For example, D:\Program Files\Embarcadero\DTStudio\DTEngine2.3.1\storage

   <AA_Home>\ETL\Common\templatexmls\PLM_ADW_COM_ALL.xml

   <AA_Home>\ETL\Common\templatexmls\PLM_AA_POST_TASK.xml

   <AA_Home>\ETL\PA\templatexmls\PLM_ADW_PA_ALL.xml

   <AA_Home>\ETL\PA_EXT\templatexmls\PLM_ADW_PA_EXT_ALL.xml

   <AA_Home>\ETL\PCA\templatexmls\PLM_ADW_PCA_ALL.xml

   <AA_Home>\ETL\QA\templatexmls\PLM_ADW_PQA_ALL.xml

   <AA_Home>\ETL\Staging\Common\templatexmls\PLM_AST_COM_ALL.xml

   <AA_Home>\ETL\Staging\PA\templatexmls\PLM_AST_PA_ALL.xml

   <AA_Home>\ETL\Staging\PCA\PLM_AST_PCA_ALL.xml

   <AA_Home>\ETL\Staging\PQA\templatexmls\PLM_AST_PQA_ALL.xml

7. Run the InstallAgileTasks.bat file found at <AA_HOME>\ETL

Deploying the Agile PLM Datamart Task Chain

The Agile PLM Datamart ETL task chain is sometimes not deployed properly to the repository if the repository is not set prior to the Agile PLM Datamart installer being run or the DT/Engine service is not started during installation.

To deploy the Agile PLM Datamart task chain to the DT/Engine repository:

Run the InstallAgileTasks.bat found at *<AA_HOME>\ETL.*

Resizing the TEMP Tablespace

If you run a DT/Studio task ‘AST_TRNSLT_AST_COM_MAP’ and the task aborts, you may see the following error in the task log file:

ORA-01652: unable to extend temp segment by 256 in tablespace TEMP

This error occurs because the TEMP tablespace initial size is too small and is not automatically extended. You can correct this problem by turning Autoextend on and setting the maximum size for the TEMP tablespace to be unlimited.

However, since the TEMP tablespace is the default temporary tablespace for the database, you can’t alter it. You can get around that limitation by creating another TEMP2 tablespace and making it the default temporary tablespace while you drop and then recreate the TEMP tablespace.

To resize the TEMP tablespace:

1. On the Agile9 database computer, open a Command Prompt window.
2. Run the following command:

   D:\> SET ORACLE_SID=Agile9

3. Start SQL*Plus without connecting to the database:

   D:\> sqlplus /nolog

4. Connect as the SYS user.

   SQL> connect sys/<SYS_PWD> as sysdba

5. Create another temporary tablespace (TEMP2).

   SQL> CREATE TEMPORARY TABLESPACE temp2 TEMPFILE

   2 'D:\ORACLE\ORADATA\AGILE9\TEMP02AGILE9.ORA' SIZE 8M REUSE

   3 AUTOEXTEND ON NEXT 8M MAXSIZE unlimited

   4 EXTENT MANAGEMENT LOCAL UNIFORM SIZE 1M;

6. Make TEMP2 the default temporary tablespace.

   SQL> ALTER DATABASE DEFAULT TEMPORARY TABLESPACE temp2;

7. Drop the original TEMP tablespace.

   SQL> DROP TABLESPACE temp INCLUDING CONTENTS AND DATAFILES;

8. Recreate the TEMP tablespace with the correct size.

   SQL> CREATE TEMPORARY TABLESPACE temp TEMPFILE

   2 'D:\oracle\oradata\AGILE9\TEMP01AGILE9.ORA' SIZE 512M REUSE

   3 AUTOEXTEND ON NEXT 8M MAXSIZE unlimited

   4 EXTENT MANAGEMENT LOCAL UNIFORM SIZE 1M;

9. Make the new TEMP tablespace your default temporary tablespace.

   SQL> ALTER DATABASE DEFAULT TEMPORARY TABLESPACE temp;

10. Drop the TEMP2 tablespace.

    SQL> DROP TABLESPACE temp2 INCLUDING CONTENTS AND DATAFILES;

Configuring the Autopurger Task

Autopurger is a built-in DT/Studio Task that purges the execution logs of the tasks. By default, the autopurger task deletes logs older than ten days but retains logs for the ten most recent runs regardless of how old they are.

To change the default setting, edit the OLDER_THAN_DAYS and LEAVING_LAST_N_EXECUTIONS properties in the Autopurger.properties file located under <DT_HOME>\config directory.

Generating a Thread Dump of a DT/Engine Session

If the DT/Engine fails to run an ETL task, you can generate a thread dump. A thread dump is a textual dump of all active threads and monitors running in the Java Virtual Machine. It gives the exact line of code where the ETL task is hanging, allowing Agile Support to diagnose the problem.

To create a thread dump of a DT/Engine session:

1. Start DT/Engine from the Command Prompt:
   a. Navigate to the <DT_HOME>/bin folder from windows explorer.
   b. Edit the dt_engine.bat file to remove the -Xrs option from the batch file, i.e., edit the following line:

      set _jvm_args=-Xrs
      to

      set _jvm_args=

   c. Make sure DTEngineManagerService is NOT running.
   d. Open a Command Prompt window and go to <DT_HOME>\bin.
   e. Start the engine using the following command:

      dt_engine start

2. Start DT/Console.
3. Run the ETL task that you had problems running earlier.
4. If the task hangs for a long time (for example, it exceeds the duration of the last successful execution run by two hours), take a thread dump by pressing CTRL-BREAK in the DT/Engine Command Prompt window.
5. In the Command Prompt window, scroll back until you reach the line containing “Full thread dump.”
6. Right-click the title bar, and choose Edit > Mark. Highlight the entire text of the thread dump.
7. Right-click the title bar, and choose Edit > Copy.
8. Paste the thread dump into a text file and save it
9. Send the thread dump file to Agile Support for analysis.

Note If you start DT/Engine using the DT Engine Manager user interface instead of a Command Prompt, you cannot generate a thread dump when an ETL task fails.

Periodically Restarting the DT/Engine Service

To ensure adequate performance of DT/Engine, periodically restart the DT/Engine Manager service at least every ten (10) runs of the ETL tasks or every seven days, whichever occurs first.

Turning ON/OFF the COM_GENERATE_STATS

By default, the COM_GENERATE_STATS is in OFF state

To turn it ON:

1. Make sure Agile PLM Data mart tasks are installed
2. Stop DTEngine
3. Add COM_GENERATE_STATS task as the 1st Task to the Task Chain.
   a. Modify AA_HOME\ETL\Common\adw_com_datasource.properties and AA_HOME\ETL\Common\adw_com_taskchain.list to add the tasks.

Note	Make sure that all task chains should be separated by comma(,)

4. Restart the DT Engine.
5. Restart DT Engine Manager Service
6. Login to DTEngine through DTConsole
7. Purge Logs for Tasks and Task Chain menu items
8. Execute AgileAnalytics Task Chain

To turn it OFF:

1. Make sure that Agile PLM Data mart tasks are installed
2. Stop DTEngine
3. Remove COM_GENERATE_STATS task from the Task Chains.
   a. Modify AA_HOME\ETL\Common\adw_com_datasource.properties and AA_HOME\ETL\Common\adw_com_taskchain.list to remove the tasks.
4. Restart the DT Engine.
5. Restart DT Engine Manager Service
6. Login to DTEngine through DTConsole
7. Purge Logs for Tasks and Task Chain menu items
8. Execute AgileAnalytics Task Chain