Agile PLM Datamart Installation and Administration Guide

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REVISIONS

Revision	Date	Pages Affected	Description
A	7/27/06	All	Initial release of manual (LA1)
B	8/25/06	2-1, 3-2, 3-6, A-1, A4, E-2–4	LA2 release: supports BEA WebLogic Server. In App. E, “Troubleshooting”: added “Plugin Installation in Clustered Environments” and “Resizing the TEMP Tablespace”
C	9/14/07	F-1–2	Added App. F, “Changing Passwords”

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PREFACE

The Agile documentation set includes Adobe® Acrobat™ PDF files. The Oracle Technology Network (OTN) Web site 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.

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 www.adobe.com.

The Oracle Technology Network (OTN) Web site 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 www.agile.com/support.

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

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.

Agile Training Aids

Go to the Agile Training Web page for more information on Agile Training offerings.

CHAPTER 1
Introduction

This chapter introduces the Agile PLM Datamart. It has the following sections:

- *What is the Agile PLM Datamart?*
- *Who should Use the Agile PLM Datamart?*
- *Agile PLM Datamart Architecture*

What is the 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 the Agile PLM Datamart?

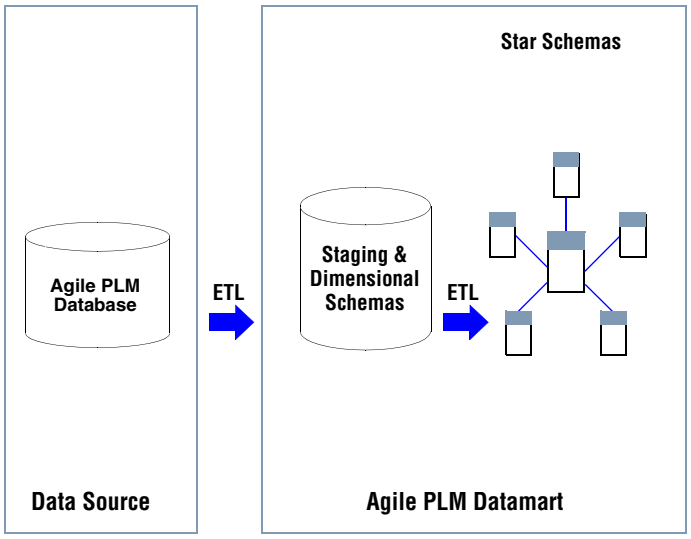
The Agile PLM Datamart is useful to the following kinds of users:

- 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.

Figure 1-1: Agile PLM Analytics Architecture



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.

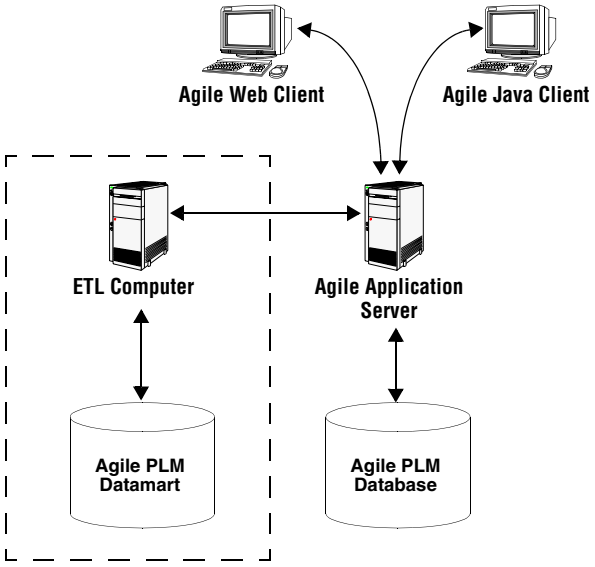
Using ETL tasks, the data is extracted from the data sources and loaded into relational schemas that comprise the Agile PLM Datamart:

- **Staging schema** — a schema that contains raw data, which can be used for staging purposes before moving to other datamarts.
- **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.
- **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.

Figure 1-2: Agile PLM Datamart Sample Configuration



CHAPTER 2
Capacity Planning and Deployment

This chapter describes configuration and capacity planning and deployment strategies for the Agile PLM Datamart. It has the following sections:

- *Software Requirements*
- *Hardware Requirements*
- *Agile PLM Datamart Server Sizing*

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.

Tables 2-1 through 2-4 provide summary information for minimum hardware requirements based on database size.

Table 2-1: Minimum hardware requirements—small database system (100 MB to 1 GB)

Hardware	Windows OS
CPU	Dual, 1.8 GHz Intel Xeon
RAM (GB)	1
Number and size of disks (partitions)	Four 18-GB

Table 2-2: Minimum hardware requirements—medium database system (1 GB to 5 GB)

Hardware	Windows OS
CPU	Dual, 1.8 GHz Intel Xeon
RAM (GB)	2
Number and size of disks (partitions)	Four 18-GB

Table 2-3: Minimum hardware requirements—large database system (2 GB to 16 GB)

Hardware	Windows OS
CPU	Four, 1.8 GHz Intel Xeon
RAM (GB)	4
Number and size of disks (partitions)	Nine 18-GB

Table 2-4: Minimum hardware requirements—extra-large database system (5 GB to 38 GB)

Hardware	Windows OS
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 Symphony RPM) 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.

Table 2-1: Recommended hardware resources for different database sizes

Database Size	CPU	RAM	Disks *
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

* Each disk has 18 GB disk space.

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, preproduction, 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 Table 2-5.

Table 2-5: One-disk configuration for OFA implementation

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.

Table 2-6: Two-disk configuration for OFA implementation

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 Table 2-7 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.

Table 2-7: Four-disk configuration for OFA implementation

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 Table 2-8.

Table 2-8: Eight-disk configuration for OFA implementation

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		

Table 2-8: Eight-disk configuration for OFA implementation (continued)

Disks	Oracle_Home	Tablespaces	Redo Logfiles	Control files
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 Table 2-9.

Table 2-9: Twelve-disk configuration for OFA implementation

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		

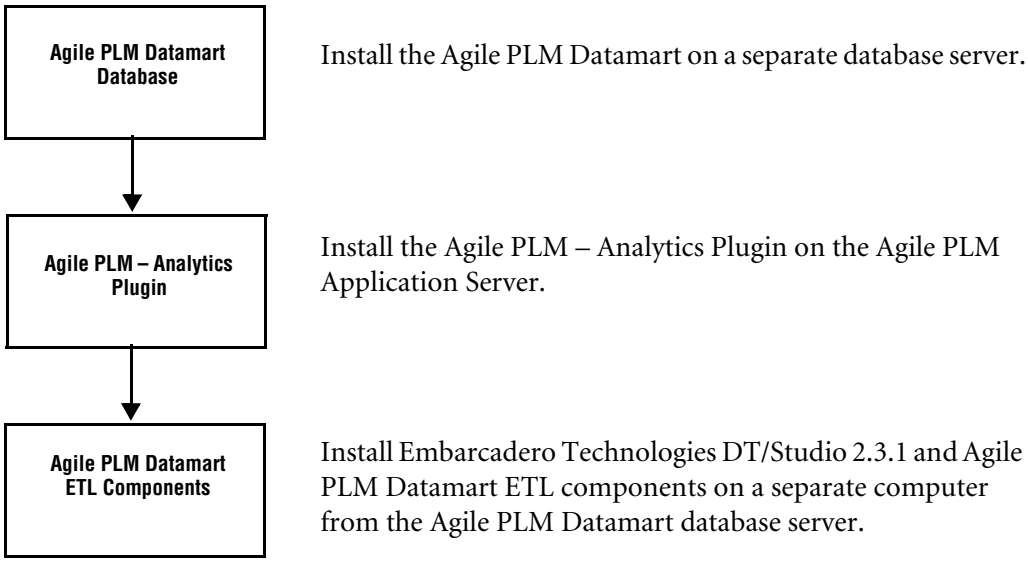
CHAPTER 3
Installing the Agile PLM Datamart

This chapter describes how to install Agile PLM Datamart components. It has the following sections:

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.

Figure 3-1: Agile PLM Datamart component installation order



Installing and Testing the Software on a Development Server

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. 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 Checklist

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

- ☐ Can you 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.
- ☐ Have you verified 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.
- ☐ Is your Agile PLM database server installed and running on a separate machine?
- ☐ Is your Agile PLM application server installed and running on a separate machine?
- ☐ Do you have local Administrator rights to the servers on which you plan to install Agile PLM Datamart components?

Note You must complete this checklist before installing the Agile PLM Datamart.

Starting the 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 lock up the installation. You can turn the virus protection on after the installation is complete.

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.

   After a few moments, the Welcome screen appears.
3. For information about any screen in the installer, click **Help**.

Installer Online Help

Each installation screen has online help. At any time during installation, you can click **Help** for more information about the screen's options.

Note If you leave the online help window open, it will be updated when you proceed through the installer screens. Otherwise, click **Close** at the bottom of the help window.

Installer Buttons

Agile PLM Datamart installation screens have the following buttons:

- **Cancel** – Exits from the installation program.
- **Help** – Displays online help.
- **Previous** – Returns to the previous step.
- **Next** – Proceeds to the next step.
- **Install** – Starts installing. The **Install** button appears only on the Pre-Installation Summary screen, after you have specified installation options.
- **Done** – Exits from the installation program. On Windows, after installing certain components you can choose whether to restart the computer when you click **Done**. The **Done** button appears only on the Install Complete screen, after you have finished installing.

Installing the Agile PLM Datamart Database

Follow these steps to install the Agile PLM Datamart on the database server:

1. Install the Oracle database (Oracle 9i R2 or Oracle 10g).
2. Start the Agile PLM Datamart setup program, and install the **Database Server** component on the Oracle database server.

   See "Starting the Agile PLM Datamart Installer" on page 3-2.
3. Check the installation log files to make sure the database was created successfully.

   See "Checking Installation Logs on the Database Server" on page 3-3.
4. 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" on page 3-4.

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. Here are log files you will see:

- **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.

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 the Command Line:

1. Open a Command Prompt window.
2. Enter the following commands to set environment variables:

```
D:\> Set ORACLE_HOME=<ORACLE_HOME>
D:\> Set PATH=%PATH%;<ORACLE_HOME>\bin;
D:\> Set ORACLE_SID=<SID_NAME>
D:\> Set NLS_LANG=American_America.UTF8
```

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

```
D:\> sqlplus /nolog
```

4. Run the following SQL commands:

```
SQL> connect sys/<SYS_PWD> as sysdba
SQL> shutdown immediate
```

5. Delete the Agile PLM Datamart SID (the default SID name is "aadm") and its password file:

```
D:\> <ORACLE_HOME>\bin\oradim -delete -sid <SID_NAME>
D:\> del <ORACLE_HOME>\database\pwd<SID_NAME>.ora
```

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. 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.
5. Click **OK** to continue.

   A confirmation dialog box appears.
6. Click **Yes** to continue.

   After the database is deleted, you are prompted whether to perform another operation.
7. Click **No** to exit.

Removing Database Files

After you delete a database instance, the database's datafiles, redo log files, and all other associated files (control files, initialization parameter files, and archived log files) must be removed manually. To view the names of the database's datafiles, redo log files, and control files, query the V$DATAFILE, V$LOGFILE, and V$CONTROLFILE data dictionary views, respectively.

If the database is in archive log mode, locate the archive log destinations by inspecting the initialization parameters LOG_ARCHIVE_DEST_n, or LOG_ARCHIVE_DEST and LOG_ARCHIVE_DUPLEX_DEST.

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:
   ```
   D:\> 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 PLM – Analytics Plugin

Follow these steps to install the Agile PLM – Analytics Plugin on the Agile PLM application server.

To install the Agile PLM – Analytics Plugin on Oracle Application Server:

1. Stop the Web proxy server used for Agile PLM.
2. Make sure the Agile PLM application server is running.
3. Start the Agile PLM Datamart setup program, and install the **Agile PLM – Analytics Plugin** component on the Agile PLM application server.

   See "Starting the Agile PLM Datamart Installer" on page 3-2.

   Note If you have an application server cluster, install the plugin on the repository host server only. During installation, the Agile application is repackaged and redeployed to all servers in the cluster.
4. Restart the Web proxy server used for Agile PLM.

To install the Agile PLM – Analytics Plugin on WebLogic Server:

1. Stop the Web proxy server used for Agile PLM.
2. Stop the Agile PLM application server. Choose **Start > All Programs > Agile > Agile 9.2.1 > Stop Agile Server**.
3. Start the Agile PLM Datamart setup program, and install the Agile PLM – Analytics Plugin component on the Agile PLM application server.

   See "Starting the Agile PLM Datamart Installer" on page 3-2.

   Note If you have an application server cluster, install the plugin on the WebLogic Administration Server only. The Agile application is redeployed to all Managed Servers in the cluster.
4. Restart the Agile PLM application server. Choose **Start > All Programs > Agile > Agile 9.2.1 > Start Agile Server**.
5. Restart the Web proxy server used for Agile PLM.

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.

To update your Agile license key using Oracle SQL*Plus:

1. On the Agile PLM database server, open a Command Prompt window.
2. Start SQL*Plus and log in as the Agile user. The default Agile user and password is agile/tartan, and the default SID is "agile9".

   ```
   D:\> sqlplus agile/tartan@agile9
   ```

3. Run the following command:

   ```
   SQL> update propertytable set value='<newLicenseKey>' where id=44051;
   ```

4. 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.

Installing Datamart ETL Tasks

Follow these steps to install Agile PLM Datamart ETL tasks:

1. Make sure Agile PLM application server is installed and running and is using the latest license key you have.

   See "Updating the Agile License Key" on page 3-6.
2. Make sure the Agile PLM Datamart database is installed and running.
3. Install Embarcadero DT/Studio 2.3.1 components. This includes DT/Engine and DT/Console.

   See Appendix D, "Installing Embarcadero DT/Studio."
4. 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.
5. Start the Agile PLM Datamart setup program, and install the **Datamart ETL Tasks** component.

   See "Starting the Agile PLM Datamart Installer" on page 3-2.
6. Check the installation log file to make sure the ETL components were installed successfully.

   See "Checking the Installation Log on the ETL Server" on page 3-7.

Checking the Installation Log on the ETL Server

After you install Agile PLM Datamart ETL tasks on the ETL computer, check the <*agile_home*>\Install\logs\Agile_PLM_Datamart_InstallLog.log file for any errors. It lists all the ETL tasks that are installed. If you encountered any errors, you may need to reinstall. If you are unable to resolve a problem by reinstalling, contact Agile Support.

Agile PLM Datamart ETL Folders

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

Table 3-1: Agile PLM Datamart ETL folders

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.

CHAPTER 4

Administering the Agile PLM Datamart

This chapter provides information about administering the Agile PLM Datamart. It contains the following topics:

- *Overview of Agile PLM Datamart Administration*
- *Configuring Custom Agile PLM Fields*
- *Using DT/Studio to Run Agile PLM Datamart ETL Scripts*

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 ADW_*XXX*_*XXX*_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.

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 Appendix F, "Changing Passwords."
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_ADVPA_ALL** – Loads data related to PPM Analytics from the Staging schema into the Dimensional schema of the Agile PLM Datamart.
   - **PLM_ADW_PA_ALL** – Loads data related to Product Portfolio Management 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 common Agile PLM data 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 Product Portfolio Management 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 Product Quality Management 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. For information on how to set the repository, see the separate DT/Studio documentation.
5. Select a task, 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_ADVPA_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.

Table 4-1: custom.properties

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**.

APPENDIX A

Agile PLM Datamart Installer Panels

This appendix describes panels in the Agile PLM Datamart installer. It includes the following information:

- *Common Installer Panels*
- *Database Server Panels*
- *Agile PLM - Analytics Plugin Installer Panels*
- *Datamart ETL Tasks Installer Panels*

Common Installer Panels

The following Agile PLM installer panels are common to all components:

Table A-1: Common installer panels

Panel	Step(s) to Perform
Welcome	Click **Next**.
License Agreement	Read the Agile PLM Datamart license agreement, and then select **I accept the terms of the license agreement**.
Customer Information	Enter your user name and company name. **Note:** Your username must be at least five characters.
Choose Component(s)	Select Agile PLM Datamart components to install. • **Database Server** – creates an instance of the Agile PLM Datamart on your database server. • **Agile PLM - Analytics Plugin** – 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. Make sure you select only components that should be installed on this computer. Generally, you should not install all components on the same computer. When you select each component, a description of it appears in the Description box.
Application Server Type	Select the type of application server you are using. Agile PLM supports Oracle Application Server 10g (10.1.2.0.2) and BEA WebLogic Server 8.1 SP5.
Pre-Installation Summary	Review the information you provided in previous panels to make sure it's correct before you install. If the information is correct, click **Install**. If you need to make any changes, click **Previous** to go to a previous panel.

Table A-1: Common installer panels (continued)

Panel	Step(s) to Perform
Install Complete	You have finished installation. Click **Done** to close the installer. Depending on the components you installed, you can choose to restart your computer automatically when you click **Done**, or you can restart it manually later.

Database Server Panels

The following installer panels appear when you install the Database Server:

Table A-2: Database Server installer panels

Panel	Step(s) to Perform
Destination Location	Enter the destination drive and folder for your Agile PLM Datamart database instance scripts. Click **Choose** to browse to your preferred location. Click **Restore Default** to restore the default path for the field (c:\AnalyticsTmp).
Choose Database Version	Select the version of your Oracle database server. Agile supports the following Oracle versions: • Oracle 10g Database Server • Oracle 9i R2 Database Server For complete instructions on how to install Oracle, see the Oracle documentation.
Oracle Database Base & Home Directories	Enter the destination drive and folder for: • Oracle Base Directory • Oracle Home Directory Click **Choose** to browse to the location. Click **Restore Default** to restore the default path for the field.
Instance Name	Enter the name of the instance you are creating. The default instance name is AADM (for Agile Analytics Datamart).
Database Size Estimate	Select an appropriate general size of your database: • Demo • Small • Medium • Large • Extra Large 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.

Table A-2: Database Server installer panels (continued)

Panel	Step(s) to Perform
Database Security and Datamart User Information	Enter passwords to be used: **Internal / Sys Password** The default SYS password is "Oracle". The SYS user owns all base tables and the user-accessible view of the data dictionary. **SYSTEM Password** Enter the 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. **Datamart Admin User Password** Enter the password for the Datamart Administration user. The default password is "aad". **Datamart Staging Schema Password** Enter the password for the Datamart Staging Schema. The default password is "ast". **Datamart Dimensional Schema Password** Enter the password for the Datamart Dimensional Schema. The default password is "adw".
Tablespaces (Data Files) 1	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. The data files to assign in this panel are: • SYSTEM • INDEX • TEMP Click **Choose** to browse to the location. Click **Restore Default** to restore the default path for the field.
Tablespaces (Data Files) 2	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. The data files to assign in this panel are: • Dimensional Data • Staging Data Click **Choose** to browse to the location. Click **Restore Default** to restore the default path for the field.
Control Files	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. 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. Click **Choose** to browse to the location. Click **Restore Default** to restore the default path for the field.

Table A-2: Database Server installer panels (continued)

Panel	Step(s) to Perform
Oracle Log Files	Enter folder 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. 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 Oracle 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. Click **Choose** to browse to the location. Click **Restore Default** to restore the default path for the field.

Agile PLM - Analytics Plugin Installer Panels

The following Agile PLM Datamart installer panels appear when you install the Agile PLM - Analytics Plugin:

Table A-3: Agile PLM - Analytics Plugin installer panels

Panel	Step(s) to Perform
Oracle Application Server Home	Enter the home directory where Oracle Application Server is installed. Click **Choose** to browse to the location. Click **Restore Default** to restore the default path for the field.
WebLogic Application Server Home	Type the location of the BEA WebLogic Server Home Directory, or click **Choose** to browse to it. The WebLogic Application Server Home directory is the location where BEA WebLogic Server is installed (for example, c:\bea\weblogic81).
Agile PLM Server Home	Enter the directory where Agile PLM is installed. This directory is also referred to as the Agile Home. The default Agile Home is d:\Agile\Agile921.

Datamart ETL Tasks Installer Panels

The following Agile PLM Datamart installer panels appear when you install Datamart ETL Tasks:

Table A-4: Datamart ETL Tasks installer panels

Panel	Step(s) to Perform
Installation Location	Enter the directory where you want to install Agile Analytics components. This directory is also referred to as the Agile Home.
Agile PLM DT Engine Details	Enter the administrator username and password for DT/Engine. The default administrator username is “dtadmin” and the default administrator password is “dtadmin123”.

Table A-4: Datamart ETL Tasks installer panels (continued)

Panel	Step(s) to Perform
Agile PLM Database Details	Enter your source Agile PLM database information. The database must be running and you must have a net service configured to connect to it. If you do not know these values, see the database administrator responsible for your Agile PLM database server. **Agile Database Host Name** Enter the fully qualified domain name of the computer where the Agile PLM database server is installed. **Agile Database Port** Enter the database port. For Oracle, the default database port is 1521. **Agile Database SID** Enter 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** Enter the database user. The default user is "agile". **Agile Database User Password** Enter the password for the Agile PLM database user. The default password is "tartan". **Note:** If your Agile PLM database is configured to use different values than the defaults listed above, specify that information instead.
PLM Datamart Database Details	Enter your destination Agile PLM Datamart database information. The database must be running and you must have a net service configured to connect to it. If you do not know these values, see the database administrator responsible for your Agile PLM Datamart database server. **PLM Datamart Database Host Name** Enter the fully qualified domain name of the computer where the Agile PLM Datamart database server is installed. **PLM Datamart Database Port** Enter the database port. For Oracle, the default database port is 1521. **PLM Datamart Database SID** Enter 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" (for Agile Analytics Datamart). **PLM Datamart Admin User Password** Enter the Admin schema (AAD) database user password for the Agile PLM Datamart. The default password is "aad". **PLM Datamart Staging Schema Password** Enter the Staging schema (AST) database user password for the Agile PLM Datamart. The default password is "ast". **PLM Datamart Dimensional Schema Password** Enter 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 above, specify that information instead.
Agile Analytics Login URL	Specify the fully qualified URL to access the Agile PLM server. 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
Start of the Fiscal Year	Specify the day and month that begins your company's fiscal year. This setting allows you to perform analysis of Agile PLM data based on your company's fiscal year or the calendar year.

APPENDIX B
Installing Oracle 9i

This appendix provides instructions for installing Oracle 9i (9.2.0.1.0) 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 9i 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" on page B-2 for 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, too.

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 > 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.
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:

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

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

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

   The Available Products window appears.

4 Select **Oracle9i Database 9.2.0.1.0**. Click **Next**.

The Installation Types window appears.

5 Select **Enterprise Edition**. Click **Next**.

The Database Configuration window appears.

6 Select **Software Only**. Click **Next**.

The Oracle Services for Microsoft Transaction Server window appears.

7 Accept the default **2030** port number. Click **Next**.

8 Review the information to ensure that you have enough disk space. Click **Install**.

The Install window appears and displays a progress meter.

9 Insert the remaining CDs when prompted and browse to the \stage folder to continue the installation.

10 Click **Exit** when the installation is complete.

The Add Databases to tree dialog appears.

11 Click **Cancel**.

12 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
```

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

4 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)`**.

5 Save and close the file.

This completes the Oracle installation.

APPENDIX C
Installing Oracle 10g

This appendix provides instructions for installing Oracle 10g (10.2.0.1.0). It contains the following sections:

- *Before Installing Oracle 10g on Windows*
- *Installing Oracle 10g Release 2 on Windows*
- *Installing Oracle Patch 4547817*

Before 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" on page C-2 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, too.

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 > 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.

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 displays:

```
Thrown When the IP address of a host can not be determined
```

There are two possible solutions:

1. Copy the Oracle 10g installation software to your local disk and perform an off-network installation OR
2. 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**.

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.

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:

1 Insert the Oracle database installation CD. You may have to navigate to the CD drive.

2 Double-click the **Setup** icon.

The Oracle Universal Installer command window and welcome screen appear.

3 Click **Next**.

The Installation Method window appears.

4 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.

5 Select **Standard 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.

6 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**.

7 Click **Install**.

8 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 Agile PLM Datamart Database" on page 3-3), 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.

APPENDIX D
Installing Embarcadero DT/Studio

This appendix provides a quick summary of how to install Embarcadero Technologies DT/Studio 2.3.1. It contains the following sections:

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). 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.

Note Before you install Agile PLM Datamart ETL components, you must set the DT/Repository. Otherwise, Agile PLM Datamart ETL tasks will not be uploaded to the repository.

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 intall DT/Engine:

1. Start the **dtengine-2_3_1-windows-setup.exe** program.
2. On the Welcome screen, click **Next**.
3. Select "I accept the terms of the license agreement," and then click **Next**.
4. Specify the directory in which to install the product (for example, D:\Program Files\Embarcadero\DTStudio\DTEngine2.3.1). Click **Next**.
5. Review the installation settings, and then click **Next**.
6. Choose whether to install shortcuts for DT/Engine on the desktop or the Start menu. Click **Next**.
7. On the Repository Database screen, select "Yes" to configure the repository database. Click **Next**
8. Select the database type (for example, OracleServer9i) and specify the database connection details. Make sure the database user you specify exists.
9. If a DT/Engine database repository already exists on that database, you are prompted to set or recreate the repository. Choose **Recreate**.
10. After you are prompted that the repository was successfully configured, click **OK**.
11. Specify the password for the dtadmin user. The default password is "dtadmin123". Click **Next**.

    Note For information about changing the DT/Engine password, see Appendix F, "Changing Passwords."
12. Set the JVM minimum and maximum heap values, then click **Next**. The Configure Properties screen appears.
13. Accept the default configuration properties, and click **Next**.
14. Click **Finish** to complete the installation.

Installing DT/Console 2.3.1

To install DT/Console:

1. Start the **dtconsole-2_3_1-win32-setup.exe** program.
2. On the Welcome screen, click **Next**.
3. Select "I accept the terms of the license agreement," and then click **Next**.
4. Specify the directory in which to install the product (for example, d:\Program Files\Embarcadero\DTStudio\DTConsole2.3.1). Click **Next**.

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

6 Click **Finish** to complete the installation.

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

To apply the DT/Engine patch for build 2655:

1 Obtain the DT/Engine patch for build 2655 from Embarcadero Technologies.

2 Stop the DT/Engine and DTEngineManagerService.

3 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).

4 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.

5 Open a command prompt and change to the %DT_HOME%/bin directory.

6 Run **dtpatchtool.bat** from the command prompt. This starts a patch tool shell.

7 Enter **`info`** to obtain information about the current DT/Engine version.

```
DTPatchTool> info
```

8 If your current version is earlier than build 2655, apply the patch. Use this 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
```

9 Restart the DTEngineManagerService and the DT/Engine.

Upgrading consolecomm.jar for DT/Console 2.3.1

After you apply the patch to DT/Engine for build 2655, you must copy the consolecomm.jar file from DT/Engine to DT/Console.

To upgrade consolecomm.jar for DT/Console:

1 Stop DT/Console.

2 Rename %DT_CONSOLE_INSTALL_DIR%\lib\consolecomm.jar to %DT_CONSOLE_INSTALL_DIR%\lib\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.

Upgrading the DT/Engine 2.3.1 JVM

After you apply the patch to DT/Engine for build 2655, you must also upgrade the DT/Engine JVM.

To upgrade the DT/Engine JVM:

1 Stop the DT/Engine and DTEngineManagerService.

2 Rename the existing %DT_HOME%\jdk1.4 folder to %DT_HOME%\jdk1.4_old.

3 Create a new folder named %DT_HOME%\jdk1.4.

4 Copy the self-extracting JDK installer (dtengine-2_3_1-win32-installer.exe) to the %DT_HOME%\jdk1.4 folder.

5 Run **dtengine-2_3_1-win32-installer.exe**. This self-extracting JDK installer extracts the new JDK files into %DT_HOME%\jdk1.4 folder.

6 Restart the DTEngineManagerService and the DT/Engine.

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 and DTEngineManagerService.

2 Change to DT/Engine bin folder, %DT_HOME%/bin.

3 Open **dtengine.ja** in a text editor.

4 Set the INIT_JAVA_HEAP, MAX_JAVA_HEAP and INIT_JAVA_STACK to optimal values. See "About JVM Heap Size" below.

For example:

```
%IF_EXISTS%("INIT_JAVA_HEAP", "@INIT_JAVA_HEAP@800m")
%IF_EXISTS%("MAX_JAVA_HEAP", "@MAX_JAVA_HEAP@800m")
%IF_EXISTS%("INIT_JAVA_STACK", "@INIT_JAVA_STACK@256k")
```

5 Restart the DTEngineManagerService and the DT/Engine.

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.

APPENDIX E
Troubleshooting

This appendix provides some troubleshooting tips about installing and maintaining the Agile PLM Datamart. It contains the following sections:

- *Datamart Installation*
- *Plugin Installation in Clustered Environments*
- *ETL Tasks Installation*
- *Resizing the TEMP Tablespace*
- *Configuring the Autopurger Task*
- *Generating a Thread Dump of a DT/Engine Session*
- *Periodically Restarting the DT/Engine Service*

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" on page 3-4.

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.

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\ADVPA\templatexmls\PLM_ADW_ADVPA_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\templatexmls\PLM_ADW_PA_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\templatexmls\PLM_AST_PCA_ALL.xml
   <AA_Home>\ETL\Staging\PQA\templatexmls\PLM_AST_PQA_ALL.xml
   ```

   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 below 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.

APPENDIX F
Changing Passwords

This appendix provides information about changing passwords. It contains the following sections:

- *Changing the Datamart Password*
- *Changing the DT/Engine Password*

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 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 and password of dtadmin and dtadmin123, respectively.

2. Right-click on the user row and select **Change Password...** from the menu.
3. In the Change Password dialog:
   - Type in the old password (“dtadmin123”)
   - Type in the new password (let’s say, “dtadmin321”)
   - Confirm by retyping the new password.

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
```

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.

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