Agile Product Lifecycle Management

Administrator Guide

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Preface

Oracle's Agile PLM documentation set includes Adobe® Acrobat PDF files. The Oracle Technology Network (OTN) Web site http://www.oracle.com/technetwork/documentation/agile-085940.html contains the latest versions of the 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 Agile PLM Documentation folder available on your network from which you can access the Agile PLM documentation (PDF) files.

Note	To read the PDF files, you must use the free Adobe Acrobat Reader version 9.0 or later. This program can be downloaded from the Adobe Web site http://www.adobe.com.

The Oracle Technology Network (OTN) Web site http://www.oracle.com/technetwork/documentation/agile-085940.html can be accessed through **Help** > **Manuals** in both Agile Web Client and Agile Java Client. If you need additional assistance or information, please contact My Oracle Support (https://support.oracle.com) for assistance.

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

TTY Access to Oracle Support Services

Oracle provides dedicated Text Telephone (TTY) access to Oracle Support Services within the United States of America 24 hours a day, 7 days a week. For TTY support, call 800.446.2398. Outside the United States, call +1.407.458.2479.

Readme

Any last-minute information about Agile PLM can be found in the Readme file on the Oracle Technology Network (OTN) Web site http://www.oracle.com/technetwork/documentation/agile-085940.html.

Agile Training Aids

Go to the Oracle University Web page http://www.oracle.com/education/chooser/selectcountry_new.html for more information on Agile Training offerings.

Accessibility of Code Examples in Documentation

Screen readers may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, some screen readers may not always read a line of text that consists solely of a bracket or brace.

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

Chapter 1

Introduction

This chapter includes the following:

- Welcome to Agile PLM Administrator 1
- Agile Product Lifecycle Management 1
- Administrative Capabilities 2
- Administrator Nodes 3
- Guidelines for Implementing Agile PLM 7
- What's New in Administrator 8

Welcome to Agile PLM Administrator

Welcome to Oracle's *Agile PLM Administrator Guide* for Agile Product Lifecycle Management (Agile PLM, or PLM). This manual is a complete resource for setting up users and business objects in the Agile PLM system.

Documentation for the Agile PLM Administrator

The Agile PLM documentation set is found at this Web site:
http://www.oracle.com/technology/documentation/agile-085940.html.

Agile PLM administrators use Java Client to set up and manage the system. Therefore, before reading *Agile PLM Administrator Guide*, you might read *Getting Started with Agile PLM*, "Navigating in Agile Java Client." Some administration tasks can be done using Web Client, for example, creating users. Someone assigned to "user administrator" tasks can refer to *Getting Started with Agile PLM*, "Navigating in Agile Web Client."

Getting Started with Agile PLM is also useful to Agile administrator to become familiar with:

- The user interfaces and operation of Agile PLM clients;
- Terminology and concepts used in Agile PLM solutions;
- General features such as searches, workflows, reports, and attachments (that is, file management).

Note	All Agile PLM documentation is available to you when you choose **Help > Manuals** in Java Client.

Agile Product Lifecycle Management

The Agile Product Lifecycle Management (PLM) suite provides the following product solutions:

- **Agile Product Collaboration** (PC) — management and collaboration of product record information

throughout the product lifecycle, across internal organizations and the extended supply chain. Accessed through Java and Web Clients.

- **Agile Product Portfolio Management** (PPM)— integration of program and product information, streamlining business processes across the product lifecycle and across a portfolio of programs. Accessed through Web Client only.
- **Agile Product Quality Management** (PQM) — integration of customer, product, quality, and regulatory information with a closed-loop corrective action system. (Formerly Product Service & Improvement.)
  Accessed through Java and Web Clients.
- **Agile Product Cost Management** (PCM) — management of product costs across the product lifecycle and synchronization of product cost data and processes. Accessed through Web Client only. Configured in Java Client.
- **Agile Product Governance & Compliance** (PG&C) — management and tracking all the substances and materials contained by any item or manufacturer part, allowing companies to meet substance restrictions and reporting requirements, design recyclable products, minimize compliance costs, and eliminate noncompliance on future products. Accessed through Web Client only.

To understand how each of the Agile PLM solutions work, you may need to read other manuals in the Agile PLM documentation set. There are separate manuals for each product solution listed above.

Administrative Capabilities

The administrative features in Agile's Java Client help you configure and adapt Agile PLM to fit the way you already do business. Administrator nodes let you manage users and tailor aspects of Agile PLM to meet your company's requirements.

- Users, user groups, roles and privileges are all "reusable objects," enabling you to easily manage user accounts, such as in the following tasks:
  - Add and remove users, or set users as inactive
  - Assign users to user groups, which consolidates previous use of departments and groups
  - Assign users to roles, and customize roles for individual users
  - Enable users to grant temporary privilege access to specified objects for other users
- Create one or more user administrators to assist in managing user accounts
- Establish a systemwide account policy for password aging, length, rules, lockout, and uniqueness
- Configure systemwide business rules that govern how the Agile PLM system responds to certain user actions
- Configure and assign AutoNumber sources
- Create workflows to route changes, each with their own set of statuses and settings, and each status with its own set of approvers, observers, and required fields
- Create subclasses of existing Agile PLM classes to create new types of objects

- Create tabs with new fields—including numeric fields and money fields—for Agile PLM classes and subclasses
- Generate reports of Agile PLM users, objects, and administrative data.

Administrator Nodes

This manual provides information about administrative capabilities of Agile PLM clients. It is designed to be used as a reference in your everyday work. It generally follows the organization of the nodes under the **Admin** tab in Java Client. Most of this manual documents Administrator nodes in Java Client. Administration functions that are available only in Web Client are detailed in Administrator Utilities in Web Client on page 26.

Admin Nodes in Java Client

The following table lists Agile PLM Administrator nodes found in Java Client. Your company may not have purchased all the business solutions contained in Agile PLM. In that case, some nodes are not visible.

Node	Description
Data Settings	
Classes	Define and manage business objects and their attributes, flex fields, and other properties
Character Sets	Configure lists of valid characters that are used to manage the text attributes
Lists	Manage lists that are used across multiple classes; also contains dynamic lists of objects such as users and items
Process Extensions	Extends the functionality of the Agile PLM system by defining custom actions to create user-driven and workflow-triggered custom actions, custom tools accessible through Agile PLM clients, custom autonumbering, and custom reports.
Autonumbers	Configure the number sources used in the automatic numbering of objects in Agile PLM
Criteria	Define criteria objects that are used in search conditions, privilege masks, and workflow settings
Workflow Settings	
Workflows	Configure, modify, and create workflows to track the progress of changes in your change control process
User Settings	
Account Policy	Set up systemwide rules for password age, length, and uniqueness

Node	Description
Users	Add new Agile PLM users to the system and modify properties for existing users, such as passwords, usernames, role and user group assignments, and more
User Groups	Define user groups and assign users to them
Supplier Groups	Select suppliers during the RFQ process; the administrator sets up global supplier groups that can be leveraged by users with appropriate roles
Roles	Define default and custom roles that control which actions groups and individual users can perform in Agile PLM
Privileges	Define privileges and privilege masks, which are assembled into user roles
User Monitor	View which users are presently logged in and terminate user sessions
Deleted Users	If needed, undelete a deleted user; the list of deleted users is maintained to provide a complete audit trail
Deleted User Groups	If needed, undelete a deleted user group; the list of deleted user groups is maintained to provide a complete audit trail
System Settings	
SmartRules	Manage the rules that make your change control process consistent
Viewers and Files	Define preferences for files attached to Agile PLM objects, and define viewer settings and banners and watermarks for redlines and attachments
Notifications	Customize templates for notification addressing and content
Full Text Search	Manage the indexing of attachment files
My Assignments	Configures what your users see when they click the My Assignments tab in Web Client's home page
UOM	Manage the units of measure
Company Profile	Stores useful information about the company
Currency Exchange Rates	Manage the Currency Exchange Rates table for in-system currency conversion
Dashboard Management	Enable or disable and rename the tabs of the Dashboard
Product Cost Management — PCM nodes are documented in Chapter 16, "Product Cost Management Settings"	
Ship-to Locations	Data that is factored in defining prices in RFQs
RFQ Terms and Conditions	Limit suppliers' access to an RFQ until they electronically agree to RFQ terms and conditions
Product Portfolio Management — PPM nodes are documented in Chapter 17, "Product Portfolio Management Settings"	

Node	Description
Status Nodes: Cost, Quality, Resource, Schedule	Reports whether a project's targets in the areas of cost, quality, resources, and schedule are currently being met, currently not being met, or are seriously off target
Default Role	Specifies which roles are assigned automatically to users when a task is delegated to them or when a Microsoft Project, along with its users and roles, is published to Agile PLM.
UI Configuration Data	Configures the pop-up windows on the Program Summary page and Content tab.
Agile Content Service — ACS nodes are documented in Chapter 18, "Agile Content Service Settings"	
Subscribers	Create profiles specifying all details of transfer orders
Destinations	Define where the output files of transfer orders will be sent
Events	Define when transfer orders are to be triggered
Filters	Define what content is included in a transfer order
Package Services	Configure the target Agile PLM system for Web services to facilitate Agile-to-Agile communication; these filters are also used for the Agile PLM Export wizard.
Response Services	An acknowledgment from the remote recipient of data
Product Governance and Compliance — PG&C nodes are documented in Chapter 19, "Product Governance & Compliance Settings."	
Signoff Message	Define message that the information supplier must agree to and sign off when submitting the declaration back to the buyer/customer
Compliance Rollup Scheduling	Define how often the system runs a scheduled rollup, and start time
Compliance Rollup Rule Setting	Control elements of suppliers' responses on declarations as they potentially impact the results of compliance rollups
Supplier Declaration Process Extensions	Set which process extensions are visible in each type of declaration request that your information suppliers receive. **Note**: process extensions themselves are not defined in this node folder.
Server Settings	
Locations	Define Agile Application Server, File Manager, and Portal locations
Database	Set systemwide preferences for the database
LDAP	Configure a Lightweight Directory Access Protocol system and dedicated LDAP server to create user accounts
Preferences	Set systemwide preferences for your Agile PLM system
Licenses	Server licenses pertain to products; user licenses pertain to individual users of Java and Web Clients
Task Monitor	Manage and track the progress of certain scheduled tasks

Node	Description
Task Configuration	Manage various scheduled activities such as reports and full text search indexing
Example Nodes	
Example Roles	Read-only copies of all default roles
Example Privileges	Read-only copies of all default privileges
Example Criteria	Read-only copies of all default criteria

Example Nodes

Example nodes are read-only nodes that provide a backup of default Agile PLM roles, privilege masks, and reusable criteria. The examples cannot be enabled, but they can be used to restore default functionality to the system. For example, if you modified one of the default roles and find that it is not functioning properly, you can restore the original role by saving the example.

To save an example node as an active node:

1. Under **Examples,** double-click **Example Roles**, **Example Privileges**, or **Example Criteria**.
2. Use the filter bar to display the example you want to save.
3. Double-click an example to open it.
4. Click the **Save As** button. The Save As dialog box opens.
5. Type the new name, and Click **OK**.

To export an example node:

1. Under **Examples,** double-click **Example Roles**, **Example Privileges**, or **Example Criteria**.
2. Use the filter bar to display the example you want to export.
3. Select an example and click the **Export** button.
4. Type the name of the file, and click **Save**.

Note You can import the exported file into another Agile PLM system. When you import the example, it becomes an active role, privilege mask, or reusable criteria. For more information about importing administrative data, see Administrator Import on page 25.

Admin Nodes in Web Client

The following table lists Agile PLM Administrator nodes found in Web Client. Your company may not have purchased all the business solutions contained in Agile PLM. In that case, some nodes are not visible.

Providing a user has been assigned the Administrator or User Administrator privileges, you or assisting “user administrators” can perform limited administrator actions in Web Client.

Click **Tools > Administration** to see the following “folders” and nodes:

Node	Description
User Management – the Users nodes are discussed in Users and User Groups on page 151	
Users	Add new Agile PLM users to the system and modify properties for existing users, such as passwords, usernames, role and user group assignments, and more
User Groups	Define user groups and assign users to them
Supplier Groups	Select suppliers during the RFQ process; the administrator sets up global supplier groups that can be leveraged by users with appropriate roles
Deleted Users	If needed, undelete a deleted user; the list of deleted users is maintained to provide a complete audit trail
Deleted User Groups	If needed, undelete a deleted user group; the list of deleted user groups is maintained to provide a complete audit trail
Web Client Configuration	
Dashboard Management	Configure the PLM Dashboard – see Dashboard Management
Project Summary Configuration	Configure Summary page layout and widgets – see Project Summary Page Configuration on page 206
Visual Themes	Configure the display of the Web Client user interface for all users, including the definition of colors, font style and size – see Visual Themes on page 35
Template Management	
Report Template - Create and manage report templates – see Report Template on page 26	
Server Settings **Cluster** – see Cluster on page 28	
Troubleshooting	
Cache Health Monitor	Ensure that all changes to Administrator data is properly replicated across the cluster – see Cache Health Monitor on page 29
Logging Configuration	View and configure the loggers within Application – see Logging Configuration on page 34

Guidelines for Implementing Agile PLM

If you are setting up a new Agile PLM system, you may configure PLM by following the sequence of Administrator nodes in the previous tables. You won't necessarily set up *everything* in each node in this order, and it is useful to become familiar with all the nodes in Administrator before beginning to configure your company's business objects, users, and systemwide settings.

The "tree" of node folders and nodes is only a suggested starting point, not a comprehensive or certified sequence. Should you begin to configure Agile PLM for your company and find that the process is more extensive than first understood, please contact Oracle Consulting – Agile Practice

or your Oracle Agile sales representative.

Depending on –

– how many Agile solutions to configure (there are several “solution-specific” nodes under **System Settings**, but configuring the solutions for users is a process that goes beyond the settings),

– how many Agile **Users** to be created, including their **Roles** and **Privileges**, and

– how complex your company’s manufacturing processes are (reflected in such nodes as **Classes**, **AutoNumbers**, **Workflows**, **Locations**),

it can take one to several weeks to configure Agile PLM to be production-ready. Thorough testing before going live with Agile PLM is also strongly recommended.

Important You can enlist Oracle Consulting – Agile Practice to install and set up Agile PLM for your company.

What's New in Administrator

New Features in Administrator for Agile PLM 9.2.2.4

There are a significant number of new features and enhancements to PLM Administration in Release 9.2.2.4, both in Java Client and Web Client, as follows:

Java Client Administrator

- **Licenses** – the Licenses configuration now lets you turn off non-licensed classes and other metadata (see Licenses on page 293). Another notable change in Oracle Agile PLM licensing is the removal of Agile's "Server Licenses". An Oracle "license key" was obtained (at http://licensecodes.oracle.com/agile.html#PLM) and was input at install time.

Important Before considering use of the Sites license, please read the information in Configuring Sites - Distributed Manufacturing on page 307.

- **Designs class for CAD design structures** – a new class in the File Folders base class is Designs class, with a new **Structure** tab. This manual documents the administrator's part in configuring the Designs class in Administering Designs on page 329. Note that Designs are documented for the end-user in *Getting Started with Agile PLM*.
  - new Role for the designs/model structures solution: Design Engineer
  - new SmartRule for the designs/model structures solution: Display Structure Tables
- **LDAP GUI** – the XML configuration for LDAP has been enhanced by a GUI (see LDAP Configuration on page 284)
- **Single Sign-On capability** – you can integrate aspects of your PLM system with Single Sign-On (SSO) capability. With SSO configured and deployed for your PLM system, a user that has signed in to the system once (for instance, through the corporate portal) is not prompted again by a "login" dialog (see Appendix A, Single Sign-On and PLM 9.2.2.4 on page 447)

- **Role-based security enhancements**:
  - **User Administrator enhancements** – a new User Administrator privilege makes it easier to assign role-specific granularity to your assistant administrators (often called "User Admins"; the improvements are detailed in Creating New Administrator Users on page 14 and User Administrator Enhancement on page 185 and Options for Assisting and User Administrators on page 205)
  - "**Save Import Preference Setting**" is a new Choice in the Administrator-specific AppliedTo property, which enables you or an assistant administrator to set default preferences in the PLM Import utility (see Save Import Preference Setting on page 205)
  - "**Manage Report Template**" is another new Choice in AppliedTo, enabling an assignee to work with report templates in BI Publisher (see Manage Report Template on page 26)
  - **Advanced/Parametric Search Security** issues for supplier users (see Advanced Search Security on page 185)
  - Restrict access to objects created by user based on security (see Read and Discover Objects I Created Role on page 185)
- **Criteria enhancements** – the following variables are enabled for privilege mask criteria: $USER, $APPROVER, $OBSERVER, and $USERGROUP (see Privilege Mask Criteria Variables on page 37)
- **List usability enhancements** – the ability to choose a branch value of a cascade list, and the ability to set a multi-value default for a multi-list attribute (see List Enhancements on page 85)
- **Document Management enhancements**:
  - Version Browser action – introduced with the Designs class, File Folders also now have this useful "monitor" of information about file-folder structures; see Version Browser on page 323.
  - Limit attachment size – added "Upload File Size Limit" property to Viewers & Files node (see Viewer & Files on page 247 and Limit Attachment Size on page 323)
  - Identify Checkin user on File Folders and Attachment tabs (see Identify Checkin User on page 323)
  - Valid characters for File Description (see URL Characters on page 324)
  - Markup Promotion (see Markup Promotion on page 321)
- **Systemwide Preferences** – added Enable BI Publisher for Reports (see Web Client Administration below)
- **Some Admin settings** (mostly on Items **Page One** and **Page Two**) are updated or improved:
  - **Page One** and **Page Two** fields on Items can now be consistently defined as read-through fields on Items > **BOM** table, Items > **Where Used** table, and associated Changes > **Affected Items** table (see Read-Through Fields Made Consistent in Items and Changes on page 68)
  - More Item **Title Block** fields can now be disabled, including Part Category, Size, Product Line(s), Rev Incorp Date, and Rev Release Date
  - The number of multi-list fields on Items **Page Two** is increased from 3 to 15.
  - All **Page One** multi-text fields in Changes and QCRs base classes can use 4,000 characters.

Web Client Administration

- **BI Publisher framework for Report** – New reporting tool based on XML technology that addresses several customer requirements (see Report Template on page 26)
- **Logging Configuration** node added to "Troubleshooting" folder in Web Client Administration (see Logging Configuration on page 34)
- The **User Administrator** enhancements (listed under **Role-based security enhancements** in "Java Client Administrator" above) impact user administrators working in Web Client, but, as with all Roles, the enhancements are put into effect by the administrator working in Java Client.

New Features in Administrator for Agile PLM 9.2.2.2

- Enhancements to $CURRENTREV and $LATESTREV variables in Criteria (see "Criteria" chapter in this manual).
- New systemwide Preferences: Retain Local Files, Display URLs as Hyperlinks, Add User's Default Site to New Items, Signoff User Dual Identification Type (see Preferences in "Server Settings" chapter).
  - Signoff User Dual Identification Type permits the enforcement of a corporate policy of multiple user identification on workflow- and other signoffs.
- New SmartRule: Allow Deletion of Attachments provides assistance in soft-deleting the (unreferenced) file folder when an attachment is removed from a business object.
- New Privilege: Purge Folder Version: user with this privilege can select Purge Folder Version from the Actions menu if the selected version is not checked out, does not have Attachment redlines, and is not 0.
- In LDAP, both static groups and dynamic groups can be synchronized with Agile user groups.
- Visual Themes in Web Client Administration has been enhanced (see "Admin Basics" chapter).
- Cluster node in Web Client Administration is restored (see "Admin Basics" chapter).
- Next Number field in the Autonumber screen displays the next AutoNumber value that will be assigned to the object.
- File Type attribute enabled for criteria: administrator can define a criteria based on the File Type attribute from attachments in order to control access.
- Release Audit now checks Multiple Items Per Manuf(acturer) Part SmartRule.
- Additional fields on Problem Service Reports Affected Items table: PSR Affected Items tab did not include Date fields. PSR Affected Items fields are now similar to parallel QCR fields.
- Agile Content Service (ACS) now support PQM and Supplier objects.
- Site Make/Buy Attribute is editable: an Item's Sites tab Make/Buy attribute is modifiable (subject to user privilege) even if the item has been released for that site. Validation of Site preferences Site AML Allowed and AML Required on Buy is done when the item is released or when a Release Audit is carried out.
- History Tab records all Export actions.

New Features in Administrator for Agile PLM 9.2.2.1

- BOM Multi-Level Recursion SmartRule sets whether BOM recursion is allowed, and validates this on change orders.
- Specification Mapping node in PG&C lets you map each specification and a **PageTwo** field -- in Parts, Documents, or Manufacturer Parts -- that allows users to see the Result Compliance for a specification on the **PageTwo** of the part.
- Bulk Specification Removal, while not controlled by a setting in Administrator, permits users to remove a specification at all levels of a BOM (assembly, subassembly, or item with associated manufacturer parts, with some restrictions; this is documented in *PG&C User Guide* in "Specifications" chapter.

New Features in Administrator for Agile PLM 9.2.2

This list is limited to 9.2.2 additions and enhancements to Agile PLM that are controlled by settings in Administrator (**Java Client > Admin** tab). Enhancements for the PLM user will be found in the user guides for solutions in Rel. 9.2.2.

- A new node called **My Assignments** is under **System Settings**, and is documented on My Assignments on page 259.
- Also under **System Settings** on the “Admin” tree, **Dashboard Management** node has been removed from **Product Portfolio Management** folder. Dashboard management now may be used across all PLM solutions, not only within the PPM solution (see Dashboard Management). Dashboard setup by the administrator includes these components:
  - Access, use, or modify Microsoft Project with new “Microsoft Project” privilege
  - Define Dashboard process extension
  - Add, configure, and display optional tabs to the Dashboard
  - Add, configure, and display tables to Dashboard tabs
  - Configure Dashboard chart views and table views
  - Dashboard data model
  - Configure Dashboard personal tables
- **New privileges: Create From Template**, **Microsoft Project**, and **Dashboard Tab View** are used to enhance the Program Manager and Program Administrator roles in the PPM solution.
- **Product Portfolio Management** enhancements are introduced in Configuring Product Portfolio Management on page 359.
- **Product Governance & Compliance** enhancements are introduced in Configuring Product Governance & Compliance on page 419.
- **Compliance Migration Task** is added for PG&C upgrade customers. See Task Configuration on page 296, on page 296.

Chapter 2

Administrator Basics

This chapter includes the following:

- Overview 13
- Logging in to Agile Clients as an Administrator 13
- Creating New Administrator Users 14
- Filtering Data 16
- Administrator Reports 16
- Dates and Times in Agile PLM 18
- Administrator Utilities in Java Client 19
- Administrator Utilities in Web Client 26
- Agile PLM Variables 36
- Multiple Language Support 40

Overview

This chapter collects information for the Agile administrator that is either basic or pertains to capabilities that are not found or specified by the node on the Administrator user interface.

The primary client for administering Agile PLM is Agile's Java Client. Users, user groups, and supplier groups can also be managed from Agile's Web Client.

To use Java Client, you must install it on your computer first. Java Client uses Java WebStart technology to download the software and keep it updated. For information about installing Java Client, see the *Agile PLM Installation Guide* for your application server **and** any specific instructions in the Readme for your company's purchased Service Pack.

Web Client is a Web-based application. You can use your browser to run Web Client.

To see administrative features in Agile PLM clients, users must be assigned the Administrator privilege mask. The "admin" user account is preconfigured to see all Administrator nodes and settings. You can use the admin account to create new users and assign the Administrator role to them. For more information, see Creating New Administrator Users on page 14.

Important Please examine the information in Administrator Privilege and the AppliedTo Capability on page 203. It provides information about the AppliedTo property that is a crucial part of all Administrator-related privilege masks. You do not need to grasp everything described on that page at this point, but it is crucial to know about the AppliedTo property.

Logging in to Agile Clients as an Administrator

For security reasons, you can change the password for the admin account to something only you would know. For more information, see Changing a User's Password on page 155.

To start Agile Java Client and log in as an administrator:

1. Double-click the Agile 9 icon on your desktop, or Choose **Start | Agile 9**. The Login dialog box appears.
2. Enter the username *admin* (or *administrator*) and the password *agile*. The username is not case-sensitive, but the password is.
3. Click **OK**. The login process is complete. The Java Client window opens, as shown in the following figure, usually with the **Search** tab displayed in the navigation pane.

   Note If you use a proxy server that does not allow ORMI connection to be proxied, you will be unable to launch Java Client. You must change the settings in Java Web Start: on JWS' **File** menu > **Preferences** > **General** tab > **Proxy** section > select **None**.

4. Click the **Admin** tab in the navigation pane (on the left) to display the administrative nodes.

   A user who has not been assigned the Administrator privilege mask (or role) will not see the **Admin** tab, only the **Search** and **Analytics and Reports** tabs will be visible. Note that the **Search** and **Analytics and Reports** tabs in Java Client are documented in the chapter "Navigating in Java Client" *in Getting Started* with *Agile PLM*.

To start Agile Web Client and log in as an administrator:

1. Start your browser.
2. Click the Agile Web Client bookmark, if one exists, or type the URL, for example,

   http://webserver.domainname.com/Agile/PLMServlet

   Note Make sure you enter the full domain name for your web server. The Web Client URL is case-sensitive.

   The Login page appears.
3. Enter the username *admin* and the password *agile*. The username is not case-sensitive, but the password is.
4. Click the **Log In** button. If you make a mistake, click **Clear** and retype your username and password.

   The login process is complete.
5. The first time you log in, the User Profile page appears. Enter the requested information. When you have finished, click **Save**.
6. After you complete this information, the Agile Web Client opens.
7. Open the administrative functions of Web Client by choosing the **Tools** button in the menu bar and selecting **Administration**. The Administrator Home page opens.

Creating New Administrator Users

Agile PLM uses Roles and Privileges to assign access to PLM solutions and other capabilities. The "Agile administrator" generally has access to the entire PLM system; there can be multiple "administrators" with such broad access.

In addition, multiple users can be given tailored privileges that enable them to administer a subset or portions of the Agile PLM system. These "lesser PLM administrators" are often referred to categorically as "user administrators," but other names are perfectly useful, such as assistant administrator, roles administrator, or workflows administrator.

Note In this section, as well as in most of this manual, we are addressing users who have the Administrator or User Administrator role. These are powerful, system-impacting roles. They should not be confused with some other solution-specific roles in PLM that contain the word "Administrator," for example, Discussion Administrator or Program Administrator. See the organization of roles in Default Agile PLM Roles.

Whether or not your company requires more than one Agile PLM administrator, it is recommended that you assign at least one user as "backup PLM administrator" in case you are not available.

This section describes how to assign Administrator privileges to a new user using Java Client or Web Client. For more detailed information about how to create Agile PLM users and set user properties, see Users on page 151.

Important The AppliedTo property (found in the Administrator-related privilege masks, among others) is important to understand, as it controls what nodes an administrator user sees in the **Java Client > Admin** tree. The following "Admin-specific" privilege masks make significant use of the AppliedTo property: “Administrator”, “Admin Access for User Admin”, and "User Administrator". See Administrator Privilege and the AppliedTo Capability on page 203 and Options for Building Administrator Assistants on page 205).

To create a new Administrator user in Java Client:

1. Start Java Client and log in as “admin”.
2. Under **User Settings,** double-click **Users**. The Users window appears.
3. Click the **New** button. The Create User dialog box opens.
4. Type the **UserID, First Name**, **Last Name**, **Email,** and **Password**. Repeat the password in the **Retype Login Password** field.
5. Click **OK**. The setup window for the new user appears.
6. Click the **Role(s)** list, choose the Administrator role, and Click **OK**.
7. Fill out other user properties as needed, and then click **Save**.

To create a new Administrator user in Web Client:

1. In a browser, go to the Web Client URL and log in as “admin”.
2. Click **Tools > Administration > Users**. The Users page appears.
3. Click **Create**. The Create User wizard opens.
4. Type the **Username** and **Login Password**. Repeat the password in the **Retype Login Password** field.
5. Then enter values for **First Name**, **Last Name**, and **Email.**
6. To continue the user creation click the Continue Creation in Wizard check box and then click **Continue**.

7. The Enter General Information page appears.
8. Under the Profile heading open the **Role(s)** list by clicking the ... button to the right of the field.
9. Choose the Administrator role and Click **OK**.
10. Fill out other user properties as needed, and then click **Finish**.

Filtering Data

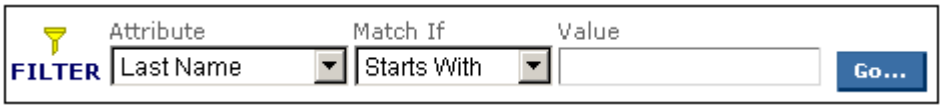
You can use a filter bar (sometimes called “table search”) to search for objects in the following nodes: **Lists**, **Criteria**, **Users**, **Roles**, **Privileges**, and **Commodities**, as well as the **Admin History** window (available from the **Admin** tab toolbar).

To use the filter bar in Java Client:

1. In the filter bar’s **Filter By** dropdown list, select a value.

   The Filter By list depends on the type of object being filtered. For example, if you are searching for users, you can select First Name, Last Name, User ID, Business Phone, or Email.
2. Select an operator from the **Match If** dropdown list, such as Contains, Starts With, or Show All.
3. Type the value you want to search for in the text box.
4. Click **Apply**.

The **Users** node is the only administrative node that uses the filter bar in Web Client.



To use the filter bar in Web Client:

1. Choose **Tools > Administration > Users**. The Users page appears.
2. In the filter bar’s **Filter By** dropdown list, select a value.

   You can select First Name, Last Name, User ID, Business Phone, or Email.
3. Select an operator from the **Match If** dropdown list, such as Contains, Starts With, or Show All.
4. Type the value you want to search for in the text box.
5. Click **Go**.

Administrator Reports

You can generate Administrator reports to show the current settings for the Administrator nodes. These reports are available in the navigation pane’s **Analytics and Reports** tab **> Standard Reports** folder **> Administrator Reports** subfolder. These reports are especially useful when you are planning to reconfigure an Agile PLM component.

The following table lists Agile PLM administrator reports.

Report	Description
Agile Classes report	Lists current and default attribute settings for all Agile PLM classes; this is a valuable tool for Agile systems engineers when performing upgrades to the Agile PLM system
Criteria Library Configuration report	Lists existing reusable criteria and where they are used
Login Failure report	Captures failed attempts for system login and workflow signoff, and the reason for each failure.
Preferences Configuration report	Lists the current attribute and property settings of the **Preferences** and **Viewer and Files** nodes.
Privilege Mask Detail report	Lists each privilege mask by name and description, whether or not it is enabled, roles where it is used; provides Object Type, Applied To, and Criteria values
Roles and Privilege Summary report	Lists each role by name, description, and whether or not the role is enabled; lists users assigned to each role; lists the name and description of privilege masks in each role
SmartRules Configuration report	Lists the current setting of each SmartRule
Subclass in Use report	Lists all subclasses and where they are used: global searches, reusable criteria, workflows, privileges, and roles
User Group Configuration report	Lists all user groups, users assigned, and pertinent user properties for each user; also includes a second table that indicates each group's escalation person and criteria for escalation
User Share Lists for Granted ACL report	Lists the objects and associated roles to which users have been granted access
User Subscriptions Lists report	Lists the class attributes and actions about which users have subscribed to receive notifications
User Usage report	For each active user, lists usage over a period of time, from the start date you select to the present; includes number of logins and total online login time in minutes
Users Configuration report	Lists all users and their properties, except passwords
Workflows Configuration report	Lists all existing workflows and the properties (status properties, criteria-specific properties) of each workflow's status list

You can save these reports for before-and-after comparisons when making changes to your database. For example, if you are going to be upgrading your Agile PLM system, you might want to first generate an updated Agile Classes report to keep a record of your current Classes configuration. Then compare it with one generated afterward.

To generate Administrator reports:

1. Select the **Reports** tab and expand the **Administrator Reports** node folder.
2. Double-click the report you want. Agile Web Client opens to the specific report page, for instance, the Administrator Report: User Usage Report page.
3. Click **Execute**. The Specify Parameters dialog box opens. The User Usage report requires a From and To time range and the users you are requesting information about.
4. When you have populated the fields, click **Finish**. A message appears: “Server is generating the report. Please wait.”
5. Select the encoding type—the default encoding type is Unicode (UTF-8). If you need to use a different encoding type, select it in the dropdown list. When you are ready, click **Continue**.
6. Follow the directions in the Save As dialog boxes to save the file to disk and choose a location to save it.
7. Modify the filename to include the report date and time. For example, **User_usage072604_3PM.csv**.
8. When the download is complete, click **Close** in the dialog box.

Dates and Times in Agile PLM

...at the Server Level

The format of dates and times for object-related events (recorded by the Agile Application Server, or AAS) conforms to international standards.

The standard date format is Year [4 digits] / Month / Day, or **yyyy/MM/dd**.

The standard time format is Hour [converted to the 24-hour clock in GMT] : Minute : Second, or **hh:mm:ss**.

...at the Client Level

However, the format of dates and times in Agile PLM clients depends primarily on the user profile settings for **Preferred Time Format**, **Preferred Date Format**, and **Time Zone**. See User Properties Defined on page 156 for details. The settings that the user specifies do not affect how the dates are stored.

Example

Agile PLM records object-related events based on when they occur at the AAS. However, in **History** tabs of objects, you see the local client time that an event occurred—that is, the time matches that recorded by Agile PLM clients.

For example, Jerry creates an Agile object at 5:00 PM in San Jose, California. The server that the object is created on is in San Jose, so the server records the object’s creation time as 5:00 PM. Jerry’s Time Zone user preference is set to “New York (EST)”. This means that on his machine, the **History** tab of this object will indicate that it was created at 8:00 PM, the time it was in New York.

Note	The administrator sets Time Zone for all users, but users can change this setting. Users should set their time zone correctly; otherwise "**History**" in business objects will report misleading times.

Administrator Utilities in Java Client

You can perform many administrator actions in Java Client by clicking buttons on the **Admin** tab toolbar.

Note	New nodes have been added to Web Client's Administrator functions that are not found in Java Client's Administrator functions. The new nodes are Dashboard Configuration, Project Summary Configuration, and Cache Health Monitor, which are described (or referenced) in Administrator Utilities in Web Client on page 26.

Sending Email to Users

Use the **Email To Users** button to email a message to all active (enabled) users, all logged-in users, or to specific users that you select.

When you click the **Email To Users** button, the Email to Users window appears. You can send email to the following groups of recipients:

- **All active users** – Email all enabled users a message that they will receive the next time they log in to Agile PLM. For example, you may want to inform all enabled users that a new class or subclass or workflow is now available for their use.
- **All logged-in users** – Email all logged-in users a message that you want them to receive immediately. For example, you may want to inform all logged-in users that the Agile PLM system will be down in 10 minutes.
- **Other users** – Email a message to selected users. After you select the radio button, open the address book by clicking , from which you choose the users for your message.

Enter the message in the **Content** field and then click **Send**. There is no "draft" capability; this utility is meant for more "on-the-fly" communications than you might write in an email application.

Global Replace

The **Global Replace** button lets you replace one user with another in workflows, escalations, and transfer authority assignments. You can use this capability in a variety of situations, for instance, when an employee leaves the company or moves to another assignment. Global Replace can accomplish the following:

- Replace a user as an approver, observer, or routing manager in a single workflow or all existing workflows; however, this does not replace the user in the actual changes he is currently working on, which must be done manually.
- Change the designated escalation person for single or multiple users and user groups.
- Change the transfer authority person for single or multiple users and user groups. You can

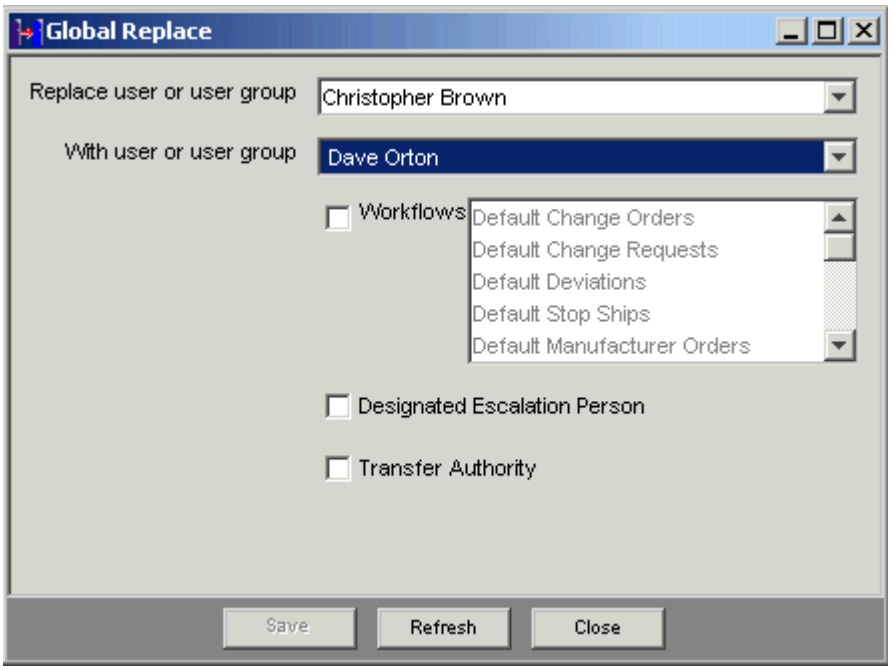
replace To users but not From users.

The “users” in the **From** and **Replace With** dropdown lists include all existing user groups. See Users and User Groups on page 151.

Global Replace Properties

To define or change the settings in the Global Replace window:

1. Click the **Global Replace** button in the **Admin** tab toolbar. The Global Replace window appears.



You can specify the following values in the Global Replace window:

Property	Description
Replace user or user group	The “Replace” person is the user or user group you are replacing. Select a user or user group from the dropdown list.
With user or user group	The “With” person is the user or user group who will replace the “From” person. Select a user or user group from the dropdown list.
Workflows	Select a specific workflow from the dropdown list. You can use Ctrl-shift or Shift-click to select all the workflows if you want to change every instance of the “Replace” person to the same “With” person in all workflows. With the checkbox selected, the “Replace” person is replaced with the “With” person in approver, observer, and change analyst (routing manager) capacities in the designated workflow.
Designated Escalation Person	Replaces the “Replace” person with the “With” person as the designated escalation person. (See Designated Escalation Person on page 139.)

Property	Description
Transfer Authority	Replaces the "Replace" person with the "With" person as the person who has the authority to approve or reject the "Replace" person's changes. (See Transfer Authority for Self on page 219.)

If you have selected more than one wo**rkflow** in the **Workflows** field, when you click **Save** you see this confirmation message: "Are you sure you want to replace <*Replace person*> with <*With person*> for all Workflows?"

If the "Replace" person is a routing manager, and the "With" person is not, a warning appears. If you answer the prompt with **Yes** (to continue), when the "Replace" person is used in any default routing manager property (for example, Default Change Analyst), this function will be filled by a non-routing manager. If that is an unwanted result, you should instead answer the prompt with **No** and select a more appropriate "With" person.

For more information about routing managers, see Routing Managers on page 119.

Object History

The Agile PLM system tracks several kinds of "history," some available only to the administrator and some available to all users. These topics are considered in the following sections:

- **Object History and Administrative Object History** – the object history shows only the history of that object, which includes all actions performed by users and administrator users; those actions that involved an administrator also are listed in the Administrator History window.
- **Administrator History** – records administrative actions on all objects in Agile PLM. Administrator History also records history of deleted objects and settings.
- **History of Deleted Objects** – when an object is deleted, its history is preserved. This type of history is also accessed in Administrator History.
- **Previous Administrator Histories** – displays object history that took place in previous releases of Agile PLM. This kind of history is in Previous Administrator Histories.

Object History and Administrative Object History

Every object in Agile PLM has a **History** tab, on which all individual actions performed are recorded, for example, Create, Modify, and Delete. Different data is recorded on the **History** tab depending on the object type. The history of actions performed by an Agile PLM administrator appears also in Administrator History (see Administrator History on page 22).

All objects have a record of the information listed in the following table on their **History** tabs. Many kinds of Agile objects have additional fields on their **History** tab.

Property	Description
Action	The action that was performed, for example, create, modify, delete.
User	The user who performed the action.
Local Client Time	The date and time the action was performed.

Property	Description
Details	Details of the object, property, or action after the modification.

When a modification is made to an administrative object on a node that records the assignment or reference of one object to another object, history is logged on the object that "owns" the reference or assignment. See the table below. For example, if you assign a role (object) to a user (object), the user object owns the referenced role object, and the **History** tab of the user object is updated.

Owner (history logged on this object)		Reference or assignment object
Role	owns	Privilege
Privilege	owns	Criteria
Subclass	owns	AutoNumber
Workflow criteria nodes (matching criteria, exit criteria)	own	Criteria
User	owns	Role

Administrator History

When a modification is made to an administrative object, the action is recorded and displayed in the Administrator History window. Administrator History also records history of deleted objects and settings.

Note Administrator History does not include User history or User Group history.

The following table describes the fields in the Administrator History window. These fields are similar to the history table fields for Agile PLM administrative objects.

Field	Description
Action	The action that was performed, for example, create, modify, delete.
Object	The name of the object on which the action was performed, for example, the name of a workflow, privilege mask, or criteria.
Username	The user who performed the action. The username is an active link; click it to open the user's tabbed page.
Local Client Time	The date and time the action was performed.
Details	Details of the object, property, or action after the modification.

Purging Administrator History

The Administrator History can be cleared or purged.

Caution The familiar "Delete" button implies different behavior in this context. You cannot delete selected lines from the Administrator History window; this works as a true "purge" capability. Purge also removes the records in the Previous Administrator History window.

To purge Administrator History:

On the Admin **tab toolbar, click the** Admin History **button** .

1. On the Administrator History window toolbar, click the **Purge** button .
2. You are prompted with three options to answer the question, **Would you like to export the existing history?**
   a. **If Yes, purge all history records with an export file:** If you click **Yes**, all records in Administrator History are purged, and an export file is created with all the data. This is a recommended course if your company was ever audited and these archives are required.
   b. **If No, purge all history records without an export file:** If you click **No**, all records in Administrator History are purged, and an export file is not created.
   c. **If Cancel, cancel purge action:** If you click **Cancel**, the operation is not executed.
3. If you click **Yes** or **No**, all records in Administrator History are instantly purged. They cannot be retrieved.

History of Deleted Objects

When an object or setting is deleted, the history of the object or setting is maintained in Administrator History. However, the data is no longer maintained on the object or setting **History** tab.

For example, if you delete an object, such as a workflow, its history entries, including the delete action, are maintained in Administrator History. However, there is no longer a **History** tab for the workflow object (the object does not exist anymore), so there is no individual object history for that workflow.

If you remove one object from another—for instance, removing a privilege from a role—the removal of the privilege is recorded in **Admin History** with reference to the role.

Previous Administrator Histories

If you have upgraded from a previous version of Agile Product Collaboration (Version 8.5 or earlier), the **Previous Admin Histories** button (on the toolbar of the Administrator History window) contains the Administrator history information that was stored in the database before the upgrade. This information is displayed in the Previous Administrator History window so you can refer to it if you need information about database modifications made by the administrator before the upgrade took place.

Administrator Import and Export

In several nodes of Administrator, exporting and importing functions are available.

- **Data Settings**
  - **Criteria**
- **Workflow Settings**
  - **Workflows**
- **User Settings**

- **Roles**
- **Privileges**

You can export Agile PLM-object definition data to a file. You can import an Agile PLM-object definition data file to create a new object. Example objects (such as example roles) cannot be imported or exported.

Note On the **Tools** menu of Agile PLM clients, **Import** and **Export** utilities can be used to import and export product data, not Agile PLM system metadata. The Import and Export utilities are documented *in the Agile PLM Impor*t and *Export Guide*.

Important When you import Administrator data from a test system to a production system, verify the imported data as completely as is possible immediately.

Encoding Types

When you import or export workflow data, you must select the encoding type. The following table lists available encoding types.

Value	Note
Western European (ISO)	ISO-8859-1
Japanese (Shift JIS)	SJIS
Traditional Chinese (Big 5)	BIG5
Japanese (EUC)	EUC-JP
Simplified Chinese (GB2312)	GB2312
Unicode (UTF-8)	UTF8

Administrator Export

The Administrator Export function exports the necessary data to create the object. Not all properties are exported. For example, exporting a privilege mask does not export the Where Used information. You can examine the exported text file to determine which properties are exported for each type of object.

To export Administrator data:

1. Open the node you want to work with: **Workflows**, **Criteria**, **Roles**, or **Privileges**.
2. Select the objects you want to export. You can export one object, or all objects in the table; the Workflows, Criteria, and Privileges windows have an **Export All** button.

   Note In windows with a filter bar (see Filtering Data on page 16), to display all the objects in the node, Select Show All in the **Match If** dropdown list, and click **Apply**.

3. Click the **Export** button in the window toolbar.

   For *workflow exports only*, the Encoding Type dialog box opens. See the table above. The encoding type generally used is Western European (ISO). If you need to use a different

encoding type, select it in the dropdown list, and Click **OK**.

Note	You must specify the same encoding type when you import the file later.

4. Follow normal Save As procedures to give the file a name and select a location to save it to disk. Modify the filename to make it easy to identify. You might include the object exported, the date, and the encoding type. For example, **ChangeOrderWorkflow072602_ISO.txt**.
5. When you are ready, click **Save**. Verify the data in the file you exported.

Administrator Import

You can import an exported text file to create an object in the Agile PLM system.

You cannot create two objects with the same name. For example, you cannot import an object data file for a workflow named ABC if there is already a workflow named ABC in your Agile PLM system. You have the option of overriding the existing named object; in that case, the imported object replaces the existing object in the Agile PLM system.

Note that some properties—for example, user assignments—are not exported. When you import the object data text file, you will create a new object without those properties (for example, with no user assignments).

Note	Before you import it, open the text file you want to import to verify which object properties were exported.

To import Administrator data:

1. Open the node you want to work with: **Workflows**, **Criteria**, **Roles**, or **Privileges**.
2. Click the **Import** button in the window toolbar. The Import File dialog opens.

   For workflow imports only, the Import File dialog includes an Encoding Type field. Make sure the encoding type matches the exported file of workflow(s).

Caution	You must select the same encoding type you used when you exported the object. Import results are not reliable if you do not use the same encoding type.

3. Next to the Files to be Imported field, click the **Browse** button to locate and select the file you want to import. Click **Open**.
4. Click **OK**. The import operation takes place. Verify the data in the imported file.

Process Extensions Library

Use **Tools > Process Extensions** or the **Process Extensions** button to access the Process Extensions Library. If there are no process extensions deployed on your Agile PLM system, that item is unavailable on the **Tools** menu and “Empty” appears below the button when you click it.

For details about configuring process extensions, see Process Extensions on page 93. For information on how to develop process extensions for your Agile PLM system, see the *Agile SDK Developer Guide*.

Administrator Utilities in Web Client

Agile Web Client has an Administrator page (click **Tools > Administration**), with some nodes that replicate the behavior of same- or similarly-named nodes in Java Client, and some nodes that are unique utilities.

See Admin Nodes in Web Client on page 6 for the complete list of nodes and references to their documentation.

This section documents utilities for the Agile administrator that are unique to Web Client. The following utilities are documented below:

- **Web Client Configuration**
  - **Themes** – see Visual Themes on page 35
- **Template Management**
  - **Report Template** – see Report Template on page 26
- **Server Settings**
  - **Cluster** – see Cluster on page 28
- **Troubleshooting**
  - **Cache Health Monitor** – see Cache Health Monitor on page 29
  - **Logging Configuration** – see Logging Configuration on page 34

Report Template

Agile PLM Release 9.2.2.4 introduces integration of existing Standard Reports and Custom Reports with Oracle BI Publisher. The Reporting capability has been enhanced by the ability to use the BI Publisher Template Builder to publish Reports.

Further information and documentation about the BI Publisher version 5.6.2 tool is located at the following web site: http://xdo.us.oracle.com/?tab=doc (http://xdo.us.oracle.com/?tab=doc).

Documentation for the end-user is found in the chapter on Reports in *Getting Started with Agile PLM*.

This section details how the administrator prepares the layout template for the end-user reports that are available through the BI Publisher interface.

Note	The next major release of PLM will only have BI Publisher framework.

Manage Report Template (AppliedTo Choice)

"Manage Report Templates" is a new Choice in the Administrator-specific AppliedTo property (found in **Administrator** and **Admin Access for User Admin** privilege masks). This setting (when moved to Selected) enables you or an assistant administrator to upload templates for reports in the PLM Report Template utility (**Web Client > Tools > Administration > Template Management > Report Template**) that users will see when they use the report template.

Dynamic and Static Templates

There are two template modes in 9.2.2.4 of a Static Template or a Dynamic Template.

Static Template

The only two reports that support **Static Template** and generate files in RTF are the BOM Explosion Report and the Manufacturer BOM Report. This is accessed when the user selects both “Use BI Publisher” and “Use Template For Layout” options. The Static Template is the only mode that supports XML format.

Dynamic Template

All custom reports and most of the standard reports use the **Dynamic Template** to define and generate reports in multiple output formats such as PDF, HTML, Excel, and Word.

Creating Report Templates

The administrator can define layouts by creating RTF templates in addition to the out-of-box layout already provided.

In Java Client, select **Admin > Server Settings > Preferences**. **Enable BI Publisher for Reports** has two values of Yes or No. When preference is set to No, reports are generated using existing reporting layout. When preference is set to Yes, reports can be generated in multiple output formats using BI Publisher. For information on the new system Preference Enable BI Publisher for Reports see Preferences on page 286.

Note	If the file server is down, templates will not generate reports as they are stored in the file server.

In Web Client, navigate to **Tools > Administration > Template Management > Report Template**. Click **Create** and the Create Report Template window will appear. Choose a name and enter a description for the template. Browse to the location of your template RTF files. Then click **OK** and your template is added to the list of options for templates. You can **Get** the template file and now modify it. You have the option to use Microsoft Office (Word) or Adobe Acrobat to design the layout of the report. There is also the option to use BI Publisher’s Template Builder plug-in for Microsoft Word to employ drag-and-drop designing.

Reports Unsupported by BI Publisher

The following reports are not supported with the BI Publisher framework template:

- Change Package Report
- Change Metrics
- Change Backlog
- Change Cycle Time
- Quality Metrics
- Quality Backlog

- Quality Cycle Time
- Failure Trend
- RFQ Export
- IP Transfer
- Program Actual vs Budgeted Cost Report
- Baseline Comparison Report
- Portfolio Cost Report
- Resource Pool Consumption Report
- All PCM Reports

Note In 9224, BI Publisher does not support WebSphere.

Managing the Clustered Environment

If your deployment of Agile PLM requires the use of clustered servers, you can use the **Cluster** node to add and remove servers to the cluster, and the **Cache Health Monitor** to synchronize the data in the cluster. If your company is not licensed for clustered servers, you will not see the **Cluster** or **Cache Health Monitor** nodes in the **Administration** menu.

An Agile Solutions Consultant can provide you with more in-depth information about deploying and maintaining clustered servers. Please see the *Agile PLM Readme* document for other cautions about synchronizing data.

Cluster

The **Cluster** node is used to manage servers in the clustered environment. In the task to add servers to the cluster, note that step 4 applies to OAS and step 5 applies to BEA WebLogic.

To add a server or multiple servers to the clustered environment:

1. Start one of the managed servers in cluster.
2. In Web Client (as Administrator user) **> Tools > Administration > Server Settings > Cluster** node, under **General Info** tab:
   - Change Server Discovery Method from Static to Dynamic.
   - Type Multicast IP with “239” and add final three parts of one the cluster’s managed servers, so there is no IP conflict; for example, if the IP address of the managed server is 10.0.7.25, Multicast IP is set to **239.0.7.25**.
   - Change Data Replication Method from JMS to Custom.
3. Under **Servers** tab, use the Add procedure to add a server or multiple servers, one by one, to the cluster.
   - Enter a server Name for the managed server and set Replication URL to rmi://<host>/ClusterService. For example, if the managed server is running on a machine named PLM.agile.agilesoft.com, you can set Name to "PLM" and set Replication URL to "rmi://PLM.agile.agilesoft.com/ClusterService".

- Leave the other fields empty.

4. If your cluster is running on Oracle Application Server (if you are working on WebLogic cluster, please go to step 5), add system property agile.server.name for OC4J component (category start-parameters) in $ORA_HOME/opmn/conf/opmn.xml:

   <data id="java-options" value="-Xrs -server

   -Djava.security.policy=$ORACLE_HOME/j2ee/home/config/java2.policy

   -Djava.awt.headless=true

   -Dagile.server.name=<Name of the server that you added in step 3>

   As a complete example, let there be two OAS managed servers: oascluster1.agile.agilesoft.com and oascluster2.agile.agilesoft.com. From step 3, add the following two servers: Server 1 is given the Name oascluster1 and the Replication URL is set to rmi://oascluster1.agile.agilesoft.com/ClusterService; Server 2 is given the Name oascluster2 and the Replication URL rmi://oascluster2.agile.agilesoft.com/ClusterService. Then modify opmn.xml on oascluster1 by adding system property agile.server.name=oascluster1, and modify opmn.xml on oascluster2 by adding system property agile.server.name=oascluster2.

5. Follow this step if you are working on a BEA WebLogic cluster. Add system property agile.server.name into agileDomain/bin/startAgile.cmd, below is a sample format:

   -Djava.awt.headless=true -Dagile.server.name=<Name of the server that you added in step 3> %DEBUG_OPTS% weblogic.Server

   As a complete example, let there be two WebLogic managed servers: wlscluster1.agile.agilesoft.com and wlscluster2.agile.agilesoft.com. From step 3, add the following two servers: Server 1 is given the Name wlscluster1 and Replication URL is set to rmi://wlscluster1.agile.agilesoft.com/ClusterService; Server 2 is given the Name wlscluster2 and the Replication URL is set to rmi://wlscluster2.agile.agilesoft.com/ClusterService. Then modify startAgile.cmd on wlscluster1 by adding system property agile.server.name=wlscluster1, and modify startAgile.cmd on wlscluster2 by adding system property agile.server.name=wlscluster2.

6. Restart all managed servers, including the server you started in step 1.

   If there is a firewall set up on the managed servers, open the following TCP ports: 1099 for RMI binding, 9002 for RMI data communication.

To remove a server from the clustered environment:

1. In Web Client (as Administrator user) **> Tools > Administration > Server Settings > Cluster** node, under **Servers** tab, use the Remove procedure to select and remove a managed server.

Cache Health Monitor

Agile PLM 9.x caches in memory all data related to application configuration in each and every clustered server. This is called the “Admin Cache.” Any change to the Admin Cache data – on any server in the cluster – triggers a message to be delivered to all the cluster servers, to update the Cache for the data item that changed. Agile PLM uses Java Messaging Service (JMS) to broadcast this message.

It has been found that some changes are not propagated across all servers in the cluster. This happens randomly, that is, the occurrence of non-propagation is not possible to predict. Once it occurs, the solution is to restart all the servers in the cluster. An additional solution to this issue is

the utility called **Cache Health Monitor**.

Note	Cache Health Monitor utility is designed as a backup system. The current method of using the JMS server remains as the primary data synchronization mechanism.

The main features of the Cache Health Monitor utility are:

1. Lists all modified Administrator nodes and the current synchronization state;
2. Commences the synchronization manually or automatically (see Automatic Synchronization using Java Client Administrator on page 31);
3. Turns logging of cache synchronization operations on or off;
4. Views the log file containing cache synchronization operation messages;
5. Purges old entries.

How the Cache Health Monitor Works

All Administrator (configuration-related) changes are entered to a new database table. At the server startup time, Cache Health Monitor logs the server time as "last update time" (LUT) and monitors all changes made from LUT onwards. If a manual or automatic triggering is initiated, all changes made from the LUT are synchronized (if not already synchronized) and the LUT is updated to the current time.

To access the servers in the cluster, the administrator must log in to each application server directly, using the application server name and port. For example, suppose there is a cluster with three servers:

- app1.abc.com
- app2.abc.com
- app3.abc.com

To monitor and synchronize manually, the administrator would log in to each server using these URLs:

- http://app1.abc.com:7777/Agile/PLMServlet
- http://app2.abc.com:7777/Agile/PLMServlet
- http://app3.abc.com:7777/Agile/PLMServlet

The default Oracle Application HTTP port-"7777"-is shown in the examples; you are advised to change this as appropriate.

Buttons on Cache Health Monitor Page

The specific application server name is listed on the **Cache** Health **Monitor** page. This helps identify the server that the user is connected to, especially when the user may want to have one browser session for each server in the cluster.

The buttons on the Cache Health Monitor page activate specific events as follows:

Synchronize – Synchronizes the data on that particular application server; use when one or more objects are reported as “Not synchronized” in the **Status** column. After the Synchronize button is

clicked, synchronization is triggered and the status changes to “Synchronized.”

Refresh – Refreshes the data on that page.

Purge – Purges old entries in the CACHE_SYNC_LOG table in database; the time interval to select entries to purge is configured thorough the property cache. syncevent.obsoletetime (in minutes) in the file **agile_home**/agileDomain /config/agile.properties. The default value is 144000 minutes, or 100 days. Changing this property requires server restart.

Purge removes all entries in the table that are older than the Purge value. In above case, all entries older than 144000 minutes are removed.

Turn Log on / Turn Log off – Enables or disables logging, works as a toggle switch.

View Log – Displays current synchronization log; this log contains information about synchronization process, objects that have been synchronized and failures, if any.

Automatic Synchronization using Java Client Administrator

To configure automatic cache synchronization, you must enable a new background task called “Admin Cache Synchronization Task.” This task is configured in **Java Client** > **Admin** > **Server Settings** > **Task Configuration**; it is documented in Task Configuration on page 296, on page 296.

When you double-click a task in the Task Configuration page, the Task Configuration **General Info** window for that task appears. Admin Cache Synchronization Task has the following properties, including the defaults specific to Cache Health Monitor.

Property	Description
Name	Name of the task being configured.
Task Interval	Periodic time interval in minutes after which the server updates the status of the task. Default is 5, meaning all enabled tasks in the node run every 5 minutes.
Task Delay Time	How many minutes the event is delayed before it starts to run. Default = 0.
Task Lookback Window	How far back in minutes the task manager is to look to retrieve the events that can be run now. Default = 0.
Task Max Event Number	The number of events that can be running at the same time on one server. Default = 1.
Task Restart Upon Failure	Indicates whether the event should be restarted after it failed. Yes or No. Default = No.
Task Load Across Server	Indicates whether the event can be executed at the same time in different servers of a cluster. Yes or No. Default = No.
Task Disabled	Indicates whether the task is disabled (Yes) or enabled (No). Note that you may want to set this property to Yes while you are configuring and testing it; when you are ready to enable the task, you must re-set this property to No. Default = No.

If you do not make frequent changes in Administrator, or if Admin changes are updated on a specific or scheduled time, manual synchronization of the cluster will likely meet your needs. If, however, you frequently change settings in Administrator, and these are entered at many intervals throughout the day, this automatic Admin Cache Synchronization Task is a more structured backup

should synchronization fail. In the event of synchronization failure, use Cache Health Monitor (either manual or automatic) until you are able to restart the cluster's servers.

Logging and Debugging Errors

To provide a mechanism to track the events related to Admin Cache synchronization, logging can be enabled to log all debugging messages. When logging is turned off, only errors and synchronization issues seen by the Cache Health Monitor are logged.

When an Administrator object or a business object is modified on any server in the cluster, a JMS server receives the event details and is triggered to broadcast the message to the other servers.

Note While the Cache Health Monitor monitors and synchronizes Administrator objects exclusively (for example, Changes Base Class or Change Orders Class), the logging mechanism logs events related both to Administrator objects and to user-modified business objects (for example, a modified change order). This is helpful for tracking the propagation of changes to business objects across the servers.

The following two messages (each message starts with a time stamp) will be recorded in the log file (when log is turned on).

2006-09-20 18:14:08,881 HttpRequestHandler-3096409 <Messenger:DEBUG> Sending message <class:com.agile.pc.cmserver.event.CMBatchEvent, content:Batch events:

event class: com.agile.pc.cmserver.event.CMObjectEvent, content: object: class: 10000 subclass:10141 id:6010147 version:1 action: 4

event class: com.agile.pc.cmserver.event.CMFTSSyncEvent, content: FTS sync object: class: 10000 subclass:10141 id:6010147 version:0

event class: com.agile.pc.cmserver.event.CMObjectEvent, content: object: class: 10000 subclass:10141 id:6010147 version:1 action: 1

> to <topic:sync_topic> with property <name=APP_SRV_ID, value=6010141>

2006-09-20 18:14:10,222 HttpRequestHandler-3096409 <Messenger:DEBUG> Message was delivered to JMS topic:sync_topic

The first message captures the details of the object modified; the second message indicates that JMS server received the message. JMS then propagates this message and the following three messages are recorded on all servers other than the originating server.

2006-09-20 18:14:27,257 ApplicationServerThread-2 <SyncMDBean:DEBUG> Received message from JMS server.

2006-09-20 18:14:27,257 ApplicationServerThread-2 <SyncMDBean:DEBUG> Message was sent by server with ID: 6010141, current server id is: 6010121

2006-09-20 18:14:27,257 ApplicationServerThread-2 <SyncMDBean:DEBUG> Process event: class name --> com.agile.pc.cmserver.event.CMBatchEvent, type --> 1, content --> Batch events:

event class: com.agile.pc.cmserver.event.CMObjectEvent, content: object: class: 10000 subclass:10141 id:6010147 version:1 action: 4

event class: com.agile.pc.cmserver.event.CMFTSSyncEvent, content: FTS sync object: class: 10000 subclass:10141 id:6010147 version:0

event class: com.agile.pc.cmserver.event.CMObjectEvent, content: object: class: 10000 subclass:10141 id:6010147 version:1 action: 1

Using the above log messages, any unsynchronized data could be traced out.

When manual / automatic (background thread) triggering occurs, even with logging turned off, the following messages are displayed for all Administrator nodes being synchronized.

Manual Triggering:

2006-09-20 13:17:39,512 HttpRequestHandler-394365 <ADictionary:INFO> Admin cache sync > invalidate node: admin objid: 7000 class id: -1 version: -1

Automatic Triggering:

2006-09-20 13:17:39,512 ApplicationServerThread-149 <ADictionary:INFO> Admin cache sync > invalidate node: admin objid: 7000 class id: -1 version: -1

Note that the difference in the two messages is the source of triggering, in the manual case since we are sending a HTTP request the source is displayed as HttpRequestHandler, in the second case, the source is application itself (background thread) therefore the source is displayed as ApplicationServerThread.

Logging is configured through the log.xml file in agile_home/agileDomain/config directory.

The following element configures the log for Cache Synchronization.

```
<appender name="CacheSyncLog"  class="org.apache.log4j.RollingFile
Appender">
        <param name="File" value="${agile.log.dir}/cachesync.log" />
        <param name="Append" value="true" />
        <param name="MaxFileSize" value="1MB"/>
        <param name="MaxBackupIndex" value="10"/>
        <layout class="org.apache.log4j.PatternLayout">
            <param name="ConversionPattern" value="%d\t%t\t&lt;
%c{1}:%p&gt;\t%m\n"/>
            </layout>
    </appender>
```

Parameter	Description
File	Name and path of the log file
Append	Append or overwrite to existing file at server startup
MaxFileSize	Maximum file size after the current file is archived and new file is created
MaxBackupIndex	Maximum number of files that would be archived

Logging Configuration

– For use by Oracle Agile Support ONLY! –

The **Logging Configuration** monitor has been added to permit Oracle Agile Support to perform quick changes to the logging configuration without stopping and restarting your company's Agile Application Server (AAS).

Important You should never change the logging configuration without first receiving a recommendation from Oracle Agile Support.

Events in a possible scenario:

1. When you, the PLM customer, encounter a problem and call Oracle Agile Support, you provide a URL for Web Client access to your PLM system. This "window" to your system permits data gathering.
2. If the Support person can identify the problem and a quick remedy, he will enter the logging change, attempt to reproduce the problem, and turn off Logging Configuration. The monitor enables resetting your "Log4J logging level" dynamically without stopping and restarting your system's AAS.
   - Use the Quick Search field at the bottom of the page. The debugging information appears in a console window.
   - After collecting the debugging information, Support can exit the **Logging Configuration** page without altering the PLM system being examined.
   - Click the **Refresh** button to update the view of logging data at any time.
   - In the Level column, modify the configuration by selecting from the dropdown list for appropriate classes.
   - Click the **Update Logger** button to commit the configuration change without stopping the system's AAS.
3. If Support does not find a remedy or workaround, the problem can be escalated to Oracle Agile Development.
   - "Agile Development" may ask Support to request that the customer turn on certain logs, based on which area of PLM the problem is originating from.
   - The customer can turn on logs without restarting AAS, the information can be retrieved by Support, and the logs can be turned off without restarting AAS.
4. When "Agile Development" has debugged the problem, Support can:
   - return to the customer's system to put the change into effect; or,
   - communicate the proposed fix to the customer.

Note Because the Logging Configuration utility is intended for use by Oracle Agile personnel in troubleshooting a customer's system, and is not intended for "self-treatment" of any problem, the various configuration scripts and Level menu choices are not documented herein.

Visual Themes

You can use the settings of the **Visual Themes** node to configure the display of the Web Client user interface, including the definition of colors and font size. This allows the configuration of Web Client to be consistent with other deployed applications or with corporate colors.

Selecting Styles

The **Visual Themes** node lets the administrator define a visual "look," or style, for all Web Client end-users. Styles are defined and modified by choosing **Tools > Administration > Visual Themes**; the Modify Styles page appears.

On the Modify Styles page, the **Style Theme** list box lists all *currently* available themes. The themes with an asterisk (*) are the out-of-box themes, or System Styles, which cannot be modified or deleted. New themes can be developed using Save As.

You can select a visual style theme from the dropdown list and begin modifying it with one of the following action icons:

- Click **Edit** to modify the selected style theme. The Customize Styles page appears. For more details, see Modifying Styles. Note that you cannot modify the System Styles, denoted by the "*" in the name.
- Click **Delete** to delete the selected style theme. Note that you cannot delete the System Styles, denoted by the “*” in the name.
- Click **Save As** to save the selected style theme. You are prompted to give it a new name. This is the way you can "modify" a default System Style, or create a new a style theme from one that you have previously modified. For more details, see Modifying Styles.

Once you have modified a style theme, you can use these buttons for further actions:

- Click **Preview** to preview the selected or modified style theme. This displays the Web Client interface in the selected style theme on your machine only. (All other users still see the user interface in the current style theme.)
- Assuming you are satisfied with what you see in the preview, you can click **Apply Globally** to set the selected style theme to become the current style theme. This changes the display for all users: this happens for a given user as soon as their screen is refreshed, or, of course, when a user next logs in to Web Client.
- If you wish to make further modifications to the style theme you are modifying, click **Edit**. To cancel the preview of the selected style theme, click **Cancel**. You are returned to the **Administration** page.

Modifying Styles

You can modify color themes and font sizes that users see in Web Client as follows. Remember that System Styles, denoted with "*" in the name, cannot be modified, even though you can enter changes and use the **Preview** button to see those results; please see Step 2 below.

To modify a style theme:

1. In Web Client, click **Tools > Administration > Visual Themes**. The Modify Styles page appears.

2. As long as a style theme does not contain an "*" in its name, you can select the theme you want to modify and click **Edit**. The Customize Styles page appears, listing the style properties.

   For the default System Styles, select the theme you want to modify and click **Save As**. The Save As New Style dialog appears, enter the new style name, and click **Save**. Now the new name is selected in the Style Theme field, and you can simply click **Edit** and begin modifying this style theme.

3. On the Customize Styles page, there is a list of Style Properties, which are described below. To change the color for a Style Property, click the **Color Picker** (dropdown) button and select a color. When you click on a color hue, its HTML color code appears in the **Value** field; you can click another hue for that property, or continue down the list of Style Properties. (The selected hues appear in the Sample column only after you click **Save**.)

   Note that the Info Section Text Size property changes point size of type, not a hue (see Description).

4. When you want to preview your selections, click **Save**. Then you can click the **Preview** button, as detailed in the previous topic.

   If you do not want to keep the new style in the Style Theme list, you can simply **Delete** it.

The following table lists the Style Properties with descriptions of what each property modifies in the Web Client interface.

Property	Description
Top Pane Background Color	Background color of the main toolbar
Frame Border Color	Color of the frame at the top and bottom panes
Left Pane Controller Background Color	Background color of controls in the left pane
Left Pane Background Color	Background color of the left pane. This also controls the background color of the Login page.
Active Tab Background Color	Background color of the selected tab
Active Tab Text Color	Text color for the selected tab
Info Section Background Color	Background color for all information areas and error messages
Info Section Text Color	Text color for information areas
Info Section Text Size	Text size for all information areas and error messages
Label Text Color	Text color for all form labels and actions
Data Text Color	Text color for data in forms and tables
Heading Text Color	Text color for heading type attributes
Heading Background Color	Background for heading type attributes

Agile PLM Variables

This section lists Agile PLM variables you can use when you configure the system.

Default Value Variables

The following variables are used for setting default values for attribute properties.

Variable	Description
$TODAY (must be uppercase)	The current date $TODAY is not supported in Text type attributes. If you set $TODAY as the default value for a Text type attribute, the time is displayed in GMT.
$NOW (must be uppercase)	The current date and time $NOW is not supported in Text type attributes. If you set $NOW as the default value for a Text type attribute, the time is displayed in GMT.
$LATESTREV (uppercase)	Defines whether or not the latest revision of an item has been released or not. The only values possible are $LATESTREV = Is Introductory $LATESTREV = Is Released. For more information, see Using $CURRENTREV and $LATESTREV on page 113.
$CURRENTREV (uppercase)	The current revision of the object. For more information about $CURRENTREV, see next topic and Using $CURRENTREV and $LATESTREV on page 113, and Controlling the Ability to Modify Items at Introductory Revision with $CURRENTREV on page 212.

$CURRENTREV Criteria Logic

Agile has a special variable that can be used in Criteria against items, $CURRENTREV, that allows administrators to build in privilege control based on the displayed revision. With a criteria written using $CURRENTREV, Agile evaluates the currently selected revision in Web Client or Java Client to evaluate the match. That is, when a user has selected a revision in the **Revision** dropdown list, the $CURRENTREV criteria is evaluated against that displayed revision.

This functionality is discussed in Controlling the Ability to Modify Items at Introductory Revision with $CURRENTREV on page 212.

Privilege Mask Criteria Variables

You may select the following variables when establishing privilege mask criteria.

Variable	Description
$AFFECTEDITEMTYPE	Inserts the type (subclass) of object that is listed in the **Affected Items** tab or field.
$ATTRIBUTENAME	Inserts the name of the attribute that is selected in the **Attribute Watermark** field (see Banner and Watermark Properties on page 254).
$APPROVER	Inserts the name(s) of the approver(s) of the workflow
$CHECKOUTUSER	The user who checked out the object.
$CREATEUSER	The user who created the object.
$CURRENTREV	The current revision of an object you have selected from the rev list, or the revision of an object you are currently viewing. (See previous topic.)
$DEFAULTSITE	Specifies if an item's manufacturing site contains the user's default site.
$LATEST	The latest revision of an object; more specifically, the latest released revision for a released item, or the latest pending revision for an unreleased item (with pending changes). $LATEST is meaningful only in the Read and Modify privileges. $LATEST goes on the right side of the equation. Valid use is: $CURRENTREV (equal, not equal) $LATEST. More information about $LATEST is in Item Relationship Creation Using $CURRENTREV and $LATEST Criteria on page 116.
$LATESTFILEVERSION	The latest file folder version.
$MAINORG	Supplier users can read and discover all users in the buyer organization as well as in their own organization (which, alone, is handled by $USERORG variable). Supplier users are prevented from reading and discovering users from other supplier organizations.
$OBSERVER	Inserts the name(s) of the observer(s) of the workflow
$USER	Inserts the name(s) of PLM users. A criteria such as "$USER Equal to $APPROVER" can be used with certain privileges, for example, Modify.
$USERGROUP	Inserts the name(s) of PLM user groups, based on a given user's User Group property being populated with a value, that is, a Group name. So, If a field is tied to the Admin list for User Groups, criteria can match a user to a user group; this criteria can be used with Read and Discover privileges to grant object access and control to a group or team.
$USERORG	Used to create criteria based on the relationship between an attribute (organization or supplier) that specifies an organization, and the organization of the logged-in user.
$USERSITE	Used to create criteria based on the relationship between an attribute (site) and sites assigned to the logged-in user.

Workflow Assignment and Status Type Variables

You may select the following variables when establishing workflow assignment:

Variable	Description
$APPROVER	The approver(s) of the workflow.
$OBSERVER	The observer(s) of the workflow.
$ORIGINATOR	The originator of the routable object.

You may select the following "status type" variables under the **Criteria** column when setting up workflows:

Variable	Description
$UNASSIGNED	Unassigned status type.
$CURRENTSTATUS	The current status type.
$STATUSTYPE.PENDING	Pending status type.
$STATUSTYPE.SUBMIT	Submitted status type.
$STATUSTYPE.REVIEW	Review status type.
$STATUSTYPE.RELEASED	Released status type
$STATUSTYPE.COMPLETE	Completed status type.
$STATUSTYPE.CANCEL	Canceled status type.
$STATUSTYPE.HOLD	Hold status type.

Routing Manager Variables

Routing manager variables facilitate management of routable objects. These variables represent the user selected from the Change Analyst, Compliance Manager, Component Engineer, Program Manager, Quality Administrator, Quality Analyst, and Price Administrator lists.

Variable	Description	Related routable objects
$CHANGEANALYST	User selected from the Change Analyst list	Engineering change orders (ECOs), engineering change requests (ECRs), manufacturer change orders (MCOs), deviations, stop ships
$COMPLIANCEMANAGER	User selected from the Compliance Manager list	All declarations
$COMPONENTENGINEER	User selected from the Component Engineer list	Manufacturer change orders (MCOs)
$PROGRAMMANAGER	User selected from the Program Manager list	Packages
$QUALITYADMINISTRATOR	User selected from the Quality Administrator list	Product service requests: Problem Reports & NCRs

Variable	Description	Related routable objects
$QUALITYANALYST	User selected from the Quality Analyst list	Quality change requests: CAPAs & Audits
$PRICEADMINISTRATOR	User selected from the Price Administrator list	Price change orders (PCOs)

Multiple Language Support

Agile PLM is an internationalized application that permits companies to enter non-English label data, and for users to see their client user interface in their preferred language. English is included with all licenses. Agile PLM is certified for Japanese, Simplified Chinese, French, German, and Traditional Chinese.

Note For the Product Governance & Compliance solution, there is now a fully supported Japanese version of the Rollup in Excel template. Localized versions of the Rollup in Excel template are supported in Chinese, French, and German. Additionally, there is now a fully supported Japanese version of the JGPSSI template for creating JGPSSI Declarations.

Every user has a language preference (**<user object> > Preferences > Format Preferences** (heading only) **> Language**) that you will likely set during configuration of your company's business objects (which includes, of course, Agile users).

If the company has purchased a localized language as part of PLM, that language will appear in the dropdown list for the Language property.

To set the Language preference for a user:

1. Open the user profile. (This will likely be set when you create your company's Agile users. This task instructs for an already-created user object.)
2. Click the **Preferences** tab.
3. Under **Format Preferences**, click for the **Language** field.

   The dropdown list shows English and any other languages your company has licensed.
4. Select a language, and click **Save**. That user will see supported elements of Agile in that language.

If you change any user's Language preference, that user (if logged in) must log out and log back in to see changes in their user interface.

User can switch their own Language preference (again, non-English languages that the company has a license for). In Java Client, the user clicks **View/Edit Current User** in the main toolbar and follows the previous instructions.

In Web Client, the user's path to the Language setting is **Settings > User Profile > Preferences > Edit > Language** (under **Format Preferences**).

Administrator Data that is Supported for Multi-Language Capability

We use the term “multi-language capability” to refer both to those “Administrator-editable” objects that can hold different licensed languages inputs separately, and those non-editable objects that can be displayed in different languages according to any end-user’s Language preference setting.

The following list includes those Administrator nodes whose objects are supported by the multi-language capability. If the node is listed as supported, it does not matter whether the object is created by the administrator or by a user. (As always, the ability for users to create an object in Agile is defined by their roles and privileges.) Names and Descriptions of these objects are supported for multi-languages unless otherwise noted.

Administrator Nodes

Administrator-editable items can hold names in any licensed language. The administrator can configure these items into a different language for users by setting the Language user preference. For instance, Company A has a localized version of Agile PLM with the license for Japanese (and, by default, an English license). The administrator creates a list; he can name the list differently for English users and Japanese users. Users with language preference set to Japanese will see the list named in Japanese as the administrator configured.

Multi-language support is provided for the following kinds of objects:

Data Settings

- Classes
- Character sets
- Lists
- Process extensions
- Autonumbers
- Criteria

Workflow Settings

- Workflows

User Settings

- Roles
- Privileges

System Settings

- Notifications (Name, Description, Subject, Body)
- Full Text Search is supported for attachment files in Japanese, Traditional Chinese, Simplified Chinese, German, and French localized versions
- Product Portfolio Management:
  - Schedule Status

- Cost Status
- Quality Status
- Resource Status
- Dashboard Management
- Default Role

- Agile Content Service:
  - Subscribers
  - Destinations
  - Events
  - Filters
  - Package services
  - Response services
- Product Governance & Compliance:
  - Signoff Message

Predefined System Objects

Objects that are predefined in Agile—that is, are not editable in Administrator, for example, an Example Role—are fully supported by multi-language capability. For instance, a user whose Language preference is English who logs in will see the “Example–Administrator” role in English; when the same user logs in with the Language preference set to Japanese, he will see a translation of “Example–Administrator” as configured by the Japanese user administrator.

Administrator Data that is Not Supported for Multi-Language Capability

While most types of Administrator data are supported for multi-language capability, the following types of Admin data are not supported for multi-languages, but only in localized user interfaces.

User Settings

- Users
- User Groups
- Supplier Groups

System Settings

- Viewers & Files
- Company Profiles
- PCM Ship-To Location

Any values/strings input by user

Attribute names with "01", "02", "03", etc appended

As an example, let's say Company B has a localized version of Agile PLM with the license for Simplified Chinese (as well as the English license). The administrator, who has a language preference of English, creates a user group and names it UserGroup_1. Then, another Agile administrator for Company B, whose language preference is set to Simplified Chinese, changes the name of UserGroup_1 into a Chinese name with Chinese characters. Now the name of the user group appears to *everyone* as the Chinese name in Chinese characters, even those users whose language preference is English.

Note Full Text Search is supported for attachment files in Japanese, Traditional Chinese, Simplified Chinese, German, and French localized versions.

Configuring a System for Multi-Languages

When you set up fields in any language, you have to be logged in with your own Language preference set to that language. If you make changes in Japanese with your Language preference set to Japanese, and then you want to make changes in English, you must change your Language preference to English, log out, log back in, and proceed. Or you can log out and log back in as a different administrator user whose Language preference is English.

To give a picture of how the Language setting for individuals is handled by the multi-language capability in Agile, let Jim and Jan be two users:

- **Case 1**: Company C has English version of Agile only. Everyone in Company C sees Agile user interface and business objects in English; no user can change their Language user preference to another language.
- **Case 2**: Company D has localized version of Agile with the license for Japanese (and, by default, an English license). You have configured the company so all users' Language preference is Japanese. Jim sets his Language user preference to English. After logging back in, Jim now sees his user interface and the objects he creates in English. Jan is a typical user whose Language preference has remained Japanese: the objects that Jim created appear to Jan in Japanese.
- **Case 3**: Company E has localized version of Agile, with the license for Simplified Chinese. The administrator has configured the users at the Hong Kong office so their Language user preference is Chinese. Other people in Company E working outside Hong Kong still keep English as their language preference. Now the administrator creates a subclass of the Parts class, and names it "Modules". Objects from this subclass appear to everyone in Company E with the name Modules, no matter which Language is set in the user preference.

  Later on, the administrator decides that the Modules subclass should be renamed in Chinese for the Hong Kong users. He sets his own Language preference to Simplified Chinese, and renames the Modules subclass as a translated name in Chinese characters. Now the Modules subclass name appears in Chinese characters to all Hong Kong users with Language user preference set to Chinese. But the English users still see the subclass name Modules in English.
- **Case 4**: Company F has localized version of Agile, with the license for Simplified Chinese. The administrator has configured the users at the Hong Kong office so their Language user

preference is Chinese. Everyone there inputs information (for instance, in creating objects) in Chinese. When a user in Hong Kong creates a business object, it appears in Chinese to everyone in Company F, no matter which Language they have set in the user preference.

If you create a new subclass, its name can enter the system in localized (translated) form; however, if you rename the newly created subclass, or any subclass, it is renamed in the same language you are logged in with (Language user preference).

For Java Client to show non-English characters (in the user interface and user-entered text), it must be running on an operating system that supports a particular language. If it is not, some anomalies can appear, for example, “blank squares” instead of proper non-English characters. This is often the case for double-byte character sets such as Japanese and Chinese.

For instance, Jan is using a machine with a Japanese OS. She enters Japanese text into an ECO’s **Description** field. Then Jim launches Java Client on an English OS machine; when he views this ECO, Japanese text that was entered into the **Description** field may appear corrupted (having “blank squares”): the English OS may not support Japanese characters (Windows English version requires installing the Asian Language Pack in order to support Japanese characters).

Chapter 3

Classes

This chapter includes the following:

- Configuring Business Objects with Agile PLM Classes 45
- Agile PLM Class Structure 46
- Viewing Agile PLM Classes 51
- Customizing Lifecycle Phases 51
- Configuring Subclasses 53
- Configuring Tabs 58
- Modifying the Format of Tabs 60
- About Attributes, Flex Fields, and Read-Through Fields 65
- Defining Attributes 70
- Configuring Attributes 76
- Using Custom Icons for Subclasses or Company Logo 79
- Quick Access to Objects and Files 81

This chapter describes the predefined business classes delivered with Agile PLM, and how to create subclasses, assign autonumber sources, and tailor the arrangement of tabbed windows and formatted fields for your product data.

Configuring Business Objects with Agile PLM Classes

The **Classes** node provides a framework for classifying objects in Agile PLM. Everything that Agile PLM users create are objects. As administrator, you can define new types of business objects, or modify the default classes and subclasses.

Note	The default classes that are available in Agile PLM depend on which licenses your company purchased. Unavailable classes appear in red type on the Classes page.

Each class represents a kind of action (business process) or kind of entity (business object). Every class has at least one default subclass. Every object created in Agile PLM is an instance of a subclass.

Before you start configuring Agile PLM, you should consider what types of business objects are required by your company. You can then tailor Agile PLM to your requirements. For example, you might want to create several new subclasses in the Parts class to organize the kinds of parts that your company manufactures or purchases.

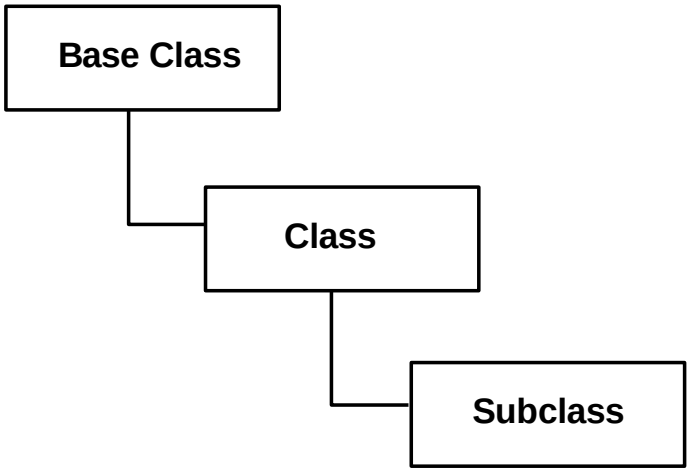
The Agile PLM object framework is ready to use out-of-box, or you can tailor it as follows:

- Create additional subclasses
- Modify classes and subclasses as needed
- Create new attributes for classes (Page2) and subclasses (Page3) as needed

- Modify the properties of attributes
- Display or hide attributes or tabs
- Reorder table columns or fields

Agile PLM Class Structure

Agile PLM classes have the following three levels:



- **Base Class** — The highest level object. Base class is the parent object of classes. You cannot create or delete base classes, but you can rename them. Examples of provided base classes are Users, Items, and Changes.
- **Class** — The primary level of organization in Agile PLM. Also called *main class*. Inherits the general properties and process extensions of its base class. Classes are the organizing framework for the creation of subclasses. You cannot create or delete classes, but you can rename or disable them. Examples of provided classes are Parts, Change Orders, and Change Requests classes.
- **Subclass** — Inherits all properties and attributes of its parent class. Subclasses arrange the information and data that describes a specific business object in Agile PLM. You can rename subclasses. You can also create a subclass in any class except Users, Automated Transfer Orders, Requests For Quote, RFQ Responses, and Standard Reports. You can delete or disable any subclass except those descended from Items, Changes, and File Folders base classes. Examples of provided subclasses are User, Part, Document, ECO, and ECR.

Caution	Before renaming any classes, particularly the base classes, make sure you become familiar with the default classes provided with Agile PLM. Class names must be unique.

Routable and Non-Routable Objects

Each class represents a specific process or kind of entity:

- **Routable objects** are created from classes that represent *processes*, such as a change in the change control process, or a transfer order, or a product service request. These objects can be routed to Agile PLM users for approval or other input via workflows (see Workflows on page 117).
- **Non-routable objects** are created from classes that represent *entities* or things, such as parts, sites, RFQs, users, prices, or reports. These objects can be "flagged" for progress via lifecycle phases (see Customizing Lifecycle Phases on page 51). Note, however, that non-routable objects—especially parts and documents—can be changed by the process of information-gathering via workflows, which are created through such routable objects as change orders or change requests.

Note The File Folders class has a default, non-editable workflow with a single Review status and no other statuses. This provides file folder objects with a **Routing Slip** tab, which allows approvers to sign off and comment on a file folder. However, file folder objects also have lifecycle phases and are considered non-routable.

Installed Agile PLM Classes, Base Classes, and Subclasses

Your company may be licensed to a subset of the list of object types in **Classes** node. The following two tables list all the possible installed object types in Agile PLM, grouped by the routable and non-routable distinction.

Base class	Class	Subclass	Description
Routable objects: the means to direct or recommend changes to non-routable objects; these classes have a default workflow for changes to seek approval from other users; objects from these classes can be changed without approval.			
Changes	Change Orders	ECO	Directives to change an item; can advance the revision ("rev") of an item
	Change Requests	ECR	Requests for a change to an item
	Deviations	Deviation	Directives to temporarily substitute one item for another
	Manufacturer Orders	MCO	Changes to AML data, such as information about manufacturers or manufacturer part numbers
	Price Change Orders	PCO	Directives to change a published price; can advance the revision of a published price
	Site Change Orders	SCO	Changes to BOM and AML information for a specific site
	Stop Ships	Stop Ship	Directives to stop shipping/using an item
Declarations	Substance Declarations	Substance Declaration	Seeks compliance information for each substance within the specification

Base class	Class	Subclass	Description
	Part Declarations	Part Declaration	Seeks part-level compliance information and other composition header-level information (manufacturing parameters)
	JGPSSI Declarations	JGPSSI Declaration	Seeks compliance information (weights) according to the JGP standard.
	Homogeneous Material Declarations	Homogeneous Material Declaration	Seeks complete breakdown of parts on the Bill Of Substances and compliance information at the homogeneous material level
	Supplier Declarations of Conformance	Supplier Declaration of Conformance	Seeks compliance with specifications from customers and government agencies
	IPC 1752-1 Declarations	IPC 1752-1 Declaration	A Joint Industry Guide (JIG) material composition declaration for electronic products
	IPC 1752-2 Declarations	IPC 1752-2 Declaration	A homogeneous material composition declaration for electronic products
Packages	packages	Package	Packages of data to share with partners
Product Service Requests	Problem Reports	Problem Report	Quality incidents with items or products
	Non-Conformance Reports	NCR	Quality conformance issues with items or products
Programs	Activities	Program; Phase; Task	Components of project planning in Product Portfolio Management; activities are time-based objects to which resources can be assigned
	Gates	Gate	Project management milestones in Product Portfolio Management; gates identify cross-PLM deliverables of the product development process to enable executive reviews of programs
Quality Change Requests	Corrective and Preventive Actions	CAPA	Requests for corrective actions and preventive actions
	Audits	Audit	Proactive reviews of business processes
Transfer Orders	Automated Transfer Orders	ATO	Transfer or publication of a product record that is automatically triggered by a workflow

Base class	Class	Subclass	Description
	Content Transfer Orders	CTO	Transfer or publication of a product record that is manually triggered

Base class	Class	Subclass	Description
Non-Routable Objects: objects in these classes are not routed to Agile PLM users with workflows; objects from some of these classes, however, are changed by a user submitting a workflow (from routable classes) for approval from other users.			
Customers	customers	Customer	Clients of the company
Discussions	discussions	Discussion	Informal, threaded dialog
File Folders	File folders	File Folder Markup	Objects that include files or URLs; this class includes all file folder objects except historical report file folders
	Designs	Design	Objects that permit building design structures in the CAD environment
Items	Documents	Document	Specifications, blueprints, manufacturing data, and so forth
	Parts	Part	Parts manufactured within the company, or provided by manufacturers or suppliers and given internal part numbers
Manufacturers	manufacturers	Manufacturer	Qualified manufacturers
Manufacturer Parts	Manufacturer parts	Manufacturer Part	Parts provided by manufacturers
Part Groups	Part groups	Commodity Part Family	Containers of other parts (items or manufacturer parts) that share the such properties as mass or composition information. this object was named "Commodities" in previous releases of Agile PLM.
Prices	Quote Histories	Quote History	Organizes bid prices from RFQ responses; cannot be revised by a PCO (see grouping of Changes in preceding table)
	Published Prices	Published Price; Contract	Organizes prices of the company's products; can be revised by a PCO (see grouping of Changes in preceding table)

Base class	Class	Subclass	Description
Reports	Standard Reports	Administrator Report; Standard Report	The out-of-box reports for administrators (Administrator Reports) and users (Standard Reports include Products, Sourcing, Quality, Process, Personal, and Global reports)
	Custom Reports	Custom Report	Reports created and used within company
	External Reports	External Report	Reports created outside Agile PLM
Requests For Quote	Requests for quote	RFQ	Requests for quote, which are assembled from sourcing projects and sent to suppliers for formal bids
RFQ Responses	RFQ responses	RFQ Response	Bids, that is, responses from suppliers to your company's RFQs
Sites	sites	Site	Manufacturing locations within the company, or closely partnered with the company
Sourcing Projects	Sourcing projects	Sourcing Project	Work preparatory to creating RFQs and capability for analysis across multiple RFQs
Specifications	specifications	Specification	Lists of banned substances (or substances of concern) and their threshold values
Substances	substances	Substance	A single chemical element used in composition of items, manufacturer parts, and part families
	Materials	Material	A compound chemical, a substance consisting of multiple substances
	Subparts	Subpart	A subunit of a component, used to get to the homogeneous material level to collect compliance information
	Substance Groups	Substance Group	A group of multiple substances, with a base substance that is what legislation is interested in, for example, "Lead and Lead Compounds"
Suppliers	suppliers	Broker; Distributor; Component Mfr.; Contract Mfr.; Mfr. Representative	Qualified suppliers of manufacturer parts; used by PCM (which uses the out-of-box subclasses) and PG&C solutions
Users	users	User	Individuals using the Agile PLM system

Base class	Class	Subclass	Description
User Groups	User groups	User Group	Groups of people using the Agile PLM system, e.g., departments, teams, site-specific groups

Disabling Object Types

When a base class is disabled, the child classes and subclasses are automatically disabled. When a class is disabled, the child subclasses are disabled. When a base class, class, or subclass is disabled, it is “grayed out” in the user interface for Java Client or Web Client. Examples of where the disabled class would be unavailable are the **Create** menu and search options. Existing searches and criteria are not deleted or modified if a class is disabled; existing objects of disabled object types remain in the Agile PLM database.

The following base classes cannot be disabled, nor can their child classes or out-of-box subclasses:

- Items
- Changes
- Users
- File Folders

Viewing Agile PLM Classes

To view an Agile PLM class or subclass:

1. On the Admin tab, under **Data Settings,** double-click **Classes**. The Classes window appears.
2. Double-click the class or subclass you want to view.
3. Now click the **User Interface Tabs** tab. double-click any row to bring up that tab’s information:

   The **General Information** tab displays the name and description of the UI tab and whether it is visible.

   Once you have opened one tab, a dropdown list allows you to switch to any of the other tabs for that object.

Customizing Lifecycle Phases

Lifecycle phases describe the valid phases for classes whose objects are non-routable, that is, they do not follow workflows. Items, sites, manufacturers, manufacturer parts, prices, sourcing projects, RFQs, RFQ responses, suppliers, customers, prices, commodities, specifications, substances, and file folders all have lifecycle phases.

Lifecycle phases at the base class level are inherited by classes and subclasses. The lifecycle stamp is automatically created for you using the name and color you specified for each lifecycle phase.

Modifying a Lifecycle Phase

You can modify lifecycle phases for the following base classes:

- Commodities
- Customers
- File Folders
- Items
- Manufacturer Parts
- Manufacturers
- Prices
- Specifications
- Substances
- Suppliers

Note You cannot delete or rename the Preliminary lifecycle phase for items. Objects in the Sites, Sourcing Projects, Requests for Quote, and RFQ Responses classes have read-only lifecycle phases that cannot be renamed or deleted.

To modify a lifecycle phase **settings:**

1. Select the base class you want to work with, and select the **Lifecycle Phases** tab. The Lifecycle Phases window appears.
2. Double-click the lifecycle phase you want to modify.
3. In any editable field, enter a new value or select from the dropdown list.
4. When you have finished, click **Save**.

Adding a Lifecycle Phase

You can add lifecycle phases to base classes, classes, or subclasses.

To add a lifecycle phase:

1. Select the class you want to work with, and select the **Lifecycle Phases** tab. The Lifecycle Phases window appears.
2. Click the **New** button. The Define Lifecycle Phase dialog box appears.
3. Enter a name and description for the lifecycle phase. The name can be up to 29 characters.
4. In the **Enable** field, select Yes or No from the dropdown list.
5. For items, there is an additional field, **AddLifeCyclePhaseOnBomRule**. Select Allow, Disallow, or Warning (the default).

   If you select Disallow, users will be prevented from adding items currently in this lifecycle phase to an item's BOM table.

6. When you are done, Click **OK**.

Note To select a different color for the lifecycle phase, modify it on the appropriate lifecycle phases tab.

Removing a Lifecycle Phase

You can remove a lifecycle phase only from the level in which it was created. When you remove a lifecycle phase from a class, it is also removed from all subclasses that inherit from the class. For example, if you create a new lifecycle phase in the Items base class, you can open the Items base class later to remove it. The lifecycle phase is also removed from the Parts and Documents classes, and the Part and Document subclasses.

To remove a lifecycle phase:

1. Select the class you want to work with, and select the **Lifecycle Phases** tab. The Lifecycle Phases window appears.
2. Select the lifecycle phase you want to delete.
3. Click the **Delete** button.
4. Click **OK** in the confirmation message to delete the lifecycle phase.

   The lifecycle phase is deleted and is no longer available as a selection in Agile PLM.

If you delete a lifecycle phase that has already been used to release an item in Agile PLM, it still indicates that phase, but users cannot assign that phase in the future.

Note You cannot delete the Preliminary lifecycle phase for items.

Configuring Subclasses

When users create an object in Agile PLM, they first specify its subclass, such as ECO, Part, Capacitor, and so on. These subclasses are created and defined in the **Classes** node. The defined Agile PLM classes are each equipped with at least one subclass. You can create more subclasses in any class. For example, the Parts class can have subclasses called Capacitors, Resistors, Diodes, and so on.

You can decide to use just the default subclasses, define new subclasses, or rename subclasses.

You can delete a subclass as long as it has not been used to create any of these objects from the administrative nodes:

- Search criteria
- An object in Java Client or Web Client
- A privilege mask

  Note You cannot create new subclasses for the following classes:

- Users class

- Automated Transfer Orders class
- Requests For Quote class
- RFQ Responses class
- Standard Reports class

Important Setting up new subclasses in Agile PLM requires a lot of planning. If you set up new subclasses without an overall plan, you may find in a few weeks that you want to "start over," only now new subclasses are in use and will not be easy to remove from the system. It is better to become proficient with Agile PLM objects using the out-of-box classes and subclasses while you develop an overall plan that covers your company's needs.

Before You Begin

Before You Begin

Consider the following details before creating a new subclass:

- For which Agile PLM class will you create a subclass?
- What name will you give the new subclass? Remember that a subclass name must be unique, and cannot be used more than once in the same Agile PLM system.
- Do you need to track product data specific to this subclass? If so, you may also want to set up a **Page Three** tab for this subclass.
- If you plan to create a Page Three for the new subclass, you will need to adjust some users' roles and privileges to allow Page Three modification.

For new subclasses that have autonumbering, you should consider the following:

- Will you permit users to assign numbers manually for the new subclass?
- Will you be creating new autonumber sources for the subclass, or will you use existing autonumber sources?
- If you plan to use existing autonumber sources, which ones?

Viewing Subclass Properties

You can see how a subclass is configured by viewing its properties. For example, to see what number sources are assigned to a Change Orders subclass, you can view the subclass properties in Administrator.

To view the properties of a subclass:

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. Double-click the name of the subclass you want to view.

   The properties of the subclass are listed on the **General Info** tab.

Changing the AutoNumber Source Property

Subclasses that can be autonumbered have an AutoNumber Source property. Since subclasses in the Manufacturers, Manufacturer Parts, and Sites classes do not use autonumbering, they do not have an AutoNumber Source property.

The Agile PLM administrator can change the AutoNumber Source property for a subclass to do the following:

- Require automatic number assignment for the subclass, so that manual number assignment is prevented.
- Assign one or more different autonumber sources for the subclass.
- Remove autonumber source assignments from the subclass.

To change the autonumber sources used for a subclass:

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. Double-click the name of the subclass you want. The subclass properties window appears.
3. Next to the **AutoNumber Source** field, click . The List Chooser dialog box appears.
4. To move a number source from the **Choices** list to the **Selected** list, select it, and click the right arrow. You can also move the number source by double-clicking it.

   You can select more than one number source.
5. Click **OK** to close the dialog box.
6. If you want to create a new autonumber—more customized than those offered by the automatic sequencing of autonumbers—click the **New AutoNumber** button and follow the dialog box. For more information, see Creating a New Autonumber Source on page 104.
7. If you want to prevent users from entering an object number manually, select No in the **Autonumber Required** dropdown list. For more information, see the next section.
8. Select Yes or No in the **AutoGenerate** dropdown list.
9. Click **Save**.

Preventing Manual Number Assignment

If you decide to require autonumbering for a specific subclass, you can prevent users from entering numbers manually. You can require autonumbering for any subclass that can be autonumbered.

Note	Several Agile PLM subclasses, such as Manufacturer and User, do not allow autonumbering.

To prevent manual number assignment for a specific subclass:

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. Double-click the name of the subclass you want. The subclass properties window appears.
3. In the **Autonumber Required** dropdown list, select Yes.

4. Click **Save**.

Changing a Subclass Name or Description

You can change the name of any subclass. If you change the name of a subclass that has already been used to create objects in Agile PLM clients, the subclass name for the existing objects is changed to reflect the new name. You can also enter a different description for the subclass; a description is optional.

Caution	Although all characters are supported within Agile PLM, and should not create issues within Agile's clients, it is recommended that you avoid using the following characters when renaming or creating subclasses, due to issues that could potentially arise in integrations or custom applications written on the SDK.

, comma . period (dot) : colon ; semicolon = equal sign

To change the name of a subclass:

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. Double-click the name of the subclass you want. The subclass properties window appears.
3. Enter a new name and description in the **Name** and **Description** fields.
4. Click **Save**.

   The subclass name is changed for all objects in the subclass. The new name appears as a selection in the **Type** dropdown list in the New Object dialog box in Java Client, and the new name appears as a selection in the **Subclass** dropdown list in the Create wizard in Web Client.

Changing the Site-Specific BOM Property

On the subclass properties window, there is a property called **Site-Specific BOM**. The value for the property is either **Allow** or **Disallow**.

- **Allow –** The subclass may be added to a site-specific portion of a BOM.
- **Disallow –** The subclass may not be added to a site-specific portion of a BOM.

This property determines whether a Parts or Documents subclass may be part of a site-specific BOM.

For example, let the Manufacturing Item subclass have the Site-Specific BOM property set to Allow, and subclass Part have it set to Disallow. A user at the Singapore site can add any manufacturing item to the site-specific section of the BOM for Singapore, but not add a part to the site-specific section of the BOM for Singapore. A Global user can add either a manufacturing item or a part to the Global section of the BOM.

The default value for all newly created Parts and Documents subclasses is Allow.

To change the Site-Specific BOM property of a subclass:

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. Double-click the name of the subclass you want. The subclass properties window appears.

3. In the **Site-Specific BOM** field, select Allow or Disallow. Click **Save**.

Creating a New Subclass

This is the procedure for creating a new subclass. Please review the points in Before You Begin on page 54. Remember you can keep a subclass disabled while you run some tests before releasing it to your users.

To create a new subclass:

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. Click the **New Subclass** button. The New Subclass dialog box appears.
3. Select a class from the dropdown list.
4. Fill in the **Name** and **Description** fields, and select Yes or No in the **Enabled** list. You must use a unique subclass name.
5. Next to the **AutoNumber Source** field, click . The selection dialog box appears.
6. To move a number source from the **Choices** list to the **Selected** list, select it, and click the right arrow. You can also move the number source by double-clicking it.

   You can select more than one number source.
7. Click **OK** to close the dialog box.
8. If you want to create a new autonumber—more customized than those offered by the automatic sequencing of autonumbers—click the **New AutoNumber** button and follow the dialog box. (This task is detailed in Creating a New Autonumber Source on page 104.)
9. If you want to prevent users from entering an object number manually, select No in the **Autonumber Required** dropdown list. (For more information, see Preventing Manual Number Assignment on page 55.)
10. Select Yes or No in the **AutoGenerate** dropdown list.
11. If you selected the Parts or Documents class in step 3 above, set **Site-specific BOM** to Allow or Disallow. (For more information, see Changing the Site-Specific BOM Property on page 56.)
12. When you have specified all the settings, click **OK**.

    The new subclass appears under the class name on the Classes window.

Note	Number sources are created and configured in the **AutoNumbers** node. For instructions, see About Autonumber Sources.

Deleting a Subclass

You can delete any subclass that has not been used to create a saved search, an object, or a reusable criteria.

To delete a subclass:

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. Double-click the subclass you want to delete. The subclass properties window appears.

3. Click the **Delete** button.
4. In the confirmation dialog box, click **OK**.

   The subclass no longer appears under the class name on the Classes window.

Note	If you attempt to delete a subclass that has already been used to create a search, an object, or a reusable criteria, an error message states that the object is already in use.

You can also delete a subclass by displaying it, then choose **Delete** from the Actions menu.

Configuring Tabs

When users open an object in Agile PLM clients, they see a tabbed page, or window of tabs. From the **Classes** node, you can enable (make visible) or disable (hide) most object tabs. You can also rename any object tab. You configure optional **Page Two** and **Page Three** tabs by enabling the tabs to make them visible.

Although you can hide most object tabs, you cannot disable or hide the following tabs:

- The first tab of any object, specifically:
  - **Cover Page** tab of any change, package, PSR, QCR, transfer order, or program
  - **General Info** tab of any manufacturer, manufacturer part, user, user group, site, customer, discussion, price, or report
  - **Title Block** of any item or file folder
- **Affected Items** tab of any change and the **Affected Prices** tab of PCOs
- **Action Items** tab of discussions
- **Selected Content** tab and **Where Sent** tab of any transfer order—in fact, no tab of ATOs can be disabled or hidden
- **Files** tab of file folders (not historical report file folders)
- **Response List** tab of RFQs and RFQ responses
- **Replies** tab of discussions
- **Team** tab and **Workflows** tab of programs

If you want to configure the attributes that appear on a tab, you must go to the setup window for that tab. See Defining Attributes on page 70.

About Page Two Tabs

If you need to document additional information for change orders, for example, you can enable an extra tab called a **Page Two** tab by default. This tab then appears next to the **Cover Page** tab for all subclasses in the Change Orders class. You can use the default name **Page Two** for this tab, or you can give it a more specific name.

Note In Web Client, Page Two attributes are displayed on the **Cover Page** tab, under the heading **Page Two** (any custom tab name is not displayed). The user can scroll down to see the additional “Page Two” information.

About Page Three Tabs

If you need to record additional information that is specific to a subclass, you can enable an extra tab called a **Page Three** tab by default. For example, you can set up a **Page Three** tab for the subclass Capacitors and create a field called Insulation (or multiple fields as needed), where users record information about insulation for each capacitor object created. You can use the default name **Page Three**, or you can give the tab a more specific name.

Note In Web Client, Page Three attributes are displayed on the **Cover Page** tab, below the Page Two attributes, under the heading **Page Three** (any custom tab name is not displayed). The user can scroll down to see the additional “Page Three” information.

Showing, Hiding, or Renaming a Tab

You can customize the Agile PLM client user interface by showing, hiding, or renaming the tabs in classes.

Note If you hide the **BOM** tab or the **Manufacturers** tab, the buttons under the **Redline BOM** and the **Redline Manufacturer** tabs are disabled.

The name and visibility of any tab depends on the settings at the *subclass* level. For example, in the Change Orders class, if you set **Page Two** tab to Name = P2, Visible = No, and in ECO subclass, if you set **Page Two** tab to Name = P2 of ECO, Visible = Yes, then in Java Client or Web Client, the **Page Two** tab will be visible and appear as **P2 of ECO**.

To show, hide, or rename a tab:

1. In the Classes window, locate the tab you want and double-click it to display the setup window for that tab.

   For example, click **Change Orders Class**, display the **User Interface Tabs** tab, then double-click **Workflow** to display the setup window for the change order **Workflow** tab.

2. If you want, on the **General Information** setup tab, enter a new name for the tab.

   The tab, with its new name, appears in Java Client. In Web Client, the tab data appears on the first object tab, for example, the **Cover Page** tab.

   Note When you change the name of **Page Three** tabs for Content Transfer Order (CTO) subclasses, the modified **Page Three** tab name does not appear in the Content Service filters. The name **Page Three** always appears in the filters.

3. In the **Visible** dropdown list, select Yes to make the tab visible in Agile PLM clients.

4. When you have finished your modifications, click **Save**.

Note If you hide a **Page Two** or **Page Three** tab, any attributes configured for the tab are still visible as search selections in Java Client or Web Client unless you also hide them. See Removing a Page Two or Page Three Tab on page 65.

Modifying the Format of Tabs

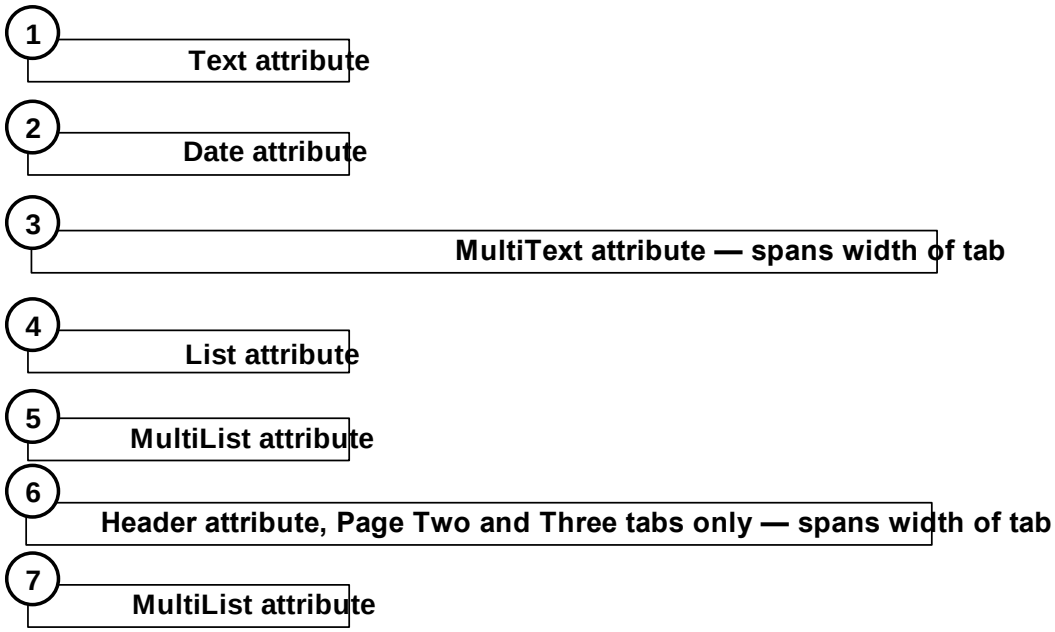
Each object tab uses one of two different formats to display data in Agile PLM clients:

- **Form format** — Attributes appear on the tab in rows and columns, according to the attribute order, lowest number first, left to right, then top to bottom. Each attribute field is labeled. Web Client has two columns. In Java Client, the number of columns varies depending on the size of the object window.
- **Table format** — Attributes appear on the tab in a table. The attribute names appear as column headings in the table.

You can modify the order in which object attributes appear on object tabs in both forms and tables.

Modifying Attribute Order on a Form Tab

In Web Client, on a form type tab, the attributes appear in one column. You can determine the order in which they appear. Starting with the lowest numbered attribute, the attributes appear from top to bottom. MultiText attributes span the width of the tab. Header attributes, which appear on **Page Two** and **Page Three** tabs only, also span the width of the tab. The following figure shows an example of how attributes appear on a form tab in Web Client.



In Java Client, attributes appear on the tab in rows and columns, according to the attribute order, lowest number first, left to right, then top to bottom. The number of columns changes as the user

resizes the object window. No matter how many columns are in an object window, the attributes are always displayed by attribute order. Header attributes (Page Two and Page Three) span the width of the object window.

To modify the order of attributes on a form tab:

1. On the **User Interface Tabs** tab of the setup window for the class, locate the tab you want, and double-click it to display the setup window for that tab.

   For example, double-click Change Orders, then double-click Cover Page to display the setup window for the change order **Cover Page** tab.

2. Click the **Attributes** tab.
3. Click the **Order visible attributes** button. The Define Attribute Order dialog box appears. All the object tab attributes with Visible property set to Yes appear in the list of attributes.
4. Click an attribute name to highlight it.
5. Click the up arrow to move the highlighted attribute up one position in the list. Click the down arrow to move the highlighted attribute down one position in the list.
6. Continue highlighting attributes and moving them up or down in the list until they are in the order you want.
7. When you are finished, click **Save**.

   The attributes appear on the **Attributes** setup tab in the order you specified.

   To verify that the order was changed, open an object in Java Client or Web Client where the tab appears. Click the tab to view the form or table and confirm the change.

Modifying Attribute Order on a Table Tab

In both Web and Java Clients, on a table-type tab, the attributes appear in a table; the attribute names are table headings for each column. You modify the order of attributes on a table tab the same way you do on a form tab.

Designing a Page Two or Page Three Tab

You can create extra tabs for Java Client. When enabled, these tabs are always displayed behind the first or second tab, and are named **Page Two** *or* **Page Three** *by default. You can change these tab names to something more specific if necessary.*

Note	*In Web Client, Page Two and Page Three information is displayed below the Cover Page information on the* **Cover Page** *tab. Users scroll down to see this information.*

While **Page Two** *tabs record supplemental information for an entire class of objects, such as the Change Orders class,* **Page Three** *tabs record information specific to individual subclasses, such as ECOs or Capacitors.*

The **Page Two** tab's built-in Create User feature is described next.

About the Page Two Create User Attribute

Each **Page Two** tab has a Create User attribute that allows users with a Create privilege, but not a

Read privilege, to create an object. Users with their name in the Create User list can then also open and read any pending or preliminary objects they have created.

To activate the Create User feature for a class of objects, such as Change Orders, you must first make the Create User attribute visible on the **Page Two** tab for that class. Then the attribute can be used both to display the name of the Create User on the tab, and to create criteria in the **Criteria** node.

For example, if you set the subclass criteria for a read privilege to Create User Equal To $USER, then the privilege mask will be enabled when the current user is also the user who created the object. For more information about Create User criteria, see Applying Create User Criteria on page 232.

Guidelines for Designing Page Two and Page Three Tabs

There are two stages for designing a **Page Two** or **Page Three** tab. This section outlines the process for these two stages, and then gives you detailed instructions for each step in the process. Also, see Before You Begin on page 104.

The following is a summary of the two stages in designing a **Page Two** or **Page Three** tab.

Stage I: Preparing Page Two or Page Three Attributes

1. Make the tab visible and name the tab.
2. Make the attributes visible, and name them.
3. Assign length properties to text attributes.
4. Assign other attribute properties, such as dropdown lists or defaults.

Stage II: Setting Up the Tab

Set the attribute order.

The following sections provide detailed instructions for creating a **Page Two** or **Page Three** tab.

Stage I: Preparing Page Two or Page Three Attributes

The first stage in designing a **Page Two** or **Page Three** tab is to

- Make the tab visible and name the tab. This work is done from the Page Two or Page Three **General Information** setup tab. For instructions, see Showing, Hiding, or Renaming a Tab on page 59.
- Select the attributes that you want to appear on the tab, make them visible, and give them names that describe the fields and their use. This work is done from Page Two or Page Three **Attributes** setup tab.

Note Attribute names are the criteria for Java Client or Web Client searches. By making attribute names both specific and unique, you increase the efficiency of Agile PLM client searches. If you modify the name of an attribute once a system is in production, you may affect existing searches.

Before You Begin

Consider the following details before designing a new tab.

- Do you want to create an extra tab for an entire Agile PLM class (**Page Two**), or a tab that's specific to a particular subclass (**Page Three**)?

  If you are creating a **Page Three** tab, remember that you also need to create privilege masks that enable users to modify attributes for the specific subclass.
- Do you plan to use Agile ChangeCAST to transfer information to an ERP system? If so, the information must be on a **Page Two** tab. Page Three data cannot be transferred using ChangeCAST.
- What do you want to name the tab?
- Which attributes will appear on the tab?
- What are the properties for each attribute, including name, dropdown list values, default values, the format for text fields, and so on. See Defining Attribute Properties on page 72.
- Where will each field be placed (located under a heading) on the tab in Web Client?
- What are the length requirements (in characters) for each text field?
- What will the tab order be, that is, the sequence in which fields are activated when a user presses the Tab key? (This is determined by the attribute order.)

For more information about attributes, see Recognizing Attribute Types on page 71.

To make the tab visible, and configure the attributes you want to use:

1. Make the tab visible and name the tab. For instructions, see Showing, Hiding, or Renaming a Tab on page 59.
2. Locate the attributes you want, and double-click them to open the setup window.

   For detailed instructions, see Modifying Attributes on page 77. For **Page Two** tab attributes, double-click the class, for example, Change Orders. For **Page Three** tab attributes, double-click the subclass, for example, **ECO**.
3. Enter a new name for each attribute.
4. Make the attributes visible; select Yes in the **Visible** dropdown list.
5. Set the appropriate properties for each attribute type (see Defining Attribute Properties on page 72).
   - For List and MuliList attributes, define the list selections (see Configuring Lists on page 89).
   - For Text and MultiText attributes, set the **MaxLength** and **Include Characters** properties.
   - For Numeric attributes, set the **MinValue**, **MaxValue**, and **Scale** properties.
   - For Heading attributes, enter a heading **Name** (note: headings are used in Web Client only).
   - For Date attributes, set the **Default Value** date using the calendar utility.
   - For Money attributes, set the **Default Value**.

6. If appropriate, set a default value for each attribute. (See Setting Default Values on page 78.)
7. When you are finished configuring the attributes, click **Save**.

Once you have completely defined the attributes for your **Page Two** or **Page Three** tab on the **Attributes** tab, you define the attribute order to set up the physical appearance of the tab.

Stage II: Setting Up the Tab

After selecting the attributes that will appear on the **Page Two** or **Page Three** tab and establishing their properties, you need to arrange the fields on the tab. You do this by using the **Order visible attributes** button on the **Attributes** setup tab.

Note For detailed information about setting attribute order, see Modifying Attribute Order on a Form Tab on page 60.

To set up the order the attributes appear on the tab:

1. Click the **Order visible attributes** button. The Define Attribute Order dialog box appears.
2. Click an attribute name to highlight it.
3. Click the up arrow to move the highlighted attribute up one position in the list. Click the down arrow to move the highlighted attribute down one position in the list.
4. Continue highlighting attributes and moving them up or down in the list until they are in the order you want.
5. When you are finished, click **Save**.

Field Tab Order

The *tab order* refers to the sequence in which the fields in an Agile PLM client **Page Two** or **Page Three** tab is activated when a user presses the Tab key.

The field tab order is determined by the attribute order, as described above.

Using Heading Attributes

Java Client displays actual tabs for **Page Two** and **Page Three** tabs. However, Web Client displays the Page Two and Page Three information on the first object tab (for example, **Cover Page**, **Title Block**, or **General Info** tab). When viewing an object with Page Two and Page Three information, the user scrolls down to see that information. For example, the Page Two information is displayed below the Cover Page information. The Page Three information is displayed below the Page Two information.

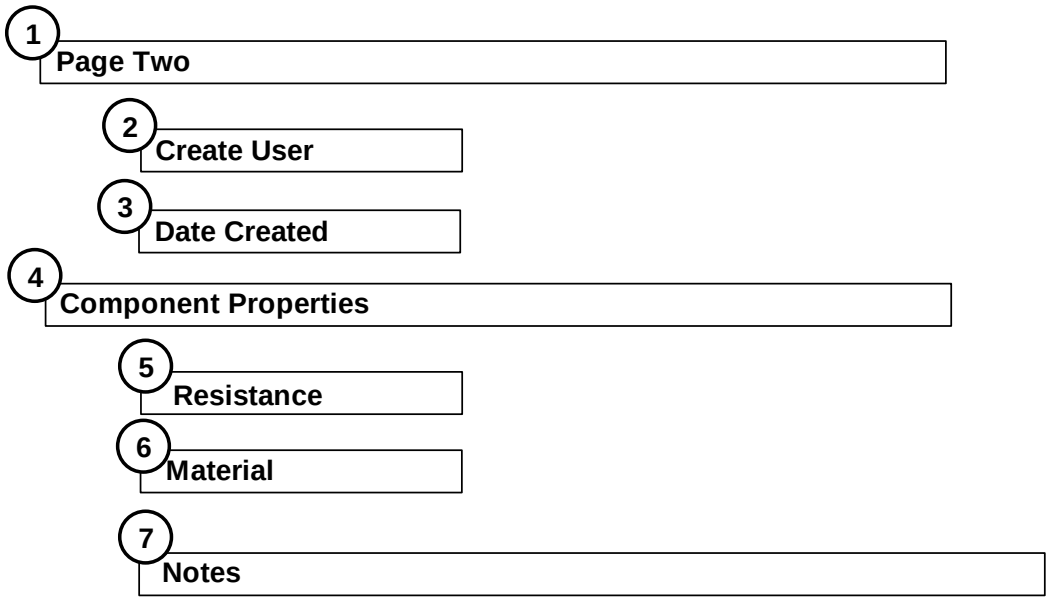
To make the additional information on the first tab easier to understand in Web Client, each Page Two and Page Three tab has 10 Heading attributes. Make Heading attributes visible and give them a meaningful name. Then, position them on the attribute order list so they describe the group of attributes that follow them.

For example, a Page Two attribute order list might be set as follows:

Attribute order list	Type of attribute
Page Two	Heading01

Attribute order list	Type of attribute
Create User	CreateUser
Date Created	Date01
Component Properties	Heading02
Resistance	Text01
Material	List01
Notes	Multitext10

The attributes appear in Web Client, following the Cover Page information, in the format shown in the figure below. In Java Client, the Page Two and Page Three attributes (including Heading attributes) are displayed on the **Page Two** and **Page Three** tabs.



Removing a Page Two or Page Three Tab

You may effectively remove a **Page Two** or **Page Three** tab from Java Client or Web Client by changing its Visible property to No. You must make this change in the **Tabs** node as well as in each of the Page Two attributes that were defined for the tab. If you do not change an attribute's Visible property to No, it continues to appear in Java Client or Web Client Search folders.

About Attributes, Flex Fields, and Read-Through Fields

If you have been reading this chapter sequentially, the term "attributes" is already familiar. Before going into the detailed discussion of Defining Attributes on page 70, this section introduces two special kinds of attributes: user-defined flex fields and read-through attributes.

When users open an object in Agile PLM clients, they see a tabbed window with fields. These fields are called attributes. From the **Classes** node, you define how these attributes appear for each Agile PLM class.

The individual fields that you define for each Agile PLM class appear on the tabs for all subclasses within that class. For example, the part categories that you define for the Parts class become the part categories for its subclasses, such as Capacitors, Resistors, and Diodes. In addition, if you enable an extra tab called a **Page Two** tab for an Agile PLM class, the tab and its attributes also appear for each subclass within the class.

Each subclass also has its own setup window for the **Page Three** tab where you can define the fields that are specific to the subclass, and will appear only on the **Page Three** tab for that subclass.

User-Defined Flex Fields

Since attributes in Agile PLM classes are flexible in terms of renaming and customizing, they are often called “flex fields.” You can create an infinite number of attributes in any class or subclass. These are called “user-defined flex fields.” They are distinct from the predefined flex fields installed with Agile PLM.

User-defined flex fields can be created only on **Page Two** and **Page Three** tabs. As such, any user-defined flex field is specific to a class (**Page Two**) or to a subclass (**Page Three**).

Note User-defined flex fields are specific to a class and therefore require class-specific privileges. Base class privileges (such as Read Items or Modify Preliminary Items) do not apply to class attributes. The subject of roles and privileges in Agile PLM is broad (see Chapters 9 and 10), but you may want to refer to a small tutorial, Building and Testing Attributes, Read/Modify Privileges, and Roles on page 190.

To create a user-defined flex field in a class:

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. As an example, double-click the **Change Orders** class, then click the **User Interface Tabs** tab.
3. Double-click Page Two, then click the **Attributes: Page Two** tab.
4. Click the **New** icon. The New Attribute dialog appears.
5. Type in a name for the new attribute. Also select an attribute type from the dropdown list. Click **OK**.

   Note An attribute name cannot contain a colon (:), a semicolon (;), or an equal sign (=).

6. The new attribute object appears. This user-defined flex field will be present in all objects created in the **Change Orders** class, for this example.

   You may now fill in the various supporting fields, such as Description, Visible, Default Value, Required, and Available for Subscribe.

To create a user-defined flex field in a subclass:

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. As an example, double-click the **ECO** subclass, then click the **User Interface Tabs** tab.

3. Double-click Page Three, then click the **Attributes: Page Three** tab.
4. Click the **New** icon. The New Attribute dialog appears.
5. Type in a name for the new attribute. Also select an attribute type from the dropdown list. Click **OK**.

   Note An attribute name cannot contain a colon (:), a semicolon (;), or an equal sign (=).

6. The new attribute object appears. This user-defined flex field will be present in all objects created in the **ECO** subclass, for this example.

   You may now fill in the various supporting fields, such as Description, Visible, Default Value, Required, and Available for Subscribe.

Where User-Defined Flex Fields can be Used

User-defined flex fields are more limited than predefined flex fields. They are supported in the following places of Agile PLM.

- Where user-defined flex fields are fully supported:
  - **Advanced Search**
    - User-defined flex fields can be used as a query condition
    - ... can be used in display/output of search results
    - ... can be used as an attribute for sorting of search results
  - **Roles and Privileges**
    - User-defined flex fields can be used as an AppliedTo attribute in Read privilege
    - ... can be used as an AppliedTo attribute in Modify privilege
  - **Workflow**
    - User-defined flex fields can be used in entry required fields
    - ... can be used in exit required fields
  - **Subscription**
    - User-defined flex fields can be made available for subscription when this field changes or is updated
  - **Out-of-box Standard Reports**
    - For reports where user can optionally select **Page Two** attributes to display in report results, user-defined flex fields can also be selected.
  - **Custom Reports**
    - User-defined flex fields can be used as a query condition in building a custom report
    - ... can be used in display/output of report results
    - ... can be used as an attribute for sorting and grouping of report results
  - **Agile Integration Service**
    - User-defined flex fields can be used as part of AIS
  - **Agile Content Service**
    - User-defined flex fields can be used as part of CTO.
  - **Export**
    - User-defined flex fields can be exported into supported output formats

Where user-defined flex fields are partially supported:

- **SDK**
  - User-defined flex fields supports Set (update) the property and Get (retrieve) the property, but does not support Create.

Where User-Defined Flex Fields cannot be Used

User-defined flex fields are not supported in the following places within the Agile system:

- **Criteria**
  - User-defined flex fields cannot be used as a value in defining Criteria
- **DataLoad**
  - User-defined flex fields cannot be loaded via DataLoad
- **Notification**
  - User-defined flex fields cannot be used as a data tag that can be sent in subject or body of the notification
- **ACS**
  - User-defined flex fields cannot be used for ATO, since they are autogenerated and modification is not allowed in class settings

Read-Through Fields

Some fields on some tabs are able to display pertinent information about a related object. These fields are referred to as “read-though” fields. The data that is displayed in a read-through field is a read-only copy of attribute data from a different object that is related to the currently viewed object. If a tab has read-through fields, you can enable or disable them as needed.

Some tabs with read-through fields are not editable (for example, the item object **Changes** tab). However, a few editable tabs include both types of attributes: editable and read-through (for example, the item object **Manufacturers** tab). Read-through fields cannot be edited on the tab because they are read-only copies. However, if the original attribute is modified, the read-only copy in a read-through field will reflect those modifications.

In Administrator, on the **<Tab Name>**:**Attributes** tab of the setup window of object tabs that include both editable fields and read-through fields, read-through fields include the name of the related object in their names. For example, on the item object **Manufacturers** tab, attributes with names that begin with “Mfr” or “Mfr. Part” are read-through fields from the Manufacturer and Manufacturer Parts objects, for example, Mfr. Name and Mfr. Part Notes.

Read-Through Fields Made Consistent in Items and Changes

PLM Release 9.2.2.4 remedies an inconsistency by making it possible for the administrator to consistently define **Page One** and **Page Two** fields as read-through fields, as follows:

- All Item **P1** / **P2** fields can be defined as read-through fields on the **Item > BOM** table (excluding **Page Two** heading fields)
- All Item **P1** / **P2** fields can be defined as read-through fields on the **Item > Where Used** table (excluding **Page Two** heading fields)

- Most Item **P1** / **P2** fields can be defined as read-through fields on the associated **Change > Affected Items** table (excluding **Page Two** heading fields and these special handling of Rev-related fields: REV.COMPLIANCY_CALC_DATE [only on ECO and MCO], REV.COMPLIANCY [already on ECO and MCO], and REV.INCORP_DATE [ECO only for the future revision, MCO for the revision it applies to]).
- This enhancement does *not* include any new (user-generated) **P2** multilist fields.

Read-Through Fields on the BOM and Manufacturers Tabs

The Item **BOM** tab and the Item **Manufacturers** tab include both editable fields and read-through fields.

Editable fields on an item's **BOM** tab describe the relationship between it and the items on its BOM, for example, Quantity, Find Number, Reference Designators. Read-through fields on the **BOM** tab allow you to display additional information about the items listed on the **BOM** tab, for example, Page Two data of the BOM items.

Editable fields on an item's **Manufacturers** tab define the relationship between it and its manufacturer parts, for example, Preferred Status and Reference Notes. Read-through fields on the **Manufacturers** tab allow you to display additional information about the Manufacturer (for example, the manufacturer's address), or the Manufacturer Part (for example, Page Two data of the Manufacturer Parts).

Important Like all read-through fields, the read-through fields on the **BOM** tab and the **Manufacturers** tab cannot be edited on those tables. Because these read-throughs cannot be edited on the **BOM** tab and **Manufacturers** tab, they also cannot be redlined from the **Redline BOM** tab or the **Redline Manufacturers** tab.

For your reference, the item object **BOM** tab and item object **Manufacturers** tab attributes which can be edited and, therefore, redlined are listed in the table below.

Note A user's assigned roles and privileges also determine which specific fields he can edit or redline.

Item object BOM table fields which can be edited or redlined	Item object Manufacturers table fields which can be edited or redlined
BOM Date01 – BOM Date05	AML Split (%)
BOM Description	Mfr. Name
BOM List01 – BOM List05	Mfr. Part Number
BOM MultiText30, BOM MultiText31	Mfr. Tab Date01 – Mfr. Tab Date05
BOM Notes	Mfr. Tab List01 – Mfr. Tab List05
BOM Numeric01 – BOM Numeric05	Mfr. Tab MultiList01 – Mfr. Tab MultiList03
BOM Text01 – BOM Text05	Mfr. Tab MultiText30, Mfr. Tab MultiText31
Find Num	Mfr. Tab Numeric01 – Mfr. Tab Numeric05
Item Number	Mfr. Tab Text01 – Mfr. Tab Text05

Item object BOM table fields which can be edited or redlined	Item object Manufacturers table fields which can be edited or redlined
Qty Ref Des	Preferred Status Reference Notes

Defining Attributes

Attributes are the fields that appear on Agile PLM client tabs. You can define these attributes by configuring their properties.

Each object tab has its own setup window. To display the tab setup window you want, use the guidelines in the following table.

Type of attribute or property	Setup activity	Do this
Subclass properties	Define properties, for example, for Name, Description, Number Source, AutoNumber Required, Site-specific BOM, and so forth	In the **Classes** window: ▫ Double-click a subclass name. ▫ Set properties on **General Information** tab.
Subclass-specific attribute (**Page Three** tab only)	Define attributes for: **Page Three**	In the **Classes** window: ▫ Double-click a subclass name. ▫ Choose **User Interface Tabs > Page Three** tab.

Type of attribute or property	Setup activity	Do this
Class-specific attribute (all tabs except **Page Three**)	Define attributes for: **Cover Page** **Title Block** **General Information** **Page Two** **Affected Items** **Workflow** **Relationships** **Attachments** **History** **Changes** **BOM** **Manufacturers** **Where Used** **Sites** **Escalations** **Selected Objects** **Where Sent**	In the **Classes** window: ▫ Double-click a class name. ▫ Click **User Interface Tabs.** ▫ Double-click the tab you want to configure.

For example, to define attributes for the Affected Items **tab of the Change Orders class:**

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. Double-click **Change Orders Class**.
3. Click the **User Interface Tabs** tab.
4. Double-click **Affected Items**. The Affected Items tabbed setup window appears.

Recognizing Attribute Types

An attribute's type indicates how it is used in Agile PLM. For example, a Text attribute is used for entering text into a field on a Java Client or Web Client tab. The types of attributes used in Agile PLM are listed in the table below.

Type	What to Enter in the Field
Date	Enter date and time, or select date and time from a pop-up calendar.
List	Select one item from a list. Select one item from a cascading list.
MultiList	Select one or more items from a multiple-selection list. The list can be a cascading list. **Note**: There is now no limit to the number of list entries in a multi-list field; in previous service packs, multi-lists could only save and populate 31 list entries. Also, Rel. 9.2.2.4 increases the number of possible multi-list fields on Items **P2** to 15.
Text	Enter a single line of text; the allowable length varies, but generally it is up to 50 characters.
MultiText	Enter a block of text (up to 4,000 characters) that wraps across multiple lines. Note: Rel. 9.2.2.4 removes any inconsistent limit to this figure (for example, in **Page One** of Changes and QCRs base classes).

Type	What to Enter in the Field
Numeric	Enter a numeric value.
Money	Enter a monetary amount.
Heading	Displays a heading above a group of attributes. Allows the user to identify a group of associated attributes on these tabs. Heading attributes are available on **Page Two** and **Page Three**. They are also available on the General Information and Preferences tabs of User classes.
Icon	Read-only attribute type. Used to display icons in tables (for example, BOM table, search results table) that indicate, for example, the object type, that the object has attachments, that the object has a manufacturer, or that the object has a pending change.
The Agile PLM administrator can set default values (such as the current date, or current user) to automatically appear in a field when new objects are created. See Setting Default Values on page 78.	

Defining Attribute Properties

The following table lists the attribute properties, the settings available for these properties, and how the settings are applied in Agile PLM. It also indicates the attribute types each property can be applied to.

Note The “Required” property (found near the end of this table) is important to understand, as it provides a visual cue for users to attend to that attribute when creating a business object in that class or subclass. Also, there is a corner case involving required fields detailed in An Exception involving Required Fields in Object Modification on page 76.

Note Please note that a field that is "required to fulfill creation" of an object, this idea is not the same thing as “required fields” that are found in Agile Workflows.

Property	Attribute type	Setting	Application in Agile PLM
Name	All	Supplied by administrator	The name of the field as you want it to be displayed for users, limited to 40 characters. Although all characters are supported within Agile PLM, and should not create issues within Agile's clients, it is recommended that you avoid using the following characters when renaming or creating attributes, due to issues that could potentially arise in integrations or custom applications written on the SDK. , comma . period (dot) : colon ; semicolon = equal sign
***Type**	All	N/A	*Not configurable by the Agile PLM administrator.* Indicates the type of attribute: date, list, multilist, text, multitext, numeric, image, or heading.

Property	Attribute type	Setting	Application in Agile PLM
Visible	All	Yes	Makes the attribute visible in Agile PLM clients. Users will see this attribute when they create objects in this class or subclass.
		No	Keeps the attribute hidden in Agile PLM clients. Users will not see this attribute when they create objects in this class or subclass. Note that as of PLM 9.2.2.4, all Item **Title Block** fields can be disabled, remedying an earlier inconsistency.
List	List MultiList	Supplied by administrator	Selections to appear in the dropdown list for users to choose from. The default value must appear among the selections entered here. For list attributes whose selections are defined elsewhere, this property reads **(List)** and the property is not editable on the attribute setup window. For example, the Lifecycle Phase attribute selections are those that are defined on the **Lifecycle Phases** node. List entries are limited to 255 characters each.
Default Value	All	Supplied by administrator	The default value to display when a new object is created. For lists and multilists, the default value must be one of the values in the selection list (see Setting Default Values for Lists on page 91). For some fields, you can use a default variable. For MultiText attributes, the administrator is constrained to 510 characters of default text, despite the **Max (System) Length** value of 4,000. Web and Java client users are not constrained in this field in business objects.
Enable for Search Criteria	All	Generally "No" but can be set to Yes by administrator	Permits (Yes) or prevents (No) the attribute from being added as a criteria for a Parametric search. (Parametric searches are documented in *Getting Started with Agile PLM.*)

Property	Attribute type	Setting	Application in Agile PLM
MaxLength	Text MultiText	Supplied by administrator	Sets the maximum number of bytes that can be entered in the field (spaces = 1 byte; carriage returns = 2 bytes). Valid settings range from 0 to the maximum allowed for that attribute (see the attribute's **Max (System) Length** property). Generally speaking, 1 character = 1 byte; however, some Agile installations are localized with Chinese or Japanese characters that can use 2 or 3 bytes per character. This must be factored in when setting the value of this property in relation to **Max (System) Length** value. Because many attributes appear in many areas of Agile PLM, and the **MaxLength** can be set independently for specific attributes, issues can develop if there is too much range of **MaxLength**s for similar attributes. For example, a part number may appear on the Title Block of the part, the BOM of (same or other) parts, and the Affected Items of changes. It is best to set the **MaxLength**s of such similar attributes to a standard value. When setting **MaxLength**s, consider field length limitations of other applications used by your company to which Agile PLM data is exported.
***Max (System) Length**	Text MultiText	N/A	*Not configurable by the Agile PLM administrator.* Designates the maximum length of the data field in bytes, and represents the maximum number of bytes allowed in the field by Agile PLM clients. An attribute's **Max (System) Length** value cannot be exceeded by its **MaxLength** value.
Include Characters	Text Multitext	Select from list	This setting determines whether spaces are allowed in the field and which types of alphabetic and numeric characters are allowed. Select from the list of character sets defined on your Agile PLM system. For more information, see Character Sets on page 83.
Min Value	Numeric	Supplied by administrator	The minimum value for the numeric field.
Max Value	Numeric	Supplied by administrator	The maximum value for the numeric field; must be greater than or equal to zero (0).
***Order**	All	N/A	This number indicates the order in which the attribute field appears on the table or form. It is an Agile system-generated number greater than 0. The Agile system generates this number when you use the **Order visible attributes** button to arrange the attributes.

Property	Attribute type	Setting	Application in Agile PLM
Site-Specific Field		Select from list	Common = this attribute inherits its value from the global value. Site-Specific = the value of this attribute is independent from the global value. This property does not apply to all attributes. If it does not apply, it is set to N/A and it is not editable. This property is not editable for all attributes where it does apply. In those cases, the property has a default value of either Common or Site-Specific and it cannot be edited. For examples, view the attribute setup for the **Affected Items** tab of the Change Orders class.
Height	MultiText	Supplied by administrator	Determines the number of lines in the text area that are displayed when in edit mode. (In Web Client, the text area displays 4 lines.)
Scale	Numeric Money	Supplied by administrator	The number of digits after the decimal point in a numeric field. This setting must be greater than or equal to zero (0).
***Attribute**	All	N/A	*Not configurable by the Agile PLM administrator.* Lists the database attribute name for the selected node. Since the Name property gives the attribute name as it will appear to the Agile PLM user, the Attribute and Name properties are often different.
***Base ID**	All	N/A	*Not configurable by the Agile administrator.* Lists the original system ID for the attribute before it was modified in any way.
Required	All	Yes	The field appears to the user in **bold font**, which is a visual cue that the field should be populated. If an attribute that has Required set to Yes is not populated during the Create Wizard (in Web Client), or it is emptied during an Edit and the user tries to Save (in both clients), the user will be prompted to fill the field, and the procedure will not complete. You can set Heading attributes to be Required. (There was an issue in **Classes > User Interface Tabs > Page Two > Attributes:Page Two > Heading01** attribute that the field Required was missing.) See An Exception involving Required Fields in Object Modification on page 76.
		No	The field does not appear to the user in **bold font**, and it does not stop the Wizard or Edit/Save process if it is not populated.

Property	Attribute type	Setting	Application in Agile PLM
Available for Subscribe	All	Yes/No	Determines whether or not this attribute can be subscribed to by a user (who has sufficient privileges). Subscription is documented in *Getting Started with Agile PLM*, Chapter 5, Working with Objects.
Display Width	All	Often 100, can be refined as needed; unit is pixels, see description	Display Width can be set for every field on every tab in every object. The unit of the Display Width attribute is pixels. Use the approximation of 7.5 pixels per character to enter the value for that field. For example, if you wanted the field to have room for 10 characters, the value of Display Width is 75. The systemwide preference Maximum Attribute Display Width sets an overall maximum value (also in pixels), and this Display Width sets a field-specific default, but Web Client users can always resize columns in their user interface.
**The Agile PLM administrator cannot change these properties*.			
The file type of an attached file is determined by the characters following the last period in a file name. Therefore, users should not use filenames ending with a period (.).			

An Exception involving Required Fields in Object Modification

If you modify a business object and you select a different subclass as part of the modification, you receive this warning: "**You are changing the subclass of the object. Do you want to** continue **using the same object name or number?**" This warning does not warn you of another risk, that the object's original subclass and the subclass to which the object is being assigned may have differing required fields. A field that is set to be required in the "new" subclass may not be required in the "original" subclass, but the system does not check for "new" required fields, nor does it warn you of this possible discrepancy.

Image Attributes

To include an image attribute on a table, set its Visible property to Yes. The image attribute's Name property identifies which type of icon the image attribute displays. The name does not appear to the end user; you do not need to modify it.

To determine in which table column the image will appear, see Modifying Attribute Order on a Form Tab on page 60.

Configuring Attributes

A property may be configurable for one attribute and not for another. For example, you cannot edit the Name property of the lifecycle phase attribute on the **Title Block** tab, but you can edit the Name property of the item lifecycle phase on the **BOM** tab.

As the Agile PLM administrator, you can easily change a configurable property. For example, if you

decide the maximum allowable length for the change order number should be 15 characters instead of 30 characters, you can change the MaxLength property setting on the Change Orders **Cover Page** tab.

Note	Because many attributes appear in many areas of Agile PLM, and the MaxLength can be set independently for specific attributes, issues can develop if there is too much range of MaxLengths for similar attributes. For example, a part number may appear on the Title Block of the part, the BOM of (same or other) parts, and the Affected Items of changes. It is best to set the MaxLengths of such similar attributes to a standard value.

Display Width Attribute

Display Width is a new attribute that can be set for every field on every tab in every object. The unit of the Display Width attribute is pixels. Use the approximation of 7.5 pixels per character to enter the value for that field. For example, if you wanted the field to have room for 10 characters, the value of Display Width is 75.

The systemwide preference Maximum Attribute Display Width sets an overall maximum value (also in pixels), and this Display Width sets a field-specific default, but Web Client users can always resize columns in their user interface.

Modifying Attributes

To modify an attribute property:

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. To modify any class tab attribute, double-click the class name.
   a. For example, to modify the **Affected Items** tab attributes for change orders, double-click Change Orders, then select the **User Interface Tabs** tab. All the Change Orders class tabs are listed.
   b. Click **Affected Items**. The Classes Tab setup window appears.
   c. Select the **Attributes:Affected Items** tab. All the fields for that tab are listed.
3. To modify a **Page Three** tab attribute for a specific subclass, double-click the name of the subclass listed under the class name.
   a. For example, double-click ECO under Change Orders class, then select the **User Interface Tabs** tab. All the ECO subclass class tabs are listed.
   b. Double-click **Page Three**. The Class Tabs setup window appears.
   c. Select the **Attributes:Page Three** tab. All the fields for that tab are listed.
4. Double-click the attributes you want to modify.
5. Modify the attribute properties. Depending on the type of property, use one of the following methods:
   - Enter text.
   - Select a value from a list.
   - Click to open a dialog box.
   - For date attribute default values, click to select a specific date, or use a variable. See Default Value Variables on page 37.

6. When you have finished your modifications, click **Save**.

Matching the Properties of Attributes Common to Several Tabs

When the same attribute appears on several tabs, you must establish the same properties for it everywhere it appears.

For example, an item's Number attribute appears on the item's **Title Block** (that is, its "**Page One**" tab), the item's **BOM** tab (Item Number attribute), and the **Affected Items** tab of any associated changes (Item Number attribute). You must establish identical properties for this attribute in all three locations.

For example, in an item's **Title Block.Number** field, if you set its Include Characters property to All, you should also set the item's **BOM.Item Number.Include Characters** property to All, and set [associated change].**Affected Items.Item Number .Include Characters** property to All. If you do not, when you try to add an affected item, for example, Agile PLM clients prevent you from adding the affected item, and return an error message.

Setting proper attributes allows **Page Two** and **Page Three** data to be copied properly when using **SaveAs** to create a new object (for instance, a project number field on **Pg2** of both ECOs and MCOs), and allows you to display information from an item's **Pg2** on its **BOM** table or an associated change's **Affected Items** tab (for instance, a Unit of Measure field).

Regarding the **SaveAs** method of object creation: if a subclass has Required fields set up (by the administrator) and the user does a **SaveAs** but there is a type violation in the source object on one of the required fields, **SaveAs** will complete with the value still copied over to the source. Previously in this case, the user would encounter an error during **SaveAs** saying that a violation occurred on certain attributes, and **SaveAs** cannot be completed.

Setting Default Values

You can set default values to appear for attributes.

To change a default value setting:

1. Locate the attribute you want, and double-click it to open the setup window.

   (For detailed instructions, see Modifying Attributes on page 77.)

2. In the **DefaultValue** field, enter the default value you want. Depending on the type of attribute, enter a variable (see Default Value Variables on page 37), enter text, select from a dropdown list, or select a date.
3. When you have finished your modifications, click **Save**.

   The new default value appears in the Agile PLM client field when a new object is created.

Showing or Hiding an Attribute on a Tab

Many attributes can be either hidden or displayed on a tab. For example, you can either show or hide the fields on the **Pending Changes** tab, and the attributes on the **Page Two** tab are hidden until you need to use them.

To show or hide an attribute on a tab:

1. Locate the attribute you want and double-click it.

   (For detailed instructions, see Modifying Attributes on page 77.)

2. In the **Visible** field for the attribute, select Yes to make the attribute visible. To hide the attribute, select No.

3. When you have finished your modifications, click **Save**.

   The attribute is now either visible or hidden on the tab. To view the modifications, open the object in Java Client or Web Client where the attribute appears.

Editing a Field Label or Table Column Name

You can change the field label or the heading of a table column by editing the attribute's Name property.

For example, attributes on the **Title Block** tab of Parts class objects are displayed as labeled fields. You can modify the labels that appear by editing the attributes' Name properties. Fields on the **Affected Items** tab of Change Orders class objects are displayed in a table; the table column heading, or field, is the attribute name. You can modify the table column heading by editing the attribute's Name property.

Note	The Lifecycle Phase attribute name on the Parts and Documents class **Title Block** tabs cannot be edited.

To edit a field label or a column name in a table:

1. Locate the attribute you want and double-click it.

   (For detailed instructions, see Modifying Attributes on page 77.)

2. In the **Name** field, highlight the text you want to delete and enter a new name.

3. When you finished all the attribute modifications, click **Save**.

   To verify that the name was changed, open an object in Java Client or Web Client where the table appears. Click the tab to view the field or table and confirm the modification.

Using Custom Icons for Subclasses or Company Logo

Each of the predefined subclasses provided with Agile PLM has a default icon associated with it. The subclass icons appear (in Java Client and Web Client) to visually differentiate the various types of objects. You can replace some or all of these icons at any time.

To replace the default subclass icon with a custom icon:

1. Open the subclass and, on the **General Information** tab, enter a filename in the **Icon** property for that subclass.

   For Documents and Parts subclasses, there is an additional property called **Icon for Assembly**. This is the icon image that is used when the object represents an assembly.

For both the **Icon** and **Icon for Assembly** properties, fill in only the graphic filename (including extension), for example, **electrical.gif**.

2. You must place the custom graphic in two locations on the proxy server, one for Web Client and one for Java Client. The system finds the graphic depending on the client being used.
   - **Web Client** – <*webserver_root*>\PLMContent\images
   - **Java Client** – <*webserver_root*>\JavaClient\lib\images\custom.jar

Note For Java Client, custom icons must be added to the custom.jar file. For instructions on how to update a JAR file, refer to Sun's documentation on the JAR utility. An online tutorial on the JAR utility is available at http://java.sun.com/docs/books/tutorial/jar/. You can also use many Zip-compatible utilities, such as WinZip, to update a JAR file.

Replacing the Agile Logo

If you want your company's logo (or any other co-branding image) to appear in place of Agile's logo, or to alter its height or width, the easiest way is to alter the file **web.xml**.

To replace the default company logo with a custom logo:

1. Log in to server side.
2. Find **web.xml** in Oracle home directory.
3. The bullet-items below give some samples of changing specific parameters:
   - These lines of code in web.xml allow you to enter the filename of your custom logo file:

     ```
     <context-param>
        <param-name>cobranding.image</param-name>
        <param-value>logo.gif</param-value>
     </context-param>
     ```

     Change the filename (including extension) where "`logo.gif`" appears.
   - These lines of code in web.xml allow you to change the height of the logo:

     ```
     <context-param>
        <param-name>cobranding.image.height</param-name>
        <param-value>25</param-value>
     </context-param>
     ```

     Change the parameter value "`25`" to another value.
   - These lines of code in web.xml allow you to change the width of the logo:

     ```
     <context-param>
        <param-name>cobranding.image.width</param-name>
        <param-value>114</param-value>
     </context-param>
     ```

     Change the parameter value "`114`" to another value.
   - These lines of code allow you to change the title of the Agile window or page:

     ```
     <context-param>
        <param-name>application.window.title</param-name>
        <param-value>Product Lifecycle Solution</param-value>
     </context-param>
     ```

Change the parameter value "`Product Lifecycle Solution`" to another value.

- The next few lines of code in web.xml allow you to update the tooltip by changing the text:

```
<context-param>
   <param-name>cobranding.image.altext</param-name>
   <param-value>Agile</param-value>
</context-param>
```

Insert the new text where "`Agile`" appears in the example.

4. Restart Application server
5. Log in to Web Client to verify or evaluate your change(s).

Quick Access to Objects and Files

You can generate quick access URLs that provide direct pointers to either Agile objects or to Agile attachment files.

These quick access URLs can be pasted into other applications or files such as spreadsheet files, word processing files, a company Intranet web page or WIKI page, or into an email.

For information about quick access to Agile objects using quick access URLs, see:

- Agile-Generated Quick Access Object URLs on page 81
- Formats for User-Generated Smart Object URLs on page 81
- Using Quick Access Object URLs on page 82

For information about quick access to attachment files using attachment quick access URLs, see:

- Generating Attachment Quick Access URLs on page 324

Agile-Generated Quick Access Object URLs

From Web Client, you can generate Agile PLM object quick access URLs from the Web Client **Actions** menu.

To generate an Agile PLM object quick access URL:

1. Login to Agile PLM Web Client and open the desired object.
2. In the **Actions** menu, choose **Copy URL to Clipboard**.
3. The URL is copied to your clip board. You can then paste it into another application or file, such as a word processing file, a spreadsheet file, or an email.

Formats for User-Generated Smart Object URLs

The Agile Smart Object URL feature is designed to enable effective collaboration through email, spreadsheets, documents, WIKIs, and so forth. Users or automated tools can generate smart readable URLs that point to a specific object in Agile. By using the following format, a user does not need to log into Agile to generate the object URL. Automated tools can also use this format to generate object URLs.

Smart Object URLs can be used for objects available from Web Client.

Smart Object URL Format

URLs for pointing to Agile objects use the following format:

http://server:port/VirtualPath/object/ObjectType/ObjectName

The following table defines the Smart Object URL parameters:

Parameter	Description
http://server:port/<VirtualPath>/object/<ObjectType>/<ObjectName>	
Server, port, VirtualPath	Server, port, and VirtualPath identify the Agile PLM instance.
object	The text "object" indicates to Agile that the URL is an object URL.
ObjectType	ObjectType refers to the subclass (type) of object, for example, ECO, Part, Manufacturer, File Folder, Program, Activity, or Discussion.
ObjectName	ObjectName refers to the unique identifier for the object. Depending on the object class, the unique identifier is either an object number or a name. **Note** Manufacturer Parts are a special class of objects that are uniquely identified by two parameters: a Manufacturer Name and a Manufacturer Part Number. Therefore, a URL referring to a specific Manufacturer Part uses the following format: http://server:port/VirtualPath/object/ObjectType/MfrName/MfrPart *Number*

Agile PLM identifies and handles special tags (such as %20) added to URLs to handle special characters (such as spaces and other special characters such as asterisk "*") in an object's unique identifier. For example, the URL

http://server:port/VirtualPath/object/Manufacturer/Company%20Semiconductor

resolves to the manufacturer "Company Semiconductor".

Using Quick Access Object URLs

When a user clicks a Quick Access Object URL, the user actions are the same whether the URL is an Agile-generated quick access URL or a user-generated Smart Object URL:

1. The user clicks the URL and the Agile PLM login screen is displayed in a browser window.
2. The user enters her login information.
3. Upon successful login, Agile PLM searches for the object specified in the link. (If the object is not found, Agile PLM displays an error and returns to the user's Home page.)

When the object is found, Agile PLM verifies that the user has the appropriate privileges to read the object and displays the object's first tab, for example, the **Title Page**.

Chapter 4

Character Sets, Lists, and Process Extensions

This chapter includes the following:

- Character Sets 83
- Lists 85
- Process Extensions 93

This chapter provides information about to customize and configure character sets, lists, and process extensions.

Character Sets

The **Character Sets** node lets you view and create sets of valid characters in Agile PLM.

Character sets are lists of valid characters that are used to manage the Include Characters property of Text and MultiText attributes. You can create and delete character sets. Any language supported by Agile PLM can be supported by character sets.

The following table lists character sets provided with Agile PLM. They are all enabled by default and cannot be modified.

Name	Description
All	All valid characters
Alpha All	Upper- and lowercase alphabet only
Alpha All & Space	Same as Alpha All plus space character
Alpha Lower Case	Lowercase alphabet only
Alpha Lower Case & Space	Same as Alpha Lower Case plus space character
Alpha Upper Case	Uppercase alphabet only
Alpha Upper Case & Space	Same as Alpha Upper Case plus space character
AlphaNumeric All	Upper- and lowercase alphabet and numbers
AlphaNumeric All& Space	Same as AlphaNumeric All plus space character
AlphaNumeric Lower Case	Lowercase alphabet and numbers
AlphaNumeric Lower Case & Space	Same as AlphaNumeric Lower Case plus space character
AlphaNumeric Upper Case	Uppercase alphabet and numbers
AlphaNumeric Upper Case & Space	Same as AlphaNumeric Upper Case plus space character

Name	Description
Numeric	Numbers only
Numeric & Space	Numbers only plus space character

Creating a Character Set

You can create a character set that is tailored to your company's requirements. Each character set is limited to 100 characters.

Caution Although all characters are supported within Agile PLM, and should not create issues within Agile's clients, it is recommended that you avoid using the following characters when naming or renaming objects (for instance, subclasses or attributes), due to issues that could potentially arise in integrations or custom applications written on the SDK.

, comma . period (dot)

Previously, Agile experienced issues with certain Unicode characters, specifically katakana characters, as they were not valid XML name characters. Agile PLM has addressed these issues within aXML.

Regarding the "slash" character (/), the SDK makes use of certain characters within its query language, but the recommended practice is to refer to classes and fields by ID, rather than by name. For easy access to folders (e.g., search folders), the SDK allows indication of folders like this: "folder/folder/folder/object" — thus, slashes in folder names could cause issues; however, you can use the escape sequence (with "\").

To create a new character set:

1. Under **Data Settings,** double-click **Character Sets**. The Character Sets window appears.
2. Click the **New** button. The Define Character Set dialog box appears.
3. In the **Name** and **Description** fields, type a unique name and a description, respectively.
4. In the **Enabled** list, select Yes.
5. In the **Valid Character Set** field, enter up to 100 characters to include in the set. Duplicate characters are not allowed.
6. To add special characters, click the **Special Character** button and select space (^s), new line/carriage return (^p), or caret (^^).
7. When you have finished, Click **OK**.

Note Custom character sets can affect the performance of your system if very large character sets are defined and many attributes use them.

Modifying a Character Set

You can modify the contents, name, and description of a character set that you have created from the **Character Sets** window. The default character sets provided with Agile PLM are read-only.

To modify a character set:

1. Under **Data Settings,** double-click the **Character Sets** node. The Character Sets window appears.
2. Double-click a character set to open it.
3. In the **Name** and **Description** fields, type a unique name and a description, respectively.
4. In the **Valid Character Set** field, add or remove characters.
5. When you have finished, click **Save**.

To delete a character set:

1. Under **Data Settings,** double-click the **Character Sets** node. The Character Sets window appears.
2. Select a character set.
3. Click the **Delete** button, and then click **Yes** to confirm.

Note If the character set is currently assigned to any Text or MultiText attributes in the Agile PLM system, it cannot be deleted.

Note Make sure you choose appropriate character sets where required. There is a potential problem when adding files or URLs from a business object to a file folder object. If the file folder's File Description attribute has a Character Set = Numeric, but the business object's File Description attribute has a Character Set = Alpha or AlphaNumeric, the latter will override the former, meaning whatever control you wanted to impose in the file folder's File Description (being numeric) will be lost, the system will save the original character set.

Lists

The **List** node accesses the Lists table, which is a collection or library of lists. This is used to manage lists that are used across multiple classes. You can define custom lists that can be used for **Page Two** and **Page Three** list attributes. Many attributes in the Agile PLM system are configured to be lists. Attributes, properties, flex fields on tables, and cells can all be lists.

Enhancements to Lists (Rel. 9.2.2.4)

The following enhancements to Lists have been added in PLM 9.2.2.4:

- Ability to choose a branch value of a cascading list

  Previously when using Cascading lists, users were limited to only choosing list values and not the interim nodes. Users are now able to choose both the nodes and the final list values.

- Ability to set a multi-value default for a multi-list attribute

Routing Manager Lists

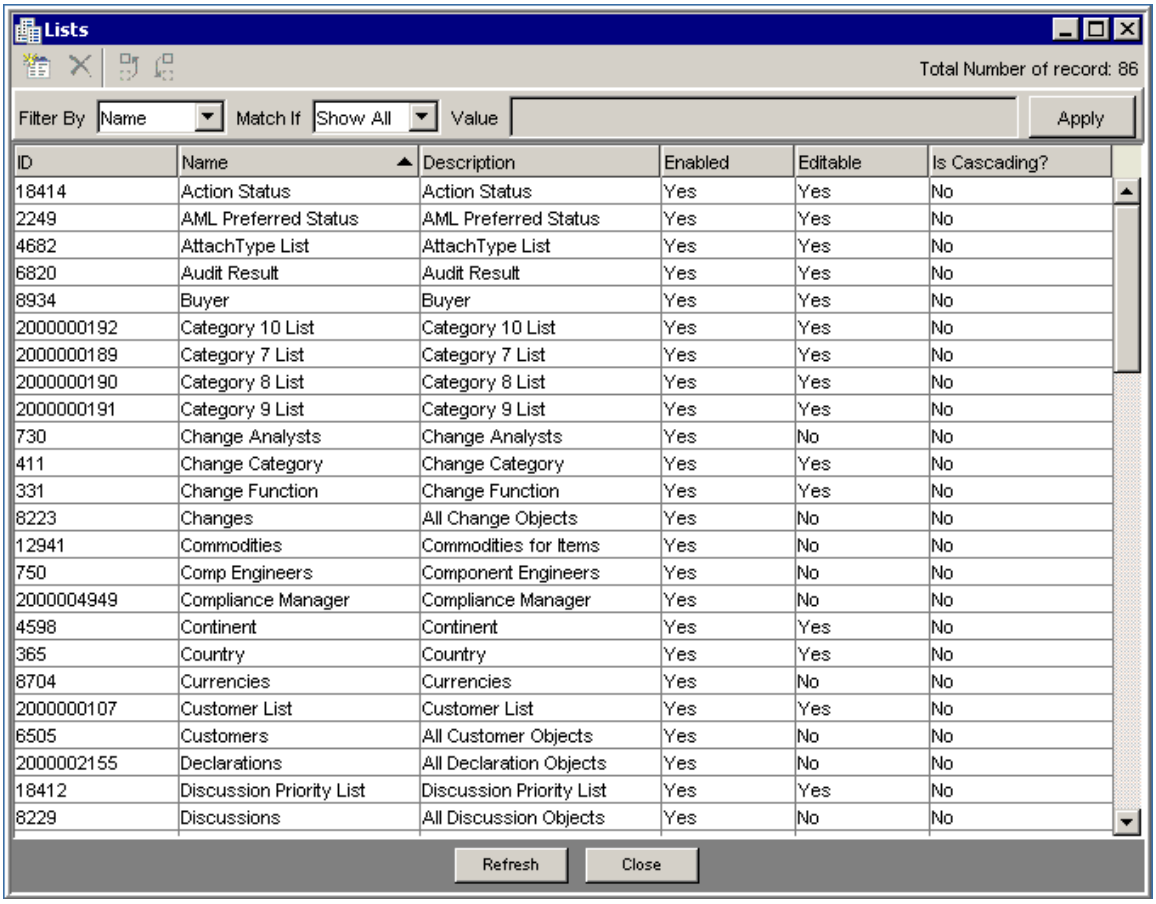
There are six lists that pertain to the routing managers of workflows: **Change Analyst** list, **Component Engineer** list, **Price Administrator** list, **Compliance Manager** list, **Quality Analyst** list, and **Quality Administrator** list. They are not editable from the **Lists** node. Names of users are added and removed from these

lists according to what you set for a given user's Lists property (**Users >** <user> **> General Info** tab (**Profile** area) > **Lists**).

On the **Lists** node, the single editable property for these six lists is called Display Type. This property lets you choose whether the "routing manager" list field in routable objects appears to the originating user **As Dropdown List** or **As Address Book** format. For companies sized so only a few people are on each list, the dropdown list may be fine. Larger companies may have, for example, one or two dozen change analysts, and they will find the Address Book format useful: you can select the appropriate change analyst for a change order and all the other analysts will not receive notifications about that change order.

Note The default for the Display Type field is As Address Book. You may wish to change that in those lists before changes begin to be created by your users: it takes an extra step or two to select routing managers from the address book and this is not useful if there are only a few names.

Creating Custom Lists and Adding to Lists



ID	Name	Description	Enabled	Editable	Is Cascading?
18414	Action Status	Action Status	Yes	Yes	No
2249	AML Preferred Status	AML Preferred Status	Yes	Yes	No
4682	AttachType List	AttachType List	Yes	Yes	No
6820	Audit Result	Audit Result	Yes	Yes	No
8934	Buyer	Buyer	Yes	Yes	No
2000000192	Category 10 List	Category 10 List	Yes	Yes	No
2000000189	Category 7 List	Category 7 List	Yes	Yes	No
2000000190	Category 8 List	Category 8 List	Yes	Yes	No
2000000191	Category 9 List	Category 9 List	Yes	Yes	No
730	Change Analysts	Change Analysts	Yes	No	No
411	Change Category	Change Category	Yes	Yes	No
331	Change Function	Change Function	Yes	Yes	No
8223	Changes	All Change Objects	Yes	No	No
12941	Commodities	Commodities for Items	Yes	No	No
750	Comp Engineers	Component Engineers	Yes	No	No
2000004949	Compliance Manager	Compliance Manager	Yes	No	No
4598	Continent	Continent	Yes	Yes	No
365	Country	Country	Yes	Yes	No
8704	Currencies	Currencies	Yes	No	No
2000000107	Customer List	Customer List	Yes	Yes	No
6505	Customers	All Customer Objects	Yes	No	No
2000002155	Declarations	All Declaration Objects	Yes	No	No
18412	Discussion Priority List	Discussion Priority List	Yes	Yes	No
8229	Discussions	All Discussion Objects	Yes	No	No

To create a custom list for the list library:

1. Under **Data Settings,** double-click **Lists**. The Lists window appears.
2. Click the **New** button. The Create List dialog box appears.

3. Fill in the **Name** and **Description** fields. They are both limited to 255 characters.
4. Select Enabled or Disabled in the **Enabled** list.
5. Select Yes or No in the **Cascade** list.
6. Click **OK**. The new List:<*name*> window appears. The new list also appears in the list library.

> **Note** You can create a "list" without populating it with list items. To add list items to a list that you have just created and still have open, start at step 4 in the next task.

To add values to a list:

1. Under **Data Settings**, double-click **Lists**. The Lists window appears.
2. If necessary, use the filter bar to display the list you want to populate. Double-click a list to open it.
3. Click the **List** tab. The List:<*name*> List window appears.
4. Click the **New** button. A dialog box appears.
5. Type the item name, type two colons (::), then type a description of the item. The name and description can each be up to 255 characters.

> **Note** Do **not** use commas when adding values to a list.

   On separate lines, enter additional list items as needed. You can type names and descriptions of as many list items as you want, separating them with a carriage return. You can also paste list items into the dialog box from a text editor, such as Notepad.

> **Note** This dialog box is limited to 4000 bytes. The "carriage return" for each item uses 1 byte. If the average list item uses 20 bytes (including spaces and the carriage return), the list can contain approximately 200 items. Additional list items can be added by selecting **New** again.

6. After you finish typing new list items, click **OK**. The list items are added to the list.

   By default, the **Active** property of a list item is set to Yes. If you want to make it inactive, double-click the row and choose No for the **Active** property.

This process of adding multiple list items at a time is called "batch add."

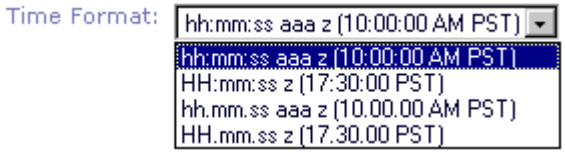
More Kinds of Lists

Given that users see Custom and Object lists, let's further distinguish what kinds of lists users see in their work. You are familiar with the "List" (SingleList) and "MultiList" attributes from the "Classes" chapter.

- SingleList Lists
- MultiList Lists
- Cascading Lists
- Dynamic Lists

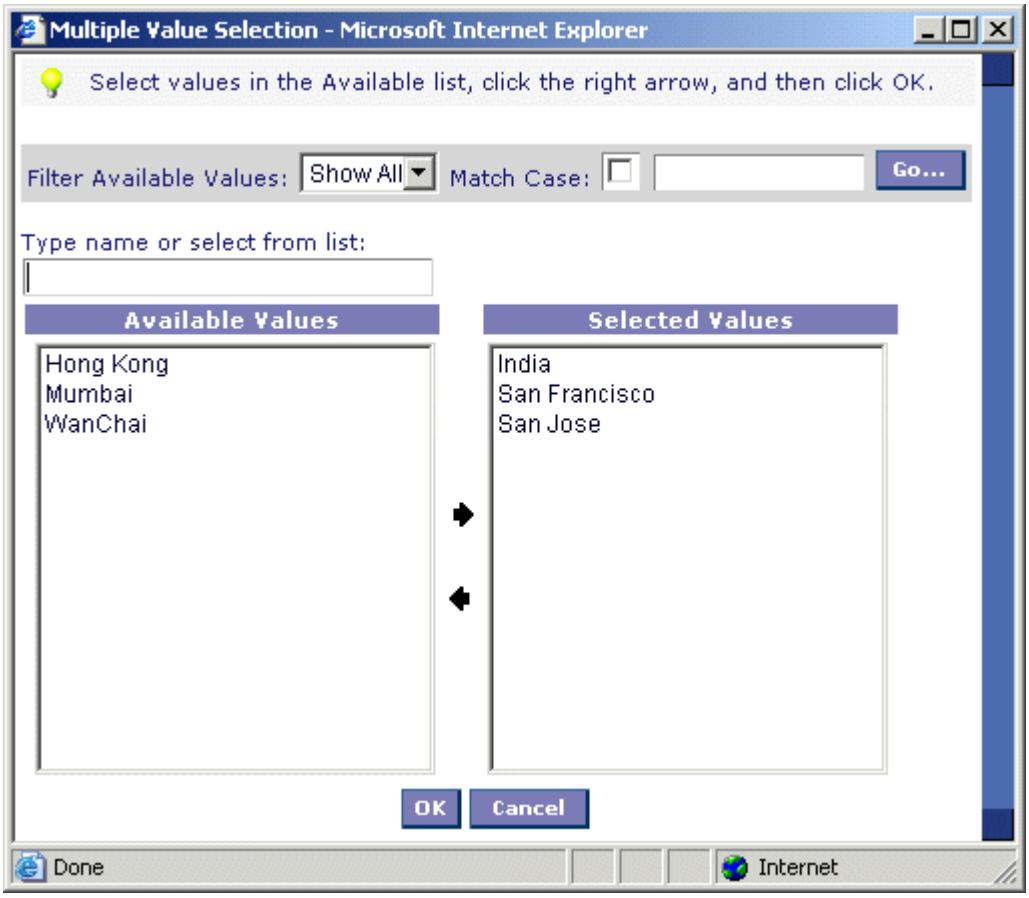
SingleList Lists

A SingleList attribute or cell presents a list from which only one value can be selected. The following figure shows the **Time Format** field, a SingleList cell in Web Client.



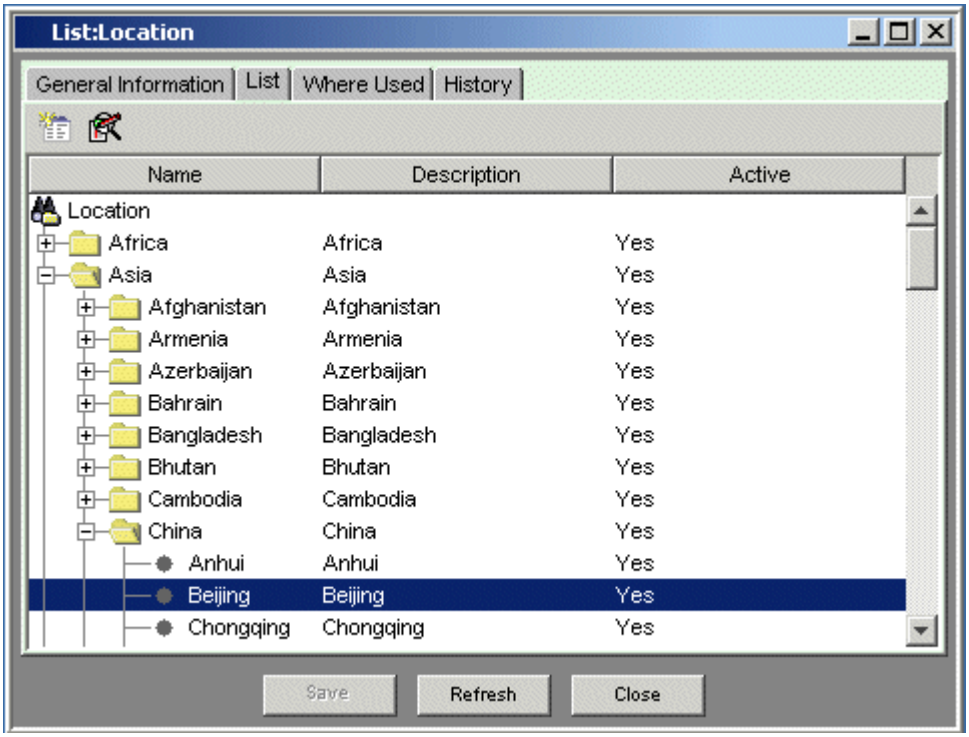
MultiList Lists

A MultiList attribute or cell is a list from which multiple values can be selected. In Web Client, you can select values for a MultiList cell using the Multiple Value Selection window, shown in the following figure.



Cascading Lists

A SingleList or MultiList attribute can be configured in Java Client to have multiple hierarchical levels. A list with multiple hierarchical levels is called a cascading list. The following figure shows setup window (in Java Client) for the Location list, a cascading list. The list has separate levels for continent, country, and city.



Note The Location list is the only cascading list that ships with Agile PLM. However, you can define your own cascading lists.

For more information about cascading lists, see Creating Cascading Lists on page 92.

Dynamic Lists

The Agile PLM server has both static lists and dynamic lists. Static lists are lists that contain an unchanging selection of values. Dynamic lists contain a list of values that are updated at run time. Static lists can be modified; new values can be added and current values can be made obsolete. Dynamic lists cannot be modified; consequently, the Editable property of dynamic lists is set to No.

Configuring Lists

This section provides instructions for configuring dropdown lists in Java Client. These instructions apply to ordinary lists and cascading lists.

To modify a list:

1. Under **Data Settings,** double-click **Lists**. The Lists window appears.
2. If necessary, use the filter bar to display the list you want to modify.
3. Double-click a list to open it.
4. On the **General Information** tab, edit the **Name** or **Description** fields.
5. To disable the list, change the **Enabled** field to No.

   Note If the list is currently being used in the Agile PLM system, it cannot be disabled.

6. To modify the list values (that is, the list entries), click the **List** tab. Add, delete, or modify values as necessary.

   Note If the list is currently being used in the Agile PLM system, its values cannot be deleted. However, you can deactivate a list value so that it no longer appears in Agile PLM clients.

7. Click **Save** to save your changes.

To delete a list:

1. Under **Data Settings,** double-click **Lists**. The Lists window appears.
2. If necessary, use the filter bar to display the list you want to delete.
3. Select a list.
4. Click the **Delete** button, and then click **Yes** to confirm.

   Note If the list is currently being used in the Agile PLM system, it cannot be deleted or disabled.

To modify a list value (list entry):

1. Under **Data Settings,** double-click **Lists**. The Lists window appears.
2. If necessary, use the filter bar to display the list you want to modify.
3. Double-click a list to open it.
4. Click the **List** tab.
5. Double-click a list value to open it.
6. Fill in the **Name** and **Description** fields. They are both limited to 255 characters.
7. To deactivate the value, set the **Active** field to No.

   Note By making a list value inactive, you effectively hide it from Agile PLM clients. However, users can still search for inactive values.

8. Click **OK** to save your changes.

To delete a list value (list entry):

1. Under **Data Settings,** double-click **Lists**. The Lists window appears.
2. If necessary, use the filter bar to display the list you want to modify.
3. Double-click a list to open it.
4. Click the **List** tab.
5. Select a list value.
6. Click the **Delete** button: you may see the Confirm Dialog with a warning (and the prompt "Do you want to continue to delete?"), click Yes to continue the delete.

   You may see the Delete List Item dialog, which indicates the system's assessment that the list item (list entry) is in use, and that you must first remove all references to the list entry before trying again to delete it.

Note	If the list is currently being used in the Agile PLM system, its values cannot be deleted. However, you can deactivate a list value so that it no longer appears in Agile PLM clients.

To change the list used by a List or MultiList attribute:

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. Open the class or subclass whose attributes you want to modify.
3. Click the **User Interface Tabs** tab.
4. Double-click a tab to open it.
5. Click the **Attributes:<Table>** tab.
6. Double-click the List or MultiList attribute you want to modify.
7. For the **List** property, select a list. You can also click **New List** to create a new list.
8. Click **Save** to save your changes.

Note	If any Agile PLM objects have the attribute set to use the currently selected list, you cannot select a different list.

Setting Default Values for Lists

Once you have created the list for a List attribute, you can establish its default value if necessary. For more information, see Setting Default Values on page 78. A default value is one that is selected automatically for a field when you create a new Agile PLM object. The default value for a List attribute must be one of the values in its associated list.

Failure Mode Lists

Failure mode is used by product service requests (PSRs) to indicate how the item failed when quality incidents are reported. The failure mode is a list of values that are specific to each item

subclass. For instance, if a customer created a subclass of Items called Optics, then a Failure Mode list would be created for Optics that contains the types of defects specific to optical components. Failure mode lists have the following special characteristics:

- When you create a new subclass of the Documents or Parts classes, the list library automatically creates a new Failure Mode list for that subclass.
- If you change the subclass name after it has been created, the name of the related failure mode list is *not* updated. This list will be updated after refresh.
- The **Where Used** tab of failure mode lists is disabled due to the special handling of failure modes in the Agile PLM system.
- A failure mode list cannot be deleted unless its corresponding subclass has been deleted.

Because of their special characteristics, failure mode lists should not be used for other types of list attributes.

Creating Cascading Lists

Cascading lists have multiple hierarchical levels, presenting several lists within lists.

Configuring cascading lists is very similar to configuring single-level lists. See Configuring Lists on page 89 for more information about modifying lists. Cascading lists have the following additional restrictions:

- Once you create a cascading list, you cannot change it to an ordinary list. After the list is saved, the **Is Cascading?** property is read-only.
- Each folder within a cascading list must contain unique values. However, different folders within a cascading list can share the same values.
- Cascading list values must be added one at a time. There is not a batch method for adding cascading list values.
- A cascading list can have any number of levels. However, in practice you should try to limit a cascading list to no more than four levels.

To create a new cascading list:

1. Under **Data Settings,** double-click **Lists**. The Lists window appears.
2. Click the **New** button. The Create List dialog box appears.
3. Fill in the **Name** and **Description** fields.
4. To enable the list, make sure the **Enabled** list is set to Yes.
5. In the **Is Cascading?** list, select Yes.
6. Click **OK**. The new List:<*name*> window appears.
7. To add values to the list, click the **List** tab.
8. Click the **New** button. A dialog box appears.
9. Type in the list item name, then type a description of the list item.
10. Click **Add** to add the value and close the dialog box. If you wish to save the value and add other values to the same level, click **Add Another**.

Note List values are always added to the level *below* the currently selected value in the cascading list.

11. To add more values, repeat steps 8 through 10.

Process Extensions

The **Process Extensions** node lets you define custom actions that extend the functionality of the Agile PLM system. The custom actions you define can be used to create custom reports, user-driven and workflow-triggered custom actions, and custom tools accessible through Agile PLM clients.

A process extension is either a Java class deployed on the Agile Application Server or a link to a URL. The URL can be a simple Web site or the location of a Web-based application.

There are five integration points for process extensions available in Agile PLM clients. You can invoke process extensions from the following areas:

- Actions menu
- Tools menu
- Workflow Status
- External reports
- Dashboard — URL process extensions that are created with Dashboard as the integration point are listed in the Dashboard Extension field, while a Dashboard table with View Type List is created. The output of the URL process extension is displayed in the Dashboard table.

Note Technically, a custom AutoNumber source is another type of process extension because it uses the same server-side framework as custom actions. For more information about custom AutoNumber sources, see Autonumbers on page 99.

What tools do you need to develop process extensions? For URL process extensions, you don't need any additional tools. You can define any number of URL process extensions in the Process Extension Library and specify where those URLs can be accessed from in the client. To create process extensions that are Java classes deployed on the Agile Application Server, you need to either purchase the Agile SDK, or work with Oracle Consulting – Agile Practice or an Agile partner to develop process extensions that suit your company.

For more information about how to use the process extensions framework to develop and deploy custom AutoNumber sources and custom actions, see the *Agile SDK Developer Guide*.

Using the Process Extension Library

The Process Extension Library is where you define the custom actions that can be used in Agile PLM clients. When you add a custom action to the Process Extension Library, you specify how to initiate that action from the client.

Agile PLM provides two default process extensions, as shown in the following table.

Name	Description
Accept Package Response	Sends an Accept response to the Agile PLM system that submitted a Package.
Reject Package Response	Sends a Reject response to the Agile PLM system that submitted a Package.

These process extensions are used by Agile Content Service (ACS) to automatically send Accept or Reject responses during Agile-to-Agile communication. For more information, see Configuring Agile Content Service on page 385.

There are several out-of-the-box process extensions used by Product Governance & Compliance. For more information, see Configuring Product Governance & Compliance on page 419.

Of course, you can add any number of additional process extensions to the Process Extension Library.

To add a custom action to the Process Extension Library:

1. Under **Data Settings**, double-click **Process Extensions**. The Process Extension Library window opens.
2. In the Process Extension Library window, click . The Add Process Extension dialog box appears.
3. Enter the following information:
   - **Name**: Enter the name of the custom action.
   - **Description**: Enter a brief description of the custom action.
   - **Type**: Select URL or Internal Custom Action.
   - **Address**: Specify a Web address (if Type is set to URL).
   - **Internal Custom Action**: Select a custom action from the list (if **Type** is set to Internal Custom Action). The list reflects the custom actions that have been deployed on the Agile Application Server using the process extensions framework. If no custom actions have been deployed, the list is empty.
   - **Initiate From**: Select one or more locations from which the custom action can be initiated. Select from the following options:
     - **Actions Menu**: Allows users to select the custom action from the **Actions** menu of a properly configured class.
     - **External Report**: Allows users to generate a report by accessing an external resource or URL. If the process extension is an internal custom action, the External Report option is unavailable.
     - **Tools Menu**: Allows users to select the custom action from the Tools menu.
     - **Workflow State (status)**: Invokes the custom action whenever a properly configured workflow enters a particular status. If the process extension is a URL, the Workflow State option is unavailable.

     If you specify that a custom action is initiated from the **Actions** menu or a workflow status, you can configure subclasses or workflows to use that custom action. If you specify that a URL is used to generate an external report, you can use the Agile Web Client to create the

report. If you specify that an action is initiated from the **Tools** menu, it is available at all times in the Agile client.

- **Roles**: Select one or more roles to use for the custom action. To use the roles and privileges of the current user, leave this field blank. To temporarily override roles and privileges of the current user, select one or more roles. Once the custom action is completed, the client reverts to the current user's roles and privileges.
- **TimeOut**: Enter the number of seconds the client will be blocked if the custom action does not respond. If Timeout equals -1, the client will be blocked until the custom action returns a result. The default timeout is 60 seconds. URL-based process extensions do not have a timeout.
- **Enabled**: Select Yes.

4. Click **OK** to save the process extension.

To modify a process extension:

1. Under **Data Settings**, double-click **Process Extensions**. The Process Extension Library window opens.
2. Open the process extension you want to modify.
3. Change the settings, and then Click **OK**.

To delete a process extension:

1. Under **Data Settings**, double-click **Process Extensions**. The Process Extension Library window opens.
2. Select the process extension you want to delete, and then click ✕.

> **Note** Custom actions currently being used by a class, workflow, or external report cannot be deleted. If you disable a custom action, it is inactive. Removing a custom action from the Process Extension Library does not affect custom code that has been deployed on the Agile Application Server.

Setting the Timeout for Process Extensions

All custom actions that you add to the Process Extension Library are asynchronous operations. Once you initiate a custom action from an Agile PLM client, it runs to completion regardless of what the Agile PLM client does. If you initiate a custom action by selecting it from the **Tools** menu or **Actions** menu, you generally want the client to be blocked until the custom action returns a result. When you add a custom action to the Process Extension Library, you can specify a timeout value. The timeout setting determines how long the client is blocked while waiting for a result.

The default timeout is 60 seconds. If the client times out, it proceeds as if no result was received from the custom action. Meanwhile, the custom action continues running until completion.

Process extensions that reference a URL do not have a timeout. When an Agile PLM client invokes a process extension that references an URL, the client is not blocked at all.

If a custom action is initiated by a workflow status change, you may not want to block the client for any length of time. In that case, you can set the timeout value to 0. However, if the custom action updates field values or moves the routable object to the next status, you may want to block the client long enough so that the user interface accurately reflects the results of the custom action. In that case, set the timeout value to an appropriate time to allow the custom action to complete.

Assigning Process Extensions to Classes

To add custom actions to the **Actions** menu of an Agile PLM object (such as a part or an ECO), you configure the object's class. Each base class, class, and subclass has a **Process Extensions** tab. The custom actions that you assign to a class must be previously defined in the Process Extension Library.

Process extensions are inherited from classes and base classes. Consequently, if you assign a process extension to a base class, it is also assigned to classes and subclasses beneath the base class.

Note Process extensions can be assigned to only one level in a class hierarchy. For example, if a process extension is assigned to the Part subclass it can't be assigned to the Item base class.

Note However, in the case of Agile Portlets, using the process extension Configurator, process extensions can be assigned only to base classes, that is, Items base class, not Parts or Documents classes, nor Part or Document subclasses.

To assign process extensions to a class:

1. Under **Data Settings**, double-click **Classes**. The Classes window opens.
2. Double-click the base class, class, or subclass you want to work with.
3. Click the **Process Extensions** tab.
4. In the toolbar, click . The Assign Process Extension dialog box appears.
5. Select custom actions in the **Choice List**, and then click to move them into the **Selected List**. When you are finished, click **OK**.
6. Click **OK** to save settings.

Assigning Process Extensions to Workflow Statuses

For each workflow status except the Pending status, you can assign one or more custom actions that are initiated when the workflow enters that status. The custom actions you assign to a workflow status must be previously defined in the Process Extension Library.

Note The Automated Transfer Orders (ATOs) class and its subclasses do not support workflow-initiated process extensions.

To assign process extensions to a workflow status:

1. Under **Workflow Settings**, double-click **Workflows**. The Workflows window opens.
2. Double-click the workflow you want to work with.
3. Click the **Status** tab.
4. Select a status other than Pending. The Criteria properties table for the selected status appears below the status table.

5. Double-click the selected status in the Criteria properties table.
6. In the **Process Extensions** list, click . A popup window appears.
7. Select custom actions in the **Choices List**, and then click the **>** button to move them into the **Selected List**. When you are finished, click **OK**.
8. Click **Save** to save settings.

Chapter 5

Autonumbers

This chapter includes the following:

- How Autonumbers Are Used 99
- About Autonumber Sources 100
- Configuring Autonumber Sources 102
- Creating a New Autonumber Source 104
- Deleting an Autonumber Source 105

This chapter describes how to manage the automatic numbering of Agile PLM objects.

How Autonumbers Are Used

From the **AutoNumbers** node, you can configure sources for automatic numbering in Agile PLM. For example, you can change the name of an autonumber source or its subclass assignments, or expand the sequence when necessary.

You can also specify your own prefix or suffix for an autonumber source, or create new autonumber sources. You can delete an autonumber source that is no longer needed as long as it has not been used to create an object in Agile PLM clients.

When you create a new autonumber source, you can use the standard method or the custom method. The standard method is to define a sequence by specifying the prefix, suffix, character set, and number of characters allowed. The custom method is more flexible and uses the process extensions framework to define any numbering sequence.

To use process extensions to create custom autonumber sources, you need to either purchase the Agile SDK or work with Oracle Consulting – Agile Practice or an Agile partner to develop process extensions that suit your company's needs. For more information about process extensions, see the *Agile SDK Developer Guide*.

Modifying an Autonumber Source

You can modify any number source from the **AutoNumbers** node.

To modify an autonumber source:

1. Under **Data Settings,** double-click **AutoNumbers**. The AutoNumbers window appears.
2. Double-click a row to open that source's window (for example, the AutoNumber: Deviation Number window).
3. In any editable field, enter a new value or select from the dropdown list.
4. When you have finished, click **Save**.
5. If you wish to revert to the original settings or start over, click **Cancel**. You will be prompted whether you want to cancel the new settings in the window; Click **OK** if you do or **Cancel** if you do not.

The autonumber properties are described in Configuring Autonumber Sources on page 102.

About Autonumber Sources

An autonumber source is a predefined, consecutive number series used for the automatic numbering of objects created in Agile PLM clients. Each object in Agile PLM is assigned a number when it is created. You can allow users to choose between assigning numbers manually or letting Agile PLM assign numbers automatically, or you can prevent manual number assignment.

The Agile PLM administrator sets up the number assignment convention for the Agile PLM system from the following two administrative nodes:

- From the **Classes** node, you assign specific autonumber sources to specific subclasses. See Changing the AutoNumber Source Property on page 55.
- From the **AutoNumbers** node, you configure the number sources themselves, including their names, whether they have a prefix or suffix, and how many numbers are in each sequence. You can view which subclasses are assigned to a specific number source, and you can configure this arrangement. You can also create new number sources or delete number sources that are not needed.

Autonumber sources are assigned to subclasses so that Agile PLM will know which number source to use when automatically assigning numbers to objects. A separate autonumber source is provided and assigned to most subclasses with your Agile PLM installation.

Note Several Agile PLM subclasses, such as Manufacturer and User, do not allow autonumbering.

To view the existing autonumber sources, double-click the **AutoNumbers** node. You can use the autonumber sources provided, or you can make any of the following changes to the configuration:

- Create new autonumber sources using the **New** button.
- Enable or disable an autonumber source using the **Enable** or **Disable** buttons.
- Assign multiple autonumber sources to a subclass.
- Assign multiple subclasses to an autonumber source.
- Add a prefix or suffix to an autonumber source using the **Prefix** or **Suffix** field in the setup window.
- Change the name of an autonumber source using the **Name** field in the setup window.
- When all numbers in an existing autonumber source have been used, expand the number series using the **Next Number** field in the setup window.
- Delete an autonumber source that is not needed using the **Delete** button.

Note For information about requiring automatic numbering, see Preventing Manual Number Assignment on page 55.

If you create a new subclass, you can assign it any existing number sources for autonumbering, or create a new number source just for that subclass.

The following table lists the autonumber sources as configured at installation.

Name	Where Used	Prefix	Number of Characters
ATO Number	ATO	ATO	7
Audit Number	Audit	Audit	5
Broker Number	Broker	BROKER	5
CAPA Number	CAPA	CAPA	5
Component Manufacturer Number	Component Manufacturer	COMMR	5
Contract Manufacturer Number	Contract Manufacturer	CTRMR	5
Contracts Number	Contract	CONTRACT	1
CTO Number	CTO	CTO	7
Customer Number	Customer	CUST	5
Declaration Number	Declaration	MD	5
Designs Number	Design	DESIGN	5
Deviation Number	Deviation	DEV-	6
Discussion AutoNumber	Discussion	D	5
Distributor Number	Distributor	DISTRIBUTOR	5
Document Number	Document	DOC	6
ECO Number	ECO	ECO-	6
ECR Number	ECR	ECR-	6
File Folder Number	File Folder	FOLDER	7
Gate AutoNumber	Gate	G	5
Historical Report File Folder Number	Historical Report File Folder	HFILE	5
Manufacturer Rep Number	Manufacturer Representative	MR	5
Markup Number	Markup	MARKUP	7
Mfr. Orders Number	MCO	MCO-	6
NCR Number	NCR	NCR	5
Package Number	Package	PKG	5
Part Number	Part	P	6
PCO Number	PCO	PCO	5
Phase AutoNumber	Phase	PH	5
PR Number	Problem Report	PR	5

Name	Where Used	Prefix	Number of Characters
Program AutoNumber	Program	PGM	5
Project Number	Sourcing Project	PRJ	5
Publish Price Number	Published Price	PRICE	5
Quote History Number	Quote History	QUOTE	5
RFQ Number	Request for Quote	RFQ	5
Site Change Orders Number	SCO	SCO	5
StopShip Number	Stop Ship	STOP-	6
Task AutoNumber	Task	T	5

Configuring Autonumber Sources

Autonumber sources have modifiable properties, which are listed in the following table.

Property	Description
Name	This is the name of the autonumber source. It might simply be the same as the subclass, or it might represent a further distinction, for example, Fasteners or Fasteners–Red. You can change this name.
Description	A brief description about the autonumber source. This is an optional field.
Enabled	Whether this autonumber source is enabled (Yes) or not (No). The default is Yes.
Type	Standard or Custom. The default is Standard. Custom autonumbering is available to customers with SDK capabilities, which allow you to add a process extension that incorporates existing numbering schema. See Process Extensions on page 93, and the *Agile SDK Developer Guide*.
Prefix	Property of a standard autonumber. The characters that precede each number that Agile PLM automatically assigns for this autonumber source, for example, Acme000759 (Acme = prefix). You can change the prefix.
Suffix	Property of a standard autonumber. The characters that follows each number that Agile PLM automatically assigns for this autonumber source, for example, Acme000759SW5 (SW5 = suffix). You can change this suffix.
Character Set	Property of a standard autonumber. The characters that are entered in this property are used to create the autonumber. Appropriate for internal autonumber only. Character set can include only a–z, A–Z, 0–9; no special characters are supported.
Number of Characters	Property of a standard autonumber. Sets the number of characters to use or the length. So if "4" is entered, the numbering can be 0001–9999. Appropriate for internal autonumber only. Limit is 10, so this property can be populated only with 1, 2, 3, 4, 5, 6, 7, 8, 9, or 10.
Starting Number	Property of a standard autonumber. The first number that Agile PLM automatically assigns in the sequence. This property can be thought of as an arbitrary "next number."

Property	Description
Next Number	Property of a standard autonumber. While you can manipulate the "Starting Number" value, the Next Number simply reports what the system will use for the next offered autonumber.
Custom Autonumber	This property of a *custom autonumber* is only activated (and visible) when Type is Custom. A dropdown list field that you populate with your company's customized autonumbering system. The list of custom autonumbers reflects the set of custom autonumbers deployed on the Agile Application Server.

Note For out-of-box subclasses, the defaults of AutoNumber Required = No and Autogenerate = Yes means that a number will be automatically generated when you create an object in that subclass; however, users can enter a new object number.

Changing an Autonumber's Prefix or Suffix

The Prefix and Suffix properties identify the fixed string of letters or numbers that precede or follow an autonumber. For example, the autonumber prefix for parts is P, so all parts created in Agile PLM clients have numbers preceded by the prefix P, such as P00678. If the autonumber source also had a suffix of 00, number assignments would be followed with 00.

The Agile PLM administrator can change the prefix and suffix properties for an autonumber source. New objects created for subclasses that use this autonumber source have the new prefix or suffix in their autonumbers.

Changing Where an Autonumber Source Is Used

The Where Used property shows you what subclasses use a particular autonumber source in Agile PLM. You can modify this property to permit additional subclasses to use the number source, or to prevent a subclass from using it.

To view or change the subclasses that use a particular autonumber source:

1. Under **Data Settings,** double-click **AutoNumbers**. The AutoNumbers window appears.
2. Double-click a row, and that source's window appears (for example, the Deviation Number window).
3. On the **Where Used** tab, click the **Add** button .

   The "Add classes to where used tab" dialog box appears, showing all subclasses that exist in your Agile PLM system. The subclasses listed in the **Selected List** list use this number source for objects created in Agile PLM clients. The subclasses listed in the **Choice List** list do not use this number source.
4. To change the configuration, double-click a subclass name to move it from one list to the other.
5. To save your changes and close the dialog box, click **OK**.
6. When you have finished, click **Save**.
7. If you wish to revert to the original settings or start over, click **Cancel**. You are prompted whether you want to cancel new settings on the window; click **OK** if you do or **Cancel** if you do not.

Custom Autonumbers

Select a custom autonumber source from the list. You can create custom autonumber sources only if they have been deployed on the Agile Application Server using the process extensions framework. When you create a custom autonumber source, you select from the **Custom Autonumber** dropdown list. If no custom autonumber sources have been deployed, the list is empty.

Timeout

Enter the number of seconds after which a timeout error will occur if the custom autonumber source does not respond. The default is 30 seconds.

Creating a New Autonumber Source

You can create a new autonumber source for user-defined subclasses if required.

Before You Begin

Consider the following details before creating a new autonumber source.

- Which subclasses will use the new autonumber source?
- What name will you give the new autonumber source?
- Will the new autonumber source require a prefix? If so, what prefix?
- Will the new autonumber source require a suffix? If so, what suffix?
- What size number sequence is required?

To create a new autonumber source:

1. Under **Data Settings,** double-click **AutoNumbers**. The AutoNumbers window appears.
2. Click **New**. The Define the AutoNumber dialog box appears.
3. Fill in the **Name** and **Description** fields, and select Yes or No in the **Enabled** list.

   Set the value in the **Enabled** list to Yes if you are ready to introduce this new number source to the Agile PLM system. The default is Yes in this dialog box, but it may be prudent to set it to No until the subclass is entirely set up.
4. Select the type of new autonumber:

   If you selected Standard, fill in, as your company's needs require, the **Prefix**, **Suffix**, **Character Set**, **Number of Characters**, and **Starting Number** fields.

   To prevent duplicating a number source, see About Autonumber Sources for a list of the prefixes for autonumber sources already provided with your Agile PLM installation.

   The Number of Characters setting determines how many autonumbers can be assigned. For example, if you enter 4 in the **Number of Characters** field, the range of numbers available for this series is from 0001 to 9999 (or a total of 9,999 numbers). Choose a value that will prevent the

sequence from being exhausted in a short time.

5. If you selected Custom, fill in **Custom AutoNumber** and **Timeout** (seconds) fields.
6. Click the down arrow for the **Where Used** list. A dialog box appears, showing all subclasses that exist in your Agile PLM system. Since you are creating a new number source, the **Selected** field will be empty.
7. If you have already created the subclass that will use this number source, double-click the subclass's name in the **Choices** list to move it to the **Selected** list. If you have not created the subclass that will use this number source, this step cannot be completed; in this case, leave the **Enabled** field set to No.
8. To save your changes and close the dialog box, click **OK**.

   The new name appears as a new object on the AutoNumbers window.

For information about how to prevent Agile PLM users from manually assigning numbers for this subclass, see Preventing Manual Number Assignment on page 55.

Deleting an Autonumber Source

The Agile PLM administrator can delete an autonumber source that is not needed, as long as it has not been used to create an object in Agile PLM clients.

Note	If an autonumber source has been used to create an object, disabling it makes it unavailable for further use. See Modifying an Autonumber Source on page 99.

To delete an autonumber source:

1. Under **Data Settings,** double-click **AutoNumbers**. The AutoNumbers window appears.
2. Select the autonumber source you want to delete.
3. Click the **Delete** button.

   If the autonumber source has already been used to create an object in Agile PLM clients, you see an error message stating that the object is already in use, and the Agile PLM system does not delete it.

   If the autonumber source has not already been used to create an object in Agile PLM clients, a dialog box appears to confirm the deletion.
4. Click **OK** to confirm the deletion.

   The autonumber source is deleted, and is no longer available for assignment to a user-defined subclass.

Chapter 6

Criteria

This chapter includes the following:

- About Reusable Criteria 107
- Exploring Reusable Criteria 108
- Creating a New Criteria 109
- Modifying an Existing Reusable Criteria 110
- Using Affected Items Tab Fields in Reusable Criteria 111
- Using $CURRENTREV and $LATESTREV in Criteria for Items 113

This chapter examines the criteria used in Agile PLM workflows, and explains how to create reusable criteria.

About Reusable Criteria

A reusable criteria is a database query, just like an advanced search. The attributes used to create reusable criteria are similar to the attributes used to create advanced searches. They are also like filters that qualify the objects moving through a workflow process or the conditions for which the privileges masks apply.

The **Criteria** node is where reusable criteria are stored and maintained. From this node, you can create, delete, or modify the reusable criteria that are a fundamental building block of Agile PLM workflows and privileges. Reusable criteria are also used to define designated escalation persons and signoff transfer authority.

Reusable criteria can be assigned to multiple workflows, and to multiple statuses within a single workflow. You can define criteria that:

- Specify or distinguish combinations of **approvers** or **observers**, whether they are selected users, existing or created global groups, or even personal groups.
- Specify each of the company's **product lines**.
- Correspond to **Agile PLM classes.**
- Correspond to any other combination of attributes of **Agile PLM objects**—items, changes, packages, manufacturers and manufacturer parts.

Since changes to the reusable criteria for these workflows are global (that is, a refinement to a reusable criteria affects every workflow in which it appears), you can complete systemwide changes to your workflows in one step.

By specifying a list of reusable criteria for each workflow, you limit which changes can use a specific workflow. For more information about reusable criteria applied as matching criteria, see Using Affected Items Tab Fields in Reusable Criteria on page 111.

Exploring Reusable Criteria

To view the available reusable criteria:

1. Under **Data Settings,** double-click **Criteria**. The Criteria window appears.
2. Filter criteria records to narrow your search. For example, filter records by Description Contains Item to find all the reusable criteria for item objects. (See Filtering Data on page 16.)

   The filtered list of reusable criteria is displayed in the table. The Criteria table shows the name, description, and object type for each reusable criteria. Click a column header to sort the table by that column.

   Use the buttons at the top of the window to perform various reusable criteria management tasks.

Button	Description
Delete	Deletes the selected reusable criteria. A reusable criteria cannot be deleted if it is already in use.
Import	Imports an archive file (.AGI) to create a new criteria. See Administrator Import and Export on page 23.
Export	Exports reusable criteria data for the selected reusable criteria. See Administrator Import and Export on page 23.
Export All	Exports all reusable criteria data. See Administrator Import and Export on page 23.
New Criteria	Create a new reusable criteria. See Creating a New Criteria on page 109.

Viewing a Reusable Criteria

The reusable criteria can have any of the Agile PLM classes or subclasses as an object type. Many of the out-of-box reusable criteria have been used to define privilege masks.

To view a specific reusable criteria:

1. Under **Data Settings,** double-click **Criteria**. The Criteria window appears.
2. Filter criteria records to narrow your search. For example, filter records by Description Contains Item to find all the reusable criteria for item objects. (See Filtering Data on page 16.)
3. In the Criteria window, click the name of the reusable criteria you want.

   The tabbed window for that reusable criteria appears.

The **General Information** tab of the Criteria setup window has button you can use to perform the available actions described in the following table:

Action	Description
Delete	Deletes the reusable criteria if it is not in use.
Export	Exports the reusable criteria information. See Administrator Import and Export on page 23.

Action	Description
Save As	Allows you to copy the reusable criteria and give the copy a new name. ▫ Click **Save As**. ▫ Enter a new name in the dialog box that appears. ▫ Click **OK**.

Criteria Windows and Tabs

When you double-click an existing reusable criteria, its properties are displayed in a tabbed window in the right pane. The **General Information** tab displays the name and description of the criteria, and object type that criteria applies to. You can use the **Edit** button to edit the name and description.

The **Criteria** tab lists the type—class or subclass—that the criteria is associated with and the criteria parameters. These are the conditions that define how each reusable criteria works.

Note You can edit a reusable criteria that's already being used, but its **Name**, **Description**, and **Object Type** fields are read-only.

The **Where Used** tab tells where reusable criteria are used in criteria-specific properties, matching criteria, privilege masks, escalations, and transfers. The **History** tab lists the actions that have been performed in relation to this reusable criteria.

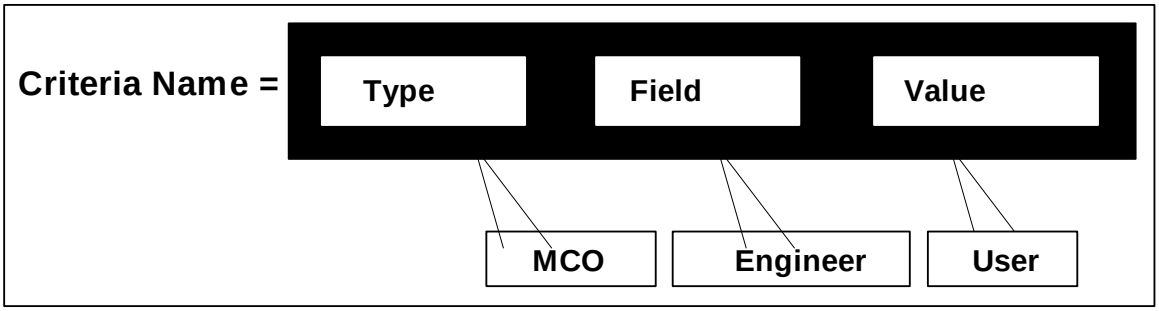
Creating a New Criteria

You create reusable criteria according to the needs of your workflow or privilege mask. Because reusable criteria can be widely used in Agile PLM, their purpose and function need to be clear from the start.

It is recommended that you devise a system or convention for naming reusable criteria.

Caution Although you can change the name of reusable criteria at any time, doing so too often may confuse users, who do *not* see a name change until they have logged out and back into the Agile PLM client.

A possible naming scheme could be:



For example, a criteria name of “MCO_Acme_July2000” is a lot easier for your users to decipher than “MCO6.”

Note Reusable criteria created by the Agile PLM administrator appear in the Transfer Authority dialog as Global.*Criteria name*. Personal reusable criteria created by other users appear in the Transfer Authority dialog box as User.*Criteria name*.

To create a new reusable criteria:

1. Under **Data Settings,** double-click **Criteria**. The Criteria window appears.
2. Click the **New** button. The Create Criteria dialog box appears.
3. Fill in the **Name** and **Description** fields, and select the object type that your reusable criteria will apply to. This list comprises all the Agile PLM classes and subclasses.

   Note The reusable criteria name must be unique. If you specify a reusable criteria name that is already used, you get a duplicate name error message.

4. If you want the criteria to be case-sensitive, select the **Case Sensitive** checkbox. Case-sensitive searches improve system performance and can simplify how you define reusable criteria:
   - If you enter text in the **Value** field, the criteria will look for text that is an exact match.
   - If you define a numerical value, checking **Case Sensitive** allows the Agile PLM system to make use of internal database settings to find objects more quickly.
5. Click **Add** and select the Agile PLM attribute you want from the **Attribute** dropdown list. The values that are available change according to the Agile PLM class or subclass you selected in the previous step. Click **OK** in the small dialog box.
6. Click the **Match if** field and specify the search operator.
7. Click the **Value** field, and select a value for the field you selected from the **Attribute** list. Click **OK** in the small dialog box.
8. If you are going to add additional conditions, click the **Add** button again, and then in the **And/Or** field, select And or Or.
9. You can click the **Insert** button to add a condition above the currently highlighted row.
10. Repeat step 5 through step 8 until your reusable criteria is complete.
11. When the criteria is complete, click **OK**.

    Note Changing the criteria in the **Object Type** field resets the entire reusable criteria. A reusable criteria covers one entire Agile PLM class or subclass. You need to create a separate global criteria to cover a different class or subclass.

Click the **( )** button to place parentheses around the specified condition or conditions, which changes the order in which the search conditions are evaluated. The **( )** button functions like a formula within parentheses in an algebraic equation, following the standard algebraic order of operations. The grouped criteria within parentheses are resolved before any others.

Modifying an Existing Reusable Criteria

You cannot modify an existing reusable criteria if it is already in use. You can, however, remove the

reusable criteria from its assigned objects, modify it, then reassign it again. Or, you can create a new reusable criteria, assign the new criteria to the objects and remove the old criteria from the objects. The **Where Used** tab lists all the objects where the reusable criteria is in use.

To modify an existing reusable criteria:

1. Under **Data Settings,** double-click **Criteria**. The Criteria window appears.
2. Filter criteria records to narrow your search. For example, filter records by Description Contains Item to find all the reusable criteria for item objects. (See Filtering Data on page 16.)
3. In the Criteria window, double-click the name of the reusable criteria object you want.
4. The criteria setup window appears containing the existing information about the criteria. Modify the criteria just as when creating it.
5. When you are finished, click **Save**.

Note You cannot delete a reusable criteria once it has been used to create a Transfer Authority privilege, even when you delete that transfer authority. You might rename the criteria you want to delete so it is, for instance, dropped to the bottom of the list of reusable criteria.

Using Affected Items Tab Fields in Reusable Criteria

There are many similarities between reusable criteria and other searches in the Agile PLM system, but there are a few important differences.

How Changes Are Matched When Reusable Criteria Specify Affected Items Tab Fields

To select a specific routable object in Agile PLM clients, an affected items field condition must be true for all the objects on the **Affected Items** tab of that routable object. For example, if you specify Affected Items.Old Lifecycle Phase Equals Preliminary, then all the objects on the **Affected Items** tab must have the **Old Lifecycle** field equal to Preliminary. If you select Contains as the search operator, then every object on the **Affected Items** tab must contain the specified value in the specified field.

When you create a reusable criteria in Java Client, you can include criteria conditions against item fields (such as **Part Category**), provided the item fields are displayed on the **Affected Items** tab of the routable object.

Note Criteria that specify Affected Items attributes cannot be used to create privilege masks. If a criteria does not appear in a privilege mask's dropdown list, it cannot be used to define the privilege mask. See also Revising Item Descriptions on page 302.

In the Create Criteria dialog box, the **Attributes** list contains **Affected Items** tab fields, including those from the Items themselves. This allows you to create reusable criteria that return changes according to fields of the Items that appear on the **Affected Items** tab. For this kind of query to work, the **Affected Items** tab field must be visible.

For example, to find changes with Items on their Affected Items **tab that have a** Part Category **field equal to Engineering, do the following:**

1. Under **Data Settings,** double-click **Classes**. The Classes window appears.
2. Click the class you want (for example, Change Orders).
3. In the Class setup window, click the **User Interface Tabs** tab.
4. Double-click **Affected Items**. The Class Tabs setup window appears.
5. Click the **Attributes** tab.
6. Find **Item Category** in the Name column. Double-click the row to display the Attributes setup window.
7. In the **Visible** dropdown list, select Yes. The Visible property is now set to Yes.

Difference Between "Item" and "Part" in Affected Items Names

It is important to understand how the system interprets the naming of affected items when you create reusable criteria, as shown in the following table:

Name (general)	Applies to...	Name (example)	Applies to...
Affected Items.Item fieldname	Parts and documents	**Affected Items.Items.P2 Text20**	**Text20** field for both parts and documents
Affected Items.Part fieldname	Parts only	**Affected Items.Part.P2 List03**	**List03** field for part

Most list and multilist fields for Documents class objects cannot be used to create reusable criteria. For instance, the list fields on **Page Two** and **Page Three** tabs are not available. The two available **Documentation** list fields are **Documentation.Product Line** and **Documentation.Size**.

More about Affected Items: Adding Approvers and Observers

Default change analysts (or default component engineers) may want to monitor changes assigned to them to make sure that the list of approvers and observers is complete. When workflows assign approvers and observers according to the attributes of the affected items of a routable object, you may want to add approvers that were not automatically assigned by the workflow.

For example, at Acme Inc., each product line has several projects in development at one time. Acme uses a field on **Page Two** (in Agile Java Client) to identify which project or projects each item (part or document) belongs to. The Libra Product Line workflow looks at the project assigned to the affected items on an ECO to determine which default approvers and observers to assign.

Mary Green creates ECO 333 in Agile Java Client. She adds six Orion project objects to the **Affected Items** tab: three parts and three documents. Mary finishes preparing ECO 333 and switches it to the next status, where the change is submitted to Bob Smith, the default change analyst.

To select approvers for the Orion project, the Libra Product Line workflow examines each item on the Affected Items table to determine if the **Page Two** field contains Orion. If *any* the items on the

Affected Items table belong to the Orion project, then the list of Orion approvers, as defined in the workflow, are automatically added to the **Workflow** tab when ECO 333 is submitted to Bob.

However, when some of the objects on the Affected Items table are documents, Acme requires that Orion team members in the Publications department must also sign off the change. Since not all ECOs include documents to sign off, the Libra Product Line workflow does not automatically add approvers from the Publications department to every ECO.

Bob, the change analyst, examines ECO 333 and notices that some of the affected items are documents. Bob clicks the **Add Approvers** button on the **Workflow** tab of ECO 333 and adds all the members of the Orion Publications group as approvers. Bob can add approvers to any future Review or Released status type; the ECO does not need to be in the Review or Released status type for approvers or observers to be added.

Using $CURRENTREV and $LATESTREV in Criteria for Items

$CURRENTREV and $LATESTREV are two powerful system variables available to the administrator to construct criteria that can target specific revisions of items (parts and documents) and specific workflow statuses (for those workflows that apply to rev-based changes, that is, Change Orders, Sites Change Orders, and Manufacturer Orders).

Be aware that this functionality (enhanced in Agile PLM Release 9.2.2.2) is quite granular and will be best understood when you have become familiar with item revisions (in Production Collaboration) and workflows. It may be helpful to request assistance from your Oracle Consulting – Agile Practice representative.

Note that these variables are also used to construct some criteria in Privilege Masks, which is another area of robust capability and granularity. Variables were introduced in Chapter 2, see Default Value Variables on page 37; $CURRENTREV in conjunction with the Modify privilege is detailed in Controlling the Ability to Modify Items at Introductory Revision with $CURRENTREV on page 212.

About TitleBlock.Rev

Title Block.Rev is currently not available for use in criteria conditions. Instead, use $CURRENTREV criteria conditions to identify which revision the user has selected.

Rules for Using the $CURRENTREV Variable

The $CURRENTREV variable is used to construct criteria based on the workflow status of the change (Change Order or Manufacturing Change Order) that corresponds to a selected item revision.

The following rules govern the usage of the $CURRENTREV variable:

- $CURRENTREV may only be used in defining criteria against objects belonging to the Items base class (including Parts and Documents classes and their subclasses)..
- $CURRENTREV is available as a value in the Attribute list. $CURRENTREV itself does not evaluate to a value: the entire condition itself is evaluated as an expression.

- The **Match If** operator can be set to **Equal To** and **Not Equal To**.
- **Value** can be set to the following values.

  The list of values is comprised of $STATUSTYPE variables for all predefined Change Status Types, as well as all possible Workflow.StatusName values for all configured Workflows created for the Changes object type.

  Note The only Change types that are pertinent to this feature are the ones that appear in the Item's Rev dropdown list, that is, those belonging to Change Orders (ECOs), Manufacturer Change Orders (MCOs), and Site Change Orders (SCOs) classes. However, the other Change classes (Change Requests, Deviations, Stop Ships, and PCOs) do appear in this list. **For expressions pertaining to $CURRENTREV, only statuses pertaining to workflows developed for ECOs, MCOs, and SCOs should be used.**

  - The condition **$CURRENTREV Equal To $STATUSTYPE.PENDING** evaluates to True if the selected item revision corresponds to a Change whose current status type is Pending. Similar statements can be constructed for other status types as well. The supported status type variables include:

    $UNASSIGNED

    $STATUSTYPE.PENDING

    $STATUSTYPE.SUBMIT

    $STATUSTYPE.REVIEW

    $STATUSTYPE.RELEASED

    $STATUSTYPE.COMPLETE

    $STATUSTYPE.HOLD

    Note that **$STATUSTYPE.CANCEL** is not available, since revisions pertaining to Canceled changes do not appear in the Rev dropdown list for items, and therefore may not be selected. In any case, the expression **$CURRENTREV Equal To $STATUSTYPE.CANCEL** would always evaluate to False.
  - The condition **$CURRENTREV Equal To Default Change Orders.Pending** evaluates to True if the selected item revision corresponds to a change that is assigned the Default Change Orders workflow, and whose current status is Pending. Similar statements can be constructed for other workflows and statuses as well. The general format is:

    <WorkflowName>.<StatusName>

    Note that <WorkflowName>.CANCEL is not available.
  - While the workflow status values above cover all possible statuses for a pending or released revision, special criteria values are provided for the Introductory revision because there are no changes associated with that revision.

    Based on the possible use cases, one of the following conditions would hold true when an Introductory revision of an item is selected (the term Pending change below implies a change in its pre-Released state, for example, Submitted, Review):

    - **$INTRODUCTORY_NOCHANGE** – There are no Pending or Released changes against the item (the **Changes** tab is empty). This condition also covers the case where any past Pending changes against the item have been soft or hard deleted from the Agile system.

- **$INTRODUCTORY_PENDINGCHANGE** – The item has never been released, but there are Pending changes against the item. This condition also covers the case where the item has been released in the past, but the released changes have all been unreleased
- **$INTRODUCTORY_RELEASEDCHANGE** – The item has one or more released changes against it. It may also have one or more Pending changes against it.

Note that an expression involving any of these three values will always evaluate to False if the selected revision is not the Introductory rev.

- To support the use case where users are allowed to read, make changes to or get file attachments from only the latest released revision of an item (this is important in regulated industries (for example, medical devices) where it is important that users refer to only the latest design or spec files), another variable called $LATEST is introduced to the set of valid values for $CURRENTREV expressions. The expression **$CURRENTREV Equal To $LATEST** evaluates to True if the selected revision is the Latest Released revision for the item. This expression also evaluates to True if the selected revision is Introductory and the item does not have any Released ECOs, MCOs or SCOs against it.

  The expression **$CURRENTREV Equal To $LATEST** has the exact same functionality as the obsolete expression **Title Block.Rev Equal To $LATEST**.

The modification of item Description on the Latest Released revision deserves special mention here. Previous to Agile PLM Release 9.2.2.2, when a user had privilege to modify the Latest Released revision only (**Title Block.Rev** = $LATEST) and not Pending revisions, and he modified the description of the item, he was presented with a message asking if he'd like to update the description of all the pending revisions to this updated description. If the user chooses to do so, all the pending revision descriptions are also updated irrespective of whether or not the user has privilege to update descriptions on pending revisions. This behavior will continue to be supported.

Rules for Using the $LATESTREV Variable

The $LATESTREV variable is another Administrator attribute used to construct criteria based on the workflow status of the Change Order (ECO/MCO/SCO) corresponding to the latest released revision of an item.

The following rules govern the usage of the $LATESTREV variable:

- $ LATESTREV may only be used in defining criteria against objects belonging to the Items base class, which includes Parts and Documents classes and their subclasses..
- $ LATESTREV is available as a value in the Attribute list. $LATESTREV itself does not evaluate to a value. The whole condition itself is evaluated as a boolean expression.
- Unlike $CURRENTREV, you must specify only the **Match If** field in order to construct a valid expression using $LATESTREV. The only operators available for **Match If** are **Is Released** and **Is Introductory**.
- The condition **$LATESTREV Is Released** evaluates to True if the selected item has been released on at least one Change of type ECO or MCO. Note that SCO is not included because an item has to be released on an ECO or MCO before it can be released on an SCO.
- The condition **$LATESTREV Is Introductory** evaluates to True if the selected item does not have any released ECO or MCO against it.

Item Relationship Creation Using $CURRENTREV and $LATESTREV Criteria

To create a relationship and a relationship rule between any two Agile objects requires that the user has Modify privileges for both objects applied to <object>.Relationships.Name attribute (to create a relationship) and <object>.Relationships.Rule (to create a relationship rule). See Some 'Modify' Basics and Rules on page 211.

Modify Item privilege masks that use a $CURRENTREV criteria condition to limit item modification also limit which items can be selected for item-to-item relationships. For example, if a user has a Modify privilege that limits his Modify Item privilege mask with the criteria condition **$CURRENTREV Equal To $STATUSTYPE.PENDING**, that user can modify only items with a change in the Pending status. The items that can be selected for item-to-item relationships are also limited to items with a change in the Pending status.

To avoid this limitation to item-to-item relationships when using $CURRENTREV criteria conditions in Modify Item privilege masks, use the following criteria:

```
$CURRENTREV Equal to $LATEST
```

to create a Modify privilege mask with only one Applied To attribute, Item.Relationship.Name. That is:

```
Modify Items $CURRENTREV Equal to $LATEST Applied To
Item.Relationships.Name
```

To ensure that users can create item-to-item relationships between any two items, include this Modify privilege mask in any role that includes Modify Item privilege masks.

Note Relationships are not revision-specific.

Chapter 7

Workflows

This chapter includes the following:

- How Workflows Automate the Change Control Process 117
- Workflow Basics 119
- Default Status-Based Workflows 121
- Status Types Defined 122
- Creating New Workflows with Save As 124
- General Workflow Properties 125
- Creating and Using Custom Workflows 128
- Status Properties Defined 134
- Criteria-Specific Properties Defined 140
- Workflow Functionality Testing 145
- Migrating Workflows to Production 146
- Changing Active Workflows 147

The Workflows node stores the default workflows that Agile PLM client users select to create and send routable objects for approval. From this node, you can also define and create custom workflows.

How Workflows Automate the Change Control Process

The **Workflows** node stores the default workflows that Agile PLM client users select to create and send routable objects for approval. From this node, you can also define and create custom workflows

A workflow is an organized sequence of stages involving people's decisions—their creation, modification, review, and approval or rejection of a routable object. An Agile PLM workflow is an automated sequence of statuses that a routable object follows as it goes through a company's change control process. (For a detailed description of a typical change control process, see the chapter about workflows in *Getting Started with Agile PLM*.)

Workflows automate the change control process in a variety of ways:

- The changes that are available for a particular routable object are completely configurable. When users create a routable object, they select a workflow from the list of workflows that are available for that routable object.
- When all required fields are filled in for a released routable object, and when all the approvers have signed off for a Review or Released status type, the routable object can be moved automatically—"autopromoted"—to the next status.
- Approval and rejection of the routable object occurs within defined permissions and other checks. You can preassign default approvers and observers.
- Email automatically notifies users of the creation and progress of a routable object. For

example, when an approver does not respond within the specified time period, a reminder email notification is triggered to be sent.

- If the approver does not respond within the specified period, the routable object is sent to that user's designated escalation person, who can approve or reject the routable object.
- By defining a workflow with multiple Review and Released statuses, routable objects can be sequentially routed to different lists of approvers and observers.
- A user can transfer authority to approve routable objects to another user for a specified period of time. With the appropriate privileges, a user can similarly transfer signoff authority for other users.

Modifying a Workflow

The following sequence applies to modifying a workflow in the **Workflows** node.

To modify the Workflow settings:

1. Under **Workflow Settings,** double-click **Workflows**. The Workflows window appears.
2. Double-click the workflow you want to modify, for example, Default Change Orders. The Workflow: Default Change Orders window appears. The setup tabs are:
   - **General Information**
   - **Status**: the Status table defines status properties, and the Criteria table defines criteria-specific properties.
   - **History**
3. With the **General Information** setup tab selected, in the field you want to edit, enter a new value or select from the dropdown list. The two **Criteria Matching Type** fields on the **General Information** tab should be left alone at this point.
4. When you have finished, click **Save**.
5. If you wish to revert to the original settings or start over, click **Cancel**. You will be prompted whether you want to cancel new settings on the window; click **OK** if you do or **Cancel** if you do not.

To modify this workflow's status properties or criteria-specific properties, begin by clicking the **Status** tab.

For information about changing workflows that are active (that is, are enabled and may have routable objects moving through them), see Changing Active Workflows on page 147.

Note Alterations to workflow statuses have implications for process extensions (see Process Extensions on page 93) and transfer orders (see Configuring Agile Content Service on page 385).

Workflow Basics

Routing Managers

Any object that can be routed for approval is a **routable object**. The user who oversees the routing and approval process is the *routing manager*. The various routing managers (see the table below) are simply roles assigned to users by the administrator. Once a user has been assigned a role of, say, change analyst, his name appears on the Change Analyst List and can be selected manually by a Java Client or Web Client user. Routing managers evaluate and assign routable objects, and they receive email notifications pertaining to the objects to which they are assigned.

The following table lists routable objects and the corresponding default routing manager.

Routable object (with base class)	Default routing manager
Change: All changes except MCOs & PCOs: change orders (ECOs), change requests (ECRs), site change orders (SCOs), stop ships, deviations	Change analyst
Change: Manufacturer orders (MCOs)	Component engineer
Change: Price change orders (PCOs)	Price administrator
Declarations (all)	Compliance manager
Packages	Program manager
Product service requests (PSRs): problem reports and nonconformance reports (NCRs)	Quality analyst
Program: activities and gates	PE program manager
Quality change request (QCRs): corrective and preventive actions (CAPAs) and audits	Quality administrator
Transfer Order: content transfer orders (CTOs) and automated transfer orders (ATOs)	Content manager

Other Workflow Basics

Here is some other basic information about Agile PLM workflows:

- A workflow consists of a unique name, one or more *matching criteria*, and a *status list*, or sequence of statuses. An enabled workflow is visible and usable by Agile PLM client users.
- Each workflow must be qualified by at least one matching criteria; these are broad qualifiers that determine which workflow a routable object may follow. Agile PLM tests the routable object against all the matching criteria for all the workflows and determines which workflows match the routable object.
- A workflow can contain any number of statuses. *Status names* are editable, but their underlying *status types* are not. Only one status type is required, Pending, and this must be the first status in the workflow. Three status types—Submit, Review, and Released—may be used multiple times in a workflow, with unique names for each instance. Review and Released are the most versatile status types.

- Each and every status in a workflow's status list comprises *status properties* and *criteria-specific properties*.
- Status properties define some specific actions that can be automatically triggered or manually performed—or both. Status properties determine what happens to the routable object when assigned people approve, reject, or even forget to review the routable object.
- Criteria-specific properties are defined by filters called *reusable criteria*, which are created separately and stored in the **Criteria** node. Each individual status may have many criteria-specific properties. Criteria-specific properties describe specific actions that are triggered (automatically, or they can be manually performed) if the routable object meets the conditions defined in the reusable criteria while the routable object is entering or exiting a status. Criteria-specific properties apply to individual statuses, not to the workflow as a whole.
- For example, criteria-specific properties can be used to define the following actions for a specific Review status of a workflow. When a routable object enters the status, if the routable object's Product Line field contains, for example, Libra, a specific set of approvers is assigned. If the Product Line field contains Scorpio, a different set of approvers is assigned. If the Product Line field contains both Libra and Scorpio, both sets of approvers are assigned.

Keep It Simple!

Agile PLM workflows are a robust feature that offers a great deal of choice and flexibility for your company's change control process. For best results, plan thoroughly and gather all necessary data and information.

To prepare properly, follow these three steps before you attempt to customize Agile PLM workflows:

1. Compile information for tailored workflows. You must fully understand and define your company's required change control processes. This step is crucial to successful implementation of automated workflows.

   Important This process is not covered in this manual. Consulting services are available from Oracle Consulting – Agile Practice consultants, who can provide you with assistance in creating business process validation plans and guidance. During business process validation, you can propose workflows to simulate real scenarios and typical usage.

2. Learn about Agile PLM workflows in this chapter and elsewhere in this manual.
   - Be sure you understand the purposes and limitations of the status types. See Status Types Defined on page 122.
   - Use default workflows at first, which you can use immediately without modification. See Default Status-Based Workflows on page 121.
   - Create some original workflows (in your test environment—see the next step) that meet specific needs at your company. See Creating and Using Custom Workflows on page 128.
3. Establish a testing environment and complete test procedure. Test all new workflows! For example, create a routable object and send it through your enabled workflow. In any case, verify that new workflows work correctly, and alter them as necessary. For more information, see:
   - Workflow Functionality Testing on page 145
   - Migrating Workflows to Production on page 146
   - Changing Active Workflows on page 147

Although you can create as many workflows as your company needs, you are encouraged to explore the capacities of the out-of-box default workflows first. Creating too many workflows too quickly could create maintenance issues later.

Default Status-Based Workflows

Agile PLM provides the following status-based workflows:

- Default Activities
- Default ATOs
- Default Audits
- Default CAPAs

- Default Change Orders
- Default Change Requests
- Default CTOs
- Default Declarations
- Default Deviations
- Default File Folders
- Default Gates
- Default Manufacturer Orders
- Default Non-Conformance Reports
- Default Packages
- Default Price Change Orders
- Default Problem Reports
- Default Site Change Orders
- Default Stop Ships

Note Default ATOs and Default File Folders are read-only workflows. They cannot be modified.

The default workflows can be used without modification. They ensure that all routable objects match criteria for a workflow. You can also tailor the default workflows to your requirements. If modifying the default workflows still does not meet your requirements, you can create custom workflows.

Caution As a best practices approach, it is recommended that you save a set of the default workflows, unmodified and disabled. You can do this easily using **Save As** (see Creating New Workflows with Save As on page 124).

Status Types Defined

Agile PLM workflows are defined by their list of statuses, and each status is of a particular status type. Workflows are created from five basic status types—Pending, Submit, Review, Released, and Complete. Two special status types, Cancel and Hold, handle routable objects that have failed to advance and must be stored.

The status types have sequence dependencies that determine where and how often you can use them in a workflow. A clear understanding of these dependencies is essential to constructing usable workflows. The following table defines the status types and provides details about these dependencies.

A workflow can have as many statuses as needed. Submit, Review, and Released are the status types that can be used more than once, with differently named and defined statuses. When you define a workflow with multiple Review and Released statuses, routable objects can be sequentially routed to different lists of approvers and observers.

Status type	Definition
Before a workflow is selected for a routable object	
Unassigned	**Unassigned** is the default initial status name before a routable object has been matched with a workflow.
Basic Status Types (Active)	
Pending	▫ An originator is developing the routable object. ▫ A workflow must begin with a **Pending** status type; it is the first status in every workflow.
Submit	The **Submit** status type sends the routable object to the specified routing manager, who determines whether or not to promote the routable object to the next status.
Review	The **Review** status type routes the routable object to CCB members (approvers and observers). When all approvers have signed off, and required fields have been completed, the routable object is automatically promoted to next status in the status list if AutoPromote is on, or it is manually moved by the routing manager if AutoPromote is off.
Released	▫ When a routable object enters the *first* **Released** type status, the software performs a series of checks; it also creates new revisions of the affected items (ECOs) with the new BOM, incorporates redlines into a new "rev," or updates the manufacturer part information (MCOs). ▫ Like the Review status type, the Released status type may have approvers and observers and be routed for signoff and may be autopromoted. ▫ *Only the* first *Released status actually releases the routable object*. Subsequent Released status types—given distinguishing status names—provide additional review/approval cycles for the released routable object. ▫ Returning a released routable object to any of the first three status types *un*releases the routable object—removes approvals that were gathered. A Deviation can be unreleased if it does not have affected items. **Note:** Although Agile PLM allows you to configure Change Order workflows that allow the release of an item without specifying a value for the New Lifecycle Phase, configuration management best-practices require that a New Lifecycle Phase always be specified prior to releasing an item on an ECO or MCO. In order to make sure there is a New Lifecycle Phase, make sure it is a required field in the Workflow Criteria.
Complete	▫ If **Complete** status type is used, it must be the last *active* status in the workflow, and it may be used only once.
Special Status Types (Inactive)	

Status type	Definition
Hold	▫ The **Hold** status types provides a way to temporarily remove a routable object from the workflow and reinsert it later. It is added to the *end* of the status list as it is *never* part of the active sequence of statuses. ▫ Hold does not unrelease a routable object. ▫ Given appropriate privileges, the user can manually move a routable object to Hold from any other status in the workflow *except* Complete (assuming it is listed as a valid next status under the Manual Valid Next Status property). It stays there until you manually move it back into the workflow. These moves require proper Change Status privileges.
Cancel	▫ The **Cancel** status provides a way to remove a routable object from the workflow. **It is not possible to re-activate the workflow once it is moved to Cancel status.** ▫ Cancel unreleases a routable object. ▫ Given appropriate privileges, the user can manually move a routable object to Cancel from any other status in the workflow *except* Complete (assuming it is listed as a valid next status under the Manual Valid Next Status property). **Note** In assigning privileges to move a workflow to the Cancel status, the administrator must recognize the potential for user-error. Because a Canceled workflow can **not** be re-activated by any means, the fact that it is relatively easy to change a workflow to Cancel must be recognized and allowed for. See Manual Valid Next Status on page 134.

You can use the default workflows without modification. It is best to work with the default workflows with no modifications until you are familiar with their uses and capabilities.

Caution Agile recommends using **Save As** to create "archive" copies of all the default workflows. This ensures that you can always return to an unaltered version if you have customized the default workflows.

Creating New Workflows with Save As

You can create a new workflow from an existing one and give it a new name. This makes it easy to create an archive of the default workflows or to create a custom workflow that starts from the foundation of a proven default workflow.

To create a new (or "archive") workflow from an existing one:

1. Under **Workflow Settings,** double-click **Workflows**. The Workflows window appears.
2. Double-click the workflow you want to base the new workflow on. That specific workflow's window appears.
3. Click the **Save As** button, and enter a descriptive, unique name.

   If you are creating an archive copy, use a name that will distinguish it as "off limits," for example, "EXAMPLE Default Chg Orders."

4. Click **OK**. The setup window displays the new name in the title bar.
5. Change the information as necessary, and click **Save**.

   The new workflow is disabled (the Enabled property is No), and can remain so for archived workflows, or will be enabled when you have finished constructing a customized workflow.

   Note Workflows created with **Save As** are disabled. A common mistake after creating a custom workflow is forgetting to enable it.

   Each Change Status privilege mask applies to one status of one specific workflow. You must create Change Status privilege masks for each status of every new workflow you create and enable, including workflows created by Save As. See Change Status on page 216.

General Workflow Properties

Double-clicking the **Workflows** node opens the Workflows window, which lists the available default workflows and any custom workflows you have created.

The window has the following buttons: **New**, **Delete, Edit Workflow Init Settings**, **Import**, **Export**, **Export All**, **Enable**, and **Disable.**

The **Edit Workflow Init Settings** button opens a dialog box with the following fields:

Field	Type	Default
Default Initial Status Name	Text	Unassigned
Status Stamp Color	List (of colors)	Blue

General Information Tab

When you double-click a default workflow in the Workflows window, the **General Information** tab of the setup window opens. The tab has the **Delete**, **SaveAs**, and **Export** buttons. It has the following fields:

Field	Description
Name	The name of the workflow. Each workflow name must be unique
Enabled	Enables or disables the workflow. An enabled workflow is visible and usable by Agile PLM client users.
Object Type	The type of non-routable object for which the workflow applies. Available for the following: changes, CTOs, QCRs, PSRs, programs, packages. Object types are listed in Agile PLM Class Structure on page 46. Object Type is read-only after the workflow is created.
Matching Criteria	Determines which routable objects can follow the workflow. Can use any reusable criteria, for example, All Change Orders.

Field	Description
Workflow Criteria Matching Type	Refines how the matching criteria determines which changes can follow the workflow. It defines what happens when a routable object meets one or more reusable criteria that contain information about affected items. Choose Same, All, or Some. See Workflow Criteria Matching Type on page 126.
Status Criteria Matching Type	Determines what happens when criteria-specific properties that contain information about affected items apply to a routable object. Choose Same, All, or Some. See Status Criteria Matching Type on page 127.

The workflow's name and whether or not it is enabled are defined at this level. The default workflows are already enabled. For information about what takes place when a workflow is enabled, see Status Properties Defined on page 134. For information about modifying or fixing problems in active workflows, see Changing Active Workflows on page 147.

Workflow Criteria Matching Type

For each workflow, by specifying a list of reusable criteria in the Workflow Criteria Matching Type property, you limit which changes can use that workflow. Some examples of possible reusable criteria applied as matching criteria are:

- **All MECOs** — Finds all the changes that are MECOs (mechanical ECOs).
- **Scorpio ECOs** — Finds all the ECOs that include "Scorpio" in the **Product Line(s)** field of the routable object.
- **Libra Project** — Finds all the changes that have any items on the **Affected Items** tab that contain "Libra" in the **Product Line(s)** field of the item.

For example, you might create a workflow named "General Use," and select the three reusable criteria named above (All MECOs, Scorpio ECOs, and Libra Project) as the matching criteria for that workflow.

Example 1: If an Agile PLM client user creates a change that is a mechanical ECO (MECO), it successfully matches one of the matching criteria of the General Use workflow (All MECOs). The General Use workflow will appear in the **Workflow** dropdown list on the **Cover Page** tab of the change (Java Client) or the Enter Cover Page Information page of the Create MECO wizard (Web Client).

Example 2: If the user creates a change that is an ECO that includes "Scorpio" in the **Product Line(s)** field of the ECO, it successfully matches one of the matching criteria of the General Use workflow (Scorpio ECOs). The General Use workflow appears in the **Workflow** dropdown list on the **Cover Page** tab of the change (Java Client) or the Enter Cover Page Information page of the Create MECO wizard (Web Client).

Example 3: If the user creates a change order and adds items to its **Affected Items** tab that contain "Libra" in the **Product Line(s)** field of the item, Agile PLM examines the **Product Lines** field on the **Affected Items** tab for every affected item. The General Use workflow will appear in the **Workflow** dropdown list on the **Cover Page** tab of the change (Java Client) or the Enter Cover Page Information page of the Create MECO wizard (Web Client) depending on the setting of the Criteria Matching

Type property for the workflow:

- **Same** — All affected items must match the *same* affected item–based reusable criteria, in this case, Libra Project.
- **All** — When multiple affected item–based reusable criteria are used as matching criteria, *each* affected item must match at least one affected item–based reusable criteria; however, each affected item does not have to match the *same* reusable criteria.
- **Some** — One or more (but not all) affected items must match the affected item–based reusable criteria, in this case, Libra Project.

As the user adds items to the **Affected Items** tab and completes the fields on the tabs of the routable object, the **Workflow** dropdown list on the **Cover Page** tab may vary, depending on which matching criteria apply at the moment.

Status Criteria Matching Type

Because reusable criteria appear on a workflow's **Status** tab for each discrete status, Status Criteria Matching Type applies to the groups of reusable criteria in each status. The property is applied in Agile PLM clients when a status's criteria-specific properties contain information about affected items that is pertinent to the routable object, for instance, which approvers or observers should be assigned to it.

The property values and their behavior are listed below, followed by an example.

- **Same** — All affected items must match the *same* affected item–based reusable criteria in a given status. If *all* the affected items don't match the same reusable criteria, the ECO does not satisfy *any* exit criteria, and the "If No Criteria Apply at Exit, Notify" property is applied.
- **All** — When multiple affected item–based reusable criteria are used as criteria-specific properties in a given status, *each* affected item must match at least one affected item–based reusable criteria; however, each affected item does not have to match the *same* reusable criteria. "All" ensures that every affected item has an appropriate approver.

  For example, for each reusable criteria in a status that one of the affected items matches, the specified approvers are added to the **Workflow** tab of the ECO. If *each* of the affected items does not meet *at least* one of the reusable criteria, the ECO would not satisfy *any* exit criteria, and the "If No Criteria Apply at Exit, Notify" property is applied.
- **Some** — One or more (but not all) affected items must match at least one affected item–based reusable criteria in *each* status's criteria-specific properties. For each reusable criteria in a status that one of the affected items matches, the approvers are added together for the ECO.

The general setting (that is, on a workflow's **General Information** tab) for Status Criteria Matching Type is validated against *both* the reusable criteria (the group of criteria in that status's Criteria table on the **Status** tab) for the present status *and* the reusable criteria for the next status in the workflow.

For example, Sarah has written a change called "ECO2" with the following affected items (on the **Affected Items** tab of the change in Java Client):

- Affected Item 1 (AI-1): **Product Line** = Aries, **Category** = Electrical
- Affected Item 2 (AI-2): **Product Line** = Aries, **Category** = Mechanical

For ECO2's Submitted status (Submit status type), on the Criteria table on the **Status** tab, is a

reusable criteria that specifies:

- Reusable Criteria W (RC-W)**: Product Line** = Aries, **Affected Item.Category** = Electrical, **Required fields** = change description

Next, for ECO2's CCB status (Review status type), on the Criteria table on the **Status** tab, is a reusable criteria that specifies:

- Reusable Criteria X (RC-X)**: Product Line** = Aries, **Affected Item.Category** = Mechanical, **Approver** = Paul

If Sarah wanted to move the change from Submit to CCB, ECO2's Status Criteria Matching Type (SCMT) is set to All, AI-1 (the Electrical part) now matches RC-W, but AI-2 (the Mechanical part) does not match RC-W. If Sarah put RC-X under Submit as well, AI-2 now matches a criteria for Submit; however, because Criteria Matching Type is set to All, the change still cannot move to CCB because AI-1 does not match RC-X under CCB.

If SCMT is set to Some, Sarah can advance her change in both cases because one of the affected items matches a criteria for each status (a different AI for each status in this case, first Electrical, then Mechanical).

If SCMT is set to Same, even after Sarah adds RC-X to Submit, ECO2 is not able to advance because each affected item does not match each criteria: AI-1 matched RC-W and AI-2 matched RC-X.

Creating and Using Custom Workflows

You will probably find it is much easier to create a new workflow by saving one of the default workflows with a new name (see Creating New Workflows with Save As on page 124), and then modifying the status properties and criteria-specific properties to suit your purposes.

The value of creating a custom workflow from scratch is that you go through all the elements of a workflow so that you are more familiar with the entire process, including the point where you will have to troubleshoot a workflow that is not doing what it is supposed to.

When creating a custom workflow, you must specify the following things:

- Name of the workflow.
- Matching criteria — at least one for any workflow.
- Status list — including how many statuses, status names, status types.
- Status properties — defined for each status in the workflow.
- Criteria-specific properties — defined for each status in the workflow.

The next several sections describe how to create the workflow in the figure below. This customized workflow demonstrates several departures from the "one status per status type" structure of the default workflows:

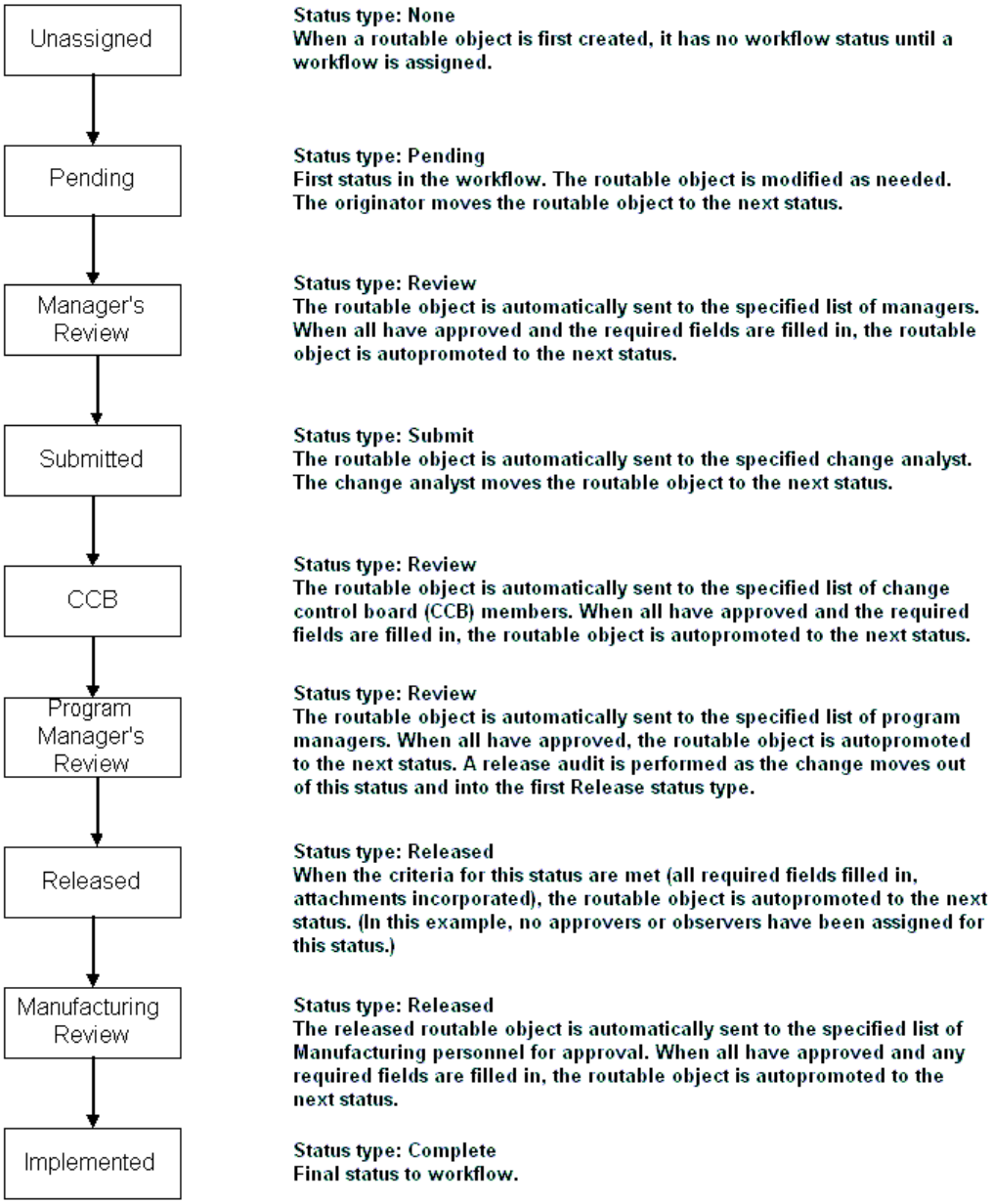
- The Submit status does not immediately follow the Pending.
- There are three Review statuses. The names in the example are less important than the idea that you can have as many Reviews as you need.

- Two statuses use the Released status type—but the second one is named Manufacturing Planning, which acts like another Review. Because the Review and Released status types share many attributes—approvers, autopromotion, and so on—this permits additional Review cycles *without* **un***releasing the routable object*. If a routable object enters a Review *following* a Released status type, it is *un*released, which means:
  - The routable object must qualify again for release (through the release audit: see Release Audit, or Audit Current Status for Conditions to Release on page 143).
  - Any revisions that were assigned to the affected items are revoked.

Before You Begin

It is important to plan as thoroughly as possible before you create an original workflow. To get the most out of this process, you need to do *all* of the following:

- Read this manual and become familiar with workflows documentation.
- Enable and use one or more of the default Agile PLM workflows in live situations (see Default Status-Based Workflows on page 121).
- Compile specific information and data that define what you need an original workflow to do. This includes a sequence of statuses that differ from those in the default workflows.



Guidelines for Creating Workflows

The guidelines below describe the steps required to build a custom workflow. The steps are explained in detail in the following sections.

To build a custom workflow:

1. Define your change control process, including the kinds of routable objects you'll need to process with workflows.

Contact your Agile representative or Agile Consulting Partner for help in defining your workflow processes.

2. Create all required reusable criteria from the **Criteria** node first; these are necessary to describe (for the system) the distinguishing characteristics of the workflow.

   See Criteria on page 107.

3. Create a new workflow and give it a unique name, but don't enable it. Enabling is the final step.

   See Creating a New Workflow on page 131

4. Select at least one reusable criteria (defined from the **Criteria** node) for the matching criteria.
5. Create the Status list for the new workflow.
6. Modify the properties of each status on the **Status** tab, understanding that the available status properties are different for each status type.
7. Add criteria to the Criteria table on the **Status** tab and define the criteria-specific properties of the statuses, particularly required fields and approvers and observers.
8. Assign appropriate privileges that allow users to refine statuses in a new workflow. The privileges most pertinent to workflows are Add Approver/Observer, Remove Approver/Observer, Change Status, Override; Transfer Authority for Self, and Transfer Authority for Others.

   See Privileges and Privilege Masks on page 195. To move a routable object through the new workflow, users must have Change Status privileges for that specific workflow; see Change Status on page 216.

9. Set SmartRules for systemwide workflow functionality. See General System Settings on page 237.
10. Enable the modified workflow and test it. When it is ready, notify your Agile PLM users that it is available. They will be able to use it the next time they log in to Agile PLM.

Creating a New Workflow

To follow the procedure below, you may wish to use the workflow in Figure 7-1 as a model. In any case, it will be helpful to create a list like this table with the statuses of your new workflow defined both by name and by status type.

	Status name	Status type
	Originate	Pending
	Review-PM	Review
	Submit-CA	Submit
	Review-CCB	Review
	Review-Sr.PM	Review
	Released	Released
	Review-Mfg.Planning	Released
	Implemented	Complete

To create a new workflow:

1. Under **Workflow Settings,** double-click **Workflows**. The Workflows window appears.
2. Click **New**. The Create Workflow dialog box opens.
3. Enter a unique name, such as **Taurus ECOs**.

   A "best practice" may be to conceptualize a system of naming your original workflows. For some ideas about naming conventions, refer to Creating a New Criteria on page 109 and Naming Privilege Masks on page 222.

   The **Enabled** field on the **General Information** tab is not available at this point. No new workflow can be enabled until it is complete. When you have completed a new workflow, you must enable it to use it. Agile PLM client users will see the newly enabled workflow the next time they log in to Agile PLM.
4. In the **Workflow Criteria Matching Type** and **Status Criteria Matching Type** dropdown lists, allow (or select) Same.

   Matching criteria are used to find which workflows may be used for each routable object. Agile PLM checks all the matching criteria for all the workflows and determines which workflows match the routable object. For example, if a reusable criteria called All Taurus ECOs is a matching criteria for a workflow, then the user can select that workflow for an ECO in the Taurus project.

   The factors you need to consider to take full advantage of these three criteria properties are fairly complex. Detailed information is provided in Using Affected Items Tab Fields in Reusable Criteria on page 111.
5. From the **Object Type** dropdown list, select the appropriate base class.
6. In the **Matching Criteria** dropdown list, scroll down and select All Change Orders.
7. Click **OK**. The new workflow is added to the list on the Workflows window.

To complete setting up the new workflow, you need to double-click it in the Workflows window and create statuses with defined status properties and criteria-specific properties.

To create statuses for a new workflow:

1. Open the workflow, click the **Status** tab, and click the **New** button just above the Status table. The Add Workflow Status dialog box appears.
2. Type an appropriate name; in our example, it is **Originate**.
3. In the **Status Type** dropdown list, select an appropriate status type, in this case Pending (the required first status for any workflow).
4. In the **Status Stamp Color** dropdown list, select a color for the type in the status stamp that will appear for that status in Agile PLM clients.
5. Click **OK**. Repeat this process for all statuses you wish the workflow to have.

   If you scroll to the right in the Statuses table, you see two status properties—"If No Criteria Apply At Exit, Notify" and "Manual Valid Next Status"—that need to be given values.

   Agile recommends creating all the statuses, then filling in the status properties before considering the criteria-specific properties. However, with so many factors to consider, the most

important thing is to develop your own method or systematic approach to constructing an error-free workflow.

To designate reusable criteria for a new workflow:

1. Open the workflow, click the **Status** tab, select a status (row) in the Status table, then click the **New** button just above the Criteria table. The Add Workflow Criteria dialog box appears.
2. The **Status Name** field is grayed and populated with the name of the status you have selected. Click the down arrow for the **Select Criteria** field, and select one or more reusable criteria for that status.
3. When you have finished, click **Save**.

   Repeat this process for all statuses in the new workflow.
4. When you have completed the construction of your custom workflow, and have verified that it is ready for users to apply routable objects (see Workflow Functionality Testing on page 145), you need to enable it. In the setup window for the workflow, select Yes in the **Enabled** dropdown list.

Note	A new workflow is disabled as you create it. A common mistake after creating a custom workflow is forgetting to enable it.
Note	To move a routable object through the new workflow, users must have Change Status privileges for that specific workflow. See Change Status on page 216.

   Agile PLM client users will see the new workflow when they restart their client application *after* you have enabled the workflow.

When a New Workflow is Enabled

When a workflow is enabled, the system checks the following items:

- The first status is the status type Pending.
- If there is a status of status type Complete, then it must be the final status of the workflow (excluding special statuses Cancel and Hold).
- The workflow's matching criteria must contain at least one reusable criteria.
- Each status in the workflow must be assigned at least one reusable criteria in the workflow's Criteria table.
- If there are Cancel or Hold statuses, they must appear at the end of the status list. If there is a Hold status, it must be the last status on the list.

If any of these requirements are not completed, an error message appears, and the workflow is not enabled.

Routing to a User Group

A user can assign a user group (global group, not a personal group) as an approver or observer using valid approvers and observers. The administrator or Agile Web Client user who is assigning a user group can select whether one member or all members must sign off the routable object. You can select either [*group name* - Any] or [*group name* - All]. See Adding User Groups as Approvers of a Change on page 170.

When [*group name* - Any] (for example, [Manufacturing - Any]) has been assigned as an approver or observer on a routable object, the following things are true:

- All users who are members of the user group see the routable object in their Inboxes.
- All users who are members of the user group receive the email notifications.
- Only *one* member of the user group needs to approve the routable object. When one user has approved the routable object, all users in the user group have their Inboxes updated, and the routable object is removed where appropriate.

The person who signed off the routable object is recorded on the **Workflow** tab as the signoff user.

When [*group name* - All] (for example, [Manufacturing - All]) has been assigned as an approver or observer on a routable object, the following things are true:

- All users who are members of the user group see the routable object in their Inboxes.
- All users who are members of the user group receive the email notifications.
- All the users who are members of the user group need to approve the routable object.

Status Properties Defined

This section describes all of the Status Properties found in Agile PLM workflows. When you double-click a default workflow in the Workflows window, then click the Status tab, the status properties are found in the Status table: double-click a status in the table, the Workflow Status: [Status Name] dialog appears.

If No Criteria Apply At Exit, Notify

Answers the question: Who should be notified if the routable object does not match its present criteria (that is, it is stuck)?
General default (in default workflows): $CHANGEANALYST (see Routing Manager Variables on page 39)

This property indicates who is notified by automatic email if the routable object cannot advance to the next status because does not meet the conditions defined by the criteria in the current status' criteria-specific properties. If a routable object cannot be promoted to the next status in the workflow because there are no criteria that permit the promotion, the defined people are notified by automatic email.

Use the Address Book dialog to add users, user groups, Originators, Approvers (all approvers for statuses the routable object has already gone through), and Observers (all observers for statuses the routable object has already gone through) to be notified.

> **Note** If the email notification is disabled, email will not be sent. See Notifications on page 255.

Manual Valid Next Status

Answers the question: Besides the next status in the status list, what are other statuses the routable

object could go to from the present one?
General default (in default workflows): (no general default)

For each status, use the Choices–Selected dialog to define additional valid "next statuses" that the routable object can move into from the current status. The system understands that the *next* status in the workflow's status list is always valid, so that status is not present in the Choices list. (The current status is, of course, never a valid "next status.") The system does *not* assume validity for Complete (since there is *no* status after a routable object arrives at Complete), Cancel or Hold (since they are never part of a workflow), so these must be specified.

Note In assigning privileges to move a workflow to the Cancel status, the administrator must recognize the potential for user-error because a Canceled workflow can **not** be re-activated by any means, the fact that it is relatively easy to change a workflow to Cancel must be recognized and allowed for.

Save Routing Slip Content when Advancing Change

When the user manually advances a workflow to the next status, the routing slip appears to be filled in. This contains approvers, observers, "notify" users, and comments, and the user may spend several minutes completing the slip. When user clicks **Route**, Agile performs an automatic workflow status audit and presents the user with a dialog if a problem is found. The user is asked if he wants to continue: previously, if No was selected, the user was returned to the routable object and lost all the work; this has been fixed so the routing slip content is preserved.

Send Workflow Status Comments and Notifications to all Previous and Current CCB Members

When sending comments from a Review or Released status in a change, the user can specify whether the comments are to be sent to only the *current* review or released status reviewers – that is, for the workflow's current status – or if comments are to be sent to all reviewers in both current and previous Review and Released statuses. A new dropdown box (after the "Notify Reviewers for" checkbox) contains Current **Status** and **Current and Previous Statuses** for selection.

AutoPromote

Answers the question: Will the system automatically promote the routable object to the next status?
General default (in default workflows): No

Use the AutoPromote property to permit a routable object to automatically advance to its next status. For each Review and Released status type, you can determine if the workflow can be autopromoted to the next status.

When a routable object enters a status where AutoPromote is enabled, the system immediately attempts to autopromote it; if there are no approvers and all the required fields are complete, the routable object advances to the next status. Status advance is usually more involved than that scenario: for example, Review statuses will often have one or more approvers (and all approvers at a current status must approve the routable object for it to advance), and required fields can easily block autopromotion to the next status.

Also, the Change Status Approver Rejected Change SmartRule must be set to Allow for an approver's rejection not to hold up autopromotion of the workflow.

Note	Autopromote checks required fields only once when the workflow *enters* a specific status. However, when the last required field is populated, the system registers this fact and the routable object does autopromote to the next status.
Note	However, Autopromote does check the workflow every time an approver either approves or rejects. If there are more approvers who have not yet approved or rejected, the status is not advanced; when the final approver approves or rejects, the Autopromote function evaluates according to the above-named SmartRule and promotes the status or not accordingly.

If not all approvers have approved the routable object, anyone who has the Override privilege can still manually promote it. If the routable object is rejected by an approver or other participant with appropriate permissions, the routable object goes to the status defined in If Rejected, Set Status To (see If Rejected, Set Status To on page 137), which is done automatically, whether the AutoPromote feature is on or off.

The AutoPromote feature needs to be set in relation to the Override privilege and the following two SmartRules:

- Change Status Approver Rejected Change
- Change Status Observer Rejected Change

Caution	When these two SmartRules are set to Warning, and an approver or observer rejects to the routable object, the system still autopromotes the routable object and records the warning on the **History** tab of the routable object.

You can define required fields that, when filled in on a routable object, determine if it can be promoted to the next status (see Entry Required Fields and Exit Required Fields on page 144). All required fields for a status must be filled in before it can be autopromoted to the next status. For example, when the last user approves the routable object and all required fields are present, the routable object immediately advances to the next status.

Caution	Do not alter any property before the Released status in any workflows for CTOs (content transfer orders). For instance, if you set AutoPromote to Yes, the CTO output files will not be generated.

If AutoPromote Fails, Notify

Answers the question: Who should be notified if AutoPromote fails?
General default (in default workflows): $CHANGEANALYST (see Routing Manager Variables on page 39)

For each Review and Released status type, the Agile PLM administrator defines who is notified by automatic email if AutoPromote fails.

When the routable object is approved by all approvers, the system attempts to autopromote the routable object. AutoPromote fails if:

- Not all the required fields are filled in
- SmartRules are not adhered to

Autopromote checks required fields only once when the workflow *enters* a specific status. However, when the last required field is populated, the system registers this fact and the routable object does autopromote to the next status.

If the autopromotion fails, this fact is captured and automatically emailed to users and groups identified in the current status' setting for If AutoPromote Fails, Notify.

Ability to Fail Autopromote More than Once within same Change Status

This feature notifies whomever is specified in the status' If Autopromote Fails, Notify setting each time a change order fails to autopromote if new approvers were added since the last autopromote failure. Additionally, History is updated. Autopromote fails when a new approver is added but does not complete all workflow-required fields.

Use the Address Book dialog to add users, user groups, Originators, Approvers (all approvers for statuses the routable object has already gone through), and Observers (all observers for statuses the routable object has already gone through) to be notified.

The email regarding failure of autopromotion is sent only when there is a failure after the last approver (designated for that status) has approved the routable object. The system sends *one* email notification of failure to autopromote.

Note If the email notification is disabled, email will not be sent. See Notifications on page 255.

Ad Hoc Approvers/Observers

Answers the question: Can "ad hoc" approvers and observers be added once the routable object has entered the status?
General default (in default workflows): Yes

For each Review and Released status type, the Agile PLM administrator defines whether approvers and observers can be added as a routable object actively progresses. When this property is set to Yes, users with Add Approver and Remove Approver privileges can add or remove approvers and observers on the **Workflow** tab of a routable object in a Review or Released status type. They are also prompted with an Ad Hoc Approvers/Observers window during the release cycle.

Note A user with the Remove Approver/Observer privilege may successfully remove an observer from one status and then not be allowed to remove approvers and observers on the next status; this indicates the Ad Hoc Approvers/Observers property for the latter status is set to No.

If Rejected, Set Status To

Answers the question: Should the status be automatically changed if a user rejects the routable object? (If so, enter the appropriate status.)
General default (in default workflows): (none)

For each Review and Released status type, the Agile PLM administrator defines If Rejected, Set Status To. If the routable object is rejected by an approver or other participant with appropriate permissions (this status property does not apply to observers), the routable object goes to the

status defined in this setting. This is done automatically, whether the AutoPromote feature is on or off.

Note Although it is possible to set this property so the routable object moves forward despite a rejection, Agile recommends that it be used to prevent the routable object from advancing until the reason it was rejected is examined. Note that if this status property is set to null (no setting), then when a user rejects the change, the workflow will advance to the default status, that is, the next status in the workflow.

If Rejected, Notify

Answers the question: Who should be notified if the routable object is rejected?
General default (in default workflows): $CHANGEANALYST (see Routing Manager Variables on page 39)

For each Review and Released status type, the Agile PLM administrator defines If Rejected, Notify. This property indicates who is notified by automatic email if the routable object is rejected by an approver or observer.

Use the Address Book dialog to add users, user groups, Originators, Approvers (all approvers for statuses the routable object has already gone through), and Observers (all observers for statuses the routable object has already gone through) to be notified.

Note If the email notification is disabled, email will not be sent. See Notifications on page 255.

Reminder Period

Answers the question: How long after a routable object has been routed for approval should approvers be sent email reminders to approve or reject it (at that status)?
General default (in default workflows): 48 hours

The reminder period is a period of time defined for each Review and Released status type in all workflows. When the reminder period elapses, if an approver has not approved or rejected a routable object, a reminder email notice is sent to the approver. The routing manager receives a similar email notice, which also includes a list of the approvers who received reminder email.

If you delete an existing value or attempt to leave the field empty (null), clicking **Save** results in a 0 being placed by the system. A value of 0 is the same as disabling the property, and no reminder notifications will be sent.

Note If the email notification is disabled, email will not be sent. See Notifications on page 255.

Each Review and Released status type has its own reminder period. The reminder period is set in hours and begins when the routable object enters each Review or Released status type. If a workflow has multiple Review or Released status types, each of these may have reminder periods of different lengths. The reminder periods for the default workflows are all 48 hours.

Review Escalation Period

Answers the question: How long should the system wait before escalating a routable object?

General default (in default workflows): 96 hours

The review escalation period is a period of time defined for each Review and Released status type in all workflows. When the escalation period elapses, if an approver has not approved or rejected a routable object, email is sent to the approver's appropriate designated escalation person. The routing manager receives similar email, notifying her that the routable object has been escalated to the specified designated escalation person. The designated escalation person may approve or reject the routable object in the place of the original approver.

If you delete an existing value or attempt to leave the field empty (null), clicking **Save** results in a 0 being placed by the system. A value of 0 is the same as disabling the property, and no reminder notifications will be sent.

> **Note** If the email notification is disabled, email will not be sent. See Notifications on page 255.

Each Review and Released status type has its own review escalation period. The review escalation period is set in hours and begins when the routable object enters a Review or Released status type. If a workflow has multiple Review or Released status types, each of these may have review escalation periods of a different length. The review escalation periods for the default workflows are all 96 hours.

Escalation occurs only once per status for any sequence of user (or user group) to the designated escalation person.

Designated Escalation Person

You can define a designated escalation person for each user from the **Users** base node (see Users and User Groups on page 151). This is useful for expediting the routable object when a particular user has not reviewed and signed off on the routable object. You can also set a designated escalation person for each global user group from the **User Groups** node.

All escalation assignments are done from the Administrator nodes. Each user or user group may have multiple designated escalation persons. (Personal groups do not have designated escalation persons.)

If the review escalation period elapses, the approver's designated escalation persons are notified by email that the approver has not responded to the routable object. Now the designated escalation persons may approve or reject the routable object in the place of the original approver. The designated escalation person's name is recorded in Agile Java Client on the **Workflow** tab and the **History** tab as the Signoff user.

> **Note** If the email notification is disabled, email will not be sent. See Notifications on page 255.

You determine whether a user's designated escalation persons can sign off a routable object at any time (= Always), or only after the escalation period has elapsed (= After Escalation). (See User Properties Defined on page 156.) The escalation person may or may not have appropriate permission to approve or reject the routable object, but the notification still goes through. If, for example, a user's manager is his designated escalation person but is not involved with the routable object approval process, the manager would at least know the routable object had been held up, and could take appropriate action.

Note If the designated escalation person is a group, only one member of the group needs to sign off the routable object. When the routable object has been signed off, the routable object no longer appears in the Inbox of the other members of the group.

Comment Required for Actions

Answers the question: Should comments be required in the Review or Released statuses of this workflow?
General default (in default workflows): None.

For each Review and Released status, the Agile PLM administrator can define whether comments are required. The default “None” means that no comments are required for the workflow in that status. “Approve only” means that when an Approver approves the workflow at that status, he must enter a comment for the workflow to proceed. “Reject only” means that when an Approver rejects the workflow at that status, he must enter a comment for the workflow to proceed. “Approve and Reject Both” means that when an Approver approves or rejects the workflow at that status, he must enter a comment for the workflow to proceed.

Criteria-Specific Properties Defined

This section describes all of the Criteria-specific Properties found in Agile PLM workflows. When you double-click a default workflow in the Workflows window, then click the **Status** tab, the criteria-specific properties are found in the Criteria table. First select a status (row) in the Status table, which status appears in the Criteria table; double-click the row in the Criteria table and the Workflow Criteria: [Criteria Name] dialog appears.

Approvers and Observers

Answers the question: Who should approve or reject, and who should simply observe, the routable object in this status?
General default (in default workflows): (none)

The Agile PLM administrator defines default approvers and observers, who are selected automatically—and notified by email—when the routable object enters the Review or Released status type. The default approvers and observers are assigned to a routable object based on the attribute values and the matching criteria of the workflow when it enters the Review or Released status.

Note If the email notification is disabled, email will not be sent. See Notifications on page 255.

Criteria Usage

Answers the question: What are the criteria-specific properties for this status?
General default (in default workflows): All Change Orders for Default Change Orders workflow

Criteria are the conditions that specify how the reusable criteria work in the specific status. Each status must have at least one reusable criteria in its criteria-specific properties.

Criteria are checked when the routable object is about to exit the particular status. Criteria also define which criteria-specific properties apply. Several criteria-specific properties could be applied to a single routable object.

Because this is a comprehensive topic, for more information about criteria, see:

- Criteria on page 107
- Privilege Mask Component 3: Criteria on page 225
- In *Getting Started with Agile PLM*, please see the chapter “Finding Agile Data with Searches” for information about how to use the Advanced Search wizard, which is similar to the Create Criteria wizard.

Default Change Analyst / Component Engineer

Answers the question: Who should be the default routing manager on this routable object? (See Routing Manager Variables on page 39.)
General default (in default workflows): Default routing managers can be chosen; for Pending status only.

You can define different default routing managers for each workflow (component engineers for MCOs, price administrator for PCOs, change analysts for the other changes, and so forth). Under the criteria-specific properties in the Pending status, you can select a different default change analyst for each criteria. If there is no default change analyst, the user can enter one. If the **Change Analyst** field is left blank in Agile Java Client, all change analysts are notified if $CHANGEANALYST (or $COMPONENTENGINEER) is set by the administrator.

Users can edit the **Change Analyst** field, assuming they have the proper privilege, but the system does not assign the new change analyst until the routable object moves from Pending to the next status. If the change analyst has been selected by the user, but the workflow has been set up with a default change analyst who does not match, the user is warned.

If you define more than one change analyst (that is, if the routable object matches multiple criteria for different change analysts), the user is warned when the routable object moves from Pending to the next status. He sees a dialog box with a list of change analysts and can select one for that workflow.

For information about adding approvers and observers, see More about Affected Items: Adding Approvers and Observers on page 112.

Notify Upon Entry

Answers the question: Who should know that the routable object entered a new status?
General default (in default workflows): (none)

The Notify Upon Entry property indicates which users are notified by email when a routable object enters each status.

Use the Address Book dialog to add users, user groups, Change Analysts, Originators, Approvers (all approvers for statuses the routable object has already gone through), and Observers (all observers for statuses the routable object has already gone through) to be notified.

> **Note** If the email notification is disabled, email will not be sent. See Notifications on page 255.

You can set whether the change analyst receives email notification that the routable object has been released. The Notify Upon Entry property is also used to set the Notify defaults for the status transition dialog boxes for manual status transitions. The user can determine who is notified (for example, originator, approvers and observers, change analyst).

> **Note** If a user does not have Field-level Read privilege for the **Change Analyst** field on a routable object, and the default change analyst is specified on the Notify Upon Entry list, the label No Privilege appears in the **Notify** field of the Change Status dialog box. No Privilege is, of course, not recognized as a valid user, and will generate an error message.

Pass Release Audit

Answers the question: Should all the release audits (for example, SmartRules, required fields) be addressed before moving to the next status?
General default (in default workflows): No
User-available audits affected by Pass Release Audit: **Status Audit and Release Audit**
Status Audit answers: Can the routable object advance to the next status?
Release Audit answers: Do conditions (in this status) support releasing the routable object?

Agile PLM performs a complete release audi*t aut*omatically when a routable object is promoted to its first Released status type.

At any time, an Agile PLM client user can use the **Audit Status** button or **Audit Release** button (or menu command) to initiate a status audit or release audit, respectively. These are discussed in Two Levels of Audit on page 143.

For each Pending, Submit, or Review status, the administrator specifies whether a routable object can advance from its present status with or without an audit, as follows:

- **Yes** — A release audit is performed, and the routable object does not advance unless the required fields are completed and the release checks and SmartRule conditions are met (see Release Audit, or Audit Current Status for Conditions to Release on page 143).
- **No** — The routable object can advance without being audited.
- **Warning** — During a status audit, you are prompted to choose whether to follow it with a release audit ("OK to perform Release Audit?") or not ("Cancel Release Audit").

  This prompt may result in either an Error or Warning. There is an anomaly that causes a Warning to appear when you would expect an Error: when the user does not have Override privilege, and Pass Release Audit = Warning or No, the Status Audit should give an Error (which requires user to fix conditions) instead of a Warning.

> **Note** Setting Pass Release Audit to Yes does, in effect, examine if the conditions in the present status would permit the routable object to be released, but this is not a cumulative process; that is, the audit does *not* consider the required fields of any *previous* or *future* statuses.

Even with the automatic release audit at the Released status, an advantage to setting up earlier

audits (by setting Pass Release Audit to Yes for specific statuses) is to prevent impeding the routable object if it fails the audit at a Released type status. This can happen if the routable object has advanced past a status where a person who has pertinent information might enter it, for instance, the originator of the routable object who reviewed it at the Pending status, or a routing manager who reviewed it at the Submit status. It is better that a release audit reveal that something is missing at the status where the person who has the missing information can provide it.

For example, for ECOs, the release audit checks whether the rev number already exists. If you set Pass Release Audit to Yes at the Pending status of a routable object, this forces the originator to supply the correct rev number.

Please see the Caution about this property in Override on page 218.

Two Levels of Audit

There are actually two levels of audit available to the user, a status audit and a release audit, which are defined below. Every release audit includes a status audit.

The ability to audit a routable object does not require a privilege. The results of any audit can be copied to the Clipboard, pasted to a new document, and printed.

Status Audit, or Audit Current Status for Conditions to Advance

The status audit can be thought of as “auditing the current status for proper conditions to advance.”

The **status audit** is performed automatically when you use the Change Status function or the workflow attempts to autopromote to the next status. You can perform a status audit at any time by using the **Audit Status** button or menu selections. It performs the following checks:

- Makes sure the Exit Required Fields for the current status are filled in.
- If the current status is a Review status type or a Released status type, makes sure that all approvers have approved.
- Checks the workflow settings of the Pass Release Audit property for the current status. If Pass Release Audit is set to either Yes or Warning, Agile PLM also performs a release audit.

Release Audit, or Audit Current Status for Conditions to Release

The release audit can be thought of as “auditing the current status for proper conditions to release the routable object.”

Agile PLM performs a release audit automatically when the routable object is promoted to the first Released type status in the workflow. You can perform a release audit at any time by using the **Audit Release** button or menu selections.

The release audit performs the status audit for both the current status and the release status.

It performs the following additional checks:

- For ECOs, checks if the proposed new revision number on the **Affected Items** tab already exists.
- For ECOs, SCOs, PCOs and MCOs, checks if there are manufacturer redlines that will be lost after the routable object is released.
- For ECOs and SCOs, checks if there are BOM redlines that will be lost after the routable object

is released.

- For ECOs, SCOs, PCOs and MCOs, checks if there are conflicts due to another ECO, SCO, or MCO being released first.
- For ECOs, SCOs, and MCOs, if the BOM Multi-level Recursive SmartRule is set to Disallow, checks for recursive BOM structures, that is, when a subassembly includes one of its parent items from an upper level of the BOM tree structure on its own BOM. (A recursive BOM structure, if carried to its logical conclusion, would repeat indefinitely).

  The BOM tree is evaluated from top to bottom. The Audit Release error message indicates, for each affected item with a recursive BOM, the first item found in the BOM tree whose first-level BOM table includes an item that appears at a higher level in the BOM tree, thus causing a recursive BOM structure. Although there may be multiple instances of recursive BOM structure in an affected item BOM tree, only the first found instance is displayed in the audit results.
- For ECOs, SCOs, and PCOs, depending on SmartRule settings, checks for duplicate items, duplicate find numbers and duplicate reference designators caused by a change rebase. (When there are multiple pending changes for the same item, when one change is released, the remaining pending changes are rebased on the latest released change.)
- For ECOs, SCOs, and MCOs, checks for duplication of the same manufacturer part on an item. (MultipleItemsPerManufPart is set to Warning or Disallow.)

  (Duplication of the same manufacturer part on an item occurs when an item has multiple pending changes which associate the same manufacturer part to that item and one change is released. The remaining pending changes are rebased on the latest released change. The remaining pending changes now include manufacturer part redline modifications to add a manufacturer part that already exists on the released item's Manufacturers table.)
- For ECOs, SCOs, and MCOs, checks for the use of the same manufacturer part on multiple items. (MultipleItemsPerManufPart is set to Warning or Disallow.)

  (Duplication of the same manufacturer part on multiple items occurs when multiple changes add the same manufacturer part to two or more items' Manufacturers tables, either by redline addition or redline replacement. When one of the changes is released, the manufacturer part's Where Used table is rebased to refer to the newly released item. The remaining pending changes now include manufacturer part redline modifications that would allow a single manufacturer part to be used by multiple items.)
- For ECOs, SCOs, and PCOs, if the Item Release First SmartRule is set to Disallow or Warning, then the routable object is checked to see if the child components have been released.
- Checks if any of the attachments of the routable object remain checked out.
- For every affected item, checks if any of the attachments remain checked out.
- Checks the Effectivity Date Order and Effectivity Gap SmartRule settings.
- Checks if items on the **Affected Items** tab have any other pending routable objects.
- For ECOs, validates the affected item's **Sites** tab **Make/Buy** setting with the site's **Site AML Allowed** and **AML Required on Buy** settings. For more information, see *Product Collaboration User Guide*.

Exit Required Fields

Answers the question: What are the required fields on the routable object and its affected items?

General default (in default workflows): (none)

Exit required fields are attributes or fields that must be completed for each Pending, Submit, Review, Released, and Complete status type before a routable object can exit that status.

Some required fields are uneditable, or defaults.

Caution	Required fields are primary targets for status and release audits (see Pass Release Audit on page 142). In the default workflows, required fields are concentrated in the Review status type. In your custom workflows, however, you may wish to introduce required fields for other statuses. This will help users verify that specific required fields are passing the audits, which will prevent trying to pass a single audit containing many required fields at the first Released status.

Please see the Caution about this property in Override on page 218.

When exit required fields are not filled in by the time the routable object moves from one status to another, the user sees a dialog box listing the fields that are required.

If a user does not have the privilege to modify a required field, the routable object cannot be advanced to the next status until a user with sufficient privileges modifies it.

For Criteria written against Affected Items fields, the required fields are calculated independently for each affected item, based on which Criteria were matched.

Workflow Functionality Testing

It is strongly recommended that you thoroughly test the workflow before releasing it for general use. Depending on the size of your system, this may or may not be safely done within your users' production environment.

Areas of Workflow Validation

This section outlines some aspects of workflows that you will want to validate, within or outside the production environment. You may find reasons to modify a workflow as you test its functionality and understand how it will support your change processes.

When testing workflow functionality, you should validate the following areas:

- Reusable criteria applied to the workflow and to each status
- Manual Valid Next Status settings for each status
- Status properties for each status
- Criteria-specific properties for each status
- Criteria Matching Type, for Matching Criteria of the workflow and for each status' criteria-specific properties
- All entry and exit required fields

- Autopromotions
- All notifications and approvals
- Reminder and escalation periods
- SmartRules
- Privileges for each role

Quick Tips on Testing

- You must enable the workflow before it will be available in the Agile PLM clients (see Status Properties Defined on page 134).
- If you are testing a new workflow (not modifications to one of the default workflows), you will also need to create some basic Change Status privileges so users can move routable objects through the workflow (see Change Status on page 216). To move a routable object through the new workflow, users must have Change Status privileges for that specific workflow.
- Once you enable a workflow, you can make only limited changes to the configuration (see Modifying Properties in an Enabled Workflow on page 147).
- To make more extensive modifications, you must disable the workflow (see Disabling, Changing, and Reactivating Workflows on page 149).
- Additionally, even if you disable the workflow, you may not make certain modifications if a routable object is in the workflow, including deleting or adding statuses from the status list (see What You Cannot Modify If a Workflow Has Any Routable Objects Applied on page 149). You can use Save As on a test workflow to create a new disabled workflow that will allow more extensive modifications.

In addition to functional testing, which determines if you have configured Agile PLM workflows correctly, it is recommended that you validate your business process and data migration systems. Consulting services are available from Oracle Consulting – Agile Practice consultants, who can provide you with guidance and assistance in creating business process and data migration validation plans. During the business process validation, you should use your proposed workflows to accomplish real scenarios and simulate typical usage. These activities will help you refine and confirm your workflow configuration and allow you to document your change processes in the context of the Agile PLM solution for future reference and training purposes.

Migrating Workflows to Production

If you are in the first phase of an Agile PLM implementation, this section may not apply to you, because you do not yet have a separate production environment, and migration of initial Agile PLM configuration is a normal part of your production cutover process.

Quick Tip on Migrating Workflows

Quick Tip on Migrating Workflows

- In the Workflows window, use **Export** and **Export All** to export workflows, and use **Import** to migrate workflows from a test to a production environment, greatly reducing the number of manual steps required (see Administrator Import and Export on page 23.

Workflow Migration Process

Once you have validated your workflow configuration, you need to implement the workflows in your production Agile PLM system. The following steps outline the general process of migration.

1. Complete validation of workflow configuration in a test environment.
2. Run the following Administrator reports and save them to a local drive. Run additional reports as needed.
   - Agile Classes Report
   - Workflows Configuration Report
   - Criteria Library Configuration Report
   - Users Configuration Report
   - User Groups Configuration Report
   - SmartRules Configuration Report
3. Ensure that you have your workflow configuration clearly documented.

Changing Active Workflows

You may have to change a workflow that has been enabled. Some possible situations and your options are detailed in this section.

Note It is not possible to delete a workflow that has been assigned to a routable object, even if the assignment has been withdrawn and the workflow is not assigned to any other routable object. We recommend either disabling an unwanted workflow, or modifying it so that it is once again usable.

Modifying Properties in an Enabled Workflow

You can modify a workflow that is enabled and visible to your Agile PLM users, either with or without a routable object moving through it. If the workflow is already in use (a routable object has been assigned the workflow), you cannot add statuses, although you can make other modifications, as described below.

Caution If you add a status to an enabled workflow, you *must* modify or create appropriate permissions and other Change Status privileges for each role in your Agile PLM system.

Note When you attempt to add a status to an enabled workflow, the workflow's Enabled property automatically changes to No.

When You Can Disable, Modify, and Re-enable a Workflow

If no routable object has been applied to a particular workflow, there is no problem with disabling it, modifying it, and re-enabling it. (To save duplicating efforts, you might email people who could be developing or close to originating a new routable object.)

What You Can Modify If a Workflow Has Any Routable Objects Applied

You *can* alter many properties after a workflow is enabled and a routable object is actively progressing. These properties are listed in the following table. You must disable the workflow to alter settings for properties. Also, be aware that a change analyst or an approver may want to react to a progressing routable object while it is disabled.

When you disable a workflow, these two best-practice actions are recommended:

- Notify appropriate people that the workflow is going to be disabled, and
- Alter the workflow promptly, enable it, and re-notify the affected users.

Properties of workflow	Status properties of each status	Criteria-specific properties of each status
Workflow name	Ad Hoc Approvers/Observers AutoPromote If AutoPromote Fails, Notify If No Criteria Apply At Exit, Notify If Rejected, Notify If Rejected, Set Status To Manual Valid Next Status Reminder Period Review Escalation Period	Approvers Default Change Analyst/ Default Component Engineer Notify Upon Entry Observers Pass Release Audit Required Fields
Properties of statuses		
Status name		
Criteria-specific properties	You can add new criteria-specific properties to any status.	
Note: Depending on the setting being altered, routable objects already in process may or may not use the new setting if they are already in the status. For example, changing the Notify Upon Entry setting does not resend email about a routable object already in the status that is changed.		

What You Cannot Modify If a Workflow Has Any Routable Objects Applied

Once a routable object has been originated in a default or new workflow, and that object has gone through even a single status transition, you cannot modify certain things:

- You cannot add or delete a status to that workflow.
- You cannot alter the order of the statuses in that workflow.

If these are the elements of an active workflow that you need to alter, see Disabling, Changing, and Reactivating Workflows on page 149.

Disabling, Changing, and Reactivating Workflows

Despite best efforts at fully defining your workflow processes and the many elements of a customized workflow, naturally the time will come when an active workflow—with multiple routable objects already applied and moving through it—simply needs to be fixed.

Caution	All modifications to enabled workflows have the potential to cause "ripple effects" that have to be detected, evaluated, and corrected across multiple nodes in Administrator. In particular, alterations to workflow statuses have implications for transfer orders (see Configuring Agile Content Service on page 385) and process extensions (see Process Extensions on page 93).

To fix an active workflow:

1. Move each active routable object using that workflow to the Pending status type.

Note	This step is no longer absolutely required, and may not be necessary if you are doing a small and quick modification (see Modifying Properties in an Enabled Workflow on page 147). This precaution is helpful when the change may take some time and many objects and people may be affected.

2. Disable the workflow.
3. Rename the workflow, using the Save As procedure (described in Creating New Workflows with Save As on page 124).
4. You may now wish to rename the old workflow, especially if you decide it can still be useful but has a different purpose.
5. Modify or fix the new workflow.
6. When you are confident that the existing problem has been remedied, enable the workflow.
7. Apply the routable objects from the old to the new workflow.

Chapter 8

Users and User Groups

This chapter includes the following:

- Users 151
- Account Policy 162
- User Groups 164
- Supplier Groups 172
- User Monitor 173

This chapter explains how to define users, user groups and supplier groups, and user account policy for Agile PLM, and describes how to monitor logged in users.

Users

From the **Users** node, you can give new users access to Agile PLM or modify the properties of existing users, including changing user group, role, and escalation approval settings.

The **Users** node lets you view and configure the following aspects of Agile PLM:

- Add new users
- Modify any user properties such as licenses, roles, sites, and passwords
- Disable or delete users

The process of adding users involves establishing the properties that govern their access to Agile PLM applications. For example, their passwords allow them to log in, and their role assignments establish their access to Agile PLM objects from point of discovery forward. It is important to consider precisely what access and permissions your users require.

Note PLM 9.2.2.4 introduces the possibility of integrating aspects of your PLM system with Single Sign-On (SSO) capability. With SSO configured and deployed for your PLM system, a user that has signed in to the system once (for instance, through the corporate portal) is not prompted again by a "login" dialog (see Appendix A, Single Sign-On and PLM 9.2.2.4 on page 447).

Note A “supplier user” is a particular kind of user who is associated with a Supplier; supplier users, or "contact users" may not be created by the administrator but by a manager. You might assign the Organization Manager or Compliance Manager role to an Agile PLM user, and this person creates Suppliers and populates them with contact users who can respond to RFQs or RFIs via their (Restricted) role. For more information, see Configuring Product Cost Management on page 335 and Configuring Product Governance & Compliance on page 419.

This chapter covers most of the nodes under the **User Settings** folder. Some of the nodes are covered in other chapters:

Roles – see Roles on page 175

Privileges – see Privileges and Privilege Masks on page 195

Deleted Users – see Deleting and Undeleting Users on page 162

Deleted User Groups – see Hard-Deleting a User Group on page 168

Adding New Users

Once you have assembled information about new users and assessed their access requirements, you can add them to the Agile PLM system.

Users created in an LDAP system must be imported to Agile PLM and synchronized in the Agile PLM database using the **Refresh** button. See LDAP as a Node in Administrator on page 155.

Before You Begin

Before creating a new Agile PLM user, make sure you answer the following questions:

- What does this user need to be able to do in Agile PLM? What default roles are required for this user?
- What should this user be prevented from doing in Agile PLM?
- Will this user need to have separate Login and Approval passwords?
- On which Agile PLM lists will the user's name appear?
- Which Agile PLM searches should the user be able to use?
- Is the user a Power User? A Power User can log in at any time and is not counted as a member of the concurrent user pool.

To create a new user in Java Client:

1. Under **User Settings,** double-click **Users**. The Users window appears.
2. Click the **New** button. The Create User dialog box opens.
3. Type the **Username** and **Password**. Repeat the password in the **Retype Login Password** field.

   Note Passwords are case-sensitive. For example, if you enter the password here in all capital letters, then the user must always enter the password in all capital letters when logging in to Agile PLM.

4. If the user requires a separate approval password, uncheck **Use Login Password for Approval Password**, then enter an approval password (the new user's approval password) in the **Approval Password** and **Confirm Approval Password** fields.
5. Click **OK**. The setup window for the new user appears.
6. Enter values for **First Name**, **Last Name**, and **Email**.
7. Click the **Role(s)** list and assign roles to the user. Remember, the user cannot do anything in Agile PLM until a role is assigned.

8. In the **Profile** section, enter other values as needed. These fields are not required and may be filled in later.
9. On the **Preferences** tab, enter values for the properties. You can accept the default values.
10. Click **Save**.

To create a new user in Web Client:

1. Click **Tools > Administration > Users**. The Users page appears.
2. Click **Create**. The Create User wizard opens.
3. Type the **Username** and **Login Password**. Repeat the password in the **Retype Login Password** field.

   Note Passwords are case-sensitive. For example, if you enter the password here in all capital letters, then the user must always enter the password in all capital letters when logging in to Agile PLM.

4. If the user requires a separate approval password, uncheck **Use Login Password for Approval Password**, then enter an Approval Password (the new user's approval password) and Confirm Approval Password.
5. Click **Continue**. The Enter General Information page appears.
6. Enter values for **First Name**, **Last Name**, and **email**.
7. To open the **Role(s)** list, click the button to the right of the field. Assign roles to the user. Remember, the user cannot do anything in Agile PLM until a role is assigned.
8. In the **Profile** section, enter other values as needed. These fields are not required and may be filled in later. Click **Next**.
9. On the Define Preferences page, enter values for the properties. You can accept the default values.
10. Click **Finish**. The User page appears.

    For instructions on assigning user properties later, see Modifying User Properties on page 155.
11. To confirm the addition and review the new user's properties, click **Tools > Administration > Users**. Double-click the new user ID in the table of users. The new user's page appears.

About Usernames

For security reasons, Agile PLM usernames must be unique. You can create multiple users with the same name (first and last), as long as the username is unique.

If there is an active or inactive user with the same username as a deleted user and the deleted user is undeleted, you must change the username of the deleted user to make it unique. All history references from other objects to the undeleted user remain intact.

Note The "Username" property is now called "User ID." Both of these terms are seen in the Agile PLM clients and documentation, and they can be thought of as equivalent.

Caution	To prevent frequent user inconvenience, it is important to periodically evaluate your license requirements with your Agile Account Executive, and upgrade as needed.

About Passwords

When you add new users, you assign passwords so that they can log in to Agile PLM for the first time. Users can then change their passwords themselves based on the settings in their Password property and the systemwide account policy. The Agile PLM administrator can also change a user password later if necessary.

Although the account policy established from the **Account Policy** node governs password expiration, length, and uniqueness, you can specify settings for users within LDAP.

For additional security, users can have different passwords for login and approval. For more information, see Changing a User's Password on page 155.

For more information, see Account Policy on page 162.

Change Internal User Password

There are four "special users" in Agile PLM, which are used for internal purposes.

Special User	Purpose
superadmin (internal user)	used internally to gain access to all data
agileuser (internal user)	used internally to gain access to all data
ifsuser (external user)	needed for access by File Manager
etluser (external user)	needed for access by ETL tool

There are two problems with these users:

1. The passwords for these users are hard-coded. Previously, customers have not been able to change the passwords for these users. (All Agile customers have the same password for these users out-of-the-box.)
2. These users are not exposed through UI, that is, they exist in the PLM database table but are not visible in Java Client. However, anyone who knows the password is able to access agile data through SDK.

You can change the default passwords for the "IFS" user (file server), the "ETL" user (Datamart), and the "Agile" user. The "Super Admin" user password cannot be changed.

To reset, for example, the "ifsuser" password:

1. Under **User Settings,** double-click **Users**. The Users window appears.
2. In the menu bar, click the **Change Internal Password User** dropdown list.
3. Click **Change Password of "ifsuser"**. The Change Password of "ifsuser" dialog opens.
4. Fill with appropriate values the Old Password, New Password, and Retype New Password fields. When you are finished, click **OK**.
5. When the password for ifsuser is reset, the following steps must be performed:

- Run **<AgileHome>\agileDomain\bin\encryptpwd.cmd** to encrypt the new password.
- Paste the new password to **agile.properties** under **<AgileHome>\agileDomain\config** and **server.conf** under **<AgileHome>\Tomcat\webapps\Filemgr\WEB-INF\classes\com\agilewebfs\configuration**.

  If **ifsuser** password is changed during installation, only this second step needs to be performed.

The File Manager needs to be restarted for the configuration change to take effect.

LDAP as a Node in Administrator

Administrator has an **LDAP** node under the **Server Settings** node folder in which to configure a Lightweight Directory Access Protocol. Please see LDAP on page 280.

Modifying User Properties

You can modify any of the fields for existing users from the **Users** node. The following is a general process for changing property settings.

Note For information about the filter bar at the top of the Users window, see Filtering Data on page 16.

To modify a user's fields in Java Client:

1. Under **User Settings,** double-click **Users**. The Users window appears.
2. Double-click the user's name in the list. That user's window appears.
3. Modify fields directly, make a selection from a list, or make changes in a dialog box.
4. Click the **Save** button.

To modify a user's fields in Web Client:

1. Click **Tools > Administration > Users**. The Users page appears.
2. Click the user's name in the list. That user's page appears.
3. Click **Edit**. The fields become editable. You can directly edit a field, make a selection from a list, or make changes in a dialog box. Modify the fields you want.
4. Click the **Save** button.

The next time the user logs in, he will see the results of changes you have made to his user properties. However, for some properties (for example, **Time Zone** and **Receive Email Notification**), you must log out and log back in to Web Client to see your changes to these properties.

Changing a User's Password

When you are adding new users, you assign passwords so that users can log in to Agile PLM for the first time. Users can then change their passwords within Agile PLM if necessary. The Agile PLM administrator can also change a user's password.

Each user can have both a login password and an approval password, although a single password can be used for both purposes. You can specify whether to establish separate login and approval

passwords, or to use a single password for both. The login password is required to establish access to Agile PLM. In addition, the system prompts users who approve objects, such as changes, for an approval password.

Using separate approval passwords provides additional security. If your company requires this type of security, or requires the assurance that only the correct person can approve an object (perhaps for audit purposes), set **Use Login Password for** Approval to No.

To change a user's login or approval password in Java Client:

1. Under **User Settings,** double-click **Users**. The Users window appears.
2. Double-click the user's name in the list. That user's window appears.
3. Click the **Change Password** button to change the login password.
4. The Reset Password (or Reset Approval Password) dialog box appears. Enter the new login or approval password, remembering that passwords are case-sensitive. If you enter the password here in all capital letters, then the user must always enter the password in all capital letters when logging in to Agile PLM.
5. Confirm the password by retyping it. Click **OK**.
6. Click the **OK** button in the message that appears.

To change a user's login or approval password in Web Client:

1. Click **Tools > Administration > Users**. The Users page appears.
2. Click the user's name in the list. That user's page appears.
3. Click the **Reset Password** button to change the login password; click the **Reset Approval Password** to change the approval password.
4. The Change Password (or Change Approval Password) window appears. Enter the new login or approval password, remembering that passwords are case-sensitive. If you enter the password here in all capital letters, then the user must always enter the password in all capital letters when logging in to Agile PLM.
5. Confirm the password by retyping it. Click **OK**.

Changing a User's Role Assignments

You can modify a user's role assignments from either the **Users** node or the **Roles** node. Any user role changes you make in either of these nodes are automatically reflected in the other node as well.

- From the **Users** node, you can see or change an individual user's role assignments.
- From the **Roles** node, you can see and change the users assigned to a particular role, as well as the role properties and masks.

User Properties Defined

The table below lists and describes the properties common to all users in the Agile PLM system. The **General Info**, **Preferences**, **Escalations**, and **User Groups** tabs are documented. **Share**, **Subscription**, **Attachments**, and **History** tabs are all automatically populated, and do not have fields or properties per se.

Note Preferences for users are found on the **Preferences** tab of any user object. There are three sub-categories of user preferences: system-related, format-related, and display-related. These "user preferences" should not be confused with **Administrator > Server Settings > Preferences** node of "systemwide preferences."

Property	Description (default is underlined)
General Info tab, required fields	
User ID (username)	The user's Agile PLM login user identification, or username. It must be unique in the Agile PLM address book. The maximum is 128 characters. See About Usernames on page 153.
First Name and **Last Name**	The user's public name. Neither of the user's Names fields has to be unique in the system, only the user's **User ID** must be unique (see About Usernames on page 153).
Status	Indicates whether the user is enabled (Active) or disabled (Inactive). A disabled user cannot log in.
Email	The user's valid email address for change notification/routing. *Example*: danny.design@agile.com. **Note**: If there is not a valid email address in the **Email** field, the user will not receive any email notifications.
General Info tab, optional user information	
Status	Active or Inactive. (This is the same thing as Enabled or Disabled, respectively.)
Title	The user's title, for example, Senior Engineer.
Address fields	There are four address fields that are used for informational purposes only: **Address** (street), **City**, **Postal/Zip Code**, and **Geography**. The Geography field is a series of dropdown lists.
Phone number fields	The user's **Business Phone**, **Home Phone**, and **Mobile Phone** numbers (for informational purposes only).
Fax	The user's fax number (for informational purposes only).
Pager	The user's pager number (for informational purposes only).
Secondary Email	The **Secondary Email** is optional, but when the field is filled in, the user receives notifications at both email addresses.
General Info tab, **Profile fields**	
Role(s)	The user's role assignments. This property determines a user's access to the objects in Agile PLM from the point of discovery forward. The default roles (automatically assigned when you create a user) are My User Profile and (as of PLM Rel. 9.2.2.4) Read And Discover By Creator. For more information, see Roles on page 175, and also Read and Discover Objects I Created Role on page 185.

Property	Description (default is underlined)
Lists	**Note**: these lists are particular to routable objects and their workflows, as specified below. They are not editable at the Lists node; names are added or removed from these lists based on this setting in a user's profile. ▫ **Change Analyst List** controls whether the user's name appears in the **Change Analyst** list on the **Cover Page** of Engineering Changes. ▫ **Component Engineer List** controls whether the user's name appears in the **Component Engineer** list on the **Cover Page** of Manufacturing Changes. ▫ **Compliance Manager List** controls whether the user's name appears in the **Compliance Manager** list on the **Cover Page** of Declarations. ▫ **Price Administrator List** controls whether the user's name appears in the **Price Administrator** list on the **Cover Page** of Price objects (PCOs, Quote Histories, and Published Prices). ▫ **Quality Administrator List** controls whether the user's name appears in the **Quality Administrator** list on the **Cover Page** of Quality Change Request objects (CAPAs and Audits). ▫ **Quality Analyst List** controls whether the user's name appears in the **Quality Analyst** list on the **Cover Page** of Product Service Request objects (Problem Reports and NCRs).
Searches	**Change Analyst Searches** controls whether a user has the following in Java or Web Client: ▫ A Change Analyst Searches folder ▫ Change Analyst queries in My Inbox **Component Engineer Searches** controls whether a user has a Component Engineer Searches folder in Java or Web Client. **Quality Searches** controls whether a user has the following in Java or Web Client: ▫ A Quality Search folder ▫ Quality queries in My Inbox **Content Manager**, **Price**, **Program**, **Supplier RFQ**, and **Sourcing Searches**
User Category	Power, Concurrent, or Restricted. See User Licenses.
Use Login Password for Approval	Each user has a login password and approval password (used to approve changes). Set **Use Login Password for Approval** to Yes to use one password for both. Set it to No if you require an approval password. Use the **Change Password** button at the top of the setup window to define new (case-sensitive) passwords for the user.

Property	Description (default is underlined)
Allow Escalation Designation Approval	If the user has identified one or more designated escalation persons (DEPs), this setting determines when the DEPs can approve or reject a routable object. *Settings*: After Escalation – The user's DEP can approve a routable object only after it has been escalated. Always – The user's DEP can always approve or reject a routable object. (For more information about designated escalation person status, see Assigning Escalation Persons to User Groups on page 169.)
Home Organization	The name of the company profile (organization name) for all users created from the **Users** node and the supplier name and supplier number for all users created from the **Supplier Groups** node.
Site(s) and **Default Site**	**Sites** are used for distributed manufacturing, and indicate all of the company's locations where the user is involved; selecting from the dropdown list for this property populates the dropdown list for Default Site. **Default Site** is the user's main base of work.
Ship-To address fields	**Authorized Ship-To** (called "Site" in earlier versions of PCM), used only by PCM, indicates all company locations where the user can initiate sourcing activity; selecting from the dropdown list for this property populates the dropdown list for **Home Ship-To**. **Home Ship-To** is the primary location where the user is responsible for sourcing activities.
Program Manager for Partners	The partners for which this user is program manager (which is the change analyst for Package objects). See Setting Up User Groups as Partners on page 171.
Rate fields	There are three **Rates** fields: **Labor Rate**, **Overhead Rate**, and **Bill Rate**. The dropdown lists in these fields show all currencies entered in the **Currency Exchange Rates** node. You can select a currency different from the user's Preferred Currency (see **Preferences** tab). Used by PPM.
Comment	The Agile PLM administrator may enter a comment regarding the user. This comment does appear to the user when he or she clicks **Settings > User Profile**.
Program Type	Types of programs the user can participate in. Available values depend the Program Type List.
Region	Regions the user has belongs to. Available values depend the Region List.
Division	Divisions the user belongs to. Available values depend on the Division List.
Product Line	Product lines the user has access to. Available values depend on the Product Line List.
Customer	Customers the user is associated with. Available values depend on the Customer List.
Launch Year	Product launch years the user is associated with. Available values depend on the Launch Year List.
Category 7, Category 8, Category 9, Category 10	Optional Product Portfolio Management Dashboard fields.

Property	Description (default is underlined)
Preferences tab: System Preferences	
Preferred Client	This field controls the type of link provided in system notifications to the user. Select Web Client, Java Client, or Portal Client. **Important:** Agile's PCM, PG&C, and PPM solutions operate only in Web Client. Users who work primarily in those areas should have their Preferred Client set to Web Client.
Preferred File Server	Select from the list of file servers. For best performance, select a file server that is a local server for the user. For example, for a user in the United States, select a server located in the United States. (For more information about file management servers, see File Management in Agile PLM on page 271.)
Preferred Portal URL	Specify the URL used to access the Agile PLM portal. The user's Agile PLM email notifications will contain a link to the portal URL.
Receive Email Notification	Controls whether the user can receive automatically generated email notifications from the system. *Settings* = Yes or No
File Productivity Preference	Controls whether the user has access to advanced productivity components, or standard components, or wants to be prompted in each situation. If set to Standard mode, non-supported files will not be opened automatically. Instead, the user is prompted to choose Save or Open. *Settings* = Prompt, Advanced, or Standard **Note**: this user preference will not appear in any user's Profile if the systemwide preference Allow Download of Productivity Components is set to No. (See Preferences on page 286.)
Preferences tab: Format Preferences	
Language	English is available with all Agile PLM licenses. Agile PLM includes Japanese, Traditional Chinese, Simplified Chinese, French, or German, per your license.
Workweek Settings	This setting is for future use only, and is not referenced in any Agile PLM module. **Note**: this property is not applicable to any Agile PLM module including Product Portfolio Management and Microsoft Project schedules.
Preferred Date Format	The format in which dates are displayed to the user. Default is MM/dd/yyyy.
Time Zone	The time zone where the user is located.
Preferred Time Format	The format in which times are displayed to the user. The default is hh:mm:ss aaa (aaa = am or pm).
Preferred Currency	The currency in which prices/costs are displayed to the user. The default is U.S. Dollar. The dropdown list in this property shows all currencies entered from the **Currency Exchange Rates** node.

Property	Description (default is underlined)
Number Format	The format in which numbers are displayed to the user. The administrator or user selects a type of format (for example, use commas for thousand separators and point for decimal separator; use nothing for thousand and comma for decimal). An example of each format is displayed in the dropdown list.
Preferences tab: Display Preferences	
Preferred Start Page	Select between Home, Dashboard, Dashboard Financial, Dashboard My Activities, Dashboard Programs, and Dashboard Resources.
Preferred Inbox View	Select between Activities, Notifications, and Workflow.
Response Edit Mode	Choose between Basic, Advanced Table Edit, and Advanced Wizard Edit. The Basic setting brings the user – generally a "supplier" who does not work at the "buyer" company – to a simplified Web Client user interface. The two Advanced settings bring the user to the familiar Web Client UI. For more information about these settings, see *PCM Supplier Handbook* and *PG&C Supplier Guide*.
Rows per Table Display	The number of rows that appear in the user's Agile Web Client user interface. The default is 50.
Static Table Headers	Set to Yes to carry table headers to additional pages.
Maximum Rows Displayed	The maximum number of rows displayed in any Agile PLM table, including search results. The default is 1000. If you set this property to a higher value, searches will take longer to display results. **Note**: If this user preference is set to fewer rows than Max Query Results Displayed systemwide preference, the former value will override the latter value.
Main Toolbar (Web Client)	Menu "headings" on Web Client's main toolbar can be seen as Icons Only, Text Only, or both Icons and Text.
Encode Type	Select from: **Western European (ISO)**, **Japanese (Shift JIS)**, **Traditional Chinese (Big 5)**, **Japanese (EUC)**, **Simplified Chinese (GB2312)**, and **Unicode (UTF-8)**.
Show Timesheet	Set to Yes to display the **Timesheet** tab. Default setting is No.
Escalations tab	
Criteria and **Notify Users**	Set **Criteria** and **Notify Users**, which is an individual user or user group (personal or global) to be notified when a workflow status exceeds its escalation time period without a signoff by the user. A user can have multiple designated escalation persons assigned to a variety of workflow-related criteria. For more information, see Assigning Escalation Persons to User Groups on page 169.
User Group tab	
Name and **Status** and **Role(s)**	The user's global user group assignments for the address book. These fields can be set in this tab or on the **Users** tab of the user group setup window. A user can belong to multiple groups. For more information, see User Groups on page 164.

Deleting and Undeleting Users

You cannot either “hard delete” or “soft delete” a user that is associated with any other object. A newly created user who is not associated can be deleted from the **Users** node. You will then find the user object on the **Deleted Users** node.

This process can be reversed: on the **Deleted Users** node, select a deleted user and click the **Undelete** button. The user object is restored to the **Users** node; you will, however, have to close and re-open the **Users** node to see this user, this cannot be accomplished with the **Refresh** button.

If someone leaves the company, or will no longer be using Agile PLM, or you need to prevent a user from logging in to the Agile PLM system, disable the user object by setting the Status property to Inactive. The user remains on the **Users** node, and the name still appears on existing workflows, escalations, and so forth, but the user will no longer appear in the Address Book for other users to select. You can re-set the user to Active status at any time.

For users you have made Inactive, you can use Global Replace to locate and replace him in all the places in the system that his name is used (see Global Replace on page 19).

Account Policy

To provide an enhanced level of access security in Agile PLM, you can set a systemwide user account policy. The features of this policy include password aging, length, uniqueness, and lockout.

Before You Begin

Before configuring systemwide user account policy for Agile PLM, make sure you answer the following questions:

- Will you be using an LDAP system to create Agile PLM users? You may decide to set up **Account Policy** functionality on your LDAP server. See LDAP as a Node in Administrator on page 155.
- Do you want user passwords to expire? If so, how often (number of days)?
- Do you want users to be able to change their passwords at any time? If not, how often (number of days) should they be changed?
- What is the minimum number of characters permitted?
- Do you want to prevent users from using the same password over again? If so, how many previous passwords do you want the system to remember?
- Do you want a systemwide lockout policy to prevent unauthorized attempts to log in to the system?
- If a user is locked out, do you want yourself or others to be notified?

Configuring the Account Policy

To configure your systemwide account policy:

1. Under **User Settings,** double-click **Account Policy**. The Account Policy window appears.
2. Configure your systemwide account policy by setting the properties described in the table below.

Property	Description
Account Lockout	Controls whether the system remembers failed logons. When this property is set to Disabled, the system does not remember failed logons, and these properties are not in use: Logon Attempts, Reset Count Time, Logout Duration, and Account Lockout Notify User. When Account Lockout is set to Enabled, these properties are enabled.
Logon Attempts	Enabled when Account Lockout is set to Enabled. Enter a value between **1** and **999,999,999**. The default is 3 bad attempts, in which case the lockout of that computer occurs upon the third failure.
Reset Count Time (in minutes)	Enabled when Account Lockout is set to Enabled. Enter a value between 1 and **999,999,999**. The default is 30 minutes, after which that computer reverts to allowing the number of attempts set in Logon Attempts. Note that a user who is locked out, and whose Logout Duration value is set higher than Reset Count Time, will still be locked out when Reset Count Time expires, while another user can log on to this machine once Reset Count Time has expired.
Lockout Duration (in minutes)	Enabled when Account Lockout is set to Enabled. Enter a value between **1** and **999,999,999**. The default is 0, which means the user is locked out until you reset that user account. Lockout Duration and Reset Count Time do not "trump" each other, meaning a user, upon being locked out, will have to wait for the higher value of these two properties to expire.
Maximum Password Age (in days)	Enter a number of days you want as a limit of how long passwords may remain in effect. Default is 0.
Minimum Password Length	This value sets the minimum number of *characters* that any user's password can be. Default is 1.
Password Uniqueness	The value 0 (default) permits users to re-use passwords they have used before when it comes time to change passwords. To prevent users from reusing passwords, enter a number, which is the number of passwords that the system remembers for each user, and does not allow to be re-used. For example, with a value of 3, users will not be able to re-use their first password when it is time to select their fourth password. When it is time to select their fifth password, however, each user could re-use their first password, because the system remembers their second, third, and fourth passwords, but not their first.

Property	Description
Account Lockout Notify User	Enabled when Account Lockout is set to Enabled. To assign users to receive email notification if a user is locked out, click the button at the right for the address book to appear, and select any number of users to be notified. On the **User Groups** tab of the address book, when you select a user group, only the button that adds all the members of the group is enabled; you can, however, add all the members of a group and then remove individuals from the Recipients list.

Note The account lockout rules apply to all Agile PLM clients, including Java Client, Web Client, ChangeCAST, AIS, and SDK.

Administrator Reset of Locked Out Account

If a user is locked out of their account because of entering the wrong password more times than **Logon Attempts** allows, and the **Reset Count Time** is a high value, you should reset the user's login password. This will reset the user's locked status and allow them to access the system.

Note An additional setting concerning passwords (for Web Client users) is under **Preferences** node. See Allow Password Reset on page 292.

User Groups

From the **User Groups** node, you can assign users and designated escalation persons to user groups, change a user group's name, or create new user groups.

You can also define project teams, partners, departments, business units, divisions, site-related groups and global groups and their assigned users. This configuration is reflected in the **User Groups** node of the Agile PLM address book for use in addressing email notifications.

Agile PLM administrators set up the user group configuration for their Agile PLM system from the following two nodes:

- From the **User Groups** node, you set up user groups by creating, naming, and assigning users to them. User groups are displayed in the Agile PLM address book. When a user clicks the **To** button in the Send Object dialog box in Agile PLM clients, the address book opens. You can select a user group in the address book. Any global user group assignments you make in the **User Groups** node are also reflected on the user's **User Groups** tab of the user's window or page.
- From the **Users** node, you configure user properties, including user group assignments. Any user group assignments you make from the **Users** node are also reflected in the Users property of that user group in the **User Groups** node. When you add new users in the **Users** node, you can assign them to one or more user groups. You can change these assignments later as necessary, from either the **Users** node or the **User Groups** node. For information about how to change a user's properties, see Modifying User Properties on page 155.

Note If you create a new user group and want to assign existing users, it is faster to configure the new user group's User property than each user's User Group property.

If you have upgraded to Agile PLM from a previous version of Agile Product Collaboration, and want to keep your existing organizational structures in the system, you can create subclasses of user groups called, for instance, Departments, Global Groups, and Partners.

Creating a New User Group

Before creating a new user group, you should review the user groups you currently have. Run the User Group Configuration report (under the **Analytics and Reports** tab **> Standard Reports > Administrator Reports** node): it lists current user groups and the users assigned to them. (See Administrator Reports on page 16 for more information about reports.)

To create a new user group in Java Client:

1. Under **User Settings,** double-click **User Groups**. The User Groups window appears.
2. Click the **New** button . The Create User Group dialog opens.
3. From the **Subclass** dropdown list, select the type of user group.

   User Groups is the only subclass available if you have not created another one in that class. If you want to designate a new group to be of a type that has not been created, you must first create it from the **Classes** node for it to appear in the dropdown list.
4. Fill in a value in the **Name** field.
5. Click next to the **Users** field. The address book appears. Move users (from the **Names** list) or other user groups (from the **Groups** list) to the **Recipients** list.
6. Click **OK**. The new user group object appears.

   The new user group object is available to users from this point on. Its name appears under the **User Groups** node, and user group assignments are updated in the **Users** node. The new user group name also appears in the Agile PLM address book.

To create a new user group in Web Client:

1. Click **Tools > Administration > User Groups**. The User Groups page appears.
2. Click **Create**. The Create User Group wizard opens to the Select Subclass, Identify Name page; this heading refers to the fact that each user group object is a subclass in the User Groups class of Agile PLM objects.
3. From the **Subclass** dropdown list, select the type of user group.

   If you want to designate the new user group to be of a type that has not been created, you will have to create that from the **Classes** node in Java Client before it will appear in the dropdown list.
4. Fill in a value in the **Name** field.
5. Click **Continue**. The Define the User Group page appears.
6. Enter user group properties as needed. For more information, see User Group Properties on page 166.

7. When you are finished, click **Next**. The Add Users page appears.

   To create the new user group without assigning users, click **Finish**. The new user group name appears on the User Groups page on the **Users** tab, and in the Agile PLM address book.

8. To assign a user to the user group, click **Add**. A selection window appears. You may type a name to find the user, or select from the list of existing users. You may also sort from the list of existing users by first name and last name, and there are buttons to help you view details of a selected user or to find a user.

9. Select one or more names from the **Available Values** list and click the right arrow. The names move to the **Selected Values** list.

   Click **Add**. The users are added on the Add Users page.

   Click **Finish.**

   The new user group name appears on the User Groups page, and user group assignments are updated on the Users page. The new user group name also appears in the Agile PLM address book.

User Group Properties

The following table lists user group properties.

Property	Description
Name	Allows you to enter a user group name of up to 29 characters.
Type	Select a subclass. The out-of-box subclass is User Group. The administrator can create other subclasses in the User Groups class; these will appear in this dropdown list.
Description	Description of the user group.
Status	Whether the user group is active or inactive. An active group appears in the address book, an inactive group does not.
Global/Personal	Global user groups can be used for all users. Personal groups are seen and used only by their creators.
Roles	Roles applied to groups apply to all the users in the group.
Resource Pool	Allows this user group to be used as a resource pool for assignment in Product Portfolio Management objects
Define as Partner Group	If the user group is to be a partner (members can create and submit package objects), select Yes. The user group will then appear in the list of valid partners when you set any user's Program Manager for Partners property. See Setting Up User Groups as Partners on page 171.
Allow Escalation Designation Approval	If the user group has identified one or more designated escalation persons (DEPs), this setting determines when the DEPs can approve or reject a routable object. *Settings*: After Escalation—the user group's DEP can approve a routable object only after it has been escalated. Always—the user group's DEP can always approve or reject a routable object. (For more information about designated escalation person status, see

Property	Description
	Assigning Escalation Persons to User Groups on page 169.)
Owner	Names the creator of the user group; for information purposes.
Max Number of Named Users	Maximum number of users the user group can have. *Settings:* Blank (default) — The number of users is unlimited. Any positive integer — Defines the maximum number of users contained in the user group. The number can exceed the number of user licenses, but it cannot be less than the number of users already assigned to the user group.
Lists, Program Type, Region, Division, Product Line, Customer, Launch Year, Labor Rate, Overhead Rate, and **Bill Rate**	See User Properties Defined.

Modifying a User Group

The following sequence applies to modifying any property of a user group.

To modify the User Groups **settings in Java Client:**

1. Under **User Settings,** double-click **User Groups**. The User Groups window appears.
2. Double-click a specific user group, say, Customer Support. The Customer Support window appears. The user group tabs are **General Info**, **Users**, **Escalations**, **Attachments**, **History**, and **Share**.
3. In any editable field, enter a new value or select from the dropdown list.
4. When you have finished, click **Save**.
5. If you wish to revert to the original settings or start over, click **Close**. You will be prompted whether you want to save new settings on the window; click **Yes** if you do or **No** if you do not.

> **Note** If your company uses an LDAP system with PLM, if the User Group "synch" function enabled, you cannot remove or add users on a user group's **Users** tab that have been synchronized (that is, where users have been added to a user group via LDAP). See Synchronizing Users and User Groups on page 286.

To modify the User Groups **settings in Web Client:**

1. Click **Tools > Administration > User Groups**. The User Groups page appears.
2. Click a specific user group, say, Customer Support. The User Group: Customer Support page appears. The user group tabs are **General Info**, **Users**, **Escalations**, **Attachments**, **Share**, and **History**.

3. On the **General Info** tab, click **Edit**.
4. In any editable field, enter a new value or select from the dropdown list.
5. When you have finished, click **Save**.
6. If you wish to revert to the original settings or start over, click **Cancel**. You will be prompted whether you want to cancel new settings on the page; Click **OK** if you do or **Cancel** if you do not.

Deleting a User Group

You can delete a user group that is no longer needed. If you delete a user group to which users have been assigned, you can do so without removing the users who were in the user group: when you delete the user group, user assignments to that user group are also deleted.

When you delete a user group, it is removed from the Agile PLM address book. You cannot delete a user group if it is in use in these cases:

- It is on any routable object signoff list in Agile PLM clients.
- It is listed in any workflow "Notify" properties (in the Workflows window).
- It is used as a designated escalation person for any users, user groups, and partners.

Note When you remove a user from a user group, use the Global Replace tool to determine all the places in the system that user is used (see Global Replace on page 19).

To temporarily delete a user group in Java Client:

1. Under **User Settings,** double-click **User Groups**. The User Groups window appears.
2. Select a user group name in the list.
3. Click the **Delete** button. You are prompted to confirm the deletion.
4. Click **Yes**. The user group no longer appears on the User Groups window.

To temporarily delete a user group in Web Client:

1. Click **Tools > Administration > User Groups**. The User Groups page appears.
2. Click a user group name in the list. That user group page appears.
3. From the **Actions** menu, choose **Delete**. You are prompted to confirm the deletion.
4. Click **Yes**. The user group no longer appears on the User Groups page.

Hard-Deleting a User Group

When you delete a user group, it is moved to the **Deleted User Groups** node. Although it does not appear in the address book, it still exists in the database. This is referred to as a "soft-deleted" user group. To permanently remove a user group, you can delete it from the **Deleted User Groups** node. This is referred to as a "hard-deleted" user group.

Note A hard-deleted user group is permanently removed from the database and cannot be restored or undeleted.

To hard-delete a deleted user group in Java Client:

1. Under **User Settings,** double-click **Deleted User Groups**. The Deleted User Groups window appears.
2. Click to select the user group you want to hard-delete, and click the **Delete** button.

   The user group no longer appears in the Deleted User Groups window.

To hard-delete a deleted user group in Web Client:

1. Click **Tools > Administration > Deleted User Groups**. The Deleted User Groups page appears.
2. Click the name of the user group you want to hard-delete. That user group page appears.
3. Choose **Actions > Delete**. The Deleted User Groups page is displayed. The user group no longer appears on this page.

Undeleting a User Group

From the **Deleted User Groups** node, you can view user groups that have been deleted from the Agile PLM system. It is useful to know which user groups have been deleted because the user group may have been assigned as an approver for routable objects. This allows you to maintain a complete "audit trail" of a product's entire history.

A user group may be "undeleted." By undeleting a deleted user group, you restore it to active use, and it appears in the address book again.

To undelete a user group in Java Client:

1. Under **User Settings,** double-click **Deleted User Groups**. The Deleted User Groups window appears.
2. Click to select the user group you want to undelete.
3. Click the **Undelete** button.
4. The user group's name is added to the User Groups window. You might have to click the **Refresh** button to see the group listed in the window.

To undelete a user group in Web Client:

1. Click **Tools > Administration > Deleted User Groups**. The Deleted User Groups page appears.
2. Click the name of the user group you want to undelete. That User Group page appears.
3. Choose **Actions > Undelete**.
4. You can now edit the information, if necessary. The user group name is added to the User Group page.

Assigning Escalation Persons to User Groups

When a workflow status exceeds its escalation time period without a signoff, user groups or individual users can be notified. These entities are called designated escalation persons. The Allow Escalation Designation Approval property determines when the designated escalation person can approve or reject a routable object.

To assign designated escalation persons to a user group in Java Client:

1. Under **User Settings,** double-click **User Groups**. The User Groups window appears.

2. Double-click the name of the user group you want. The user group's tabbed window appears.
3. Click the **Escalations** tab to bring it forward.
4. Click the **Add** button. Use the dropdown list to select the reusable criteria for this escalation, such as All Change Orders.
5. Click next to the **Notify Users** field. In the Select Users window, select and move appropriate users (from the **Users** list) or other user groups (from the **User Groups** list) to the **Recipients** list, and Click **OK**.

   Click **Save**. The escalations are added to the **Escalations** tab.

   If you want to cancel your changes, click **Close**.

   Now, if the escalation period for the specified criteria passes without a signoff, those users who were selected receive an escalation notification email.

To assign designated escalation persons to a user group in Web Client:

1. Click **Tools > Administration > User Groups**. The User Groups page appears.
2. Click the name of the user group you want. The user group's tabbed object page appears.
3. Click the **Escalations** tab to bring it forward.
4. Click **Create**. Use the dropdown list to select the reusable criteria for this escalation, such as All Change Orders.
5. Click next to the **Notify Users** field. Use the selection window to select and move appropriate users or groups from the **Available Values** list to the **Selected Values** list, and Click **OK**.
6. Click **Save & Add More** or **Save & Close**. (There is also a **Cancel** button.) The escalations are listed on the **Escalations** tab.

   Now, if the escalation period for the specified criteria passes without a signoff, those users who were selected receive an escalation notification email.

Adding User Groups as Approvers of a Change

In an Agile PLM workflow, two properties—Approvers and Observers—must be filled out for criteria-specific properties of each Review and Released status.

The possible selections in the **Available Values** list in the selection dialog depends on the selection you make in the **Select Group** dropdown list.

Select Group dropdown list choice	Possible selections in the Available Values list
All	When you select All, the **Available Values** list includes: ▫ Variables (for example, $CHANGEANALYST). ▫ All the Agile PLM users. ▫ All the global groups, listed twice with the suffixes Any and All. For example, if you select [Sales - Any], the routable object is routed to all users in the group, but only one user needs to approve or reject. If you select [Sales - All], the routable object is routed to all the users in the group, and all the users in the group must approve or reject.

Select Group dropdown list choice	Possible selections in the Available Values list
All Groups	When you select All Groups, the **Available Values** list includes: ▫ All the global groups, listed twice with the suffixes Any and All. For example, if you select [Sales - Any], the routable object is routed to all users in the group, but only one user needs to approve or reject. If you select [Sales - All], the routable object is routed to all the users in the group, and all the users in the group must approve or reject.
group name	When you select a group name, the **Available Values** list includes: ▫ The members of that group. For example, if you select [Sales], the **Available Values** list contains the names of the members of that group. This allows you to select a subset of the group members.

Select these in the same way you use any multilist dialog box: either double-click single names or select multiple names and click the right arrow to move users or user groups to the **Selected Values** list on the right. Click **OK** to return to the **Criteria** table on the **Status** tab, and click **Save** to complete assigning approvers for that status.

Note When [user group - Any] is assigned to a workflow as an approver, any member of the user group may sign off a routable object (passing through the status in which the group was named), and the individual's signoff is, in effect, for the entire user group; no one else needs to or can approve or reject the routable object. Once one member of the group has approved or rejected it, the routable object no longer appears in the Inbox of the other users in the group.

However, other members *can* approve or reject the routable object after the first user has responded. If a member rejects the routable object, a warning appears, "You are about to override a previous signoff in CCB (or Released) which differs from yours." If this user clicks **OK**, it will override the approval by the earlier user.

Setting Up User Groups as Partners

This section collects the various elements that must be set up to enable Agile partners to send packages and to have program managers manage their package submissions. A "partner" may be defined as a company that works with your company and that has Agile users who need to send packages; or, a partner could be any Agile user that represents a company to your company.

Note The term "program manager" refers to the change analyst who manages package objects (instances of the Packages class); here it does *not* refer to the Agile role "Program Manager."
Also, this use of "program" is *not* involved with the Programs base class.

To create partners and program managers to function together in Agile:

1. Define Agile partners, which are Agile users – usually external – who belong to a user group that has been defined as a partner. Each user group object has a **Define as Partner Group** property. When set to Yes, the user group will appear on the list of partners available under any user's **Program Manager for Partners** property.
2. Partners can be assigned the Partner role, which gives them the privileges to create and

submit packages.

3. Define one or more Agile users – usually internal – as a program manager of each partner. The **Program Manager for Partners** user property lists all "Partner" user groups, which you set up in Step 1. You pick the partner groups for each program manager, that is, you can have one user be program manager for one or more of the partner groups, and another user can be program manager for the same or different partner groups.
4. Program managers for partners need to be assigned the Content Manager role, which enables them to work with Agile package objects. Again, as stated in the Note above, do not be misled by the Agile role called Program Manager – that role deals with functionality in the PE/PPM solution.

Supplier Groups

The **Supplier Groups** node provides a way to "bundle" approved suppliers so that users who are involved in the PCM solution can easily select multiple suppliers during the RFQ process.

Using Java Client or Web Client, the administrator can set up global supplier groups that can be leveraged by users with appropriate roles. An Agile PLM user can also define (create, edit, delete) a unique supplier group that meets his particular needs, a personal supplier group. Administrators (users who have the ability to create and modify user profiles) can also create, edit, and delete user-level supplier groups for each user.

In Java Client, under **User Settings,** double-click **Supplier Groups** to display the main Supplier Groups window. Supplier groups are created with the following properties.

Property	Description	Editable	Default
Name	Name of supplier group	Yes	Empty
Description	Description of supplier group	Yes	Empty
Suppliers	List of suppliers in the supplier group	Yes	Empty
Type	Type of supplier group: Global or Personal group. **Note**: if you create a supplier group in Java Client, the default is Global with no alternative; if you create a supplier group in Web Client, Personal is available.	Not after creating the supplier group	Global
Enabled	Whether the supplier group is active or inactive	Yes	Yes

The actions that are available are:

- **Create** – A user administrator can create a new supplier group.
- **Edit** – A user administrator can edit a supplier group. To add or remove suppliers (users who have been assigned Supplier Administrator, Supplier Manager, or Supplier Project User roles) from the group, the user administrator can add or remove suppliers from the group.
- **Enable** and **Disable** – Supplier groups can be enabled or disabled in Edit mode (Web Client) or using the buttons at the top of the Supplier Group window (Java Client).

To create a supplier group in Java Client:

1. Under **User Settings,** double-click **Supplier Groups**. The Supplier Groups window appears.
2. Click the **New** button. The Create New Supplier Group dialog box opens.
3. Fill in the **Name** and **Description** fields, and select Yes or No in the **Enabled** field.
4. The **Type** field is grayed, with the value of Global entered. (As noted in the table, “Personal” is an available choice when creating a supplier group in Web Client.)
5. Click next to the **Suppliers** field, and move suppliers from the **Choices** list to the **Selected** list.
6. Click **OK**, and Click **OK** again. The new user group object is listed in the Supplier Groups window. It is available to users from this point on.

To create a supplier group in Web Client:

1. Click **Tools > Administration > Supplier Groups**. The Supplier Groups page appears.
2. Click the **Create** button. The Create Supplier Group wizard appears.
3. Fill in the **Supplier Group Name** and **Supplier Group Description** fields.
4. Select the **Supplier Group Type**, either Global or Personal.
5. Click next to the **Suppliers** field. Use the selection window to move suppliers from the **Available Values** list to the **Selected Values** list, and Click **OK**.

   Note The supplier group must have at least one supplier selected.
6. Click **OK.**
7. Click **Finish**.

To edit a supplier group in Java Client:

1. Under **User Settings,** double-click **Supplier Groups**. The Supplier Groups window appears.
2. Double-click the group you want to modify. The Supplier Group setup window appears.
3. On the **General Info** tab, select or accept values from the dropdown lists. Add or remove supplier users by moving them into or out of the **Selected** list.
4. When you are finished, click **Save**.

To edit a supplier group in Web Client:

1. Click **Tools > Administration > Supplier Groups**. The Supplier Groups page appears.
2. Select a supplier group, and click **Edit**.
3. Modify values as needed. To add or remove suppliers, click next to the **Suppliers** field.
4. When you are finished, click **Save**.

User Monitor

The User Monitor window lists the users that are presently logged in to the Agile PLM system. It displays the following information about each logged-in user.

Table column	Description
User Name	The first and last name of the logged in user.
User ID	The login username of the user.
Host	Indicates the user's host.
Login Time	The time the user logged in.

Refreshing the User Monitor Window

The User Monitor window is not dynamic; it shows the user session information at the moment that the window was displayed. To see the most current information, click the **Refresh** button to update the information displayed in the window.

Terminating a User Session

You can use the User Monitor window to terminate a user session.

To terminate a user session in Java Client:

1. Under **User Settings,** double-click **User Monitor**.
2. Select one or more users whose sessions you want to terminate.
3. Click the **Terminate Session** button.

   The user sessions are not terminated immediately. It may take up to a minute to terminate active user sessions. When you click the **Terminate Session** button, users can continue working for one minute. When the session is terminated, the login window is displayed in the user's browser.

Chapter 9

Roles

This chapter includes the following:

- About Roles 175
- Viewing Roles 178
- Guidelines for Working with Roles 179
- Default Agile PLM Roles 179
- Securing and Maintaining Roles and Privilege Masks 186
- Working with Roles 188

This chapter explains how to use Agile PLM's preconfigured roles and how to create new ones.

About Roles

Roles and privileges govern a user's access to Agile PLM functionality. To do anything in Agile PLM, users must be assigned to at least one role. Each user (or user group) can be assigned to multiple roles, depending on which actions they need to perform. Agile PLM includes a comprehensive set of preconfigured roles and privilege masks. You can modify roles and privilege masks as necessary. However, you are encouraged to become familiar with the default roles, privileges, and criteria of Agile PLM before constructing your own.

The actions that users can perform in Agile PLM—such as creating, sending, or canceling—are based on *privileges*. Privileges are combined with reusable criteria to create *privilege masks*, which act as filters to manage user actions. Privilege masks are then grouped into *roles* that provide a way of allocating a common set of privileges to a group of users who have common functions in the change control process.

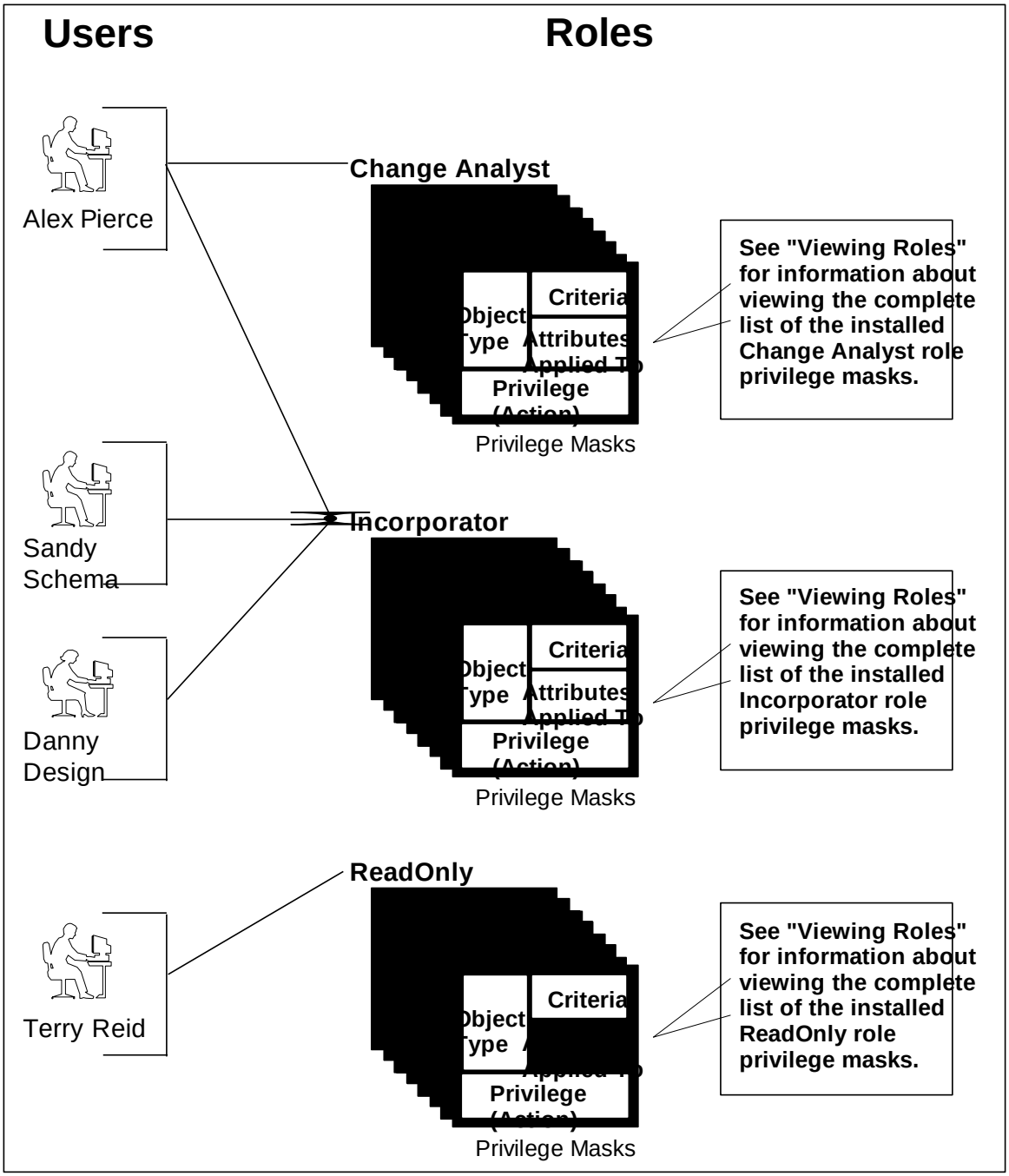
Note When you assign a role or a privilege mask to a user, it takes effect only after the user has logged out and logged back into an Agile PLM client.

The following table defines *privilege*, *privilege mask*, and *role*:

Term	Definition	Examples
Privilege	The action users are allowed to take.	Create; Send; Release
Privilege mask	A set of *criteria* statements that define under what specific conditions an action can be taken on an object. Each role requires at least one privilege mask.	Create Eng. Changes; Create Items; Create Mfr. Changes; Send Eng. Changes; Send Items
Role	A common set of privileges that can be assigned to one or more users who perform the same functions in the change control process. A user can be assigned to more than one role.	Change Analyst role: comprises some six dozen privilege masks

Roles as Groupings of Privilege Masks

Privilege masks are grouped into roles so that you can assign a common set of privileges to multiple users with the same functions in the change control process. The example for the Acme Company below illustrates how users can be assigned to roles, and how privilege masks can be grouped together into roles.



The previous figure shows that:

- Users and user groups can be assigned to more than one role.
- More than one user can be assigned to a role.
- Roles combine access and permissions required by a set of users who perform similar

functions.

Viewing Roles

Click the **Roles** node to view the existing Roles. You can do the following:

- Enable or disable a role.
- Export or import a role (see Object History on page 21).
- Create a new role.
- Delete a role.

When you double-click the name of Role, its tabbed window appears. For most roles, you can do the following:

- Change the name of an existing role. Exceptions are the restricted roles, and the Administrator, My User Profile, and View Historical Report roles, whose names cannot be changed.
- Enable or disable a role on the **General Information** tab. Exceptions are the restricted roles, and the Administrator, My User Profile, and View Historical Report roles, which cannot be disabled.
- Assign a user to a role or remove a user assignment from a role on the **Users** tab. Exceptions are the restricted roles, and the My User Profile and View Historical Report roles, which don't allow you to modify user assignments.
- Add or remove privilege masks for the role by using the **Privileges** tab. Exceptions are the restricted roles, and the My User Profile and View Historical Report roles, which don't allow you to add or remove privilege masks.
- On the **Privileges** tab, double-click the name of a privilege mask to display the privilege mask's tabbed object window. When a privilege mask's tabbed window is displayed, you can modify that privilege mask.

You *cannot* do the following from the Roles window:

- Change the object type of a privilege mask.
- Modify any reference copy (Example) of a role or its privilege masks.

Viewing the Roles Window

To view the Roles window:

1. Under **User Settings,** double-click **Roles**. The Roles window appears
2. You can filter roles records to narrow your search. For example, filter records by Description Contains Change to find all the roles pertaining to change objects. (See Filtering Data on page 16.)

The list of roles is displayed in the table. The Roles table shows the name, description and enabled status for each role. The buttons in the window allow you to perform various role management tasks.

Button	Action
New	Create a new role. See Creating a New Role on page 190.
Delete	Deletes the selected roles. A role cannot be deleted if it is already in use.
Enable	Enables the selected roles.
Disable	Disables the selected roles.
Import	Import a text file to create a new role. See Object History on page 21.
Export	Exports role data for the selected role. See Object History on page 21.
Refresh	Refreshes the table with the latest information about the list of roles.

Viewing a Role

To view a specific role:

1. Under **User Settings,** double-click **Roles**. The Roles window appears.
2. You can filter roles records to narrow your search. For example, filter records by Description Contains Change to find the all the roles pertaining to change objects. (See Filtering Data on page 16.)
3. In the Roles window, double-click the role you want.

   The tabbed window for that role appears. The role's basic properties are displayed on the **General Information** tab.

The buttons that appear at the top of the window are **Save As**, **Delete**, and **Export**.

Guidelines for Working with Roles

Follow these steps when working with roles:

1. Print a Roles and Privileges Summary report and a Privilege Mask Detail report to see the definitions currently active in your Agile PLM system. See Administrator Reports on page 16.

Caution	The Privilege Mask Detail report can be extremely long. You may wish to generate and view the report before printing it.

2. Read and follow the security recommendations in Securing and Maintaining Roles and Privilege Masks on page 186.
3. If necessary, modify and create roles as described later in this chapter.
4. Assign users to appropriate roles. See Modifying a Role on page 188.

Default Agile PLM Roles

When you double-click the **Roles** node, you see a list of your currently configured roles. The table below lists the out-of-box roles and briefly describes what each role allows the user to do.

You can assign a user as many or as few roles as he needs to perform his duties. You can use the roles provided as they are, or you can copy a provided role (using Save As) and modify the copy to create a new role, or you can create a new role from scratch.

Caution As much as possible, copy (using Save As) and adapt the roles and privilege masks provided with your Agile PLM installation rather than create new ones. This is especially true for roles, since the nature of their privilege mask combinations is not immediately obvious.

Role	Applies to these base classes	Description
Administrator roles: apply to users working with the Administrator solution		
Administrator	All Classes	Perform all administrative tasks. The other, specialized Administrator roles (including Discussion, Folder, Price, Program, Quality, Resource Pool, Sourcing, and User administrators) all have less capability than this role.
User Administrator & (Restricted) User Administrator	Users, User Groups	Perform administrative tasks (create, modify, delete) as defined by the Agile administrator
Agile PLM roles: apply to users working across all Agile PLM solutions		
Approve/Reject	Changes, Packages, QCRs, PSRs, Transfer Orders, and Programs	Approve or reject routable objects via workflows, and read items and changes
Design Engineer	File Folders (only Designs class objects)	Create and manage design model structures.
Discussion Administrator	Discussions	Create and manage discussion objects. Discussions are used primarily in Agile PPM and PCM solutions, but it is possible to use that class in other solutions.
Discussion Participant & (Restricted) Discussion Participant	Discussions	Manage portions of discussions; the (Restricted) Discussion Partner would generally be someone who works outside the enterprise.
Enforce Field Level Read	N/A	This “role” is used in conjunction with other roles: it enforces the AppliedTo fields under Read privileges in all roles assigned to the user, which reduces the user’s capabilities

Role	Applies to these base classes	Description
Folder Administrator	File Folders	Create and manage file folders. For additional information, see Attachment Privileges on page 317.
Folder Manager	File Folders	Create and manage file folders. For additional information, see Attachment Privileges on page 317.
My User Profile & (Restricted) My User Profile	User	View and modify his own user profile properties under My Settings, and create and modify personal user groups. Assigned to every user, and is required to use the Agile PLM system. **Note** The Discover Users privilege is not part of the My User Profile role by default.
Read and Discover Objects I Created	All objects	Creator can read and discover object he or she created. This new role is by default enabled and part of every new user's profile; removing the role from a user means the creator can no longer Read or Discover objects he or she created.
Read My File Folder	File Folders	Permits reading file folders created by the assignee.
(Restricted) Grant	All objects	Grant roles to users in a controlled, finite way, using Access Control List (ACL) capability.
Viewer Markup for All	File Folders (Affected Item Attachments)	Modify the redline Markups or other users for File Folders or for the Affected Item attachments of change orders. User must have Read privileges for the file folder objects or change order objects. For additional information, see Redline Markup Default Roles and Privileges on page 321.
Viewer Markup for Self	File Folders (Affected Item Attachments)	Create and modify the user's own redline Markups for File Folders or for the Affected Item attachments of change orders. User must have Read privileges for the file folder objects or change order objects. For additional information, see Redline Markup Default Roles and Privileges on page 321.
Product Collaboration roles: apply to users working in the Agile PC solution		
Change Analyst	Changes, Items, Manufacturers, Manufacturer Parts, File Folders	Create items and changes, and manage the routing and release process of changes through workflows. Also create BOMs, MPNs, AMLs, and to manage file folder references
Component Engineer	Items, Manufacturers, Mfr Parts, Manufacturer Orders	Create manufacturer change objects and manage the routing and release process of MCOs

Role	Applies to these base classes	Description
Item Content Creator	Changes, Items	Create items, and create and submit changes
Manufacturing Content Manager	Items, Manufacturers, Mfr Parts, Manufacturer Orders	Create items, manufacturers, and manufacturer parts, and create and submit MCOs
Partner Package Access	Packages	Create and submit package objects
Read Product Content	Changes, Items, Manufacturers, Manufacturer Parts	Discover, read, comment, get, print, send, and view items, changes, manufacturers, and manufacturer parts
Product Quality Management roles: apply to users working in the Agile PQM solution		
Organization Manager	Suppliers, Customers	Manage suppliers and customers (also applies to PCM solution)
Quality Administrator	Quality Change Requests	Manage the corrective and preventive action and audit processes
Quality Analytics User	Product Service Requests	Submit quality incidents and manage their resolution
Product Cost Management roles: apply to users working in the Agile PCM solution		
Organization Manager	Suppliers, Customers	Create and manage suppliers and customers (also applies to PQM solution)
Price Administrator	Prices, Price Change Orders	Control price management activities, including PCOs
Price Manager	Prices, Price Change Orders	Manage pricing information through creation of price objects and PCOs
(Restricted) Price Collaborator	Prices, Price Change Orders	Manage pricing information through creation of price objects and PCOs, but more limited than price manager role; typically provided to supplier users
Sourcing Administrator	Sourcing Projects, RFQs	Control sourcing activities, including the ability to view and modify all sourcing projects and RFQs
Sourcing Project Manager	Sourcing Projects	Create and manage sourcing projects
RFQ Manager	RFQs, RFQ Responses	Create RFQs and manage the RFQ process
(Restricted) RFQ Responder	RFQ Responses	Respond to RFQs; generally provided to supplier users

Role	Applies to these base classes	Description
(Restricted) Supplier Manager	Suppliers	Manage supplier information, limited to suppliers' own organizations, including the ability to create users in the supplier organization
Product Portfolio Management roles: apply to users working in Agile PPM (**Product Portfolio Management**) solution		
Executive	Programs	Global read access to all programs that have matching categories; for example, if a program is associated with the North American region, and a user has an Executive privilege for all North American, then he can read them
Program Administrator	Programs	Create and manage complete programs
Program Manager	Programs	Create and manage routing and release process for programs
Program Team Member	Programs	Manage portions of programs
Resource Pool Administrator	Programs	Create and manage resource pools
Resource Pool Owner	Programs	Manage resource pools
Timesheet Administrator	Programs	Perform administrative tasks on all timesheets that are created in the system.
Reports roles: apply to users working with reports		
Report Manager	Reports	Access and manage all reports, even those they did not create
Report User	Reports	Create new custom reports and manage reports they created
View Historical Report	Reports, Historical Report File Folders	View specific instances of previously executed reports; this is a non-editable role and is automatically assigned whenever a report instance is shared with a user
Agile Content Services role: applies specifically to users working in the Agile ACS solution		
Content Manager	Transfer Orders, Packages	Create, modify, route, release and implement CTO and ATO objects, as well as package objects

Role	Applies to these base classes	Description
Product Governance & Compliance roles: apply to users working in the Agile PG&C solution		
Compliance Manager	Declarations, Commodities, Specifications, Substances	Create and manage PG&C objects, run PG&C reports, and route material declarations to suppliers
(Restricted) Material Provider	Declarations	Create, modify, and complete material declarations; generally provided to supplier users
Agile Configuration Propagation roles: apply to users working in the ACP solution. For more information see the *9.2.2.4 ACP User Guide*.		
(Propagation) Administrator	All Classes	Perform propagation tasks.
(Propagation) User Administrator	Users, User Groups	Perform propagation tasks that are limited to users and user groups.

Example Roles

Your Agile PLM installation includes both a read–write version and a read-only example or reference copy of the roles. Double-click the **Example Roles** node under the **Example** node folder to see the reference copy, which is provided so that you always have default copies of the roles as they were installed. To restore the default version of any role, you can just make a copy (using Save As) of its Example role.

For example, the following are the two versions of the Change Analyst role provided at installation:

- **Change Analyst** — This is a modifiable (Read–Write) role that you can assign to users.
- **Example–Change Analyst** — This is an uneditable (Read-Only) reference copy of the Change Analyst role.

Note If Agile PLM users are unable to move a routable object from one status to another, for example from Hold to CCB, often they don't have appropriate privileges to make these status changes. In such cases, check the roles they are assigned and the privilege masks included in those roles.

More information about example roles is in Using the Example Roles on page 193.

Restricted Roles

Some roles are restricted in the extent to which they can operate on their specified objects; these role names are preceded by the word Restricted in parentheses. Their purpose is the same as the like-named role that is not preceded by "(Restricted)". They are generally assigned to members of supplier organizations, that is, Agile PLM users who work outside the enterprise.

Role-based Enhancements in Rel. 9.2.2.4

User Administrator Enhancement

There has always been a PLM role "User Administrator." Its operative privilege mask was (and is) Admin Access for User Admin, whose AppliedTo property dictated which Administrator (User-related) nodes could be accessed in Web Client.

With Rel. 9.2.2.4, a new privilege (and privilege mask) called User Administrator has been added to the role. The AppliedTo property of User Administrator privilege mask is populated with PLM Roles. This enhancement means that a user administrator can be configured so that he can only assign specified roles to PLM users.

This is documented in Options for Building Administrator Assistants on page 205, which is part of the important topic AppliedTo Capability on page 203.

Read and Discover Objects I Created Role

This new role simply enforces access to an object to be strictly based on assigned roles and privileges.

It has always been possible for the creator of a business object to subsequently access the object even if he did not have specific Read or Discover privileges for the object. While this is usually not a serious problem, it could pose problems to a company when users change departments or other assignment.

Now a new user is created with two default roles: besides **My User Profile**, each user is assigned **Read and Discover Objects I Created**. This role can be removed from any user at any time.

Note	Upgrade customers will not see a change in behavior with existing users; that is, upgrading users can still see objects they created.

Advanced Search Security

Two restrictions have been added to Advanced Search utility.

The first restriction applies to the "Search for" field when a user creates any type of search (Quick, Advanced, Parametric search). Now he will see (in the dropdown list of classes) only those classes for which he has been assigned the Discovery privilege.

Similarly, "Field" criteria condition (dropdown list) will not display fields if user does not have a Read privilege (or Enforce Field-level Read privilege) to them. In order to ensure restricted field-level read, the user's Read privilege mask must include in its AppliedTo property only the fields you wish the user to read. In addition, the user must also be assigned an Enforce Field Level Read privilege mask, for example, by assigning the Enforce Field Level Read role.

For a user to be able to view **Workflow Routings** folder under **Search** tab (on the Navigation pane), in the user's profile > Searches field, "Workflow Routings" must be moved from Choices to Selected table.

Securing and Maintaining Roles and Privilege Masks

By following the recommended plan described in this section, you will help prevent security violations, interruptions in your change control process, and confusion if you need to restore the system to a previous security configuration.

Caution	Failure to follow the recommendations in this section could have serious consequences:

- Without your knowledge, users may unexpectedly be able to perform actions they had been prohibited from performing.
- Users could suddenly lose their ability to carry out required actions.

When corruption or unplanned alteration to your Agile PLM system occurs, you will have to interrupt regular system management just to restore essential permissions, which itself could result in additional violations.

Recommended Security and Maintenance Plan

You should take great care when making changes to the powerful Agile PLM roles. Please follow these configuration and maintenance recommendations:

- It is strongly recommended that one person be assigned responsibility for configuring roles and privileges. If a change in ownership is to occur, the current administrator should explain to the new owner:
  - The roles and privileges configuration
  - Any changes that have been made
  - The system of tracking changes to roles and privileges
- Perform a roles export (in the Roles window, select all roles, and click **Export**) and run the Roles and Privileges Summary report and the Privilege Mask Detail report before you change or create roles or privilege masks. Save the results for later comparison in case you need to determine what changes caused particular effects. Keep a log of changes to the privileges configuration. For more information about exporting, see Object History on page 21. For more information about reports see Administrator Reports on page 16.
- Use the supplied roles and privileges and make only required alterations.
- Follow the Action–Criteria–Object Type privilege mask naming convention (described in About Privileges and Privilege Masks on page 195) to avoid confusion and potential security breaches. Include at least these three recommended basic identifying parts, and maintain consistent word order. Use the names of the privilege masks provided at installation as your guide.
- Avoid changing role and privilege assignments after their initial assignment. For example, if a change originator or CCB member has the Discovery privilege removed after an ECO has been routed, the originator or CCB member still receives notifications but cannot view the change.

- Avoid changing role and privilege assignments while users are working on the system. If such changes are made, users must log out and restart Agile PLM clients again for some changes to take full effect.

Database Backup Procedures

Before you make any changes, it is a good idea to back up the entire Agile PLM database, and run Administrator reports. You can use the database backup to rebuild the previous database. You can compare "before-and-after" reports and use them to diagnose the cause of changes to Agile PLM security.

Exporting Agile PLM Administrative Settings

Follow the instructions in Object History on page 21. When you have finished backing up current role and privilege settings, run your reports.

Note	If you are importing these settings, be certain you are importing to the same database or the Agile PLM administrative data will not match.

Running Reports

When you run an Administrator report, include the report date and time in the filename, such as Roles_072601_3pm.csv. If you keep these report files, you can compare them later to track changes.

Note	Be aware that the Privilege Masks Details report can be quite long (hundreds of pages), depending on the number of users on the system.

To run the Roles and Privileges Summary report:

1. Select the **Analytics and Reports** tab in the navigation pane. The **Analytics and Reports** folders appear.
2. Expand the **Standard Reports > Administrator Reports** folder.
3. Double-click (Java Client) or click (Web Client) the Roles and Privileges Summary report. The Roles and Privileges Summary Report page appears.
4. Click **Execute**. The Get Attachment window appears.
5. Click **Continue**. This accepts the displayed default encoding type (Western European (ISO)). If you need to use a different encoding type, select it in the dropdown list and click **Continue**.
6. Follow the directions in the File Download and Save As dialog boxes to save the file to disk and specify a location to save it.
7. Modify the filename to include the report date and time. For example, **Roles072602_3pm.csv**
8. When the download is complete, click **OK** in the Get Attachment dialog box.

To run the Privilege Mask Detail report:

1. Select the **Analytics and Reports** tab in the navigation pane. The **Analytics and Reports** folders appear.

2. Expand the **Standard Reports > Administrator Reports** folder.
3. Double-click (Java Client) or click (Web Client) the Privilege Mask Detail report. The Privilege Mask Detail Report page appears.
4. Click **Execute**. The Get Attachment window appears.
5. Click **Continue**. This accepts the displayed default encoding type (Western European (ISO)). If you need to use a different encoding type, select it in the dropdown list and click **Continue**.
6. Follow the directions in the File Download and Save As dialog boxes to save the file to disk and specify a location to save it.
7. Modify the filename to include the report date and time. For example, **Privmask072602_3pm.csv**
8. When the download is complete, click **OK** in the Get Attachment dialog box.

Note Be aware that the Privilege Masks Details report can be quite long (hundreds of pages), depending on the number of users on the system.

By running the Roles and Privileges Summary report and the Privilege Mask Detail report, you create a record of the current roles and privileges configuration. These reports are ASCII text files in .CSV format (comma separated values) that can be opened with an analysis application, such as Microsoft Excel.

You can also use a word processing program to compare two versions of the same report. If the changes you make to the security configuration produce unexpected results, you can run these reports again, and compare them in the word processing program to see the changes that you made.

Working with Roles

You can modify existing roles and create new ones. Once a role exists, you can assign it to users. This section describes the following role-management tasks:

- Modifying a Role
- Creating a New Role
- Deleting a Role

Modifying a Role

When you open a role, you can change its name, description, whether it is enabled or disabled, its list of privilege masks, and the users assigned to it. You cannot modify the properties for the Example–ReadOnly roles.

To change the name or description of a role:

1. Under **User Settings**, double-click **Roles**. The Roles window appears.
2. Use the filter bar to display the role you want to modify.
3. Double-click a role to open it.
4. In the **Name** field, type a unique name (up to 255 characters).

Note You cannot rename the Administrator, My User Profile, or View Historical Report roles, or any of the Restricted roles.

5. In the **Description** field, type a short description (up to 510 characters).
6. Click **Save**.

To disable a role:

1. Under **User Settings**, double-click **Roles**. The Roles window appears.
2. Use the filter bar to display the role you want to modify.
3. Click the **Disable** button.

Note You can also disable a role by opening it and changing its **Enabled** property. You cannot disable the Administrator, My User Profile, or View Historical Report roles, or any of the Restricted roles.

To remove privileges from a role:

1. Under **User Settings**, double-click **Roles**. The Roles window appears.
2. Use the filter bar to display the role you want to modify.
3. Double-click a role to open it.
4. Click the **Privileges** tab.
5. Select the privilege you want to remove.
6. Click **Remove** to delete the selected privilege from the role.
7. Click **Yes** on the Delete dialog.

To add privileges to a role:

1. Under **User Settings**, double-click **Roles**. The Roles window appears.
2. Use the filter bar to display the role you want to modify.
3. Double-click a role to open it.
4. Click the **Privileges** tab.
5. Click **Add Privileges** to open the Select Privileges dialog box.
6. Select privilege masks in the **Choices** list and use the right arrow to move privilege masks to the **Selected** list.
7. When you are finished, click **OK**.

To remove a user from a role:

1. Under **User Settings**, double-click **Roles**. The Roles window appears.
2. Use the filter bar to display the role you want to modify.
3. Double-click a role to open it.
4. Click the **Users** tab.
5. Select the user you want to remove.

6. Click **Remove** to delete the selected user from the list of assigned users.
7. Click Yes on the Delete dialog.

To add users to a role:

1. Under **User Settings**, double-click **Roles**. The Roles window appears.
2. Use the filter bar to display the role you want to modify.
3. Double-click a role to open it.
4. Click the **Users** tab.
5. Click **Add Users** to open the Select Users dialog box.
6. Select and use the arrows to move users from the **Names** list to the **Recipients** list.
7. When you are finished, click **OK**.

Building and Testing Attributes, Read/Modify Privileges, and Roles

Agile's privilege model is powerful and flexible, but it is also complex. The following task is a simple procedure for you to check that attributes (both pre-defined and user-defined attributes), privilege masks, and roles all work together as you customize them for your users' work.

To test that an attribute works with Read or Modify privilege masks and roles:

1. In a class, for example, Parts class, create a new, simple **Page Two** attribute. In this example, you are creating **Parts.PageTwo.Test01**. (See About Attributes, Flex Fields, and Read-Through Fields on page 65.)
2. Create test privilege masks called Read Parts and Modify Parts. Apply them to the Test01 attribute. (See AppliedTo Capability on page 203. You may want to examine Discovery and Read Privileges on page 206.)
3. Assign the Read Parts and Modify Parts privilege masks to the Content Manager role. (See Adding a Privilege Mask to a Role on page 197.)
4. Assign the Content Manager role to a user, perhaps a test user you create for the purpose. (That task precedes this section.)
5. Log out of your client, log in as that user, and check to see that you can both read and modify the Test01 field.

Note	This procedure is an overview of building and testing attributes, privileges, and roles. The task of setting up Agile PLM for your company is quite large, and you might consider enlisting the services of an Oracle Consulting – Agile Practice consultant for this important task.

Creating a New Role

Before creating a new role, you should review the roles you currently have. Run the Roles and Privileges Summary report to see a listing of current roles and their privilege masks (see Running Reports on page 187).

The recommended method for creating a new role is to copy an existing role, and then make any necessary changes to the copy (see Creating a New Role Using Save As on page 191). You can also create a new role from scratch (see Creating a New Role from Scratch on page 192).

Note If you delete a role, you can reuse the name of the deleted role when you create a new role or rename an existing role.

Before You Begin

Before creating a new role, answer the following questions:

- What will you name the new role?
- Which users will be assigned to the new role?
- What do you want the users assigned to this role to be able to do in Agile PLM?
- What do you want users assigned to this role to be prevented from doing in Agile PLM?
- Can you modify one or more existing roles to achieve the results you want?
- Is there an existing role that you can copy and modify to avoid having to create the role from scratch?

Creating a New Role Using Save As

You might find it easier to duplicate an existing role under a new name.

Note Creating a new role by duplicating one of the Example roles is a different process and produces different results. Review both processes to determine which one meets your needs. See Using the Example Roles on page 193.

To create a new role from an existing role:

1. Under **User Settings,** double-click **Roles**. The Roles window appears.
2. Use the filter bar to display the role you want to modify.
3. Double-click the role you want. The tabbed window for that role appears.
4. Click the **Save As** button. The Save As dialog box appears.
5. Enter a new name for the role.
6. Click **OK**.

   The new role is created with the new name, and its tabbed window appears. The new role has the same description as the one you copied. You can modify the description now, if you want. See Modifying a Role on page 188.

   The list of privilege masks assigned to the original role is also assigned to the new role. However, no users have been assigned to the new role.

   For example, if the original role included the Modify Item privilege mask, the new role also includes the Modify Item privilege mask.

Note A read-only example role has read-only example privileges. When you use Save As to create a copy of an example role, the way the privilege masks are copied from the example role is different from what is described above. See Using the Example Roles on page 193 for details.

7. Do one or more of the following:
   - On the **Privileges** tab, remove the privilege masks you do not want in the role.
   - On the **Privileges** tab, add the privilege masks you want to include in the role.

   For instructions on how to add or remove privilege masks, see Modifying a Role on page 188.
8. To assign the new role to specific users, see Modifying a Role on page 188.

Creating a New Role from Scratch

You may decide to create a role or roles from scratch.

To create a new role from scratch:

1. Under **User Settings,** double-click **Roles**. The Roles window appears.
2. Click the **New** button. The Create Role dialog box appears.
3. Type the name and description of the new role.
4. To enable or disable the role, select Yes or No in the **Enabled** dropdown list. It is suggested that you disable the role while you develop it; select No.
5. Do one of the following:
   - To finish creating the role without assigning privilege masks or users (you can assign privilege masks and users later), click **Finish**.
   - To assign privilege masks to the role, click next to the **Privilege** field. The Select Privileges dialog box opens. Continue with step 6.
6. Select privilege masks in the **Choices** list and use the right arrow to move privilege masks to the **Selected** list.
7. When you are finished, click **OK**.

Note You can also click **New** in the dialog box to create a new privilege mask. The Create Privilege dialog box opens. See Creating a New Privilege Mask from Scratch on page 234. (Start with step 3.) The new privilege mask will be added to the role, and the privilege mask will appear in the list of available privilege masks in the **Privileges** node.

8. Do one of the following:
   a. To finish creating the role without assigning users, click **Finish**. You might want to do this while developing the role and its privilege masks.
   b. To assign specific users to the new role, click next to the **Users** field. The address book opens. Continue with step 9.
9. Select users from the **Names** tab—and groups from the **Groups** tab—and use the right arrow to move them to the **Recipients** list.
10. When you are finished, click **OK**.

11. When you are finished defining the new role, click **Finish**.

    The new role name appears in the Roles table. (Click **Refresh** if you do not see the role in the table.) Add privileges and users as needed. If you disabled the role in step 4, the **Enabled** field says No. You must enable the role for its assignment to users to go into effect.

Using the Example Roles

Agile PLM includes a number of example roles that you can use as references or as a starting point for your own roles. They are stored under the **Example** node folder in the **Example Roles** node. Example roles are read-only and cannot be modified. However, you can use Save As to make a copy of an example role and modify the copy.

Each example role corresponds to one of the preconfigured roles provided when Agile PLM is first installed. If you have modified the preconfigured roles and privileges, you can view the example roles to compare your modifications to the original construction of the preconfigured roles and privileges.

Example Privilege Masks in Example Roles

Example roles include example privilege masks. Example privilege masks are also read-only and cannot be modified. When you use Save As to create a copy of an example role, the system populates the new role with copies of the read-only example privileges.

For example, the Example - Creator role includes an example privilege mask named Example - CS - Submit ChgOrder. If you use Save As to make a copy of the Example - Creator role, the new role will include a privilege named Copy of Example - CS - Submit ChgOrder. This privilege mask copy is a new privilege mask that did not exist in the database before you copied the example role. All the privilege masks in the new role are copied in the same manner.

Creating a New Role from an Example Role Using Save As

To create a new role from an example role:

1. Under **Examples,** double-click **Example Roles**. The Example Roles page appears.
2. You can filter roles records to narrow your search. (See Filtering Data on page 16.)
3. In the Example Roles window, double-click the example role you want. The tabbed window for that example role appears.
4. Click the **Save As** button. The Save As dialog box appears.
5. Enter a new name for the role.
6. Click **OK**.

   The new role is created with the new name, and its tabbed window appears. The new role has the same description as the example role you copied. You can modify the description now, if you want. See Modifying a Role on page 188.

   The privilege masks in the new role are copies of the example privilege masks in the example role. For more information, see “Example Privilege Masks in Example Roles” above.

7. Do one or more of the following:
   - On the **Privileges** tab, remove the privilege masks you do not want in the role.

- On the **Privileges** tab, add the privilege masks you want to include in the role.

For instructions on how to add or remove privilege masks, see Modifying a Role on page 188.

You can also change the names of the privilege masks or change the criteria or applied to properties of the privilege masks.

On the **Privileges** tab, double-click a privilege mask to display its tabbed object page. Once you have displayed the privilege mask window, you can:

- Change the name or description.
- Modify the privilege mask criteria (see Modifying Privilege Mask Criteria on page 370).
- Modify the privilege mask applied to property (see Viewing and Modifying the AppliedTo Property on page 204).

8. For information about how to assign the new role to specific users, see Modifying a Role on page 188.

Deleting a Role

If a role is no longer needed and no users have been assigned it, you can delete it.

To delete a role:

1. Under **User Settings,** double-click **Roles**. The Roles window appears.
2. Click the role you want to delete. The tabbed window for that role appears.
3. Click the **Users** tab to bring it forward.

> **Note** You cannot delete a role if it has been assigned to any users or user groups. Before you can delete the role, you must remove all of its users and user groups. Remember that it is always possible to disable a role if you are not ready to delete it but want to block its effect on assigned users and user groups.

4. If there are any users listed on the **Users** tab, select all the users on the table.
5. Click **Remove** to clear the **Users** tab.
6. Repeat steps 3, 4, and 5 for the **User Groups** tab.
7. Click the **Delete** button.

Chapter 10

Privileges and Privilege Masks

This chapter includes the following:

- About Privileges and Privilege Masks 195
- Viewing the Privileges Window 195
- Agile PLM Privileges 197
- AppliedTo Capability 203
- Discovery and Read Privileges 206
- Modify Privilege 211
- Other Privileges in Detail 215
- Privilege Mask Components 221
- Viewing Privilege Masks 226
- Modifying Privilege Masks 230
- Enabling a Privilege Mask 233
- Creating New Privilege Masks 233

This chapter explains how to use Agile PLM's preconfigured privileges and privilege masks, and how to create new ones.

About Privileges and Privilege Masks

This chapter focuses on privileges and the construction of privilege masks. The actions that users can perform in Agile PLM—such as creating, sending, or canceling—are based on *privileges*. Privileges are combined with reusable criteria to create *privilege masks*, which act as filters to manage user actions. Privilege masks are then grouped into *roles* that provide a way of allocating a common set of privileges to a group of users who have common functions in the change control process.

Agile PLM provides a comprehensive set of preconfigured roles, privilege masks, and reusable criteria that are accessible from the **Roles**, **Privileges**, and **Criteria** nodes, respectively. You can change the preconfigured roles and privilege masks as necessary, or you can create new ones to fit your specific needs.

Note	When you assign a role or a privilege mask to a user, it takes effect only after the user has logged out and logged back into an Agile PLM client.

Viewing the Privileges Window

To view the Privileges window:

1. Under **User Settings**, expand the **Privileges** node. The **Privileges** node expands to show all the basic privileges (the action component of privilege masks) as subnodes.
2. Double-click a **Privileges** subnode. The page that opens is called **Privileges for <selected privilege>**, although no privilege masks are listed. For example, when you double-click **Administrator**, the

Privileges for Administrator page opens. You must set some filter criteria; often it is useful to set the Match If field to **Show All**, then click the **Apply** button to the right. All the privilege masks that use the Administrator privilege are displayed.

Important Despite the page in this example reading "Privileges for Administrator," it means the following:

"**Privilege Masks that use Administrator privilege**"

You see the lists are constructions of <privilege–object–criteria> (see Privilege Mask Components on page 221).

3. You can filter the returned privilege masks to further narrow your search of privilege masks. In this example, setting a new filter with Match If set to **Contains** and Value with **User** typed in, clicking **Apply** reduces the returns to Admin Access for User Admin. (See Filtering Data on page 16.)

   You can click a column header in the privilege mask table to sort the table by that column.

Tasks Performed from the Privileges Window

You perform various privilege mask management task from the Privileges window by selecting one or more privilege masks, then clicking the appropriate button.

Page menu button	Action
Enable	Enables the selected privilege masks. When the privilege mask is enabled, Yes appears in the **Enabled** column.
Disable	Disables the selected privilege masks. When the privilege mask is disabled, No appears in the **Enabled** column.
Delete	Deletes the selected privilege masks.
New	Opens the Create Privilege dialog box. See Creating a New Privilege Mask from Scratch on page 234.
Assign Roles	Allows you to add the privilege mask to one or more roles. **Note**: When you assign a role or a privilege mask to a user, or change the privilege masks in a role, the change takes effect for a given user only after the user has logged out and logged back in to an Agile PLM client.
Export	Exports the selected privilege masks to a text file. See Object History on page 21.
Export All	Exports all privilege masks to a text file. See Object History on page 21.
Import	Imports a text file to create one or more new privilege masks. See Object History on page 21.
Refresh	Refresh the displayed table with the latest information.

When you double-click a privilege mask, the privilege mask's tabbed window appears.

Removing a Privilege Mask from a Role

To remove a privilege mask from a role on the privilege mask Where Used tab:

1. Under **User Settings,** expand the **Privileges** node in the navigation pane. The list of basic privileges appears.
2. Double-click the basic privilege for the privilege mask you are interested in. The form for that privilege appears.
3. Click the **Refresh** button at the bottom of the form. All the privilege masks for that privilege appear.
4. Double-click the specific privilege mask you want. Its tabbed window appears.
5. Click the **Where Used** tab to bring it forward. The roles that include the privilege mask are listed in the table.
6. Select the role from which you want to delete the privilege mask, and click the **Remove** button.
7. When the confirmation dialog appears, click **OK**. You are not deleting the role itself; you are removing the privilege mask (which is the actual object you have opened) from that role.

Adding a Privilege Mask to a Role

To add a privilege mask to a role on the privilege mask Where Used tab:

1. Under **User Settings,** expand the **Privileges** node in the navigation pane. The list of basic privileges appears.
2. Double-click the basic privilege for the privilege mask you are interested in. The form for that privilege appears.
3. Click the **Refresh** button at the bottom of the form. All the privilege masks for that privilege appear.
4. Double-click the specific privilege mask you want. Its tabbed window appears.
5. Click the **Where Used** tab to bring it forward. The roles that include the privilege mask are listed in the table.
6. Click the **Add Roles** button. The Select Roles dialog box appears.
7. Move roles from the **Choices** list to the **Selected** list.
8. Click **OK** when you are finished. You are not adding a role in any way; you are adding the privilege mask (which is the actual object you have opened) to that role.

Note You may want to review the simple tutorial Building and Testing Attributes, Read/Modify Privileges, and Roles on page 190.

Agile PLM Privileges

The following table lists and defines the privileges supplied with Agile PLM. Some privileges depend on the basic Read privilege for their effectiveness, since users must first be able to open and read objects before they can perform most other functions. This table indicates which privileges work only if the user also has a Read privilege.

For more information about the Read privilege and privilege masks, see Relationships among Discovery and Read Privileges on page 208.

Privilege	Allows the user to...	Requires basic Read privilege
Add Approver/ Observer	Add approvers/observers to the **Workflow** tab of a routable object. For more information, see Add Approver/Observer and Remove Approver/Observer on page 216.	Yes
Administrator	Log in to Java Client with access to PLM Administrator functions. The Administrator role includes the Administrator privilege mask, which can be made specific to nodes based on the AppliedTo criteria. For more information, see Administrator Privilege and the AppliedTo Capability on page 203.	No
Approve/Reject	Approve or reject a routable object that the user has been named as an Approver.	Yes
Attachment Redlines for Self	This privilege is disabled as of Release 9.2.2.2. The ability to enable and control access to attachment redline markups is provided by the Markups subclass (of File Folders class) and its associated Create, Read, Modify, Checkin, and Checkout privilege masks. For more information, see Redline Markup Default Roles and Privileges on page 321.	-
Attachment Redlines for Others	This privilege is disabled as of Release 9.2.2.2. The ability to enable and control access to attachment redline markups is provided by the Markups subclass (of File Folders class) and its associated Read, Modify, Checkin, and Checkout privilege masks. For more information, see Redline Markup Default Roles and Privileges on page 321.	-
Cancel Checkout	Cancel a checkout of an attachment (file or URL). For more information, see Attachment Privileges on page 317.	Yes
Change Status	Move a routable object from any status to any other status. The class of the criteria that is selected determines the list of available workflows to which to apply the Change Status privilege. For more information, see Change Status on page 216.	Yes

Privilege	Allows the user to...	Requires basic Read privilege
Checkin	Check in an attachment (file or URL). (For more information, see Attachment Privileges on page 317.)	Yes
Checkout	Check out an attachment file (file or URL). For more information, see Attachment Privileges on page 317.	Yes
Comment	Comment on a routable object. The comment is emailed to specified users, and is recorded in History. (Not the same as comments submitted during approval or rejection of a routable object.)	Yes
Create	Create a new object in the business class specified in the privilege mask. **Note 1:** The Create privilege is required for users of the Agile PLM Import utility. **Note 2**: If you have activated the CreateUser attribute for an Agile PLM class by making it visible on the **Page Two** tab, the user can open and create objects having a Read privilege. See Applying Create User Criteria on page 232. **Note 3**: The Create privilege allows the user to fill in required fields at the time of creation even if the user does not have Modify privilege for those fields. Required fields are fields with their attribute property **Required** set to Yes; see Defining Attribute Properties on page 72.	Yes
Create From Template	Used in Create Program From Template privilege mask, which is enabled out-of-the-box for Program Manager and Program Administrator roles.	Yes
Dashboard Tab View	Used in Read Dashboard Tabs privilege mask, which is enabled out-of-the-box for Executive, Program Manager, and Program Administrator roles. All newly created Dashboard tabs under **Systems Settings > Dashboard Management** require this privilege to permit viewing the tab in Web Client. For more information, see Dashboard Management.	Yes
Delete	Delete an object. **Note**: A routable object must be Pending or Unassigned.	Yes
Discovery	Learn that an object exists. **Note 1**: You must restart the WebLogic server when you change the Enabled property of Discovery Privilege in the **Database** node. **Note 2**: If Discovery Privilege is disabled in the **Database** node, users with a basic Read privilege can discover all objects. For more information, see Discovery Privilege on page 206.	No

Privilege	Allows the user to...	Requires basic Read privilege
Enforce Field Level Read	Control certain performance consequences when a user does a Field-level Read query. For more information, see Enforce Field-Level Read Privilege on page 210, including **Important** note about a workaround due to removal of the Specify Output Columns privilege.	Yes
Export	Extract data from selected objects and export it to either a comma-delimited text file or a PDX package. For more information about this privilege, see Export on page 217.	Yes
FileLoad	Run the FileLoad utility. See the Import and Export Guide for more information about the FileLoad utility.	*Yes*
FullSearchDisplay	See a full return of reports queries on objects. For more information, see Full Search Display on page 217.	Yes
GetFile	Get or open a file from an object's **Attachments** tab. Note that GetFile privilege works in tandem with Checkout privilege to actually deliver the attachment file to the user's machine. The GetFile privilege (without Checkout) allows the administrator to permit a user to get a file without being able to change it in the product record. For more information, see Attachment Privileges on page 317.	Yes
GlobalSearches	Create, modify, or delete a search that shows up in everyone's search list. This privilege also allows user to order searches and search folders: in Java Client, there is a button with a down arrow when you click on any search folder or search; in Web Client, in the Organize Search popup, there is an extra Order button.	No
Grant	Grant roles, and therefore privileges, to users in a controlled, finite way, using Access Control List (ACL) capability.	Yes
Import	Use the Import wizard tool. See the *Import and Export Guide* for more information about the Import wizard tool.	Yes
Incorporate	Toggle the incorporation status on the **Attachments** tab. **Note:** An item can be Incorporated or Unincorporated under an Introductory rev.	Yes
Manage Report	Modify and delete report schedules and layouts, and create and delete global report folders.	Yes
Microsoft Project	Access, use, or modify Microsoft Project, and part of Program Manager and Program Administrator roles. See Microsoft Project Privilege on page 359.	Yes
Modify	Modify fields on the tab of an object. Modify privileges are assigned using the AppliedTo attribute settings. For more information about various aspects of the Modify privilege, see Modify Privilege on page 211, AppliedTo Capability on	Yes

Privilege	Allows the user to...	Requires basic Read privilege
	page 203, and Modify Privilege and Attachments on page 318.	
Override	Override incomplete required fields and required approvers who have not signed off, and move the routable object to the next status. For more information, see Override on page 218.	Yes
PrintFile	Print from the Agile Viewer window. The user must also have ViewFile privilege. For more information, see Attachment Privileges on page 317.	Yes
PrintTab	Print from the tabs of an object.	Yes
Purge Folder Version	Purge unused file folder version from the Agile File Management vault. See Purge Folder Version Privilege on page 219.	
Read	Open an object to read all tabs. For more information, see Discovery and Read Privileges on page 206. The Read privilege is based on the AppliedTo property for specific attributes. See Field-Level Read Privilege and AppliedTo Capability on page 203. The Read privilege is further applied on a field-by-field basis when Enforce Field-level Read is assigned to the same user. For more information, see Enforce Field-Level Read Privilege on page 210. **Note**: If Discovery Privilege is enabled in the **Database** node, a corresponding Discovery privilege mask is required.	Yes
Remove Approver/ Observer	Remove approvers/observers from a routable object. For more information, see Add Approver/Observer and Remove Approver/Observer on page 216.	Yes
Reset	Reset the checksum in the Agile PLM database to match a referenced file. Reset privilege is found in Reset File Checksum privilege mask, which is not included in any out-of-box Agile role. See Handle File Checksum on page 273.	Yes
Run Report	Run reports, create schedules for reports, and create report layouts. Modify and delete a user's own schedules and layouts.	Yes
SaveAs	Copy an object by saving to another name.	Yes
Send	Carry out a **File | Send** on an open object. A corresponding Create privilege mask is required.	Yes

Privilege	Allows the user to...	Requires basic Read privilege
Subscribe	Subscribe to notification emails when selected attributes of an object are modified. Note that the Database-node property Notification Enabled must also be set to Yes.	Yes
Transfer Authority for Self	Designates users to approve changes for a specified period of time when the designator—oneself—is an approver (but not observer) on a routable object. For more information, see Transfer Authority for Self on page 219.	No
Transfer Authority for Others	Designates users to approve changes for a specified period of time when the original user—an "other"—is an approver (but not observer) on a routable object; the original approver is copied on all notifying email. For more information, see Transfer Authority for Others on page 220.	No
Undelete	Undelete an object.	Yes
Unincorporate	Unincorporate an item.	Yes
Update All Timesheets	View all tasks for a selected user and change timesheet details entered by that user for each task. Overrides system privileges for viewing tasks – the user accessing the timesheet need not be a team member on the task. This privilege also allows the user to search timesheet entries by all users in the system.	Yes
User Administrator	Uses its AppliedTo property to tailor which **roles** that user can assign to other users.	Yes
ViewFile	View files in the Agile Viewer window. For more information, see Attachment Privileges on page 317.	Yes

Further Discussion of Specific Privileges

The following sections detail the AppliedTo property, which is a part of just a handful of privileges; Discover and Read; Modify; and details of other privileges.

- AppliedTo Capability on page 203
- Discovery and Read Privileges on page 206
- Modify Privilege on page 211
- Other Privileges in Detail on page 215

Later this chapter explores how privilege masks are constructed, beginning with Privilege Mask Components on page 221.

AppliedTo Capability

The AppliedTo capability is set in privilege masks based on the following privileges.

Remember, in a privilege object, the rows are its constituent privilege masks: double-click a row to open the privilege mask object (which has AppliedTo property if it is based on these privileges):

- **Administrator** privilege: Administrator privilege mask pertains to Java Client; Admin Access for User Admin pertains to Web Client
- **User Administrator** privilege: User Administrator privilege mask sets roles that user can assign to other users
- **Read**
- **Modify**
- **Microsoft Project**: a PPM-specific privilege
- **Dashboard Tab View**: a PPM-specific privilege

Although the following discussion centers on the AppliedTo capability as it works with the Administrator-specific privilege masks, the information in this section is pertinent to the privilege masks based on Read, Modify, Microsoft Project, and Dashboard Tab View privileges.

Administrator Privilege and the AppliedTo Capability

The Administrator role includes two important privilege masks:

- "Administrator" pertains to Java Client nodes;
- "Admin Access for User Admin" pertains to Web Client nodes (the User Administrator role also has the latter).

Both of these privilege masks provide access to Administrator nodes in the designated PLM client, as well as the correlated ability to modify administrative objects and settings in those nodes.

A crucial property of the Administrator privilege masks is the **AppliedTo** property, which is used to specify what Administrator nodes are available to a user who has been assigned either the Administrator or Admin Access for User Admin privilege mask.

If the Agile administrator (more specifically, any user who has been assigned the Administrator privilege mask) or assisting "user administrator" (any user who has been assigned the Admin Access for User Admin privilege mask) does not have a particular node properly selected in the AppliedTo property of their "Admin" privilege mask, that node will not be a live link in that user's view of the Administrator nodes, and the user will not be able to access the capability.

Show Visible Attributes Only Checkbox

In the task below, you will view the **General Info** tab of a privilege mask that contains the AppliedTo property. When you click the down-arrow of the AppliedTo property, the **Show visible attributes only** checkbox is displayed. It is checked by default: uncheck it if you want to view attributes whose Visible property is set to No; all non-visible attributes are then displayed in the Choices list.

Viewing and Modifying AppliedTo Property

This task can be applied to any of the privilege masks that contain the AppliedTo property.

To view the AppliedTo property of the Administrator privilege:

1. Under **System Settings** node folder, expand **Privileges** node.
2. Double-click **Administrator** privilege. The Privileges for Administrator filter dialog appears.
3. In Match If field dropdown list, select **Show All**. Click the **Apply** button.
4. Available Administrator-related privilege masks appear. Double-click **Administrator** privilege mask.
5. On the Administrator privilege mask's **General Info** tab, click the down-arrow of AppliedTo property.
6. The **Choices** list displays all Administrator nodes or other Admin utilities (for example, Global Replace) that are not currently available (visible) to any user whose roles and privileges include this privilege mask. The **Selected** list displays all nodes that are visible. (The **Show visible attributes only** checkbox will be checked; it does not really affect matters in the Administrator privileges.)

Important The **Choices** list reflects the nature of the privilege mask. "Admin nodes and utilities" are selected in Administrator-, Read-, and Modify-based privilege masks. Microsoft Project and Dashboard Tab View-based privilege masks offer a different array of choices; see Dashboard Management and Project Summary Page Configuration on page 206.

Specialized Administrator Privilege Masks

It is possible to create specialized **Administrator** privilege masks. Particularly with this privilege mask, it is safer to alter the individual case, as it is assigned to one or several users, than to change the out-of-box privilege.

Caution Be extremely careful about modifying the AppliedTo properties of Administrator privilege masks that are already in use. For example, if you were to modify the AppliedTo property of the Administrator privilege mask so that it no longer included Privileges, you and other administrators would no longer have access to the **Privileges** node, and it would be very difficult to modify the Administrator privilege mask to apply to privileges again. (This kind of scenario is where **Example Roles** could be needed.)

If you need multiple administrator privileges and roles, test the new roles and privileges carefully before you modify or disable any existing administrator roles and privileges.

Note Carefully consider the impact on your company of having multiple administrative users, each with specific tasks. This allows you to divide administrative tasks among a larger group of people, restricting each user to a specific type of administrative task. Be sure to read Options for Building Administrator Assistants on page 205.

Here are specific caveats for removing nodes from the AppliedTo property of a user's **Administrator**

privilege mask, regarding access to Admin nodes in Java Client.

- If **Criteria** is removed, there will be no Criteria link from the privilege object's **General Information** tab, the **Workflow** node, the workflow object's **General Information** tab, or the subscriber object's **General Information** tab. Also, the **New Criteria** buttons in Create Workflow and Create Privilege dialog boxes will be disabled.
- If **Role** is removed, there will be no Role link from the **Users** or **Deleted Users** nodes.
- If **Workflow** is removed, there will be no Workflow link from the Criteria Where Used table.
- If **Privilege** is removed, there will be no Privileges link from the Criteria Where Used table.

Options for Building Administrator Assistants

PLM Release 9.2.2.4 has enhanced the User Administrator role with a new "User Administrator" privilege and privilege mask. The User Administrator privilege mask performs a different function than "Admin Access for User Admin."

You, the main Agile PLM administrator, have decided that you want the assistance of a few select users in your administrative tasks. (How many and what kind of assisting administrators depends on the size of your company, the number of PLM solutions purchased, and so forth.) Here are your options:

- Assign and refine the Administrator role to give a user access to administrative functions in Java Client. In each user object (to whom you are assigning Administrator privilege mask), use the AppliedTo property to tailor which nodes that user can work in.
- Assign and refine the User Administrator role to give a user access to administrative functions in Web Client. The User Administrator performs administrative tasks via Web Client > **Tools** > **Administration**.
  - The User Administrator role uses the privilege mask called Admin Access for User Admin, with a reduced AppliedTo list of nodes. In each user object (to whom you are assigning Admin Access for User Admin privilege mask), use the AppliedTo property to tailor which Web Client nodes that user can work in.
  - The User Administrator role also uses the new privilege mask called User Administrator. Using the same sequence of steps (in "Viewing and Modifying AppliedTo Property" above), you see that the **Choices** list is populated not with names of Admin nodes but with a complete list of PLM roles. In each user object (to whom you are assigning User Administrator privilege mask), use the AppliedTo property to tailor which roles that user can assign to other users.

    A role that is moved over to the **Selected** list permits that user to assign that role to another user.

Save Import Preference Setting (AppliedTo Choice)

"Save Import Preference Setting" is a new Choice in the Administrator-specific AppliedTo property (found in **Administrator** and **Admin Access for User Admin** privilege masks). This setting (when moved to Selected) enables you or an assistant administrator to set default preferences in the PLM Import utility (**Web Client > Tools > Import**) that users of Import will see when they use the utility.

Of course, any user can reset preferences in Import for their own use, but these will not be saved. However, it is possible to assign the **Admin Access for User Admin** privilege mask to any user and

select this one Choice in AppliedTo: this enables that user to have no other "User Administrator" capability other than saving preferences in Import.

Manage Report Template (AppliedTo Choice)

"Manage Report Templates" is a new Choice in the Administrator-specific AppliedTo property (found in **Administrator** and **Admin Access for User Admin** privilege masks). This setting (when moved to Selected) enables you or an assistant administrator to upload templates for reports in the PLM Report Template utility (**Web Client > Tools > Administration > Template Management > Report Template**) that users will see when they use the report template.

Dashboard Management

The Dashboard Tab View privilege is used to configure Dashboard tabs. For more information, see Dashboard Management.

Project Summary Page Configuration

The Administrator privilege mask with Project Summary Page Configuration specified as the Applied to property is used to configure the widgets for the Summary page of a program. Widget and page configuration for the Project Summary page can be done using the **Tools > Administration** menu in Agile Web Client.

Discovery and Read Privileges

This section looks closely at Discovery and Read privileges.

The Read and Modify privilege masks are made specific by, among other properties, the AppliedTo property naming individual attributes that can be accessed. (To contrast, the Administrator privilege mask is made specific by the AppliedTo property naming individual nodes that can be accessed.)

Note	A section in the previous chapter, Advanced Search Security on page 185, describes enhancements to "search security" that apply to Discovery, Read, and Field-level Read privileges (not repeated in this section).

Discovery Privilege

As outsourcing and “virtual companies” become more common, Agile PLM customers are allowing employees of other companies in their supply chain to access their Agile PLM database. For security reasons, it is important that these outside users see only information that applies directly to them. For example, you might not want one supplier to know that another supplier is providing the same part, or that you are providing the same part to a company and its close competitor.

The Agile PLM Discovery features—Discovery Privilege database property, Discovery privilege, and Discover privilege mask—are designed to address these security issues. These features control whether users are allowed to learn that certain objects exist in Agile PLM.

You control object discovery in two ways:

- At a global level, by setting the Discovery Privilege database property (in **Server Settings >**

Database) to Enabled or Disabled.

- At the level of roles, with Discover privilege masks.

For example, if employees of one supply chain partner have the Discovery privilege only for parts provided by that partner, they can be blocked from seeing parts provided by other partners in search results tables or even on BOMs (see Related SmartRules on page 207).

Note If you grant users Read or Create privileges, you must also grant users a corresponding Discovery privilege for objects that they are allowed to read. Users should always be able to discover and read objects that they created.

For example, if you create a role that has a Read privilege mask applying to All Change Orders criteria, you must also include in that role a Discovery privilege mask applying to All Change Orders criteria.

For information about using the Discovery Privilege database property for global discovery control, see Database on page 278.

For more information about the Discover privilege masks assigned to each role supplied with Agile PLM, see Viewing a Role on page 179.

Note If a change originator or CCB member has the Discovery privilege removed after an ECO has been routed, the originator or CCB member still receives notifications but cannot view the change. For best results, avoid removing Discovery privileges after their initial assignment.

Discovery Privilege and Sites

Site objects are explicitly filtered out of Discovery privilege criteria. Therefore, you cannot define a new Discovery privilege mask to control a user's ability to access Sites.

To control a user's access to Sites, set user properties appropriately. Open a user in Java Client or Web Client, and specify the **Sites** and **Default Site** properties.

Discovery Privilege and Life Cycle Phases

If you create Discovery privilege criteria based on RFQ Response lifecycle phases, you must restart the Agile Application Server to run a search that uses the criteria. Otherwise, the search won't return any results.

Related SmartRules

The following SmartRules define how Agile PLM responds when users encounter objects that their privileges don't allow them to discover:

- Display BOM Tables
- Discovery Object Tables
- DiscoveryResultsTable

For more information about these SmartRules and their default settings, see SmartRules Defined

on page 238.

Discovery Privilege and Reports

Agile users do not see and cannot run the Administrator reports. The following information is about the availability of specific objects in the standard reports that users can run.

A user who does not have Discovery privilege for an object cannot include that object in a report. Parts for which a user does not have Discovery privilege are displayed in the same way they are displayed on BOMs.

If you, the administrator, have decided to display a warning message, that warning message will appear in the reports. You also have the option of displaying either the item number only or the item description only, so the user can see all the items in the report, but does not have access to the undiscovered items.

To run a report on a particular type of object, a user must be granted the following privileges:

- Read privilege
- Discovery privilege
- Run Reports privilege

Note The Manage Reports privilege alone is not sufficient to execute the report.

Relationships among Discovery and Read Privileges

Agile PLM administrators can use the Discovery and Read privileges to grant users several levels of access to Agile PLM data, as shown in the following table.

Access level	Discovery privilege	Read privilege
Full access	Granted	Granted for all tabs
Limited access	Granted	Not granted for **History** or **Workflow** tabs
Discovery only	Granted	Not granted
No discovery	Not granted	Not granted

Privilege masks made up of the Discovery and Read privileges build on each other, as shown in the following table.

Privilege mask type	Effects and comments
Discover	▫ Can see that the discoverable object exists
Read	▫ Must be able to discover the object ▫ Can open the object ▫ Can read all tabs as defined in the privilege mask's AppliedTo dialog box (see below)

Note If you remove or modify a Read privilege mask, the Discovery privilege mask is not automatically removed or modified at the same time.

Field-Level Read Privilege

"Field-level Read" describes an Agile PLM client user's ability or inability to read various fields within tabs through the Read privilege mask. Any field in any tab can be hidden from any user. A good use of Field-level Read is a customer hiding a "cost" field on the **Page Two** tab from certain suppliers.

To see a field of an object:

- A user must have a Read privilege to the object.
- The field must appear in the AppliedTo property for that user's Read privilege mask.

For example, in the **Privileges** window, double-click any Read privilege mask to display it. The **AppliedTo** field on the **General Information** tab lists all the fields to which the Read privilege is applied.

When you create a Read privilege mask, there are no values listed in the **AppliedTo** property. During the creation process, at the **AppliedTo** field, you click to display the selection dialog box. All the fields of the object are in the **Choices** list. You refine the privilege mask by moving fields from the **Choices** list on the left to the **Selected** list on the right.

If you wished to prevent the user from seeing the **Workflow** tab for the object specified by the criteria, all the **Workflow** tab fields would remain in the **Choices** list. Only the fields in the **Selected** list will be visible to the user. This is an example of Field-level Read.

The Field-level Read capability may be affected by whether the user has the Enforce Field-level Read privilege, which is discussed in "Enforce Field-Level Read Privilege" below.

Modifying the AppliedTo Fields of Read Privilege Masks

This task is specific to Read privilege masks. The AppliedTo capability is used by a few other privileges – for more information, see AppliedTo Capability on page 203.

To modify the list of fields to which a Read privilege mask is applied:

1. Under **User Settings,** double-click **Privileges**. The Privileges window appears.

   Note Filter privilege mask records to narrow your search. For example, filter records by Privilege Contains Read to find all the Read privilege masks on the list. (See Filtering Data on page 16.)

2. Double-click the privilege mask you want to modify. The privilege mask window appears.

   The privilege mask properties are displayed on the **General Info** tab.

3. On the **General Info** tab, click next to the **AppliedTo** field. The selection dialog box opens.
4. Use the right and left arrows to move selected values from one list to the other list.
5. When you are finished, click **OK**.

6. To finish editing the privilege mask, click **Save**.

Enforce Field-Level Read Privilege

The Enforce Field-level Read privilege is a way the Agile PLM administrator can control certain small performance consequences when a user is under the restrictions of a Field-level Read (see Field-Level Read Privilege on page 209). The Enforce Field-level Read role comprises only the Enforce Field-level Read privilege mask.

If a user has a role with Enforce Field-level Read privilege included, the software checks everything at the
"field level," that is, the fields within tabs in Agile PLM clients. Users with this privilege may notice their computers' performance on some operations is slightly slower; this is because the software is checking all possible fields. This impact depends on how many items are in the tables being searched (for instance, BOMs, affected items, results).

If the user does not have a role with this privilege included, the system does not check everything at the field level, and so computer performance is not affected. In this case, even if the user has the Read privilege defined at the field level, the system does not check everything at the field level; that is done only when the Enforce Field-level Read privilege is present and enabled.

Important Previous versions of Agile PLM used the Specify Output Column privilege to permit users to select output attributes in setting up advanced searches. That privilege is removed; therefore, all users can potentially specify output attributes in advanced searches. However, you may want to assign the Enforce Field Level Read privilege to any user who did *not* have Specify Output Column privilege previously. This ensures that search results will be appropriately filtered—for example, for sensitive fields such as costs.

For a user with two roles, one with Enforce Field-level Read privilege and one without, the default is to "enforce" the Field-level Read. Similarly, for a user with a single role that has two Enforce Field-level Read privileges, one disabled and one enabled, the default is to "enforce" the Field-level Read. In both these cases, users can see only the fields for which they have the Read privilege. For this reason, Agile recommends that only users who are prevented from seeing certain fields have this privilege enabled.

System behavior with Enforce Field-level Read set to Yes interacts with certain privileges and SmartRule as follows:

- **Discovery privilege** — Dictates if the object is listed on Results and other tables.
- **User does not have the Read privilege for the object** — The user sees "no privilege" in the object's fields on the Results and most other tables. The display of these objects on the BOM table is governed by the Display BOM Tables SmartRule. The user cannot open these objects.
- **User has Read privilege for the Object Number and Description fields** — The user sees object number and description on Results and other tables. The user can open these objects.
- **User has Read privilege for all fields** — The user sees all fields on all tables. The user can open these objects.

Display on Tables Due to Enforce Field-level Read

Up to Agile's Product Collaboration Release 7, if a user had a role that included the Enforce Field-level Read privilege, the display of objects that the user could not read but could discover (in the Results, Where Used, Affected Items, and Manufacturers tables) has "no privilege" in all the corresponding fields, and the user could open the objects to view them. Display of fields on the BOM table was governed by the Display BOM Tables SmartRule.

If you wish a user to "mimic" the 6.x behavior on the tables, you need to add the Read privilege to the user's roles for a subset of fields. The Read privilege could include the object number and description as AppliedTo attributes, and only these fields will be displayed on the returned tables.

For example, for a certain type of object, you might define Attachment Type values such as Internal Only and External, and then give users outside the company privileges only for files marked as External. If an Agile PLM client user adds an attachment to that type of object and defines it as Internal Only, outside suppliers and contractors won't be able to access the file.

To use the Attachment Type attribute in privilege mask criteria, the object type that you specify cannot be a base class (Items, Changes, Reports, and so forth).

Note	If you decide to enable the Attachment Type attribute to control access to attachments, be sure to tell the users how to use the field. This field can be edited in Agile PLM clients.

Modify Privilege

The crucial Modify privilege is covered generally in "Some 'Modify' Basics and Rules" below and in an important specific context in Controlling the Ability to Modify Items at Introductory Revision with $CURRENTREV on page 212. Again, the Read and Modify privilege masks are made specific by, among other properties, the AppliedTo property naming individual attributes that can be accessed.

Some 'Modify' Basics and Rules

The Modify privilege allows a user to modify or edit fields on the tab of an object. Modify privileges are assigned using the AppliedTo attribute settings.

Note	The Create privilege allows the user to fill in required fields at the time of object creation even if the user does not have Modify privilege for those fields. (Required fields are fields with their attribute property **Required** set to Yes; see Defining Attribute Properties on page 72.)

- The Modify privilege is required for users of the Agile PLM Import utility.
- Modify privilege and Relationships: To create a relationship between two objects without setting up a rule (detailed in *Getting Started with Agile PLM*), you must have the appropriate Modify privilege for both objects tailored to Relationships. To create a rule between two related objects, you must, in addition, have the appropriate Modify privilege for both objects tailored to Rules. For example, for items, a user must have a Modify Items privilege mask that includes, in its AppliedTo property, the **Relationship** tab "Name" attribute and the **Relationship** tab "Rule"

attribute.

- Users with the Modify Manufacturer Parts privilege mask can modify Manufacturer Parts attributes that also appear on the **Manufacturers** tab without an MCO or ECO being issued.

Note A user must be assigned the Modify privilege for both **Manufacturer.Mfr Name** and **Manufacturer.Mfr Part Number** fields to properly modify Manufacturer (AML) information.

- Item, New Rev, and Type (Lifecycle) fields on the **Affected Items** tab of changes cannot be modified at Released or Implemented statuses.
  - For other changes, the item number fields on the **Affected Items** tab cannot be modified at Released, Closed, Expired, or Resumed statuses.
- To be able to modify a **Page Three** tab, users must have a Modify privilege mask for the specific subclass and attributes.

Important Although Agile PLM can be configured to allow modification of the lifecycle phase of previously released revisions by modifying released ECOs, such a practice is highly discouraged because of the following reasons:

a) Potential regulatory compliance violations

b) Potential data integrity issues in the system

It is strongly recommended that user privileges be configured not to allow modification of lifecycle of released revisions by directly modifying released ECOs.

Agile PLM does not allow you to modify the item Rev and item Description on the **Affected Items** table of a released ECO, even if you have Modify ECO privileges that would, in theory, allow that.

The Modify privilege is also utilized with regard to attachments; this capability is documented in Modify Privilege and Attachments on page 318.

Controlling the Ability to Modify Items at Introductory Revision with $CURRENTREV

Modify privilege masks for item objects that use $CURRENTREV in their criteria can be used to control a user's ability to modify (or inability to modify) items that are either released, preliminary, or introductory. To further define a user's modify ability, you can use multiple $CURRENTREV conditions to identify an Introductory revision, the latest revision, and the workflow statuses of the change order associated with the selected item revision..

Applicable Item Attributes

On item objects, the user can use the **Rev** dropdown list to display information for a specific revision. The user's assigned Modify privilege masks determine whether he can modify those attributes.

- **Revision** dropdown list is available for the item **Sites** tab in both Web Client and Java Client.
- **Revision** dropdown list is available for the item **Page Two** and **Page Three** tabs in Java Client
- Because the item **Page Two** and **Page Three** data in Web Client is displayed on the **Title Block** tab, the **Revision** dropdown list on Web Client Title Block tab also controls display of Page Two and

Page Three data.

$CURRENTREV Criteria Logic

Using $CURRENTREV in an item criteria allows the administrator to build in privilege control based on the displayed revision. Using combinations multiple $CURRENTREV criteria conditions allows the administrator to narrowly define which items a user is allowed to modify.

A $CURRENTREV criteria condition can be set to be **Equal To** or **Not Equal To** the following values:

- $LATEST (the latest released revision of the item)
- Status type variables, for example, $STATUSTYPE.RELEASED.
- Workflow statuses pertaining to specific workflows, for example, Default Change Orders.Pending.
- Special values for evaluating Introductory revisions:
  - $INTRODUCTORY_NOCHANGE
  - $INTRODUCTORY_PENDINGCHANGE
  - $INTRODUCTORY_RELEASEDCHANGE

For detailed information about $CURRENTREV criteria values, see .

Definition of a Released Revision

A Released Revision occurs when the change object (Change Order or Manufacturer Order) that created the Revision is in its workflow at a status type of Released or Implemented. This is indicated in both clients when the Revision is not in parentheses.

Definition of a Pending Revision

A Pending Revision occurs when the change object that created the Revision is in its workflow at a status type of Unassigned, Pending, Submit, Review, or Hold. This is indicated in both clients when the Revision is in parentheses.

Note A change object in Canceled status is not applicable because it will not appear in the Revision dropdown listing.

Building Criteria for Specific Use Cases

Typically, there are three cases where the Agile administrator needs to control Modify privileges. These can be extended with additional criteria as are needed.

1. Allow broad Modify at Introductory only
2. Allow targeted Modify for a Pending revision
3. Allow targeted Modify for a Released revision

1. Allow broad Modify at Introductory only

Items ($CURRENTREV Equal To $INTRODUCTORY_NOCHANGE OR

$CURRENTREV Equal To $INTRODUCTORY_PENDINGCHANGE OR

$CURRENTREV Equal to $UNASSIGNED)

This combination of statements will allow a user to modify the Introductory revision of an item if the item has never been released. The item may have no changes or it may have a pending change.If the item has a pending change, the user must select the Introductory revision in the Rev dropdown list.

Use of a criteria with this combination of statements in a Modify Item privilege mask with many AppliedTo fields will allow broad Modify privilege at Introductory while there is no Released revision, and then prevent broad Modify privilege after the first Released revision when there is a Pending revision.

2. Allow targeted Modify for a Pending revision

Items ($CURRENTREV Equal To $UNASSIGNED OR

$CURRENTREV Equal To $STATUSTYPE.PENDING OR

$CURRENTREV Equal To $STATUSTYPE.SUBMIT OR

$CURRENTREV Equal To $STATUSTYPE.REVIEW OR

$CURRENTREV Equal To $STATUSTYPE.HOLD)

Writing a criteria with these statements will generally satisfy this requirement. Use this criteria in a Modify Item privilege mask with a small number of AppliedTo fields. When the user selects a pending revision from the Rev dropdown list, he will be able to modify the specified fields of the selected pending item revision.

3. Allow targeted Modify for a Released revision

Items ($CURRENTREV Equal To $STATUSTYPE.RELEASED OR

$CURRENTREV Equal To $STATUSTYPE.IMPLEMENTED)

This combination of criteria statements evaluates as True when the workflow status of change that released the selected item revision has a status type of either Released or Implemented. Use this criteria in a Modify Item privilege mask with a small number if AppliedTo fields. When the user selects a Released revision in the Rev dropdown list, he will be able to modify the specified fields of the selected released item revision.

$CURRENTREV Criteria Examples

This section shows examples of ten different criteria statements using $CURRENTREV and $LATESTREV and illustrates how they are evaluated for different item revisions.

The following table shows the ten criteria that are used in the examples:

Criteria #	Description
1	$CURRENTREV Equal To $INTRODUCTORY_NOCHANGE
2	$CURRENTREV Equal To $INTRODUCTORY_PENDINGCHANGE
3	$CURRENTREV Equal To $INTRODUCTORY_RELEASEDCHANGE
4	$CURRENTREV Equal To $LATEST

5	$LATESTREV Is Introductory
6	$LATESTREV Is Released
7	$CURRENTREV Equal To $UNASSIGNED or $CURRENTREV Equal To $STATUSTYPE.PENDING
8	$CURRENTREV Equal To ECO.Released or $CURRENTREV Equal To ECO.Implemented
9	$CURRENTREV Equal To Default Change Orders.Implemented
10	$CURRENTREV Equal To $INTRODUCTORY_NOCHANGE or $CURRENTREV Equal To $INTRODUCTORY_PENDINGCHANGE or ($LATESTREV Is Introductory and ($CURRENTREV Equal To $UNASSIGNED or $CURRENTREV Equal To $STATUSTYPE.PENDING))

The following table shows five items (EX-1 through EX-5) and the revision history for each of these items. This table illustrates how each of the criteria in the table above (Criteria #1 through Criteria #10) will evaluate (T= True, a blank table cell = False) when a specific revision is selected from the Rev dropdown list of and of the example items.

Item Number	Revision	Change Status	Status Type	1	2	3	4	5	6	7	8	9	10
EX-1	Introductory	N/A		T			T	T					T
EX-2	Introductory	N/A			T		T	T					T
	(?)	Unassigned						T		T			T
EX-3	Introductory	N/A				T			T				
	A	ECO.Implemented	Complete				T		T		T		
EX-4	Introductory	N/A				T			T				
	A	ECO.Implemented	Complete				T		T		T		
	(?)	Unassigned							T	T			
EX-5	Introductory	N/A				T			T				
	A	ECO.Released	Released				T		T		T		
	(B)	ECO.CCB	Review						T				
	(C)	ECO.Submitted	Submit						T				
	(D)	ECO.Pending	Pending						T	T			

Other Privileges in Detail

This section provides detailed information about some important Agile PLM privileges. It is not a comprehensive detailing of all the privileges in the Agile PLM system. Keep in mind, the privileges do not work alone; they must be cited by a privilege mask—for example, Create Item—and then activated by inclusion in a role that includes that privilege mask.

Note Information about privileges that are involved in working with attachments is provided in Attachment Privileges on page 317.

Add Approver/Observer and Remove Approver/Observer

The Add Approver/Observer privilege allows the user to designate a user, global user group, or partner to approve or reject a specific routable object. This privilege also allows the designation of any of these categories to be an observer, who will see the routable object but not be able to approve or reject it.

The Remove Approver/Observer privilege allows the user to remove any of these from the list of approvers or observers on a specific routable object. For more information about adding an approver or observer, see More about Affected Items: Adding Approvers and Observers on page 112.

Note To successfully add or remove approvers or observers from a Review or Released status of a workflow, the Ad Hoc Approvers/Observers property for that status must be set to Yes.

Attachment Redlines for Self: Disabled in Rel.9.2.2.2

This privilege is disabled as of Release 9.2.2.2. The ability to enable and control access to attachment redline markups is provided by the Markups subclass (of File Folders class) and its associated Create, Read, Modify, Checkin, and Checkout privilege masks.

Attachment Redlines for Others: Disabled in Rel.9.2.2.2

This privilege is disabled as of Release 9.2.2.2. The ability to enable and control access to attachment redline markups is provided by the Markups subclass (of File Folders class) and its associated Create, Read, Modify, Checkin, and Checkout privilege masks.

Change Status

Change Status is crucial in the approval process that advances changes through workflows. The Change Status privileges use privilege criteria to control the statuses a user can manipulate—for specified changes, move forward or backward in the workflow. The function of the privilege is to designate which statuses can be affected by a user in a given role.

Note Each Change Status privilege mask applies to one named status of one specified workflow. You must create Change Status privilege masks for each status of every new workflow you create and enable them, including the statuses of workflows created by SaveAs (that is, a workflow that is given another name via SaveAs, whether it is modified or not, needs its own Change Status privileges).

The status types that are available to the privilege are determined by the workflow selection for the privilege when it is created. This is also affected by the reusable criteria applied to the privilege.

There can be multiple “From” or “To” settings defined in Change Status. The administrator can

designate a role to move a change from multiple statuses to a single status, for example, Pending, Submit, or Review to Hold status. Or the administrator can designate a role to move a change from a single to multiple statuses, for example, Hold to Pending, Submit, or Review status.

To define a Change Status privilege mask:

1. Under **User Settings,** double-click **Privileges**.
2. In the Privileges window, click the **New** button. The Create Privilege dialog box appears.
3. Fill in the **Name** and **Description** fields for the Change Status privilege mask.
4. By default, the privilege mask is enabled. If you want, select No in the **Enable** field to disable the privilege mask.
5. In the **Privilege** field, select Change Status from the dropdown list.
6. In the **Criteria** field, select a criteria from the list, and click the **OK** button.

   Or click the **New Criteria** button to define a new reusable criteria. (See Creating a New Criteria on page 109.)
7. In the **Workflow** field, select a workflow from the dropdown list.

   Additional fields, **Status–From** and **Status–To**, are displayed in the dialog box.

   Note If you select All in the **Workflow** field, the **Status–From** and **Status–To** fields are not available. When you select All for the workflow name, you create a Change Status privilege mask that allows a user to change from any status to any status in any workflow. This is useful when you want to test workflows.
8. In the **Status–From** dialog box, move statuses from the **Choices** list to the **Selected** list. Click **OK** when you are finished.
9. In the **Status–To** dialog box, move statuses from the **Choices** list to the **Selected** list. Click **OK** when you are finished. When you have complete all the fields in the dialog box, Click **OK**.

Export

This privilege allows Agile users to extract data from selected objects and export it to such formats as: a comma-delimited text file, a Microsoft Excel file, a PDX package, or an "Agile XML" (aXML) file.

PDX is a standard for electronic exchange of engineering and manufacturing information across the supply chain. A PDX package is an XML file that can be viewed with Agile eXpress, a free client.

Please contact Oracle Consulting–Agile Practice for information about the eXpress viewer.

Full Search Display

The Full Search Display *privilege* does not apply to searches. It applies to results of report queries. Users with the Full Report Display *privilege mask* will see all results of reports; users without the privilege mask will see up to the maximum number of results specified by the Maximum Query Results Displayed preference. Additionally, all privilege checking is bypassed on users with this privilege when they view report results.

Grant

A user's ability to grant roles to another user for a specific object is handled by the Grant privilege.

The *sharing* feature of Agile PLM lets a user "grant" one or more of his roles to another Agile PLM user or user group for specific objects. The capability to share a given role includes:

- The user's assigned, "permanent" roles, although he shares the role with another user regarding only a specific object
- Roles that have been shared with the user (by another user) for a particular object
- Roles that have been shared with the user by virtue of belonging to a user group to which the role has been shared.

The named user (or members of the named user group) can then perform actions permitted by the roles for that object only; the user does not acquire the role in any permanent or far-reaching way.

A user's or user group's **Share** tab lists those objects for which the user has been granted "shared roles" by a different user. A user can click **User Profile > Share** to see objects being shared with them and what role(s) inform their interaction with each. A user can click **User Profile > User Groups > (specific group) > Share** to see objects being shared with you via user group.

Override

The Override privilege governs who can override the required fields and required approvers for a status and move the change to the next status without those fields being filled in or approvers signed off. With Override privilege, a user can release a change even when all required fields are not filled in.

The Override privilege is specific to each status. A change can be moved to the next status without all approvals as long as the user has the privilege to move a change to the next status. For example, a user might be able to override the promotion of a change from the Manager Review status to the CCB Review status, but not the promotion of a change from Final Review to Released.

A warning is issued to the user if there are missing fields, approvers, or other requirements for the usual move to the next status level.

Caution	A user with the Override privilege can promote a routable object to the next status in all of the following situations:

- Regardless of the presence of any required fields.
- When Pass Release Audit is set to Yes.
- When the Change Status Approver Rejected Change SmartRule is set to Warning or Disallow.
- When the Change Status Observer Rejected Change SmartRule is set to Warning or Disallow.
- When the Change Status No Response Change SmartRule is set to Warning or Disallow.

For the Change Status Approver Rejected Change and Change Status Observer Rejected Change SmartRules, a Warning setting does not prevent the routable object from being autopromoted; that is, the SmartRules *must* be set to Disallow to prevent autopromotion.

To allow the change analyst to decide whether or not to promote a routable object that has been rejected, the following conditions need to be true:

- AutoPromotion is set to Yes for that status.
- These two SmartRules are set to Disallow.
- The change analyst has the Override privilege for this status.

The Override privilege calls for specific “From” and “To” settings, such as Change Status. The Override privilege lets a user change the status of a routable object, even if the Pass Release Audit is set to Yes. The only exception is during the initial release of a routable object. If the Pass Release Audit is set to Warning, then the warning appears even during an override.

Note that when the user does not have Override privilege, and Pass Release Audit = Warning or No, the Status Audit should give an Error (which requires user to fix conditions) instead of a Warning.

Purge Folder Version Privilege

The Purge Folder Version (PFV) privilege allows a user to purge unused file folder versions from the Agile File Management vault. The file folder version number is removed from the file folder **Version** dropdown list. You can create Purge Folder Version privilege masks for specific subclasses of folders by selecting the appropriate folder object criteria when you create and define the PFV privilege mask. The user must have appropriate privilege masks to discover and read the file folder object in order to select the file folder version to purge. If a file folder version is checked out, has redlines, or is in use on a business object **Attachments** tab or **Content** tab, it cannot be purged.

The **Purge Folder Version** command appears on the file folder object **More...** menu (Java Client) and **Actions** menu (Web Client).

Transfer Authority for Self

The Transfer Authority for Self privilege allows the user to designate a target user, who is allowed to approve or reject changes for her for a specified period of time. The authority transfer applies when the user is an approver on a routable object, but not when the user is an observer. Transfer Authority for Self is very useful for situations where the original user is going on a vacation or extended leave.

The target user can vary depending on criteria within the privilege. For example, all changes for Project A can be directed to Mary and all changes for Project B can go to Joe. If the criteria for the different transfers overlap, then both users who have been defined as the target of the transfer receive the notifications and are able to sign off for the original user.

The transfer of authority is in effect for the duration specified by the start and end dates. Once this time has elapsed, signoff authority is automatically transferred back to the original user.

If a user’s authority needs to be transferred to more than one person, such as multiple targets during a longer vacation, the target users should be specified sequentially, as shown in the following table.

From User	To User	Start Date	End Date
Brian Henson	David Goelz	14-July-2007	30-July-2007

From User	To User	Start Date	End Date
Brian Henson	Kevin Clash	31-July-2001	12-Aug-2007

Caution If you need to remove a user from the system who is named as the "To" user in signoff authority transfers, see Deleting and Undeleting Users on page 162 for more information.

Transfer Authority for Others

The Transfer Authority for Others privilege allows an authorized user to transfer an original approver's right to approve or reject changes to another user for a specified period of time. The authority transfer applies when the original user is an approver on a routable object, but not an observer.

This privilege overrides transfers designated by users who have the Transfer Authority for Self privilege. The original approver is copied on all notifying email.

Note When you create a transfer criteria, you can include criteria conditions with **Affected Items** tab fields. To select a specific routable object, an **Affected Items** field condition must be true for all the objects on the **Affected Items** tab of that routable object.

For example, if you specify Affected Items.Old Lifecycle Phase Equals Preliminary, then all the objects on the **Affected Items** tab must have the **Old Lifecycle** field equal to Preliminary. If you select Contains as the search operator, then every object on the **Affected Items** tab must contain the specified value in the specified field.

Site Change Order Save As Limitations

You cannot initiate Save As from a non-Site Change Order (SCO) change object in order to create an SCO object, nor can you initiate Save As from an SCO object in order to create a non-SCO change object. Because Site Change Orders (SCOs) affect only site-specific information, and other types of changes are not limited to site-specific information (for example, ECOs and MCOs), SCOs can be Save-As-created only from another SCO. The Site Change Order's site-specific only usage makes it incompatible with other change types when using the Save As feature.

Subscribe

The Subscribe privilege allows a user to *subscribe* to an object to receive notification of events that happen to that object. Users can even be notified when specified fields are modified, and can select the events about which to be notified.

The user needs the Subscribe privilege for a specific object class to be able to subscribe to that class's objects.

On the **Subscriptions** tab of a user, you can view the objects to which this user has subscribed.

Subscription events trigger two types of notifications: Email and Inbox. Email notifications are sent only if the user's Receive Email Notification preference is set to Yes; this property is on the **Preferences** tab of the user object.

Privilege Mask Components

Privilege masks are a powerful and complex feature. Each privilege mask is composed of several components. Together, the privilege mask components define the following:

- What action the user can perform;
- The object type on which the action can be performed;
- Filtering conditions that define a subset of objects on which the action can be performed.
- AppliedTo attributes – found only in privilege masks based on the Administrator, Modify, Read, Microsoft Project, and Dashboard Management privileges – which displays specific object attributes;
- For the Change Status privilege, the workflow, the status the user can change from, and the status the user can change to (see the second diagram in Combining Options in Criteria and AppliedTo Attributes on page 229).

All Privilege Masks have a Privilege, Object Type, and Criteria

Privilege masks act as filters to either enable or prevent user actions. By combining the types of action with the precise conditions under which it should be enabled, privilege masks control user activity in Agile PLM. The following components are used to construct privilege masks and are among the privilege mask properties:

1. The **privilege** or action (see Privilege Mask Component 1: Privileges on page 223)
2. The **object type** to be acted upon (see Privilege Mask Component 2: Object Type on page 223)
3. The **criteria** or conditions under which to apply the action (see Privilege Mask Component 3: Criteria on page 225)

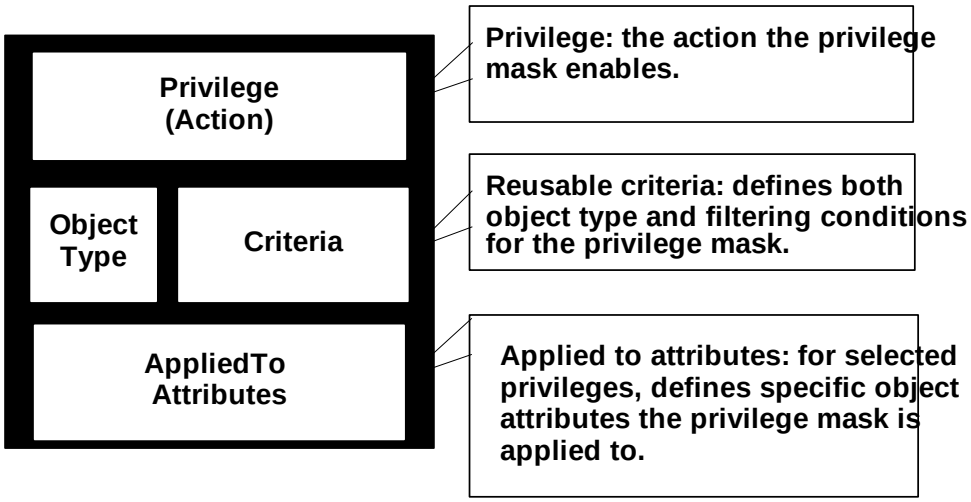
4. The **attributes** the action will be applied to (see Privilege Mask Component 4: Attributes on page 225)

A Few Privileges are the Basis to Privilege Masks with AppliedTo

Speaking to No.4 above: privilege masks that are based on some privileges that use a fourth component, that is, named attributes found in the AppliedTo property. This important property was introduced in AppliedTo Capability on page 203.

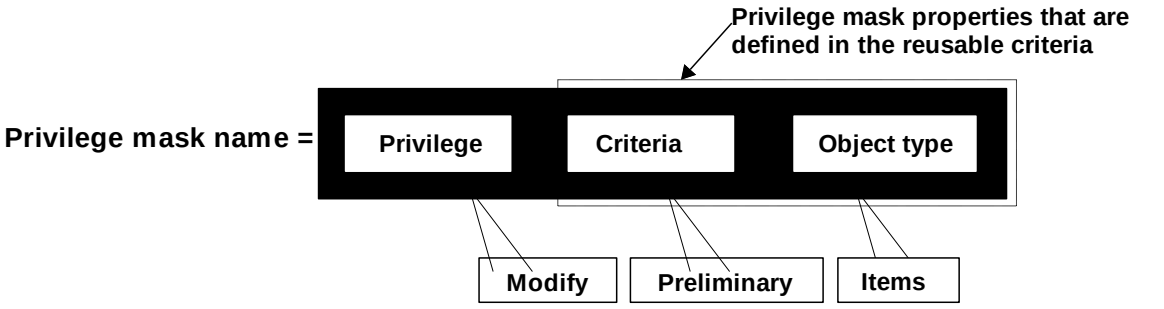
Diagramming Privilege Masks

Privilege masks employ a reusable criteria to define the object type and filtering conditions. When you create a privilege mask, you select a reusable criteria from the list of criteria objects, as seen in the schematic diagram.



Naming Privilege Masks

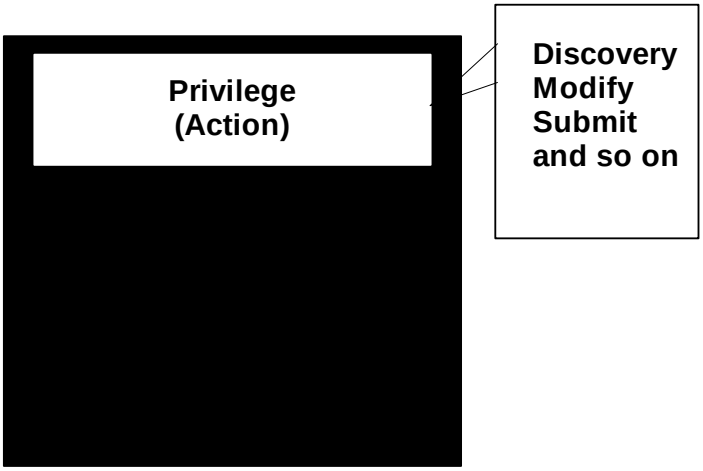
The following convention for naming privilege masks has been used so their purpose and function is as clear as possible.



Some privilege masks consist of only the privilege and the object type, for example, Send Changes.

Privilege Mask Component 1: Privileges

The fundamental building block of a privilege mask is the *privilege*, or the action it enables, such as Discovery, Modify, or Submit. We have already looked at the basic privileges in the Agile PLM system in Agile PLM Privileges.



This basic privilege is defined when the privilege mask is created, and can be viewed on the **General Information** tab of the privilege mask. For example:

To view the properties of the Modify Eng Changes **privilege mask:**

1. Under **User Settings**, double-click **Privileges**.
2. In the Privileges window (which actually lists Privilege Masks based on the named Privilege), double-click the privilege mask **Modify Eng Changes**. The privilege mask object appears.

   Note Filter privilege records by Privilege Contains Modify to find the all the Modify privilege masks on the list. (See Filtering Data on page 16.)

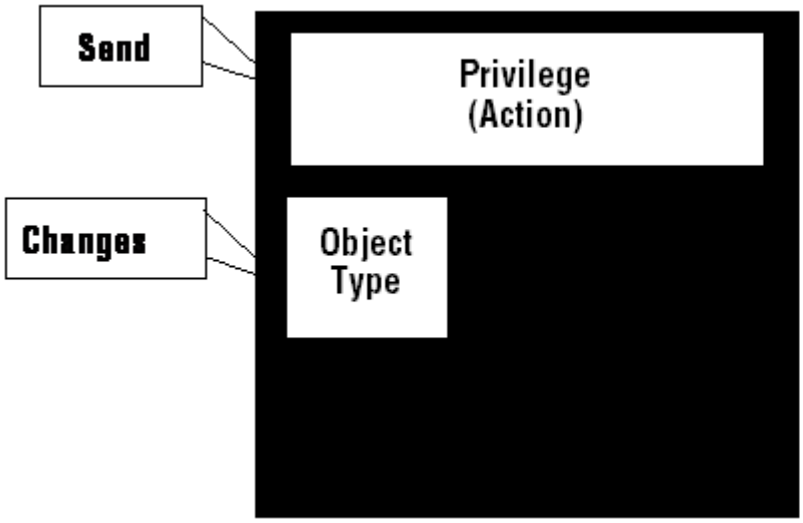
3. You can now modify the editable fields of the **General Information** tab.

   Notice that you cannot edit the **Privilege** field, indicating that you cannot change this value after the privilege mask is created. Notice, also, that you can edit the **Privilege Criteria** field.

4. Click **Cancel** when you have finished viewing the editable properties of the privilege mask.

Privilege Mask Component 2: Object Type

Most privilege masks consist of the *object type* to be acted upon, for example, changes, Change Orders class, or ECO. The object type is also a privilege mask property that is defined when the privilege mask is created, when you select the reusable criteria. The object types are defined in the **Classes** node. For more information about object types, see Agile PLM Class Structure on page 46.



Some privilege masks, such as Send Changes (depicted above), consist of only the privilege and the object type. For this type of privilege mask, select a reusable criteria that specifies the object type only with no filtering criteria, such as the For Changes Only reusable criteria.

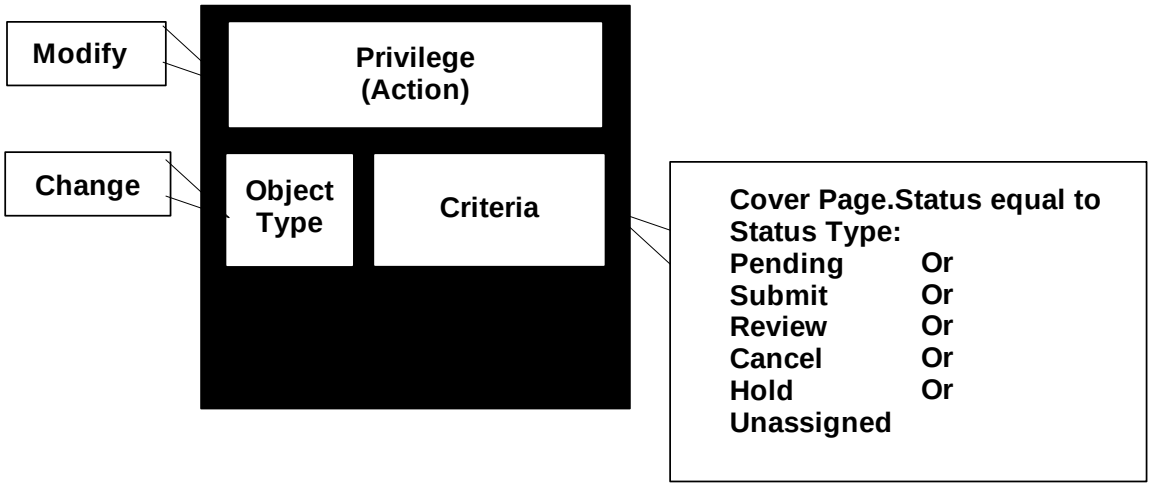
You can use the object type to broaden or narrow the privilege. The following example illustrates how a Modify Changes privilege mask could be broadened to include all changes, or narrowed to include just ECOs. See Installed Agile PLM Classes, Base Classes, and Subclasses for a complete list of Agile PLM object types.

Select this object type	To allow user to modify...	
	These classes:	These subclasses:
Changes	Change Orders class Change Requests class Deviations class Manufacturer Orders class Price Change Orders class Site Change Orders class Stop Ships class	ECO ECR Deviation MCO PCO SCO Stop Ship
Change Orders class	Change Orders class	ECO (also includes any other Change Order subclasses that you have defined)
ECO	N/A	ECO (includes this subclass only)

Note If you remember to use the Action–Criteria–Object Type naming convention, the object type is part of the privilege mask name. (See Naming Privilege Masks on page 222.)

Privilege Mask Component 3: Criteria

Another property of a privilege mask is the set of *criteria* you want to apply, or the conditions under which the privilege mask will work. Criteria are defined in the reusable criteria when it is created. The criteria for the privilege mask is defined when the privilege mask is created and the reusable criteria is selected from the list. You can select a different reusable criteria later.



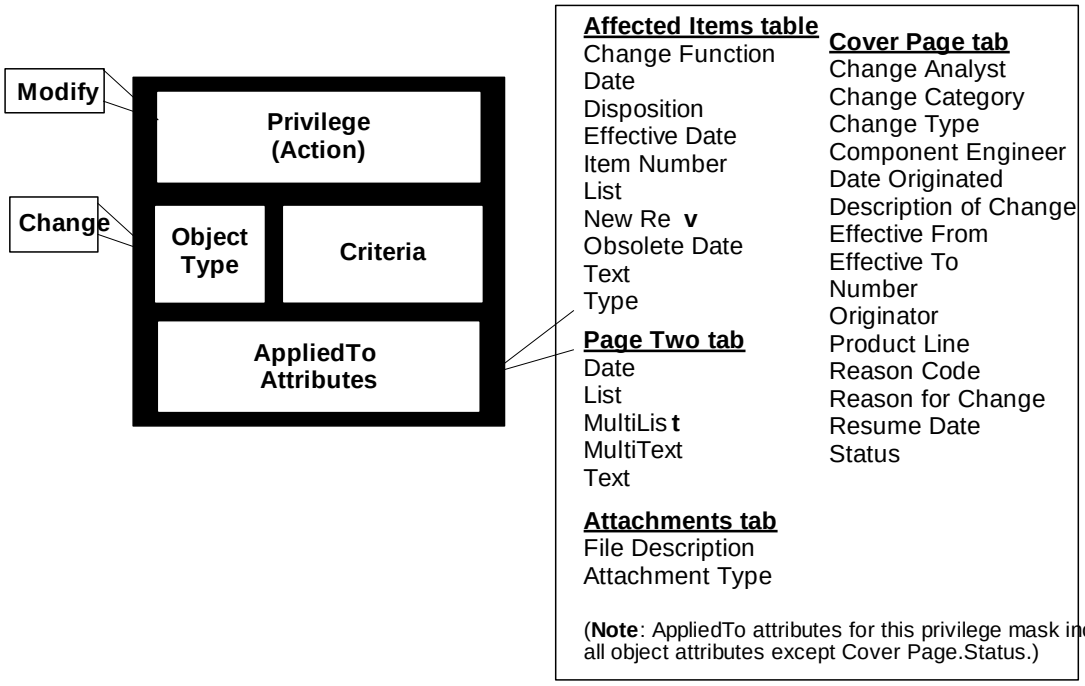
Using this particular reusable criteria allows users to modify only engineering changes in one of the status types defined in the reusable criteria (Pending, Submit, Review, Cancel, Hold, or Unassigned).

Privilege Mask Component 4: Attributes

Another building block of a privilege mask is the *attribute* (or attributes) you want the privilege mask applied to. These are called AppliedTo attributes, and are used only in Modify and Read privilege masks. AppliedTo attributes are defined when the privilege mask is created and can also be changed later.

Modify privilege masks are designed to let users modify the attributes on a particular tab, such as the **Cover Page**, **Title Block**, or **General Information** tab.

For example, the Modify Eng Changes privilege mask provided with your Agile PLM installation is designed to apply to, or allow users to modify, the attributes shown in the figure below:



To view these AppliedTo attributes:

1. Under **User Settings**, double-click **Privileges**.
2. In the Privileges window, double-click the privilege mask Modify Eng Changes. The privilege mask appears; see the schematic above.

   Note Filter privilege records by Privilege Contains Modify to find all the Modify privilege masks on the list. (See Filtering Data on page 16.)

   The AppliedTo attributes are listed on the **General Information** tab.
3. To view the lists of available attribute values and selected attribute values, click the down-arrow next to the **AppliedTo** field. The **Choices** and **Selected** lists appear in the selection dialog box.
4. Click **Cancel** when you have finished viewing the lists. Click **Close** when you have finished viewing the **General Information** tab fields.

Viewing Privilege Masks

The privilege masks that make up a role define the actions its users can perform. Agile PLM provides you with a set of preconfigured privilege masks for the installed roles. Every role has at least one privilege mask.

To view the privilege masks for a particular role:

1. Under **User Settings,** double-click **Roles**.
2. In the Roles window, double-click the role. The role's tabbed window appears.
3. Click the **Privileges** tab. The privilege masks are displayed in the table.

Viewing Privilege Mask Properties

Each of the privilege masks that make up a role has its own set of properties that define the privilege being controlled. The available privilege mask properties are listed and described in the following table. Not all of these properties are configurable for all privilege masks.

Property	Description
Name	A name, for example, "Modify Resume Date." A privilege mask name of up to 255 characters.
Description	A maximum 510-character description of the privilege mask, for example Modify Resume Date After Release.
Enabled	Yes or No. When set to No**,** allows you to work with a privilege without its being in effect. This is useful when setting up privileges.
Privilege (governing action)	A privilege, for example, Create. Identifies the privilege, or action, such as Create, Delete, Modify, Print, or Read. Only one privilege is defined in a privilege mask. After the privilege mask has been created, this property is not editable.
Privilege Criteria	The reusable criteria selected for this privilege mask. Only one reusable criteria is selected for each privilege mask. The selected reusable criteria defines two important properties of the privilege mask: ▫ **Object Type** — Identifies the Agile PLM object type for the privilege mask. ▫ **Criteria** — Specifies the exact conditions for applying the privilege, for example, Cover Page.Status Equal to StatusType.Released. The reusable criteria specifies all possible fields and match-if values for the object type.
AppliedTo	Modify, Read, Administrator, Dashboard Management, and Microsoft Project privileges only. Specifies the attributes that a Modify or Read privilege mask is applied to, such as Cover Page.Date Originated. See Discovery and Read Privileges on page 206 and Modify Privilege on page 211. Specifies which administrator node the Administrator privilege mask is applied to, such as Users. See AppliedTo Capability on page 203. Two other privileges that use AppliedTo are described in Dashboard Management and PPM-specific Privileges on page 359.
Workflow	(Change Status and Override privileges only) For Change Status, specifies the workflow in which the user can change statuses or override change status actions. For Override, the From Status and To Status properties define the change status action the

Property	Description
	user can override.
From Status	(Change Status and Override privileges only) For Change Status, specifies the statuses from which the user can change to another status. For Override, the From Status and To Status properties define the change status action the user can override.
To Status	(Change Status and Override privileges only) For Change Status, specifies the statuses the user can change to. For Override, the From Status and To Status properties define the change status action the user can override.

To view privilege mask properties:

1. Under **User Settings,** double-click **Privileges**.
2. In the Privileges window, double-click the privilege mask you want to view. The privilege mask window appears.

   Note Filter privilege mask records to narrow your search. For example, filter records by Privilege Contains Modify to find all the Modify privilege masks on the list. (See Filtering Data on page 16.)

3. To modify a property, enter text in text fields or use the dropdown lists.

   Note The **Privilege (governing action)** field is not editable.

4. When you are finished, click **Save,** or click **Close** to exit without saving your modifications.

Using Privilege Mask Criteria Variables

You can use the variables listed and described in the following table when creating a reusable criteria for use as a privilege mask criteria. In the Create Criteria dialog box, some variables appear on the **Attribute** list, and others can be entered in the **Value** field. See Agile PLM Variables on page 36 for a complete list of Agile PLM variables.

Variable	Description
$CHECKOUTUSER	The user who checked out the object's attachment.
$LATEST	The latest revision of an object; more specifically, the latest released revision for a released item, or the latest pending revision for an unreleased item (with Pending changes); $LATEST applies only to the Read and Modify privilege.

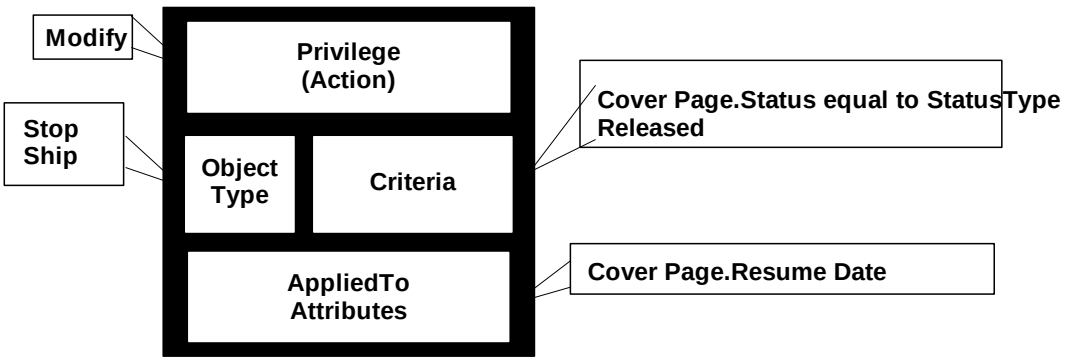
Variable	Description
$CREATEUSER	The user who created the object. To specify the Create User as an attribute (for example, Create User equal to $USER), select Page two.Create User in the **Attribute** field when you are defining a reusable criteria. See also Applying Create User Criteria on page 232.
$PARTNER	The current supply chain partner company.
$CURRENTREV	The current revision of an object you have selected from the rev list, or the revision of an object you are currently viewing.

Combining Options in Criteria and AppliedTo Attributes

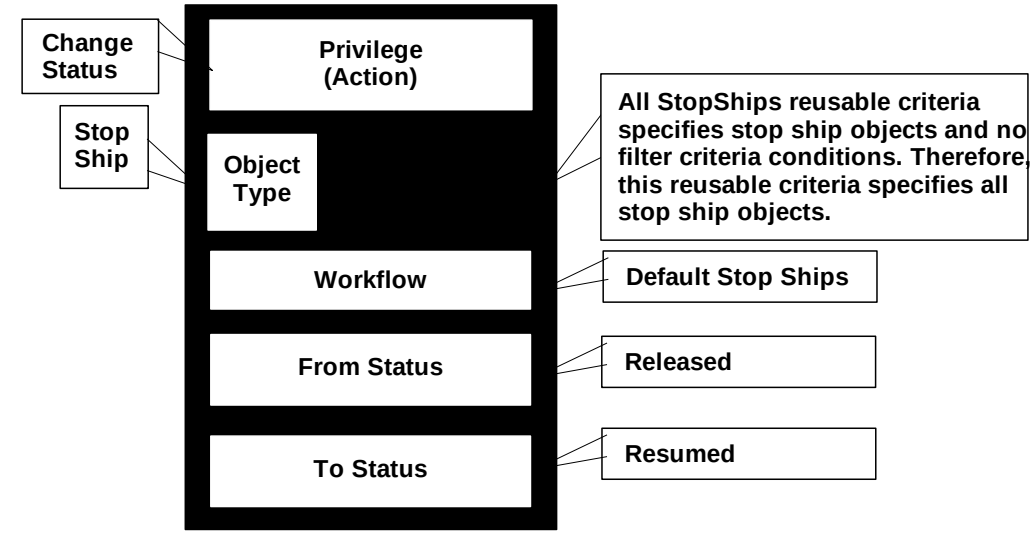
When you create or modify a privilege mask, the AppliedTo and Criteria dialog boxes let you make selections from all possible combinations of attributes, but not all criteria or attributes make sense for all privilege masks. Evaluate the options you combine to make sure they function as expected.

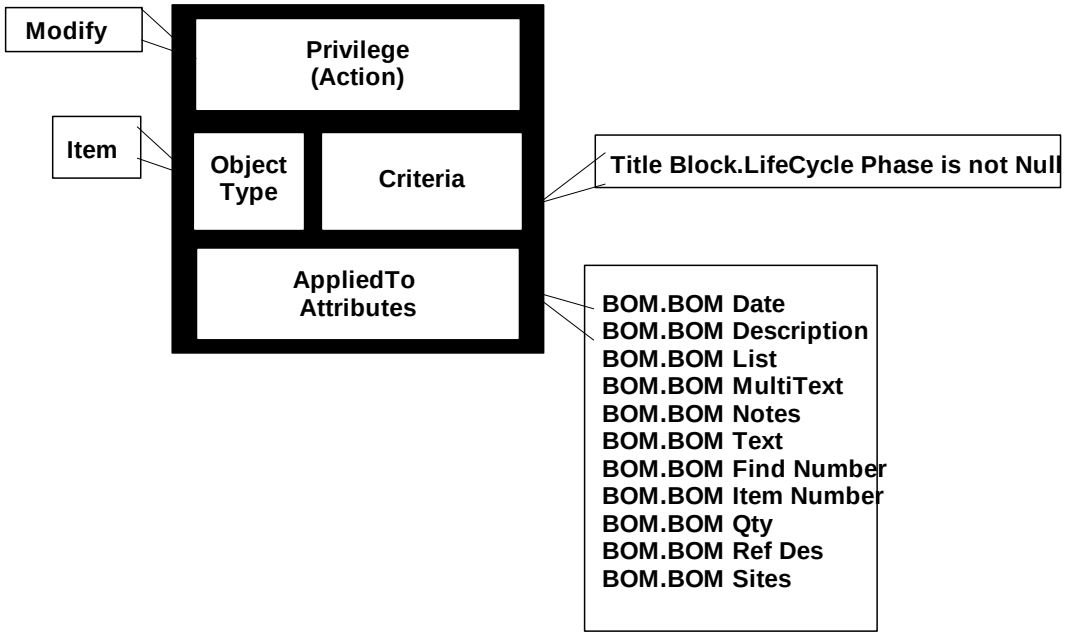
For example, when modifying the Modify Released Eng Changes privilege mask, you can select the Affected Items.Item Number and Affected Items.New Rev fields from the list in the AppliedTo dialog box. However, these two fields cannot be modified once the routable object has been released. Because you *can* specify these attributes in the AppliedTo dialog box, it does not necessarily follow that you *can* modify those fields on a released routable object.

The following are examples of privilege masks and their properties that are provided with your Agile PLM installation.



The Change Status privilege does not include AppliedTo properties, like the one in the figure above. However, the Change Status privilege includes properties for Workflow, From Status, and To Status, as seen in the figure below.





Modifying Privilege Masks

You can modify privilege masks in many ways. This section describes these modifications.

Modifying Privilege Mask Criteria

To modify existing Privilege Mask Criteria:

1. Under **User Settings,** double-click **Privileges**.
2. In the Privileges window, click the privilege mask you want to modify. The privilege mask window appears.

   Note Filter privilege mask records to narrow your search. For example, filter records by Privilege Contains Modify to find all the Modify privilege masks on the list. (See Filtering Data on page 16.)

   The privilege mask properties are displayed on the **General Information** tab.
3. To modify a property, enter text in text fields or use the dropdown lists.
4. In the **Privilege Criteria** field, select a different reusable criteria from the dropdown list.

   Or click **Create** to define a new reusable criteria. (See Creating a New Criteria on page 109.)
5. When you are finished, click **Save**. To cancel the changes, click **Close**.

Modifying the AppliedTo Property

The AppliedTo property lets you specify exactly which attributes or fields may be modified by the privilege mask. This property is available only for Modify, Read, Administrator, Dashboard Management, and Microsoft Project privileges. (This information, presented earlier in the chapter, is here for convenience.)

The **Choices** list contains all available attributes for the privilege mask's object type. The **Selected** list contains all the attributes that have been selected for the privilege mask. For example, the selection dialog in the figure above, includes all the fields and attributes for a change, such as those found in an ECR, ECO, MCO, and so on.

Note See Administrator Privilege and the AppliedTo Capability on page 203 for information about the AppliedTo attribute in the Administrator privilege.

To select the AppliedTo attributes for a qualified privilege mask:

1. Under **User Settings,** double-click **Privileges**. The Privileges window appears.
2. Double-click the qualified privilege mask you want to modify. The privilege mask window appears.

   Note Filter privilege mask records to narrow your search. For example, filter records by Privilege Contains Modify to find all the Modify privilege masks on the list. (See Filtering Data on page 16.)

   The privilege mask properties are displayed on the **General Information** tab.
3. On the **General Information** tab, click the down-arrow next to the **AppliedTo** field. The selection dialog box opens.
4. Use right arrow to move selected values from the **Choices** list to the **Selected** list.

5. When you are finished, click **OK**.
6. To finish editing the privilege mask, click **Save**.

> **Note** The AppliedTo selection dialog box lets you select from all available fields on a tab. However, users may not be able to modify all the fields you select under all conditions.

For example, when creating the Modify Released Eng. Changes privilege mask, you can select from all fields on the **Affected Items** tab, including **Item Number, New Rev,** and **Type.** However, these fields cannot be modified once the routable object is released. Because *yo*u can select these attributes from the **Choices** list in the AppliedTo selection dialog box, it does not necessarily follow that users can modify those fields under all conditions.

Applying Create User Criteria

Create User criteria statements restrict users to reading only those objects they have created. The Create User feature allows a user without a read privilege to create an object. To implement Create User criteria, you need to first make both of the following visible:

- The **Page Two** tab of that class (see Showing, Hiding, or Renaming a Tab on page 59).
- The **Create User** attribute field on the **Page Two** tab of an Agile PLM class (see Showing or Hiding an Attribute on a Tab on page 78).

Once you have done this, Agile PLM clients automatically display the creator's name in the **Create User** field of the **Page Two** tab *for that class*. Any user who has a Create privilege can now open a blank form *for that class* and create an object. In this way, users don't need to have a basic Read privilege to create objects. However, this privilege limits users to reading only pending or preliminary objects they have created.

For users who have the Create privilege, you can expand the Read privilege to include all objects they have created, regardless of the state, by creating a Read privilege mask for the subclass with a reusable criteria that specifies Page Two.Create User criteria conditions. In addition to making the **Page Two** tab visible and making visible the **Create User** field on the tab, you need to:

- Create a reusable criteria that specifies the Page Two.Create User attribute, typically Page Two.Create User Equal to $USER.
- Create a privilege mask that specifies the reusable criteria you created.

For example, for a user who creates ECOs, create a new privilege mask as follows:

- **Name** — Read ECOs
- **Description** — Read-Only ECOs created by this user
- **Privilege** — Read
- Select or create a reusable criteria that specifies:
  - **Type:** ECO
  - **Attribute:** Page Two.Create User
  - **Match If**: Equal To $USER

You can read the Create User attribute into the **Manufacturers** tab for both Manufacturers and

Manufacturer Parts by making it visible on these tabs. Remember to first make the **Page Two** tab and its Create User attribute visible for the class.

Enabling a Privilege Mask

To enable a privilege mask that is currently disabled:

1. Under **User Settings,** double-click **Privileges**. The Privileges window appears.
2. Click the privilege mask you want to enable.

   Note Filter privilege mask records to narrow your search. For example, filter records by Privilege Contains Modify to find all the Modify privilege masks on the list. (See Filtering Data on page 16.) Or you can click the Enabled column header to sort by Yes (enabled) or No (disabled).

3. Click the **Enable** button on the window toolbar.

   The disabled privilege mask is now enabled.

   Note You can also enable and disable a privilege mask when you edit the **General Information** tab of the privilege mask.

Creating New Privilege Masks

As with roles, it is easy to create new privilege masks, although you should use extreme caution whenever you change user access and permissions. Before creating a new privilege mask, you should review the privilege masks you currently have. Generate the Privilege Mask Detail report from the **Administrator Reports** node for a listing of current privilege masks and their criteria (see Administrator Reports on page 16).

We recommend that you modify (or copy and modify) an existing privilege mask that is similar to the one you need instead of creating a new one. The existing privilege masks have been tested extensively; their operation and interaction in Agile PLM are documented.

Before You Begin

Consider the following details before creating a new privilege mask.

- Does the privilege mask you want already exist? If so, you can assign it to the role without creating a new privilege mask. If the appropriate reusable criteria exists, check its **Where Used** tab for the privilege mask you want.
- What action do you want the privilege mask to enable in Agile PLM?
- What action do you want the privilege mask to prevent in Agile PLM?
- Upon what object type will the privilege mask act?
- What will you name the new privilege mask? Remember to use the *Action–Criteria–Object Type* naming convention.
- Which role will require the new privilege mask?

- If you are creating a basic Read or Modify privilege mask, do you also need to create a corresponding Discover privilege mask? Does a corresponding Discover privilege mask already exist? (A Discover privilege mask is **not** automatically created when you create a new Read or Modify privilege mask.)
- If it is not a Read privilege mask, does its effectiveness depend on a Read privilege?
- Under what specific conditions do you want to enable this privilege mask? Is there an existing reusable criteria that you can select when you create the privilege mask? If so, check the reusable criteria's **Where Used** tab to see if the privilege mask you want already exists.
- Will the privilege mask conflict with any existing masks in the role?
- Does the role have an existing privilege mask you can modify to achieve the results you want?
- Is there an existing privilege mask, either in this role or another role, that you can copy (using Save As) and modify to avoid having to create one from scratch?

You can create a new privilege mask from scratch using the following procedure. You can also create a new privilege mask by using the Save As process. See Copying a Privilege Mask Using Save As on page 235.

Creating a New Privilege Mask from Scratch

To create a new privilege mask:

1. Under **User Settings**, double-click **Privileges**. The Privileges window appears.
2. Click **New** on the toolbar. The Create Privilege dialog box appears.
3. Enter a name. Remember to use the Action–Criteria–Object Type naming convention. (See Naming Privilege Masks on page 222.)
4. Enter a description.
5. By default, the privilege mask is enabled. If you want, select No in the **Enabled** field to disable the privilege mask. You may want to do this while developing the privilege mask.
6. Select a privilege from the **Privilege** dropdown list.

   Depending on which privilege you select, more fields may appear in the wizard for you to complete.

   Note If you selected the Change Status privilege, see Change Status on page 216 for detailed information about completing a Change Status privilege mask.

7. Do one of the following:
   - To finish creating a privilege mask that does not require a privilege criteria (reusable criteria), click **Finish**.
8. For all other privileges, in the **Privilege Criteria** field, select a reusable criteria from the dropdown list. The reusable criteria defines both the object type and the filtering conditions (criteria) for the privilege mask.

   Or click the **New** button in the dialog box to define a new reusable criteria. See Creating a New Criteria on page 109.

   (See Privilege Mask Component 2: Object Type on page 223 for more information about

selecting an object type for your privilege mask. See Criteria on page 107 for more information about reusable criteria.)

9. If you are creating a Read or Modify or Administrator privilege mask, you can select the object fields for which the Read or Modify privilege is applied. (See Privilege Mask Component 4: Attributes on page 225.)
   - Click at the **AppliedTo** field. The selection dialog box opens.
   - Use the right and left arrows to move selected values from one list to the other.
   - When you are finished, click **OK**.
10. If you are creating a Change Status or Override privilege, see Change Status on page 216.
11. When you have completed the fields on the Create Privilege wizard, click **OK**.

Note	If you disabled the privilege mask while you were creating it, remember to enable it so it can be used.

Copying a Privilege Mask Using Save As

Use the **Save As** button in the privilege mask window to make a copy of an existing privilege mask. You can change the copy to suit your needs.

To copy a privilege mask:

1. Under **User Settings,** double-click **Privileges**. The Privileges window appears.
2. Double-click the privilege mask you want to copy. The privilege mask window appears.

Note	Filter privilege mask records to narrow your search. For example, filter records by Privilege Contains Modify to find all the Modify privilege masks on the list. (See Filtering Data on page 16.)

3. Click the **Save As** button.
4. Enter a name for the new privilege mask.
5. Click **Save** when you are finished. The new privilege mask appears.

Chapter 11

General System Settings

This chapter includes the following:

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This chapter explains how to set System Settings that affect multiple Agile PLM solutions.

SmartRules

SmartRules let you choose how to manage specific behaviors in Agile PLM, which enhances your change control process. Since SmartRules apply systemwide, you can easily modify processes.

In addition, if a user changes an attribute value to one that does not match the criteria for the current workflow of the routable object, a SmartRule governs the choice of the options that follow.

Note For all SmartRules, any workflow on which a routable object is advancing is not modified.

Modifying SmartRules Settings

To modify a SmartRules setting:

1. Under **System Settings,** double-click **SmartRules**. The SmartRules window appears.
2. At the rule you want to change, select a setting from the dropdown list. The list of possible settings can include the following values:
   - **Allow** — The system allows the process to occur.
   - **Disallow** — The system prevents the process from occurring.
   - **Warning** — The system warns the user that the process is occurring.
   - **Remove** — Removes all approvals/rejections on the **Workflow** tab when the routable object returns to the status where first rejected.
   - **Retain** — Keeps all approvals/rejections on the **Workflow** tab when the routable object returns to the status where first rejected.
   - **Display** — Displays the object in the table.
   - **Display with Just Description** — Displays the object with its subclass and description. The part number and other values read from the object are not displayed.

- **Display with Just Part Num and Rev** — Displays the object with its subclass, part number, and revision. The description and other values read from the object are not displayed.
- **No Display** — Does not display the object in the table. No warning is given.
- **No Display with Warning** — Does not display the object in the table. Issues the following on the tab: "There are x objects not displayed due to insufficient user privilege."

3. When you have finished, click **Save**.
4. If you wish to revert to the original settings or start over, click **Close**. You will be prompted whether you want to close the window without saving; click **Yes** if you do or **No** if you do not.

SmartRules Defined

The following table lists and describes Agile PLM SmartRules.

SmartRule Name	Description	Possible Settings
Allow Deletion of Attachments	When set to Yes, upon removing an attached file from a business object **Attachments** tab, if the file folder is not in use by any other business object (that is, no versions of the file folder are referenced by a business object), the file folder is automatically soft-deleted. A user with the appropriate search capabilities can run the File Folder Recycle Bin Search and hard-delete (or undelete) the soft-deleted file folder.	Yes No (default)
Auto-Installs from PPM	Allows or disallows automatic installation of Microsoft Project (2002 and 2003) DLLs into a user's system registry. Installation of these DLLs enables seamless publishing using an Agile menu within Microsoft Project. It should be set to Disallow if your company does not want any applications to be automatically installed, or if you prefer to set up an Agile–MS Project connection systemwide.	Allow (default) Disallow Warning
Auto-Publish Quote History	Allows or disallows RFQ or response-line data to be published to objects in the Quote History subclass.	Allow (default) Disallow Warning
BOM Multi-Level Recursion	For systems based on Oracle DB, this SmartRule validates whether a BOM recursion can occur, that is, when a subassembly includes one of its parent items from an upper level of the BOM tree structure on its own BOM. (A recursive BOM structure, if carried to its logical conclusion, would repeat indefinitely). The validation happens when a change order (ECO, SCO, and MCO) advances to Released, or when Release Audit is performed, or when the change tries to advance when current status needs to Pass Release Audit (assuming SR setting is Disallow). Notes: Because non-Oracle DB systems do not allow or check for recursion, this SmartRule has no effect; these systems should see the default setting is Allow. Because previous customers of Agile PLM may use recursive BOMs, the 9.2.2.1 upgrade process should leave the default setting as Allow.	Allow (default for non-Oracle DB systems, and for upgrading customers) Disallow (default for Oracle DB systems)

SmartRule Name	Description	Possible Settings
	These customers may run an Agile-supplied script to detect all BOMs with possible recursion. When these have been detected and "cleaned up," these customers may elect to set this SmartRule to Disallow. Important: The PG&C and PCM solutions do not support BOM recursion. For companies using either of these solutions, set this SR to Disallow.	
Change Status Approver Rejected Change	Determines whether to allow movement of the routable object to the next status or warn the user that an approver has rejected the change. It affects all Review or Released status types. If you require the ability to determine if a routable object should be allowed to proceed when it does not meet the SmartRule, set it to Disallow. A user with Override privilege is able to advance the routable object in the workflow. *Please see the Caution about this property in Override on page 218.* **Note:** To make sure that a routable object is not autopromoted through the workflow after a user has rejected it, set this SmartRule to "Disallow." Setting it to "Warning" will, in some cases, allow the routable object to be autopromoted through the workflow even when that is not the intended behavior.	Allow Disallow Warning (default)
Change Status No Response Change	Determines whether to allow movement of the routable object to the next status when an approver has not responded with either an approval or a rejection. It affects all Review or Released status types and applies only to changes that are being manually moved to the next level. Autopromotion requires that each approver either approve or reject the routable object.	Allow Disallow Warning (default)
Change Status Observer Rejected Change	Determines whether to allow movement of the routable object to the next status or warn the user that an observer has rejected it. It affects all Review or Released status types. If you require the ability to determine if a routable object should be allowed to proceed when it does not meet the SmartRule, set it to Disallow. A user with Override privilege is able to promote the routable object. *Please see the Caution about this property in Override on page 218.*	Allow Disallow Warning (default)
Check In Attachment With Different File Extension	Determines whether an attachment file that is being checked in can have a different file extension than the file that was checked out. **Note**: This rule is overridden when an item's attachment is Latest-x and the file extension in the attached file folder is changed and is therefore different than the extension of the item's checked-out file.	Allow Disallow (default) Warning

SmartRule Name	Description	Possible Settings
Copy Files To Rev	Controls automatic copying of files to a new revision. The system checks this SmartRule only when a pending change is created and not when attachments are added. The settings work as follows: ▫ **Copy** – For the item's new pending revision, Agile creates a new file folder and creates a new copy of the attachment file, which is placed in the new file folder. ▫ **Reference** – Agile uses the existing file folder and creates a new reference to it on the item's new pending revision **Attachments** tab. ▫ **Disallow** – The new item pending revision is created with no attachments. ▫ **Copy with Warning** – The same as the **Copy** setting**,** with the option of choosing no attachments for the new pending revision. When you add items to the pending ECO, you are presented with a warning dialog that includes a row for each item you are adding. ▫ To add the item and to copy the attachments, check both the Add checkbox and the Attachments checkbox. ▫ To add the item with no attachments, check only the Add checkbox. ▫ **Reference with Warning** – The same as the **Reference** setting, with the option of choosing no attachments for the new pending revision. When you add items to the pending ECO, you are presented with a warning dialog that includes a row for each item you are adding. ▫ To add the item and to reference the existing attachments, check both the Add checkbox and the Attachments checkbox. ▫ To add the item with no attachments, check only the Add checkbox. **Note**: If you set this rule to Disallow, files that were added to the Introductory revision after the object was associated with a change (that will result in released Rev A) will not be copied to subsequent revisions. Also, when a new Change is created, all the files that were added to the Introductory revision won't be added to the newly created revision.	Copy Copy with Warning Disallow Reference (default) Reference with Warning
Demotion Approvers Removal	Defines whether ad hoc (not the default) approvers and observers will be removed from the list when the routable object is rejected and returned (that is, demoted) to a previous status. It affects all Review and Released status types in all workflows. **Retain**: When a workflow is returned to a previous status (including Pending), the ad hoc approvers are retained and they will see the change when it advances through the workflow again. **Remove**: When a workflow is returned to a previous status (including Pending), the ad hoc approvers are removed – they will not see the change again unless the originator or change analyst adds them back.	Retain (default) Remove

SmartRule Name	Description	Possible Settings
Demotion Signoff Removal	Defines whether approvals/rejections already recorded will be removed from the routable object's **Workflow** tab when it is rejected and returned (that is, demoted) to a previous status. It affects all Review and Released status types in all workflows. **Retain**: When a workflow is returned to a previous status (including Pending), the signoffs that are already recorded are retained. **Remove**: When a workflow is returned to a previous status (including Pending), the signoffs are removed and approvers will have to sign off again when the change advances through the workflow.	Retain (default) Remove
Detailed TimeSheet Entry	Controls the display of the Timesheet tab in Product Portfolio Management. **Disallow**: The Timesheet tab and all associated actions are disabled. **Allow**: The Timesheet tab is displayed next to the My Assignments tab for users to enter Actual Hours against a task or activity. When the Timesheet is enabled, data entry for Actual Hours on the Team tab is disabled.	Disallow (default) Allow
Discovery Object Tables	Controls the display of information about an object on the Change History, Where Used, Affected Items, Manufacturers, BOM, or Pending Changes tables when the user does not have the Discovery privilege for the object. Possible settings are Warning (the default) and No Display. If the Discovery Privilege property in the Database node is disabled, then so is this SmartRule. **Note:** When this setting is changed, users must exit the Agile Java Client and log in again before the change takes effect.	Warning (default) No Display
Discovery Results Table	Controls the display of information about the Results table when the user does not have the Discovery privilege for an object in the table. If the Discovery Privilege property in the Database node is disabled, so is this SmartRule. **Note:** When this setting is changed, users must exit Java Client and log in again before the change takes effect.	Warning (default) No Display
Display BOM Tables	Controls the display of information about an item in the BOM table when the user does not have the Discovery privilege for the item. **Note:** When this setting is changed, users must exit Java Client and log in again before the change takes effect.	No Display with Warning (default) Display Display with Just Description Display with Just Part Num and Rev No Display

SmartRule Name	Description	Possible Settings
Display Structure Tables	Controls the display of model structures that are created by objects of the Designs class.	Display (default) No Display
Duplicate Find Numbers	Controls the use of duplicate find numbers when users add items to a BOM. This SmartRule has been expanded to dictate whether or not the same find number can be used in a site-specific portion of a BOM as is used in the global portion of a BOM. It also dictates whether or not the same find number can be used within a site-specific portion of the BOM. For example: If the Duplicate Find Numbers SmartRule is set to Disallow, then: ▫ Find Number 1 cannot be used for Part 123 on the Milpitas BOM if Find Number 1 is used for Part 234 on the Global BOM. ▫ Find Number 1 cannot be used for Part 123 on the Milpitas BOM if Find Number 1 is also used for Part 234 on the Milpitas BOM. The same find number can be used in more than one site-specific portion of the BOM regardless of the Duplicate Find Numbers SmartRule setting. For example: Find Number 1 could be used for Part 123 on the Singapore section of the BOM and Find Number 1 could be used for Part 234 on the Milpitas section of the BOM. The setting of the Duplicate Find Numbers SmartRule does not affect this behavior. If the Duplicate Find Numbers SmartRule is set to Allow, any item can have the same find number as another item regardless of what site section of the BOM they are on.	Allow Disallow Warning (default)

SmartRule Name	Description	Possible Settings
Duplicate Item Numbers	Controls the use of duplicate item numbers when a user adds items to a BOM. This SmartRule has been expanded to dictate whether or not the same item number can be used in a site-specific portion of a BOM as is used in the global portion of a BOM. It also dictates whether or not the same item number can be used within a site-specific portion of the BOM. For example: If the Duplicate Item Numbers SmartRule is set to Disallow, then: ▫ Part 123 cannot be added to the Milpitas BOM if Part 123 is already on the Global BOM. ▫ Part 123 cannot be added to the Milpitas BOM if Part 123 is already on the Milpitas BOM. The same item number can be used in more than one site-specific portion of the BOM regardless of the Duplicate Item Numbers SmartRule setting. For example: Part 123 can be added to the Singapore section of the BOM and the Milpitas section of the BOM. The setting of the Duplicate Item Numbers SmartRule does not affect this behavior. If the Duplicate Item Numbers SmartRule is set to Allow, any item can be added more than once as a component on the BOM regardless of what site section of the BOM they are on.	Allow Disallow Warning (default)
Duplicate Ref Des	Controls whether duplicate reference designators can be used on a BOM. This SmartRule has been expanded to dictate whether or not the same reference designator can be used in a site-specific portion of a BOM as is used in the global portion of a BOM. It also dictates whether or not the same reference designator can be used within a site-specific portion of the BOM. For example: If the Duplicate Ref Des SmartRule is set to Disallow, then: ▫ Reference Designator 1 cannot be used for Part 123 on the Milpitas BOM if Reference Designator 1 is used for Part 234 on the Global BOM. ▫ Reference Designator 1 cannot be used for Part 123 on the Milpitas BOM if Reference Designator 1 is also used for Part 234 on the Milpitas BOM. The same reference designator can be used in more than one site-specific portion of the BOM regardless of the Duplicate Ref Des SmartRule setting. For example: Reference Designator 1 could be used for Part 123 on the Singapore section of the BOM and Reference Designator 1 could be used for Part 234 on the Milpitas section of the BOM. The setting of the Duplicate Ref Des SmartRule does not affect this behavior. If the Duplicate Ref Des SmartRule is set to Allow, any item can have	Allow Disallow Warning

SmartRule Name	Description	Possible Settings
	the same reference designator as another item regardless of what site section of the BOM they are on.	
Effectivity Date Order	Controls whether a new rev can be released with an effective date that is earlier than one or more old revisions. This SmartRule also applies to the effectivity dates for site-specific items on the Affected Items table.	Allow Disallow Warning (default)
Effectivity Gap	Controls gaps between the obsolete date of an existing part and the effective date of its replacement part on affected items. This SmartRule also applies to the effectivity dates for site-specific items on the Affected Items table.	Allow Disallow Warning (default)
Effectivity Overlap	Controls overlaps in the effective dates of an existing part and the obsolete date of its replacement parts on an affected item. This SmartRule also applies to the effectivity dates for site-specific items on the Affected Items table.	Allow Disallow Warning (default)
Enable Addition of Activities and Gates to Completed Activities	Controls ability to add new data from PPM Activities or Gates to completed (Released) Activities.	Allow Disallow (default)
Enable Comments for Deleting, Archiving & Delegating	Controls whether comments can be recorded while performing Delete, Archive, or Delegate actions in Product Portfolio Management.	Disallow (default) Allow

SmartRule Name	Description	Possible Settings
Force Commodity and Part Family to be Identical	This rule applies only to customers that have both the PCM and PG&C solutions. Otherwise, you can ignore it. The rule controls whether legacy Part Family objects (in PG&C solution) and new Commodity objects (in PCM solution) are to be treated by the system as Commodity objects that are shared by both solutions. The default is Yes. If you want to treat Part Families and Commodities differently, set the rule to No. However, you must also configure the Commodities class to make the rule effective. For more information, see Part Groups: Configuring Part Families on page 441.	Yes (default) No
Items Released First	Controls whether an item can be released when the item's BOM contains unreleased items. This SmartRule is pertinent to multiple sites: when a "parent" item is released, the rule checks the BOM components for site association and whether the BOM components are also released for that particular site.	Allow Disallow Warning (default)
Many Items per PSR	Allows or limits the association of items (parts or documents) with PSRs (problem reports or NCRs).	Allow Disallow (default) Warning
Many QCR per PSR	Allows or limits the association of QCRs (CAPAs or audits) with PSRs (problem reports or NCRs).	Allow Disallow (default) Warning
Multiple Items Per Manuf Part	Controls whether a manufacturer part can have multiple item parents. If set to Disallow or Warning (the default), the system checks items as the change order's Workflow performs a Release Audit. This function has been enhanced; for more information, see Release Audit, or Audit Current Status for Conditions to Release on page 143.	Allow Disallow Warning (default)
Negative Value For Material Price Adder Fields	Controls the entering of "negative prices" in the **Material Price Adder** attribute.	Allow Disallow (default) Warning
Negative Value For Material Price Fields	Controls the entering of "negative prices" in the **Material Price** fields.	Allow Disallow (default) Warning
Negative Value For Non-Material Price Fields	Controls the entering of "negative prices" in **Non-Material Price** fields.	Allow Disallow (default) Warning
Notify Resource Pool Owner for Proposed Programs	Controls the sending of notifications to resource pool owners for programs in Proposed state.	Allow (default) Disallow

SmartRule Name	Description	Possible Settings
Overlap Price Line Effectivity Periods	Controls overlapping effectivity periods of price lines on price objects and PCOs.	Allow Disallow (default) Warning
PSR Contains Items & Related PSRs	Controls whether a PSR can be associated with both affected items and related PSRs (Allow), or only affected items or related PSRs (Disallow). **Notes**: 1. There is *no* business logic between items on the **Affected Items** tab and items on the **Related PSR** tab (that is, an item listed on **Related PSR** will not be copied to the **Affected Items** of the parent PSR). 2. There *is* business logic between PSRs and QCRs, so if a PSR is associated with a QCR, items from both the PSR's **Affected Items** tab and its **Related PSR** tab will automatically populate the QCR's **Affected Items** tab.	Allow Disallow (default) Warning
Redline Manufacturers On Change Order	Controls whether users are allowed to redline the **Manufacturers** tab from an ECO. If the setting is Disallow, all buttons in the Redline Manufacturer table are disabled. Possible settings are Allow (the default) or Disallow.	Allow (default) Disallow
Release QCR With Un-resolved Items	Controls whether a QCR can be released either manually or through auto-promotion even though all items on the Affected Items tab have not been associated with a Change. ▫ If you set it to No Display, the SmartRule allows a QCR to be released even though all its affected items do not have an associated Change. Such a QCR will also pass a release audit without a warning. ▫ If you set it to Warning, the SmartRule warns users that a QCR is being released even though all its affected items do not have an associated Change.	No Display (default) Warning
Released Rev Required	Controls whether a routable object can be unreleased if has an affected item that is on the BOM of a released assembly.	Allow Disallow Warning (default)
Unrelease Change Order	Controls whether change orders can be unreleased.	Allow Disallow Warning (default)
Unrelease Change Request	Controls whether change requests can be unreleased.	Allow Disallow Warning (default)
Unrelease Deviation	Controls whether deviations can be unreleased.	Allow Disallow

SmartRule Name	Description	Possible Settings
		Warning (default)
Unrelease Manufacturing Order	Controls whether manufacturer orders can be unreleased.	Allow Disallow Warning (default)
Unrelease Stop Ship	Controls whether stop ships can be unreleased.	Allow Disallow Warning (default)
Workflow Matching Criteria Attribute Modification	A user may modify an attribute by giving it a value that does not match the workflow's matching criteria. This SmartRule governs whether the system accepts the changed attribute. **Note**: If this SmartRule is set to Warning or Disallow, any attempt to modify attributes of the routable object that are specified in the workflow's matching criteria results in an immediate warning or prevention of the modification. However, if the workflow's matching criteria includes a reusable criteria that specifies an item's attribute, the user will be allowed to modify the value of that item attribute to a value that does not match the reusable criteria. No warning will be given. If, after that item attribute has been modified, the user then modifies the routable object in any way, the user is warned that the routable object no longer matches the workflow's matching criteria.	Allow Disallow (default) Warning **Note:** None of the choices result in the workflow being altered.
Zero Value For Material Price Fields	Controls the use of "0" as a value for the **Material Price** field.	Allow Disallow Warning (default)
Zero Value For Material Price Adder Fields	Controls the use of "0" as a value for the **Material Price Adder** field.	Allow Disallow Warning (default)
Zero Value For Non-Material Price Fields	Controls the use of "0" as a value for the **Non-Material Price** field.	Allow Disallow Warning (default)

Viewer and Files

You can double-click **Viewer and Files** under **System Settings** to open the Viewer & Files window. You can set viewing preferences for files that are attached to Agile PLM objects. The following table lists the properties on the **General Information** tab of the Viewer & Files window; elaborations about some of the properties follow.

Property	Description	Default
AutoPurge Enabled	Determines whether old versions of attachments should be deleted from the Agile File Manager.	No
File Version Keep	Dictates the number of versions to keep for archival purposes; used with AutoPurge Enabled set to Yes. Whether or not these versions include redlined versions depends on the settings of AutoPurge Enabled and Purge Redlined Files; see Note in text below.	3
Purge Historical Reports Unaccessed (in days)	Dictates the number of days that a Historical Report is not accessed before it is automatically purged.	30
Purge Redlined Files	Determines whether files with redlines are deleted, depending on the setting of AutoPurge Enabled. Overrides the File Version Keep preference.	No
Supported File Types	List of attachment filename extensions: used by PLM to trigger Agile Viewer to open a graphic file when the user clicks the **View** button or clicks the link under the filename.	See table below.
Structured File Type	List of modeling (e.g., CAD) file types that your company uses; the file extensions are entered as in Supported File Types field. See Structured File Types and CAD Revision BOM Attribute on page 251.	—
CAD Revision BOM Attribute	This field lets the administrator enable a text field in the Documents class, which permits assigning Revision letters (A, B, etc.) to CAD modeling BOMs (structured BOMs). The process to set up this field is described in Structured File Types and CAD Revision BOM Attribute on page 251.	—
Upload File Size Limit (in MB)	Defines the maximum size (in MB) of uploaded files for Java Client, Web Client, Portal Client, and SDK. The default value, 0, indicates "No Limit"; any non-negative integer sets the size limit in MB. Users get error message in Java & Web clients if a file is too large. Files that successfully upload (before a failure occurs) remain uploaded, other files (after a failure occurs) will not be uploaded.	0 (= No limit to file size)

Options for Purging and Retaining Files

The following settings determine the circumstances under which files are purged or retained on the Agile PLM system and on users' local computers. Purging and retaining take place only during checkout and checkin routines.

AutoPurge Enabled

Old versions of attachments can be automatically deleted from the Agile File Manager when new versions are checked in; the system does this after the checkout or checkin routine. If **AutoPurge Enabled** is set to Yes, old versions are deleted. To specify how many versions of the files you want

to keep, use the **File Version Keep** field. See File Version Keep on page 249 and Purge Redlined Files on page 249 below.

If **AutoPurge Enabled** is set to No, old versions of attachments are kept on the Agile PLM system.

Caution	There is no operation to restore an autopurged file. AutoPurge is *not* an archive function.

To enable or disable AutoPurge:

1. Under **System Settings,** double-click **Viewer & Files**. The Viewer & Files window appears.
2. In the **Auto Purge Enabled** dropdown list, select No (disabled) or Yes (enabled).
3. When you are finished, click **Save**.

File Version Keep

Use this property to specify how many old versions of the files you wish to keep. For example, if the value is set to 3, then the three most recent versions of the file are archived. (The latest version is also kept.) Use this property when **Auto Purge Enabled** is set to Yes; if **Auto Purge Enabled** is set to No, all versions are kept. See AutoPurge Enabled on page 248 above and Purge Redlined Files on page 249.

To specify the number of attachment versions to keep:

1. Under **System Settings,** double-click **Viewer & Files**. The Viewer & Files window appears.
2. In the **File Version Keep** field, type a number. The number indicates how many attachment versions you want to keep, in addition to the current version.
3. When you are finished, click **Save**.

Purge Redlined Files

The **Purge Redlined File** field determines whether redlined files are automatically deleted along with files without redlines, depending on the setting of **Auto Purge Enabled**.

With **Auto Purge Enabled** set to Yes and **Purge Redlined File** set to Yes, the value of **File Version Keep** is the number of versions that will be kept. All earlier redlined files are purged. With **Auto Purge Enabled** set to Yes and **Purge Redlined File** set to No, the value of **File Version Keep** is the number of versions (either redlined or non-redlined) that will be kept. All earlier redline files are also kept.

See AutoPurge Enabled on page 248 and Purge Redlined Files on page 249.

To set the Purge Redlined File **property:**

1. Under **System Settings,** double-click **Viewer & Files**. The Viewer & Files window appears.
2. In the **Purge Redlined File** dropdown list, select No (disabled) or Yes (enabled).
3. When you are finished, click **Save**.

Specifying Supported File Types for the Agile Viewer

In the **Supported File Types** list (on the **General Information** tab), you can list the types of files that users

can view with the Agile Viewer. **Supported File Types** controls whether or not the files can be viewed in the Agile Viewer.

Note The user needs to be assigned the ViewFile privilege in order to view attachments.

The “2D” file formats in the following table have been tested and verified by Agile to run with Agile PLM. These formats are automatically listed in the **Supported File Types** list in Administrator. Current customers may also have additional file types listed after upgrading.

Note that any given file extension should only appear in either the Supported File Types list or the Structured File Types list, not both.

File extension	File type
BMP	Microsoft bitmap
CAL	CALS Group IV
CGM	Computer Graphics Metafile
DGN	Intergraph
DOC	Microsoft Word
DWG	AutoCAD Drawing File v 14, 2000
DXF	AutoCAD Drawing Exchange Format
GIF	Graphic Interchange Format
GP4	a neutral 2D viewable format
JPG, JPEG	Joint Photographic Experts Group
PCX	Microsoft Paintbrush
PDF	Adobe Portable Document Format
PLT	HPGL & HPGL 2
PPT	Microsoft PowerPoint
PS	Adobe Postscript
SLDDRW	SolidWorks 2D
TIF, TIFF	Tagged Image File Format
TXT	Text
XLS	Microsoft Excel
ZIP	Zip

The Agile Viewer is based on the AutoVue viewer developed by Cimmetry Systems Corp. For an updated list of file formats supported by the Agile Viewer, see the following Cimmetry Systems website:

http://www.cimmetry.com/formats.html

File types are listed by extension. When a user selects an attached file that has one of the filename extensions on the list, the **View** button is enabled. This is also true for a multiple-file attachment

where one of the included files is supported.

Caution	If you are the administrator of Agile PLM on a Chinese, Hebrew, or Swedish operating system, Agile recommends that you remove the Supported File Types property of all file-type extensions. This is because the Agile Viewer is not supported on those operating systems. For detailed information about using Agile PLM with international operating systems, contact the Agile support Web site.

To add or delete a file to the Supported File Types list:

1. Under **System Settings,** double-click **Viewer & Files**. The Viewer & Files window appears.
2. To delete a file type from the **Supported File Types** list, select that line and press the Delete key to delete it.
3. To add a file type to the **Supported File Types** list, enter its name on a new line. You can also use Ctrl-C and Ctrl-V to copy and paste a list from one of the other file type fields or from another application.
4. When you are finished, click **Save**.

Structured File Types and CAD Revision BOM Attribute

In addition to the Supported File Types property, Rel.9.2.2.2 adds two properties to facilitate work with modeling (CAD) file types.

Structured File Types lets you type in file type extensions that should be viewed in a structured manner. When you click on a file attachment that is listed in this property, the system knows to traverse the document BOM (or "DocuBOM") to search for other files necessary for viewing the complete model (such as a CAD assembly).

Note that any given file extension should only appear in either the Supported File Types list or the Structured File Types list, not both.

Note	The files extracted to the viewer are determined by the Attachment Type attribute on the document's **Attachments** tab. If there is a value in this attribute (such as SOURCE) for the originally selected file attachment, then only files whose Attachment Type attribute matches this value are extracted. If there is no value in the Attachment Type attribute, then all files within the structure hierarchy are extracted.

To facilitate the usefulness of the Structured File Type property, a value for the CAD Revision BOM Attribute can also be specified. If entered, this value identifies the attribute that is configured as part of Agile's EC CAD Connectors to hold the "As Saved" revision.

To set the CAD Revision BOM Attribute:

1. Double-click **Viewer & Files**.
2. From the CAD Revision BOM Attribute dropdown list, select the BOM attribute that you previously configured for holding the CAD Revision, as part of your EC installation. Click **OK**, then click **Save**.

If you wish to use the CAD Revision BOM Attribute to provide fixed BOM resolution for the viewer even though you are not using an Agile EC CAD Connector, you must manually store the current value of the Revision field, for each object in the BOM, in the BOM attribute you designate for "CAD

Revision".

Note If CAD Revision BOM Attribute field is left "blank," the system uses standard Agile BOM resolution to determine how to traverse the structure to find files. Standard resolution is considered "floating", in that child objects can "rev" forward even after the parent object is released.

Printing Banners and Watermarks

The Viewer & Files window includes a **Watermark** tab and a **Banners** tab. The settings on these tabs determine whether banners and watermarks appear on printouts of files attached to Agile PLM business objects, and the content of those banners and watermarks. These banners and watermarks appear on files printed with the Agile Viewer.

The only way to have no print appear is to make sure the Banner and Banner Text pairs (and Attribute Watermark/Attribute Watermark Text) are *both* blank: delete the text in the appropriate text field. For example, if you make Top Left Banner blank, you will then see an unwanted “Printed by:” because this was not deleted from Top Left Banner Text.

The following table lists the watermark properties; these can be set on the **Watermarks** tab.

Property	Description	Default Text or Setting
Attribute Watermark	The value of this attribute appears in the watermark as text after the Attribute Watermark Text.	[*Select from dropdown list. This becomes* $ATTRIBUTENAME:]
Attribute Watermark Text	Text that appears before the text of the value in the Attribute Watermark.	[*None: enter your own text, including* colon *if appropriate*.]
Back Rev Watermark Text	Watermark text that appears if the item object is not the latest revision. This property is available only for the Parts and Documents Banner & Watermark attributes.	Back Revision
Name	Lists all the Agile PLM business classes for selection	[*one for each business class*]
Pending Rev Watermark Text	Watermark text that appears if the Item object is a pending revision. This property is available only for the Parts and Documents Banner & Watermark attributes.	Pending Revision
Print Watermark	Turns printed watermarking on (Yes) and off (No).	No

The following table lists the banner properties; these can be set on the **Banners** tab.

Property	Description	Default Text or Setting
Name	Lists all the Agile PLM business classes for selection	[one for each business class]

Property	Description	Default Text or Setting
Bottom Left Banner	Banner appears at the bottom of the printout, on the left, after the Bottom Left Banner Text.	[object number]
Bottom Left Banner Text	Text that appears before the text that is the value of the Bottom Left Banner.	$ATTRIBUTENAME:
Bottom Middle Banner	Banner appears at the bottom of the printout, in the middle, after the Bottom Middle Banner Text.	*Item*: "Rev [*letter*] of Latest Released Revision" Empty for other classes
Bottom Middle Banner Text	Text that appears before the text that is the value of the Bottom Middle Banner.	*Item*: "Rev:" Empty for other classes
Bottom Right Banner	Banner appears at the bottom of the printout, on the right, after the Bottom Right Banner Text.	[Status for workflow class; Lifecycle Phase for non-workflow class]
Bottom Right Banner Text	Text that appears before the text that is the value of the Bottom Right Banner.	"Status:" [or] "Lifecycle phase:"
Top Left Banner	Banner appears at the top of the printout, on the left, after the Top Left Banner Text.	[*Print User*]
Top Left Banner Text	Text that appears before the text that is the value of the Top Left Banner.	"Printed By:"
Top Middle Banner	Banner appears at the top of the printout, in the middle, after the Top Middle Banner Text.	—
Top Middle Banner Text	Text that appears before the text that is the value of the Top Middle Banner.	—
Top Right Banner	Banner appears at the top of the printout, on the right, after the Top Right Banner Text.	[*Print Date*]
Top Right Banner Text	Text that appears before the text that is the value of the Top Right Banner.	"Printed On:"

Here are a few points about the watermark and banner settings:

- All the properties except Print Watermark can be filled with your own text.
- For any specific attachment, only one setting is available per banner or watermark property.
- You cannot create multiline banners.
- The variable "$ATTRIBUTENAME:" inserts the name of the attribute that is selected in the Attribute Watermark property or the banner properties.
- *Within* the Banner Text and Attribute Watermark Text properties, it is possible to enter your own text *before* the "$ATTRIBUTENAME:" variable, but not after.

Banner and Watermark Properties

When you set values that specify text to appear in printed banners and watermarks, you select from a dropdown list of variables and attributes (fields that appear in Agile PLM clients). The following table lists and describes the choices.

Variable in dropdown list for property	Default printed value and restriction
Effective Date – Obsolete Date	*Effective from: [effective date] to: [obsolete date]* Available for items only: Effective Date and Obsolete Date are derived from the **Affected Items** tab of the change that created the specific rev of the item.
Page Number	Page *[page number]* Also specifies the region of an image when a specific region is printed.
Page Number and Page Count	Page *[page number]* of *[total pages]* Also specifies the region of an image when a specific region is printed.
Print Date	*[print date]*
Print User	*[user]*
Rev of Latest Released Revision	*[rev letter of latest released revision]* Available for items only.
Watermark Text	The value specified for the Watermark Attribute property, regardless of whether that property is enabled. Available as a variable for banners only.
Attribute	*[attribute name].[attribute value]* Many selections: Attachments.*[value], Change History.[value], Page Two.[value], Title Block.[value], Cover Page.[value], General Info.[value]*

To print watermarking and specify watermark text:

1. Under **System Settings,** double-click **Viewer & Files**. The Viewer & Files window appears.
2. Click the **Watermark** tab to bring it forward.
3. Double-click the watermark you want, and update the property setting for the class.
4. Select Yes in the **Print Watermark** dropdown list to enable watermark printing.
5. To select watermark text, in the **Attribute Watermark** the dropdown list, select an attribute. The value of this attribute will appear as watermark text when **Print Watermark** is set to Yes.
6. To specify custom text for back revisions and pending revisions, in the **Back Rev Watermark Text** or the **Pending Rev Watermark Text** field, type the text that you want to appear in the watermark or accept the default text.
7. When you are finished modifying the **Watermark** tab, click **Save**.

Specifying Banner Text and Location

To specify a banner to print on Agile PLM object printouts:

1. Under **System Settings,** double-click **Viewer & Files**. The Viewer & Files window appears.
2. Click the **Banners** tab to bring it forward.
3. For each banner you want to appear (Bottom Left, Middle, or Right; or Top Left, Middle, or Right), select an attribute or variable from the dropdown list. The value of this attribute or variable will appear in the banner.
4. If you want to remove the default text or enter new text in the banner, place your cursor in the corresponding text field of the banner, for instance, **Bottom Left Banner Text**, and delete or alter the text. Since this text appears *before* the value in **Bottom Left Banner** property, you may end this text with a colon.
5. To change a text property, in the corresponding text field of the banner, for instance, **Bottom Left Banner Text**, delete or alter the text, type the new text or variable in its place.
6. When you are finished modifying the **Banners** tab, click **Save**.

Notifications

Agile PLM automatically sends notifications to users either when the user is required to take action or to notify the user that various actions have taken place.

Aside from the specific event that triggers a notification to be sent, each notification has the same attributes. By default, each notification includes text for the subject and body of the message. You can use the default text, or you can enter a text message that you want to use.

A notification is sent only if it has been enabled (its **Enabled** property = Yes). Depending on the **Type** property setting for the notification, the notification appears in the user's Inbox, is sent by email, or both. The **Enabled** and **Type** properties can be set as needed for each notification.

A user can receive notifications in Java Client or Web Client. The User preference Preferred Client (under **User Settings > Users >** <**any user**> **> Preferences** tab) determines in which client a user receives notifications. Remember that Agile's PPM, PCM, and PG&C solutions operate only in Web Client, so it is recommended that the Preferred Client be set accordingly for users whose work will be in those solutions.

If an action triggers multiple notifications to the same user, the user will receive only one notification. For example, if the triggering action is the status promotion of a routable object, and Bob is an approver, *and* Bob is added to the Notify list when the object is promoted, Bob is now specified as a recipient of notifications for both **<***routable object* **> Status Promotion, Approver** and **<***routable object***> Status Promotion, Observer, Notify**. However, Bob will receive only one notification related to this triggering action.

Important To fully configure email notification in Agile PLM Clients, please see Configuring Web Client Notification on page 269 and Configuring Java Client Notification on page 270.

Editing a Notification

To edit a notification:

1. Under **System Settings,** double-click **Notifications**. The Notifications window appears.
2. Double-click one of the notification classes. The appropriate list of notification templates appears.
3. Double-click the name of the notification you want to edit. Its tabbed window appears.
4. Edit the attributes in the appropriate manner: select from a dropdown list or enter text. Refer to the following table.

Notification attribute	Description
Name	Name of notification; not editable
Enabled	Yes = the notification is enabled. This notification will be sent when the triggering event occurs. No = this notification will not be sent.
Importance	Default is Regular; list includes High and Low.
From	Select a user from the list who will be listed in the "From:" field of the email. The defaults are variables: $AGILE is always present on the dropdown list; $ORIGINATOR and $SENDER are often present; on routable objects, the appropriate routing manager variable is present (for example, $CHANGE ANALYST). Only one user can be selected for the **From** attribute.
Type	Select Email, Email and Inbox, or Inbox from the dropdown list.
Subject (and **Data**)	You may compose a subject line for the notification. By including Data tags when you compose the subject line, you can include references specific to the triggering event, such as Change Number and Originator. See Entering Subject and Body Text on page 256.
Body (and **Data**)	You may compose body text for the notification. By including Data tags when you compose the body text, you can include references specific to the triggering event, such as Change Number and Originator. See Entering Subject and Body Text on page 256.

5. To insert a data tag (or data variable) into the **Subject** or **Body** field, click the **Add Data Tag** button. For more information, see Entering Subject and Body Text on page 256.
6. Click **Save**.

Entering Subject and Body Text

During the editing of a notification, when you enter the text you want to appear in the subject line and body of the notification, you can add data tags that refer to pertinent information for that notification.

For example, for an ECO Status Promotion, Approvers and Change Analyst notification, you might want the subject line to say:

> [Cover Page.Change Type] [Cover Page.Number] has been moved from [From Status] to the [To Status] of [Cover Page.Workflow] workflow.

To include the From status in the subject line:

1. Click to position the cursor in the appropriate place in the subject message.
2. Select From Status in the **Data** field next to the **Subject** field.
3. Click add **Data Tag**. The data tag [From Status] appears in the **Subject** field.
4. As you continue to enter text in the subject line, you can add more data tags.

Similarly, use the **Data** field next to the **Body** field to add data tags to the body text.

Full Text Search

From the **Full Text Search** node, you specify how the search is done and manage the indexing of attachment files. The information on indexing in this chapter applies only to indexing files. Indexing of database information for Web searches is always done synchronously.

When a user searches for attachment file content, the search results list each object that contains files matching the search criteria. Only the latest versions of attachments are listed. For more information about setting up searches and finding data in Agile PLM, see *Getting Started with Agile PLM*.

Note	Regarding the Agile multi-language capability, Full Text Search is supported for attachment files in Japanese, Traditional Chinese, Simplified Chinese, German, and French localized versions.

Full Text Search Limitations

Full Text Search has the following known limitations:

- Full Text Search follows existing roles and privileges. Users who do not have privileges for objects do not see these objects in search results.
- Users who do not have Field-level Read for fields do not see these fields in the search results.
- Full Text Search does not support searches for the following:
  - Synonyms
  - URL attachments
  - Viewer (Cimmetry) redline data
- For non-English text in documents, Full Text Search is supported only for attachment files, not for Stem searches or Concept searches.
- Attachment files that can be returned by a full text search must be created and saved in DOC, PPT, PDF, TXT, HTML, XLS, XML or RTF.

- Files on any Agile File Management file vault are available to Full Text Search, and are indexed based on the Administrator settings.
- If an object contains multiple files (that is, multiple documents are attached to the object), even if only one of the files contains the search text, the entire object is returned. The file that contains the text is not indicated, and you may need to look through all attachment files to find the appropriate one.

Full Text Search Properties

When you double-click the **Full Text Search** node, the Full Text Search window appears, with **General Information** and **History** tabs. There is more information about the settings for indexing attachment files in the next section.

Property	Editable?	Default	Notes
Stem Searching	Yes	Disabled	Finds variations of a word. From "run" it could find *ran*, *runs*, *running.*
Concept Searching	Yes	Disabled	Finds words that fit the same general concept. From "sports" it could find *running, track*, *basketball*, and the like. **Important:** Concept searching is not supported on Microsoft SQL Server.
Indexing	Yes	Synchronous	Indicates when words in a file will be available for full text search: Manual – indexes files when a user clicks the **Index Attachments** button only. Scheduled – indexes files according to the specified schedule—see next table. Synchronous – indexes files as soon as a file is added. See Indexing Attachment Files on page 259.
Index File Type	Yes	doc, ppt, pdf, txt, html, rtf, xml, xls	Makes possible selective indexing of specified files. A comma separates each file type, which are not case-sensitive. The default values cover a range of common file types. If you narrow the field to include one or two file types for a specific search, be sure to re-populate the field with your preferred file types upon completion of the search.
Last Indexed	No	N/A	Date the system was last indexed.
Next Scheduled Index	No	System-generated if scheduled indexing is running	Indicates the time the next scheduled index will occur. Only appropriate if indexing is "Scheduled."
Recurrence	Yes	N/A	Indicates how frequently indexing occurs. Activated when indexing is "Scheduled."

The following additional attributes appear when you click the Recurrence field:

Property	Editable?	Default	Notes
[Once a Day] or [Every X Hours Y Minutes]	Yes	No	Specifies the frequency that indexing occurs.
Starting At	Yes	0:00:00 am	Indicates the starting time of the schedule
Ending At	Yes	0:00:00 am	Indicates the ending time of the schedule. This option will be disabled if recurrence = Once A Day.
Days	Yes	M–F	Indicates which days the schedule will take effect

Indexing Attachment Files

There are some “best practice” recommendations for setting the system for indexing attachment files.

Using FileLoad and Indexing New Files

If the Indexing property is set to Synchronous and a large number of files are added to the File Management file vault using Agile FileLoad, the indexing process can take a long time. It has been found that setting this field to Manual increases the loading speed for a large number of files. Or, if the files being added tend to be large documents, set the Indexing property to Scheduled and set up an indexing schedule for once every 3 or 4 hours. If most of the new files are relatively small, the Indexing property can be set to Synchronous.

Index Attachment Button

Use the **Index Attachment** button on the toolbar (**Admin > System Settings > Full Text Search**) to manually index new attachments that are not yet indexed. The **Index Attachment** button is available only when indexing is set to Manual.

"Stop" Words

There are short, common words called “stop” words that are ignored by the system in searching against attachment files. So, a search for “the mouse” will return only matches for “mouse”. You don’t need to know the words unless you run a lot of searches; the list of words is in “Using Quick Search to Find Attachment File Content” in the Searches chapter in *Getting Started with Agile PLM*.

My Assignments

This node configures some aspects of what your users see when they click the **My Assignments** tab in Web Client’s home page. (If a user’s Preferred Inbox View user preference is set to My Assignments, it will already be displayed when that user opens Web Client.) You can set the order of the columns, and you can rename the column names; the default columns are called Name, Status, Due Date, % Complete, Related To, Actual Hours, and Flag.

To change the order of the columns:

1. Under **System Settings**, double-click **My Assignments**. The Configure My Assignment Table opens.
2. Click the **Order Columns** icon. The Order dialog opens.
3. Select a column name and use the **Up** or **Down** buttons to move that name in the list. ("Top-to-bottom" in the list is equivalent to "left-to-right" in the user interface.)
4. When you are finished, click **OK**. The dialog closes and you see the numbers in the Order column reflect the new order. A user will have to open or restart Web Client to see the columns in the revised order.

To change the name of a column:

1. Under **System Settings**, double-click **My Assignments**. The Configure My Assignment Table opens.
2. Click in the field of the Column Name that you want to change. The field becomes editable.
3. Enter the new name. You can change other column names in this procedure.
4. When you are finished, click **Save**. A user will have to open or restart Web Client to see the new column names.

To create a new column:

1. Under **System Settings**, double-click **My Assignments**. The Configure My Assignment Table opens.
2. Click the New icon. A new row (representing the eventual column in Web Client user interface), is created.
3. Enter a name in the Column Name field.
4. In the Column Data Source field, use the dropdown dialog to select a data source for the column. You can choose a Class – Activities or Gates – and enter a Find value, using the **Down** or **Up** buttons to "find next" or "find previous," respectively. When you have selected a data source, click **OK**.
5. Use the **Order Columns** icon to adjust the order of the new column with the others (and to activate the **Save** button). When finished, click **Save** to complete the procedure. A user will have to open or restart Web Client to see the new column.

To remove a column:

1. Under **System Settings**, double-click **My Assignments**. The Configure My Assignment Table opens.
2. Select the row that you want to remove. (It is easiest to click in Data Type or Order column of the row.)
3. Click the **Remove Column** icon. The row will be removed. The Default Columns cannot be removed; they can only be made non-visible.
4. When you are finished removing columns, click **Save**.

Unit of Measure (UOM)

Note	If you do not see the **UOM** node under **System Settings**, modify the Administrator privilege so that Applied To list includes **UOM**.

The **UOM** node allows you to define different units of measure for use in Agile PLM. Units of measure are important for Product Governance & Compliance (PG&C), where you must measure the weight or quantity of restricted substances contained in your products.

You can define a new measure, and then specify the units used for that measure. You can also specify units of measure for any existing measure defined in your Agile PLM system. For example, the Dram unit of measure could be added to the Weight measure. In avoirdupois weights, 16 drams equal 1 ounce.

Each measure has a standard unit. All unit of measure values are normalized to the standard unit using a conversion factor. If you define a new unit of measure, you must specify the conversion factor relative to the standard unit. For example, if the standard unit of the Weight measure is Gram, the conversion factor for Ounce is 31.1034.

Creating Categories of Measure and Units of Measure

The following tasks describe how to create a new category of measure and new units of measure.

To create a new category of measure:

1. Under **System Settings**, double-click **UOM**. The Measures window opens.
2. Click the **New** button. The Create a New Measure dialog box appears, referring to a new category of measure, just as “Weight” and “Quantity” really are kinds or categories of measurement.
3. Enter the **Name**, **Description**, and **Range Match Factor** for your new category of measure.

   The Range Match Factor expands the range of search results for a particular unit of measure that you search for. Its purpose is to adjust for inexact conversions to the standard unit for a measure.
4. Click **OK**.

To create a new unit of measure:

1. Under **System Settings**, double-click **UOM**. The Measures window opens.
2. Double-click a category of measure in which your new UOM belongs. The Measure: <*Name*> window appears.
3. Click the **UOM** tab.
4. Click the **New** button. The Create a New Unit of Measure dialog box appears.
5. Enter values for fields described in the following table. When you have finished Click **OK**.

Unit of Measure Attribute	Description
Name	Name of the unit of measure.
Abbreviation	Standard abbreviation for the unit of measure.
Conversion Factor	Factor used to convert values to the standard unit. (See “Is Standard” description.)

Unit of Measure Attribute	Description
Is Exact Conversion	Select **Yes** if the specified conversion is exact.
Is Standard	Select **Yes** if the unit is the standard for your company. Only one unit of measure can be the standard. The first UOM that you create in a new category of measure must be the standard, whose conversion factor must be 1. All subsequent unit of measure values are normalized to the standard unit using the specified conversion factor.
Enabled	Whether the unit of measure is enabled. Only enabled units of measure appear to the end-users of Agile PLM clients.

Company Profile

The **Company Profile** node provides a single location for storing information about your company.

To define the company profile:

1. Under **System Settings**, double-click **Company Profile**. The Company Profile window opens.
2. Enter the name, address, phone and FAX numbers, URL, and the corporate currency.
3. Click **Save**.

Currency Exchange Rates

From the **Currency Exchange Rates** node, you manage the Currency Exchange Rates table for in-system currency conversion. The list of available currencies is determined when Agile PLM is installed. For information about maintaining the list of available currencies, contact your Oracle Consulting – Agile Practice representative. The table in the Currency Exchange Rates window displays the currencies in use and their exchange rates for the corporate base currency.

Note Currency exchange rates affect costs in two places: Product Portfolio Management activities and the **Analysis** tab of a sourcing project.

Currency conversion rates are used to convert currency values to the selected corporate currency. For instructions on how to select the corporate currency, see Company Profile on page 262.

Currency conversion is not an automatic process. From the **Analysis** tab, you can switch between normalized currency rates and the original currency values entered by suppliers. Elsewhere in Agile PLM, currency conversion rates don't apply. For example, your system can be configured to have money fields on Page Two or Page Three of items. If you change the currency for a money field (for example, from USD to GBP), the field value is not automatically recalculated for the new currency.

To add a currency:

1. Under **System Settings**, double-click **Currency Exchange Rates**. The Currency Exchange Rates window opens.
2. Click the **New** button. The Add Currency dialog box appears.

3. Select one or more currencies in the **Choices** list and use the right-arrow to move them to the **Selected** list.

   An additional dialog box opens for entering conversion rates.

4. Type the appropriate values in all **Conversion Rate** fields. Enter rates as decimal values, for example, 1.04 or 0.96.

5. Click **OK**. The new currency exchange rates appear in the list.

To modify the exchange rate for a currency:

1. Under **System Settings**, double-click **Currency Exchange Rates**. The Currency Exchange Rates window opens.

2. Double-click a currency to update. The Currency window opens.

3. In the **Conversion Rate** field, type a decimal value.

4. Click **OK**. The new currency exchange rates appear in the list.

> **Note** To import updated currency exchange rates from a Microsoft® Excel file or a delimited text file, choose **Tools > Import**. For more information*, see Getting Started* with *Agile PLM*.

To view historical rates for a currency:

1. Under **System Settings**, double-click **Currency Exchange Rates**. The Currency Exchange Rates window opens.

2. Double-click a currency. The currency window opens.

3. Click the **Historical Rates** tab. The **Historical Rates** tab displays a list of conversion rates for the currency by date. You cannot edit historical currency rates.

4. Click **Close**.

Dashboard Management

From the **Dashboard Management** node, you can configure the information display and behavior of the Agile PLM Dashboard. The Dashboard is highly configurable and can be used to present key project information to the user, according to preferences.

As an administrator, you can add an unlimited number of system-level tabs to the dashboard. The visibility of each tab can be controlled through roles and privileges.

You can configure a dashboard tab to generate and display content from any Agile object. Custom dashboard extensions (DXs) can be used to retrieve and present data from external systems (for example, ERP inventory numbers) into the dashboard. Tables within a dashboard tab can be configured to display data retrieved through advanced search queries or process extensions in various graphical formats. You can even configure a dashboard table to display an internal or external Web site.

Within Dashboard Management, you can:

- View and edit all dashboard tabs
- Add or delete optional dashboard tabs

- Add tables to optional dashboard tabs
- Configure multiple sources of data for the tables, such as:
  - Advanced search queries
  - Dashboard extensions (chart and table)
  - Custom content through URL process extensions (PXs)
- Configure the display of dashboard tabs

View Dashboard Tabs

To view dashboard tabs, click **System Settings > Dashboard Management** node. The list of default dashboard tabs displays. You can reorder this list using the icon, to change the order in which the tabs display in Web Client. To navigate to a tab, click on its name. You can edit the name and description of the tab, and specify whether the tab should be visible or not.

Optional tabs can be renamed and configured.

Adding Dashboard Tabs

To add a new tab, click the icon in **Dashboard Management**. In the **Create Dashboard Tab** dialog, enter a Name and Description. In the **Visible** field, select Yes.

Note	Although you can create an unlimited number of tabs, the tabs displayed in Web Client are restricted by the user's roles and privileges. To enable a user to view a particular dashboard tab, you must assign the Dashboard Tab View privilege to that user, and select the required tab in the **AppliedTo** property of that privilege. For further information, see AppliedTo Capability on page 203.

Deleting Dashboard Tabs

You can only delete dashboard tabs that you have created. Default tabs cannot be deleted. To delete a newly created Dashboard tab, within Dashboard Management, select the tab and click .

Note	Once a tab has been accessed, you cannot delete it. Attempts to delete it will result in an error - "Object is in use."

Adding Tables to Optional Tabs

Once a new optional tab is created, tables need to be inserted into the tab. To add a table, double-click the new tab name in Dashboard Management and click the **Tables** tab. Click the **Create Dashboard Table** icon.

The table below lists the properties in the Create Dashboard Table for Table type.

Property	Description	Possible Settings
Name	Enter the name of the table	

Property	Description	Possible Settings
Description	Enter the description of the table	
View List Type	Lists the type of table type. Select Table	Chart, Table, Custom, Advanced Search
Dashboard Extension (DX)	Lists all the dashboard extensions created for Table type list.	
Visible	To enable in Web Client	Yes/ No

Adding Data to Tables

Double-click the new table, click on **Attributes** tab and click on the **Add an Attribute** icon to create a new attribute. Agile currently supports Text, Numeric, Image, Date, Money, and Link type of table attributes.

Note Attributes need to be of a specific type which is supported by Agile. While creating a DX, the data for the DX would already be defined as currency, numeric, text, and so on.

In the Column attribute General Information tab, the **Attribute** field needs to be mapped to the attribute name mentioned in the DX. For example, if an attribute name in the DX is Mytext and the attribute type is selected as Text, the attribute field should be mapped with the attribute name Mytext.

Adding Charts to Optional Tabs

To create a chart type table in a newly created optional tab:

1. In Dashboard Management, double-click the name of the new tab to open it.
2. In the **Tables** tab, click the **New Dashboard Table** icon.
3. Specify table fields and attributes as described in the table below:

Property	Description	Possible Settings
Name	Enter a name for the table.	
Description	Enter a description for the table	(optional)
View List Type	Lists the type of table. Select **Chart (when you select Chart, additional options are displayed).**	Chart, Table, Custom, Advanced Search
Dashboard Extension	Lists all the dashboard extensions created for chart type. Select the dashboard extension you want.	
Visible	Select Yes to enable display in Web Client	Yes/ No

Property	Description	Possible Settings
Chart Type	Select the type of chart you want displayed.	Area, Bar, Line, Pie, Polar, Scatter, Stacked Area, Stacked Bar, Table
X axis	Type the X axis label.	(optional)
Y axis	Type the Y axis label.	(optional)
Show Legend	Specify whether the chart legend should display on screen.	Yes/ No
Legend Position	Specify the position where the Legend should be displayed.	Bottom, default, left, right, top
3D Style	Specify whether the view should be 3-dimensional.	Yes/ No
Header	Enter a header note if required.	(optional)
Footer	Enter a footer note if required.	(optional)

Note For Stacked type Charts, the Chart DX can be coded with unlimited X- and Y-axis values.

Important In the **Dashboard Extension** field, all Chart type DXs will be displayed only if the user has the SDK license and if the DX was created as Chart type. There are two classes for creating Chart type dashboard extensions: 1. ChartDataModel, and 2. ChartDataSet. These classes should be used while creating Chart DXs. The saved Chart DX needs to be saved in the *agile_home/integration/sdk/extensions* folder and linked in the **Dashboard Extension** field. For further information on creating DXs, refer to Agile PLM SDK Guide

Adding Advanced Search to Optional Tabs

To create a dashboard table that uses an Advanced Search query as the data source:

1. In Dashboard Management, double-click the name of the new tab to open it.
2. In the **Tables** tab, click the **New Dashboard Table** icon.
3. Specify table fields and attributes as described in the table below.

Property	Description	Possible Settings
Name	Enter a name for the table.	
Description	Enter a description for the table.	(optional)
View List Type	Select Advanced Search.	Chart, Table, Custom, Advanced Search
Dashboard Extension		Disabled (not applicable for Advanced Search

Property	Description	Possible Settings
Visible	Select Yes to enable display in Web Client.	Yes/ No

Note When you select View List type as Advanced Search, the dialog box automatically displays fields applicable only to Advanced Search type table.

Configure Table for Advanced Search

Once the table is created, double-click the new created table and click the **Configure Dashboard Table** icon in the General Information tab.

You can create a new or use a saved search. The Configure Table dialog is similar to the Advanced Search function of Agile except for a few differences as follows:

- Output Fields
  - The **Output Fields** option allows you to select the available fields as the X and Y axis values. Clicking the **Output Fields** button displays the Customize Output Display dialog. Select the required fields from the Available Fields list and click the left and right arrow buttons to move field names to and from the Available Fields and Selected Fields lists.
  - The **Display Chart** button allows a Chart and Table type display option. If Chart option is selected, the Configure Table dialog is displayed. You can do the following:
- Select the Chart type.
- Select the 3D style for Chart.
- Show or Hide the Legend.
- Select the position of the Legend to be displayed in the Chart.
- Select the X axis value from the drop down list (which is displayed from the Customize Output field)
- Label the header, footer, X axis and Y axis values on the chart
- Perform a mathematical function for the Data values such as Average, Count, Max, Min, and Sum.

Adding Custom (URL) Process Extensions for Optional Tables

URL process extensions that are created with Dashboard as the integration point are listed in the Dashboard Extension field, while a Dashboard table with View Type List is created. The output of the URL process extension is displayed in the Dashboard table.

For more information, see the *Agile SDK Developer Guide*.

Reordering Table Rows in a Tab

You can reorder the tables in a tab from **Dashboard Management** > **[OptionalTab Name]** > **Tables** > **Config**

Dashboard icon . The **Config Tab** dialog is displayed in which you can select all the tables from the Available Content field and place it in the required rows. There are only three rows; by default the new tabs are created in Row 3. You can reorder the tabs in the order of the rows to be displayed.

Displaying Optional Tabs

To ensure that all optional tabs that are newly created under **Systems Settings > Dashboard Management** display properly, go to **User Settings > Privileges > Dashboard Tab View** and enable each tab for end-users in Web Client.

Select the New icon and type in a new privilege name and description. Set **Enabled** to **Yes**. All created tabs will be displayed in the **AppliedTo > Choices** field. Select the tabs you want displayed in the Dashboard and use the right arrow icon to move these to the **Selected** area. Any tab you choose can be set as the Home page.

Chapter 12

General Server Settings

This chapter includes the following:

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- File Management in Agile PLM 271
- Database 278
- LDAP 280
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- Task Configuration 296

This chapter provides information about Server Settings, such as Locations, File Manager, Database settings, systemwide Preferences, and Licenses.

Locations

The Locations window displays information about the location of the application and various servers in your Agile PLM configuration.

On the **General Information** tab of the Locations window, you can define the Web Server URL and the Java Client URL. Properties that are also seen on this tab but are not editable are the Application Server URL, DB Server Hostname, DB Server Username, and an informal Name of the database server; these fields were populated when the Agile PLM system was installed.

Note The Web Server URL and Java Client URL properties should only be changed by you, the administrator, with confirmation from your IT people.

Configuring Web Client Notification

Agile PLM users whose Preferred Client property is set to Web Client will receive automatic email notifications that contain a link to the Web Client. You can specify the Web Client location in the **Web Server URL** setting.

Important Agile's Product Cost Management and Product Portfolio Management solutions operate only in Web Client. Users who work primarily in those areas should have their Preferred Client set to Web Client.

To configure Web Client notification by modifying the Web Server URL:

1. Under **Server Settings,** double-click **Locations**. The Locations window appears.
2. Enter your Web Server URL in this format: http://Web **Server:<port>/Agile/PLMServlet**

Note The Web Server URL is case-sensitive.
Ports are usually configurable. A port listed herein is either an industry-standard port or a default port. If the Web server uses the standard HTTP port (80), the port is not needed in the URL.

3. When you are finished, click **Save**.

Configuring Java Client Notification

Agile PLM users whose Preferred Client property is set to Java Client will receive automatic email notifications that contain a link to the Java Client. You can specify the Java Client location in the **Java Client URL** setting.

Note Although you can access the Java Client through a proxy server, the Java Client URL must be the location where Java Client is deployed on the application server for email notifications to work.

To configure Java Client notification by modifying the Java Client URL:

1. Under **Server Settings,** double-click **Locations**. The Locations window appears.
2. Enter the Java Client URL appropriate for your application server

   Oracle Application Server:
   http://<appserver>:8888/JavaClient/start.jsp

   WebLogic Application Server:
   http://<appserver>:7001/JavaClient/start.jsp

   Note The Java Client URL is case-sensitive.

3. When you are finished, click **Save**.

Specifying the Location of Agile Portals

If your Agile PLM system includes the Portlets server license (corresponding to Agile Portlet Services solution), your company can set up Web-based portals to use as Agile PLM clients. You must specify portal locations, and your company can have multiple portals set up for different types of users, for example, executives, change analysts, content managers, and program managers.

Agile PLM users whose Preferred Client property is set to Portal Client will receive email notifications that contain a link to the user's preferred portal URL. For information about how to set a user's preferred client and preferred portal URL, see Users and User Groups on page 151.

To add an Agile Portal Client URL:

1. Under **Server Settings**, double-click **Locations**. The Locations window appears.
2. Click the **Portals** tab.
3. Click the **New** button. The Create a New Portal URL dialog appears.
4. Specify the name of the portal and its URL. Make sure the **Enabled** field is set to Yes.
5. Click **OK**.

File Management in Agile PLM

This section describes how file management works in Agile PLM, both in enterprises with a single file management server and in larger enterprises with multiple, distributed file management servers. Elements described below generally have an Administrator setting on the **Server Settings > Locations > File Manager** tab, which is configured at the end of this section. After installing the File Manager and setting up a proxy server for it, you must configure the File Manager settings in the Java Client.

Note File Manager is no longer bundled on the Agile Application Server. It runs as a separate process, running on Tomcat version 5.0.28(+). This has probably been configured on installation of Agile PLM 9.2.

Note Before configuring the File Manager, make sure you set up a proxy server. See the appropriate *Agile PLM Installation Guide*.

Agile File Management Server

There are two main components to Agile File Manager (AFM): the file server and the file vault. When a file is added to Agile, it is assigned an internal Agile identifier (ID) number by the file server and added to the file vault. It is not stored in the file vault under its original filename: mapping information is maintained in the Agile PLM database, and the filename is modified per Filename Prefix systemwide preference.

When a user requests a file through an Agile PLM client (which requires privileges such as Get, View, or Checkout), the request is routed to the file server, which looks up the file's ID, retrieves the file from the file vault, and sends it to the user.

File Vault

The file vault contains all file attachments stored by AFM. It is recommended that a separate server or storage device be designated as the Agile File Vault to store attachments or files. This is particularly useful when taking advantage of application clustering because each server in the cluster needs access to the same file vault.

Using FileLoad and Indexing New Files

If the Indexing property is set to Synchronous and a large number of files are added to the File Management file vault using Agile FileLoad, the indexing process can take a long time. It has been found that setting this field to Manual increases the loading speed for a large number of files. Or, if the files being added tend to be large documents, set the Indexing property to Scheduled and set up an indexing schedule for once every 3 or 4 hours. If most of the new files are relatively small, the Indexing property can be set to Synchronous.

Distributed File Management

Due to the geographically dispersed nature of the global enterprise, multiple AFM servers can be deployed in a distributed configuration for efficient distribution of product content. A Distributed File Management (DFM) setup allows you to manage files efficiently at remote locations. Deploying DFM servers reduce download time by placing Agile PLM files closer to where they are needed,

and allowing users configure which file manager to use. Agile PLM 9.2 supports a large number of DFM servers.

Optimized Replication Systemwide Preference

When there are more than two File Managers, this systemwide preference (**Preferences** node) allows the PLM system to keep track of the File Managers that contain each file. During replication, the requesting FM only contacts other FMs that contain the file, and downloads a given file from the nearest FM (which is determined by shortest 'ping' to all the FM servers). Set to Enabled or Disabled, the latter can be set to troubleshoot problems with the optimizations.

Using the Agile Viewer Server in a Distributed Environment

If Agile Viewer is used, an Agile Viewer Server should be installed locally with each DFM server. The local viewer server can be installed on the same machine as the DFM. If local users are accessing Agile PLM from outside the firewall, a proxy is recommended in the DFM configuration.

How Distributed File Manager Works

Agile's file management servers have a peer-to-peer relationship. When a user requests a file, the request is directed to that user's configured file manager (see Configuring a File Manager on page 274). If the file is found, it is served to the user. If the file is not found at that location, the FM sends a request for the file to its peer file servers. The peer file server who has the file sends it back. The local file server saves it to its vault and serves it to the user.

A DFM scenario might be as follows: the AAS is installed in San Jose, California, and a DFM server is installed in Tokyo, Japan. A user from the Tokyo site selects a file attachment to view. The DFM in Tokyo determines that the file is located in San Jose and downloads the file, copies it to the file vault in Tokyo, and serves the file to the user through the View Server. Another user selects the same file attachment. Since the file now resides in the Tokyo DFM vault, it is served directly to the user.

You can install multiple file vaults, or DFM servers. Multiple file vaults are defined on the **Server Settings > Locations > File** Manager tab. On the **Preferences** tab for each Agile PLM user, you can specify the preferred file server for that user.

Note	If your Agile PLM system is using multiple DFM servers, your users must use the full domain URL when logging in. If a user does not use the full domain URL, she will be asked to provide login information again when he performs a file operation.

File Management Security

There are two components to file security: server security and client access security. There is also a utility called Handle File Checksum in Java Client that permits users to be warned of problems with improperly accessed files and a means to fix them.

Server Security

Content in Agile file vaults must be protected from deletion or modification by unauthorized users. Agile recommends allowing access only to Agile PLM administrators. System users who access files through the clients do not need Add and Read privileges to the Agile file vault or file directory

because Agile file servers retrieve files for users, this task is not performed by individual users.

Client Access Security

Whether you access files from Java or Web Clients, your files are secure. When the client is run behind the firewall, the files are transferred behind the firewall, which secures your files from outside intervention. When clients access files from outside the firewall, Secure Sockets Layer (SSL) communications protocol is supported.

Handle File Checksum

File Checksum is a feature in Agile that warns users when they encounter a file – say, an attachment to a business object – that may have been accessed improperly. In both Java and Web Clients, the **Attachments** tab of business objects and the **Files** tab of file folders have a field called **Has Checksum Error** ! . When a file on an attachment row has a checksum error, the Has Checksum Error field displays the same symbol.

In support of the Checksum feature, the administrator can manage file validation with a systemwide preference and a privilege mask:

- **Checksum Computation** systemwide preference sets whether to enable or disable checksum computation for attachment files. Note that the default setting is Disabled, which does not allow for this security feature to function. (It is possible that server speed is improved when this preference is set to Disabled, but that may not be as important as enabling the Checksum functionality.)
- **Reset File Checksum** privilege mask, which is built on the Reset privilege. All users who have been assigned this privilege mask will be notified of any file with a checksum problem. (Note that this privilege mask is not included with any out-of-box Agile role.) You can add the privilege mask to any existing role; at first, however, it may be safest to add it to specific individual's role, or perhaps to your Administrator role and to your User Administrators.

  The notification provides such information as the offending file's filename, the file folder(s) to which it is associated, the File Manager that hosts the file, and the file's location.

Besides the Reset File Checksum privilege, you will need to assign Read and Modify privileges for file folders to enable users to resolve checksum errors.

Checksum errors are resolved at the level of the file folder. Use the notification link to open the file folder, then click the ! in the offending file's row and use the dialog to resolve the error. You can click one of three options:

1. **Delete the file** – Deletes the file attachment itself across the Agile system. Use this option when you believe that the file is corrupted and irrecoverable, even across DFMs.
2. **Delete only invalid files** – This option can be used to attempt to fix the checksum issue:
   - Deletes the file from File Managers where the file status is Invalid.
   - Resets the checksum flag.

   Deleting invalid files while leaving the valid copies alone allows you to replicate the file on a preferred DFM.

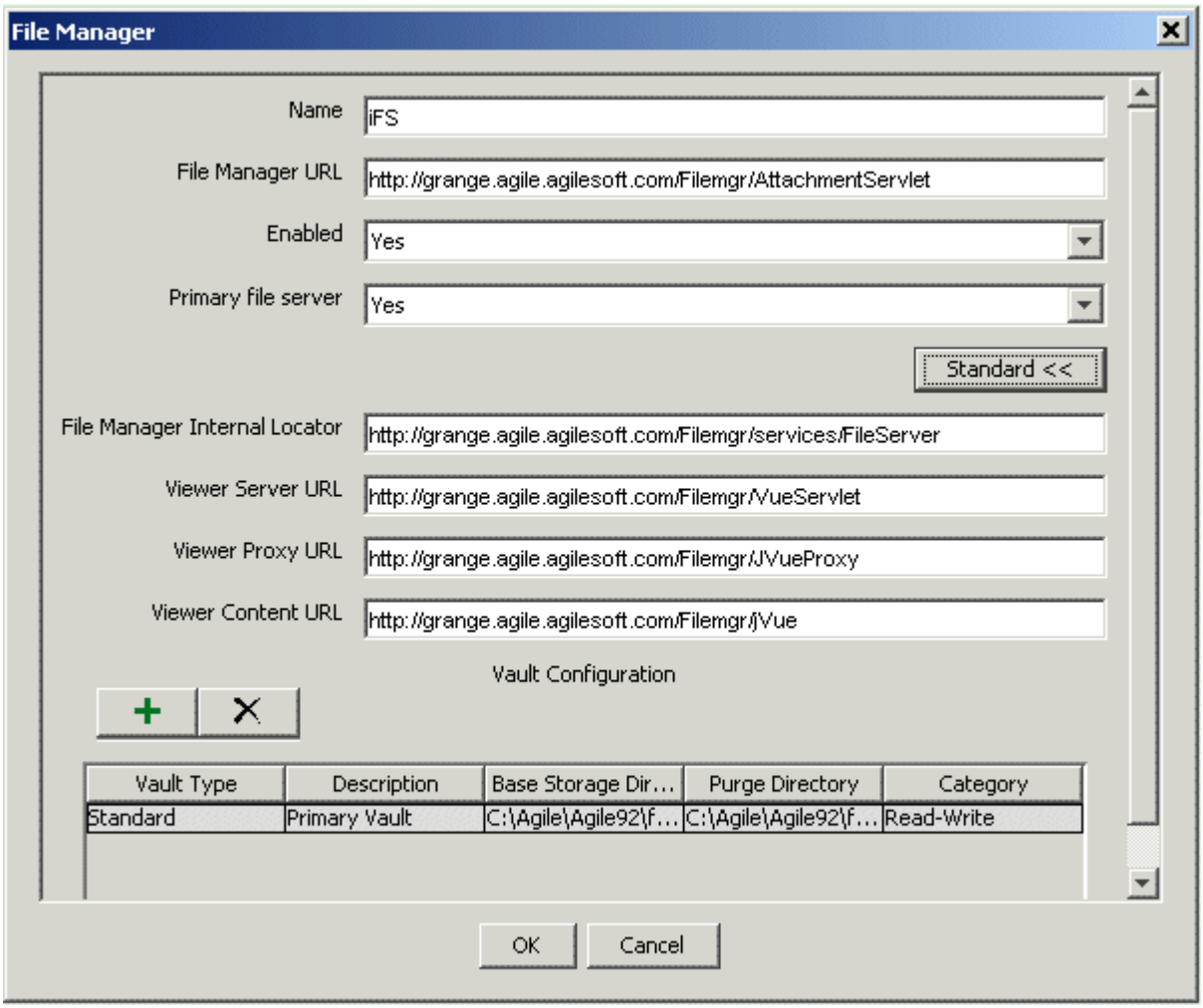
   This option is disabled in the following situations:
   - There is just one entry in the file status table.

- All the entries in the table have file status as Invalid.

3. **Upload a new file to replace the problematic file in iFS vault** – Replaces the current file with a new file and resets the checksum to the value of the new file in the database. The file's ID in the database and the filename in the vault remain unchanged.

Configuring a File Manager

On the **Server Settings > Locations** > **File Manager** tab, you can define multiple file managers.



When you click the **File Manager** tab and either click the **New** button or double-click one of the property fields, you see the first four fields in the table below. Click the **Advanced** button to see the other fields. From the advanced view, you can click the **Standard** button to return to the standard view.

Important You must re-start your file server when you make changes on the **File Manager** tab, or create a new one, for the changes to take effect.

If a URL is specified in the documentation or release notes, copy the upper- and lower-

case characters exactly, including the full domain name specified.

Field	Description
Fields in the "Create a File Manager" dialog and File Manager "Standard" view	
Name	The informal name of this instance of File Manager. Use a descriptive name that is easy for you and your user administrators to understand, especially in a DFM (multiple) server configuration. This name will appear in the Preferred File Server dropdown list on each user's Preferences tab.
File Manager URL	The file server URL that Agile Web Client will connect to. The format is: http://<proxy/loadbalancer>:<port>/<fileserver_virtual_path>/AttachmentServlet
Enabled	Enables or disables the file management server. If you want to create the file manager now and enable it later, select No.
Primary File Server	Select Yes or No from the dropdown list to make this server the primary file server or not. The primary file server should be co-located with the application server, that is, in the same LAN. Setting a different file manager to be "primary" – setting this field to Yes when another file manager is already the primary – will automatically re-set this field in the previous primary file server to No.
Click the **Advanced** button to view and edit these fields:	
File Manager Internal Locator	The file application server URL for the File Manager or other component application (such as Agile SDK) to use. The format is: http://<File *Manager host>:<port>/<fileserver_virtual_path>/services/FileServer*
Viewer Server URL	The viewer server (jVue server) URL that Agile Web Client will connect to. The format is: http://<proxy/loadbalancer>:<port>/<fileserver_virtual_path>/VueServlet
Viewer Proxy URL	The viewer proxy URL that the Viewer Server uses to communicate with the File Manager. If local users are accessing Agile PLM from outside the firewall, a proxy is recommended in the DFM configuration. The format is: http://<File *Manager host>:<port>/<fileserver_virtual_path>/VueLink*
Viewer Content URL	The location from where the Viewer Applet is downloaded. The format is: http://<proxy/loadbalancer>:<port>/<appserver_virtual_path>/jVue

To create a new File Manager:

1. Under **Server Settings,** double-click **Locations**. The Locations window appears.
2. Click the **File Manager** tab.
3. Click **New**. The Create a File Manager dialog appears.
4. Fill in the fields for **Name**, **File Manager URL**, and **Primary File Server**, which are described in the table above.

   Note If your company is using Agile Viewer, an Agile Viewer Server should be installed locally with each DFM server.

5. The **Enabled** field must be set to Yes for that server to be put into active use.
6. Click the **Add New Vault** button to add and configure a new file vault.
7. When you have defined the new file manager, click **OK**.

   Once you have created this new instance of a file manager, you can open it and add other

server definitions, as described in the next task.

Creating a Custom File Vault

If you are using Java Client to upload references to files stored in a Custom file vault, you must set up the vault first. A Custom vault is “Read Only” and is not available to users to check out and modify attachments; it is used for uploading files using Agile FileLoad (which is documented in *Agile PLM Import & Export Guide*).

To set up a Custom file vault:

1. Under **Server Settings,** double-click **Locations**. The Locations window appears.
2. Click the **File Manager** tab.
3. Double-click the entry to display the File Manager dialog box.
4. Click the **+** button to add a new vault.
5. In the Vault Type field, select Custom.
6. In the Description field, type a description of the vault.
7. In the Base Storage Directory field, enter the primary location where the files are stored. See next subsection
8. In the Purge Directory field, enter the primary location where the purged files are moved to. See next subsection.
9. Click **OK**.
10. Restart the Agile File Manager.

Base Storage Directory and Purge Directory Fields

The Base Storage Directory default location is \files. The location can be a shared network storage directory, such as a Storage Area Network (SAN).

Important Do not specify a mapped location. Instead, specify the actual machine name and directory, like this:

\\fileserver\files

The Purge Directory field indicates where purged (deleted) files are automatically moved. The default location is agile_home\files\purge. The location can be a shared network storage directory, such as a Storage Area Network (SAN).

Important Do not specify a mapped location. Instead, specify the actual machine name and directory, like this:

\\fileserver\files\purge

Modifying a File Manager Definition

To modify a File Manager definition:

1. Under **Server Settings,** double-click **Locations**. The Locations window appears.

2. Click the **File Manager** tab.
3. Double-click the row of the file manager you want to modify. The File Manager dialog appears.

   Be sure to navigate to the correct server field – use the **Advanced** button as needed.
4. When you have finished your modifications, click **OK**.

Deleting a File Manager Definition or Removing a File Server

To delete a file manager definition:

1. Under **Server Settings,** double-click **Locations**. The Locations window appears.
2. Click the **File Manager** tab.
3. Double-click the row of the file server you want to modify. The File Manager dialog appears.

   Be sure to navigate to the correct server field – use the **Advanced** button as needed.
4. You can simply delete the reference to the server in the field – the file server definition.

   To remove a configured server, select a row and click the **Remove Selected Vault** button. If you have rights to that server, it will be removed.
5. When you are finished, and click **OK**.

Setting the Preferred File Manager for a User

If your Agile PLM system uses Distributed File Management, each user should specify the preferred file manager to use. For best performance, specify a file server in the same location as the user. For example, users in the United States should select a file manager located in the United States and not one located in China.

To set a user's preferred file manager in Java Client:

1. Under **User Settings,** double-click **Users**. The Users window appears.
2. Double-click the user's name in the list. That user's window appears.
3. Click the **Preferences** tab.
4. For **Preferred File Manager**, select a local file manager from the list.
5. Click **Save**.

To set a user's preferred file manager in Web Client:

1. Click **Tools > Administration > Users**. The Users page appears.
2. Click the user's name in the list. That user's page appears.
3. Click the **Preferences** tab.
4. Click **Edit**. The fields become editable.
5. For **Preferred File Manager**, select a local file server from the list.
6. Click **Save**.

Purging Older Versions of Files

If AutoPurge is enabled for your Agile PLM system (see Viewer and Files on page 247), the Agile File Manager automatically purges old versions of files. A background thread starts every day at 6:00 am local time that determines what files should be purged. If there are such files, a folder named by date and time is created in the purged files location and the files are moved into it. If no files need to be purged, the dated folder is not created. You can change the default interval between the hard-coded time and the time that the purge actually takes place. This interval is set in Attachment Purging Task; see Task Configuration on page 296, on page 296.

Note The Agile File Manager does not permanently remove purged files from the system. Your company's IT personnel must handle that task.

Use Case for Attachment Purging Task

If there happened to be server failure during the time that was configured for attachment purging, the task would not run that day. For example, if the task runs at 6:00 am every day but the server shut down between 5:00 am and 9:00 am, the task would not run because the Task Lookback Window is set to 120 minutes, and 9:00 am is a greater value of minutes from 6:00 am. The workaround is to temporarily set Task Lookback Window to a value that is larger than 180 minutes (in this case), say, to 200 minutes. Then the task will run when the server is restarted.

In general, the value for Task Lookback Window (**Server Settings** > **Task Configuration> <any task> > General Info** page) should always bigger than the value for Task Interval to make sure that no event is skipped.

Database

From the **Database** node you can view and configure Agile PLM's systemwide database settings.

To modify a Database setting:

1. Under **Server Settings**, double-click **Database**. The Database window appears.
2. In any editable field, enter a new value or select from the dropdown list.
3. When you have finished, click **Save**.
4. Restart the Agile Application Server to activate the change.

Caution If you change the **Notification Enabled** setting, it takes effect immediately. Changing any other Database setting requires that you restart the Agile Application Server for the new setting to take effect. All active users' connections will be terminated when the Agile Application Server is restarted.

The following table lists Database properties.

Property	Description	Default
Discovery Privilege	Enabling Discovery Privilege allows all Discover privilege masks for this Agile PLM system to function. If Disabled, all Discover privilege masks and Discovery-related SmartRules are disabled. If you are not using Discovery functions, you can improve your system's performance by setting this property to Disabled.	Enabled
GUID	The unique ID for your company's Agile PLM database. This property is not editable.	(GUID)
Name	The name of the main Agile PLM database; you can rename the node, using up to 29 letters.	Agile Database
Notification Enabled	Whether email notifications are sent to users. If this property is disabled (= No), all other email notification settings are ignored.	No
Schema	Database "username," or the name of the schema, that is used to log in to the database. This property is not editable.	(Schema name)
Server	The name of the current Agile PLM database server. This property is not editable.	(Server name)
DB Version	The version of Agile PLM database being used. This property is not editable.	(DB version)
Mail From Domain	Domain name for email notification, for example, mydomain.com.	(None)
Mail From User	The From email address that is used in Agile PLM email notifications. The value must be a valid email address, for example, AgileAdmin@mydomain.com.	(None)
Mail Server External	The name of the computer running your external email server.	(None)
Mail Server Internal	The name of the computer running your internal email server.	(None)
Customer ID	The unique ID for your company. This property is not editable.	(ID number)
Year Cycle – Start Month	First month of your company's fiscal year.	(Set during installation)
Year Cycle – Start Day	First day of your company's fiscal year.	(Set during installation)

LDAP

Many enterprises use the Lightweight Directory Access Protocol (LDAP) system, as well as a dedicated LDAP server, to create their user accounts. The **Server Settings** node folder now includes an **LDAP** node. When you open the **LDAP** node, the LDAP Configuration Editor appears. The administrator can change LDAP settings (especially the search filter), preview the results, and save the changes, all without having to re-start the server.

Note The LDAP node may not be visible in your out-of-box Administrator tree. If your company does not use an LDAP system, the node is not needed. The node is made visible through the AppliedTo capability; see Administrator Privilege and the AppliedTo Capability on page 203.

Agile PLM supports LDAP authentication through the Agile Directory Server Integration Module. You can integrate Agile with your existing directory server to manage your users in one place. This approach can be fully integrated into Agile PLM, for these supported directory servers:

- Microsoft Active Directory Server
- Sun Java System Directory Server

If you chose to manage your user accounts through a directory server (instead of the database) during installation, then all new users (except supplier users) are added, and certain user attributes are configured, only through the directory server. Supplier users are authenticated by the database and managed by the supplier administrator.

Note PLM 9.2.2.4 introduces the possibility of integrating aspects of your PLM system with Single Sign-On (SSO) capability. With SSO configured and deployed for your PLM system, a user that has signed in to the system once (for instance, through the corporate portal) is not prompted again by a "login" dialog (see Appendix A, Single Sign-On and PLM 9.2.2.4 on page 447).

Configuring BEA WebLogic Server for LDAP with Agile PLM

Oracle Application Server supports the Agile-certified LDAP servers; however, BEA WebLogic Server requires further configuration to support them, as detailed in the tasks below.

Configuring WebLogic with Sun Java System Directory Server

To configure WebLogic with a Sun Java System Directory Server:

1. Open the Administration console by typing the following:

   http://localhost:<port_number>/console

2. In the left pane, choose **agileDomain > Security > Realms > AgileRealm > Providers > Authentication**.
3. In the right pane, click **Configure a new iPlanet Authenticator**.
4. On the **General** tab, change the value of the Control Flag to **SUFFICIENT**.
5. Click **Create**.

6. Click the **iPlanet LDAP** tab.
7. Enter the host name and port number of the LDAP server in the respective fields.
8. Enter the name of the user that WebLogic should use to connect to the LDAP server in the **Principal** field.
9. Enter the password of that user in the **Credential** field.
10. Click the **Users** tab.
11. Enter the value for the User Base DN attribute. If there are no additional filtering requirements, do not change the remaining attributes.
12. Click the **Groups** tab.
13. Enter the value for the Group Base DN attribute. If there are no additional filtering requirements, do not change the remaining attributes.
14. Click **Apply**.
15. Restart the WebLogic server and, if installed in a cluster, all managed servers.

Configuring WebLogic with Microsoft Active Directory Server

To configure WebLogic with Microsoft Active Directory Server:

1. Open the Administration console by typing the following:

   http://localhost:<port_number>/console

2. In the left pane, choose **agileDomain > Security > Realms > AgileRealm > Providers > Authentication**.
3. In the right pane, click **Configure a new Active Directory Authenticator**.
4. On the **General** tab, change the value of the Control Flag to **SUFFICIENT**.
5. Click **Create**.
6. Click the **Active Directory** tab.
7. Enter the host name and port number of the LDAP server in the respective fields.
8. Enter the name of the user that WebLogic should use to connect to the LDAP server in the **Principal** field.
9. Enter the password of that user in the **Credential** field.
10. Click the **Users** tab.
11. **User Name** attribute default is “cn” and this should be changed to “sAMAccount”. **User From Name** attribute default is also “cn” and this should also be changed to “sAMAccount”. If there are no additional filtering requirements, do not change the remaining attributes.
12. Click the **Groups** tab.
13. Enter the value for the Group Base DN attribute. If there are no additional filtering requirements, do not change the remaining attributes.
14. Click **Apply**.
15. Restart the WebLogic server and, if installed in a cluster, all managed servers.

Creating Users in an LDAP Directory

You have the following options for creating Agile PLM users:

- **Create all users in Agile PLM** – this can be done even if your company uses LDAP for its non-Agile applications.
- **Create all user objects using the corporate LDAP system** – the basic user data (for instance, user ID, first and last name, password, email address) are imported to Agile PLM, where each user's profile is completed.
- **Combine the two approaches** – your company may use LDAP for its employees that are assigned to use Agile PLM, but create non-employees (for instance, supplier users) within the Agile PLM system. In this case, the LDAP accounts are imported and validated, and there is no risk reconciling user data within Agile PLM.

Note You cannot create regular Agile PLM users (that is, Power or Concurrent users) *both* in Agile PLM and in LDAP. The only way to combine the two approaches is to use Agile PLM to create Restricted users only.

Note More specifically, you should not create multiple users with the same User ID (username), especially in the WebSphere environment. WebSphere uses an embedded LDAP adapter to authenticate users, and that adapter does not allow multiple users with the same ID.

Users created in Agile PLM with the "**(Restricted)**" supplier user roles are authenticated through the Agile PLM database.

Configuring Multiple LDAP User Repositories

You can configure multiple LDAP user repositories for the security domain by repeating the configuration steps for the specific directory server.

Do *not* delete the AgileAuthenticator authentication provider: it is used to authenticate users against the Agile database. The Control Flag for the AgileAuthenticator must remain **Optional**. AgileAuthenticator must be the first authentication provider in the list if there are additional authentication providers, such as Sun Java System or Microsoft Active Directory.

Enhanced LDAP

To modify LDAP information:

1. Under **Server Settings,** double-click **LDAP** node. The LDAP Configuration Editor window appears.
2. On the **LDAP Configuration** tab, double-click the row that names the LDAP server you want to populate. This is also where you can create a new LDAP server configuration.

   The **Edit LDAP** dialog presents the contents of the LDAP server you selected for your modification.
3. When you have completed entering modifications, click **OK**.
4. With the row selected (for the LDAP server you modified), click the **Preview** button. The **Preview Results** tab lets you preview the results of your LDAP query.

When you click **Preview**, the server validates the LDAP configuration. If there are errors – such as inconsistent data across LDAP servers in a cluster, or duplicated users on multiple servers, or syntax errors – the server passes an exception back to the client, and you will see a popup window displaying the errors.

- If the LDAP configuration contains clustered LDAP servers, the preview shows data from only one of the LDAP servers, since the data is identical across the cluster.
- If the LDAP configuration contains multiple LDAP servers, the preview shows the union of data from all LDAP servers.

5. Click **Save** to save changes to the LDAP configuration. Again, the server validates the LDAP configuration. If any errors are detected, an error message displays and the exception prevents the Save operation from completing.

Synchronizing LDAP and Agile PLM

In Java Client, the **Refresh Users from LDAP** button on the **Users** node toolbar window integrates LDAP-originated users into the Agile PLM system. In Web Client, if you use LDAP, the **Refresh from Directory Server** button is enabled in the **Users** node (under **Tools > Administration**) for the same purpose.

Refer to your LDAP documentation to import user accounts to Agile PLM.

After clicking **Refresh** (or **Refresh from Directory Server**) to automatically update the accounts for use in Agile PLM, complete each user object by populating Agile PLM user properties as required.

Synchronization of Agile PLM users with LDAP-created user accounts depends on the Agile PLM users' Login ID being equivalent to the LDAP user-accounts' Login ID. During an upgrade of Agile PLM systems, it assumes user authentication through the Agile PLM database.

There is another way to synchronize users between LDAP and Agile PLM: a script is included in the Bin directory called migrateUserToDB.bat/sh that you can run manually or on a scheduled basis. This script serves the same purpose as the **Refresh** (or **Refresh from Directory Server**) button in Java and Web clients, respectively.

LDAP-controlled User Properties

If your company is using LDAP for user accounts, the following properties will always be managed by LDAP. They cannot be edited in Agile PLM.

- UserID
- First Name
- Last Name
- Password
- Email Address
- Title
- Work Phone
- Mobile Phone

- Fax Number

Note If an LDAP directory is used to create and manage Agile PLM users, by default users do not require a separate approval password. However, you can uncheck the **Use Login Password for Approval Password** property for a user and enter an approval password.

You can set up **Account Policy** functionality on the LDAP server. For more information, see your LDAP system documentation.

Agile LDAP Configuration

The LDAP Configuration Editor (**Server Settings > LDAP** node) is used to configure your integration between Agile PLM and your company's LDAP system.

Click the **New LDAP** icon and fill in the properties (defined below). You can double-click an existing configuration (row in the table) to bring up the Edit LDAP dialog. You can remove an existing configuration by selecting its row, clicking the **Delete LDAP** icon, and following the prompt.

You can define multiple sets of parameters to configure integration with multiple directory servers.

Important Verify all settings in LDAP Configuration Editor with your LDAP administrator.

Directory Service Connection Parameters

Connection parameters include the hostname, port, protocol, account name and filter. The account name is used to connect to the directory server during synchronization, so it must have the appropriate privileges. The filter is used to select only a subset of the users defined in the directory server as Agile users.

Configuration Parameters Defined

The properties in the New LDAP configuration page are described in the table below:

Field Name	Description
ID	Unique string identifying the LDAP server. The string must be less than 30 characters and cannot be changed once in use.
Description	Information about the server configuration
Agent	The Directory Server used for authentication; valid values are SunONEDirectory or ActiveDirectory
URL	The URL for the authentication agent
Domain	The authentication string when using Active Directory Server in the format of <username>@<auth.domain.name>
Username	Username (does not need to be the LDAP Administrator)
Password	Encrypted password of the user
User Path	Tree under which all Agile users can be found; this property should be set to the node closest to the root of the Directory Tree structure;

Field Name	Description
	any user that is not found under the subtree starting at this node should not be on the Agile system.
Search Scope	Scope of search for Agile users under the user-path node; valid values are ONE_LEVEL or SUB_TREE; this property should be set to ONE_LEVEL only if all users in the organization are directly under the User Path node
Search Filter	Search filter for Agile users under the <user-path> node; this must be a valid LDAP search filter that matches all Agile users under the scope defined by <auth.ldap.user.path> and <auth.ldap.user.search.scope>; users not matching this filter are considered invalid users on the Agile system; a valid LDAP search filter must be enclosed in parentheses.
Mechanism	Authentication mechanism supported by the directory server; valid values are "simple" or "strong"
Group Path	This property should be set to the node closest to root of the Directory Tree structure; it is the path in which group search starts
Group Scope	Valid values: ONE_LEVEL, SUB_TREE; similar to <search-scope>
Group Filter	This must be a valid LDAP search filter that matches the LDAP groups where all expected users to be used in Agile are contained. When using the Group Filter to synchronize all users and user groups from the LDAP server, the <user-path> and <search-scope> must be set for the Search Filter. With User Group Sync function enabled. You cannot remove/ add users for LDAP Synced User group on User's Tab
Group Membership	Used for authentication to check if the current user belongs to the specified group (defined in group-filter); using "%M" to designate current login user DN.
Dynamic Group Filter	This must be a valid LDAP search filter that matches the LDAP Dynamic groups that contain all expected users to be used in Agile
Failover Links	Links that point to alternate LDAP servers that the system tries to access, in listed order, when the primary LDAP server fails
Fail Attempts	Specifies the maximum number of attempts to access other servers that the system can make when the LDAP server fails

Mapping LDAP Attributes

To map an Agile attribute to an LDAP-system attribute:

1. In the User-LDAP Attributes Mapping or Usergroup-LDAP Attributes Mapping field, click Add + to create a new entry.
2. From the New Attribute Mapping dialog, choose an Agile ID (that is, attribute) from the dropdown list.
3. In the LDAP ID field, type the name of an attribute from your LDAP system that you want

mapped to the selected Agile attribute.

For example, "Date09" might map to an attribute called "End Date".

Multiple Directory Server Support

It is possible to indicate multiple directory servers. This is useful if you have users in multiple domains that need access to Agile, or if you have backup directory servers to provide fail-over support.

On the Edit LDAP page, in the URL field, type a semicolon (;) after the existing URL, then (with no space) type the URL of a backup or secondary server. When you have saved the new URL (by clicking OK), click the Preview Result tab: it will display all the users on the primary server. Now, if you stop the services of this server, then the Preview Result will display the users from the backup or secondary server. (Remember to restore services to the primary server.)

If a backup or secondary directory server is configured, the integration module tries the backup server if access to the primary server fails.

Configuration Scripts

One directory server can be configured during the Agile installation. Additional directory servers can be configured manually after installation. Agile provides scripts to enable configuration after installation. These scripts are located in the *agile_home*\agileDomain\bin directory:

- encryptpwd — ldapconfig.xml needs an encrypted password for the directory server user; this script generates an encrypted password based on the existing user password
- checkLDAPConfig — use for checking LDAP configurations; all errors should be fixed, if encountered
- migrateUserstoDB — use to migrate a user from LDAP to the Agile database; this script allows you to update existing users and to create new users in the database.

Synchronizing Users and User Groups

This feature (added in PLM 9.2.2.2) applies to iPlanet server.

- LDAP user groups and group members can be synchronized into the Agile system using <group-filter> to "synch" the static users in the user group, and <dynamic-group-filter> to "synch" dynamic group users. To enable this function, make sure that **auth.ldap.group** is enabled (set to True) in **agile.properties** file.

  Note With User Group "synch" function enabled, you cannot remove or add users on a user group's **Users** tab that have been synchronized (that is, where users have been added to a user group via LDAP).

Again, this feature only applies to iPlanet server.

Preferences

The **Preferences** node lets you view and configure Agile PLM's systemwide preferences.

To modify preference settings:

1. Under **Server Settings,** double-click **Preferences**. The Preferences window appears.
2. In any editable field, enter a new value or select from the dropdown list.
3. When you have finished, click **Save**.

The following table lists and describes the Agile PLM Preferences. They are listed in alphabetical order here.

Note These "systemwide preferences" should not be confused with "user preferences" (**Administrator > User Settings > Users** node **> [any user] > Preferences** tab), even though a sub-list of user preferences are system-related.

Preference Name	Description	Default
Add User's Default Site to New Items	For enterprises that utilize "Sites" information, this Preference can be set so the Default Site of a user is automatically added when the user creates an item.	No
Allow Download of Productivity Components	Controls whether your users will have access to the Java applets that permit advanced file uploading and other features, depending on what is allowed by the License Key your company purchased. Settings are No and Yes. See Allow Download of Productivity Components on page 291.	No
Allow Password Reset	Lets you select whether Web Client users who forget their password can automatically receive a new one by clicking a link on login screen. See Allow Password Reset on page 292.	No
Allow Unsecured Files	Allows Agile PLM to manage pointers to unsecured URLs, that is, it allows attachments to be URLs (as opposed to files). If you select Yes, pointers to URLs are stored on the Agile Application Server computer, although Checkin and Checkout are disabled for referenced URLs.	Yes
Checksum Computation	Sets whether to enable or disable checksum computation for attachment files. Settings are Enabled or Disabled. See Handle File Checksum on page 273.	Disabled
Content Service Maximum Retries	Determines how many times, after the initial attempt, a transfer order object will attempt to make delivery to a failing destination before further delivery attempts are blocked. See Content Service Maximum Retries on page 292.	5

Preference Name	Description	Default
Content Service Wait Time (in seconds)	Determines how often the Content Server "wakes up" to check for transfer order objects to process.	300
Default User Name	Names of users appear with the first name appearing before the last name, or vice versa (with appropriate comma). Changing Default User Name setting requires re-starting the server for the change to take effect.	FirstName LastName
Display URLs as Hyperlinks	Text and Multitext fields enable typed URLs to automatically convert to hyperlinks. Setting this to No will display URLs typed in Text and Multitext fields as plain text. Note that certain "URL" and "mail" fields in Agile are not controlled by this preference; they will always convert typed URLs to hyperlinks.	Yes
Display User ID	Determines whether or not User IDs (usernames) appear. Changing Display User ID setting requires re-starting the server for the change to take effect.	No
Enable BI Publisher for Reports	Determines whether or not BI Publisher is used to generate reports in multiple output formats. Setting this to Yes generates reports in multiple output formats using BI Publisher. Setting this to No means reports continue using existing reporting layout.	No
Filename Prefix	Agile File Manager uses a prefix that is attached to each file that is stored in the file vault. Type in the identifier that will be automatically added to every attachment file. The default is "agile". **Caution!** This effects of this systemwide preference are far-reaching and the value should not be changed without good reason.	agile
Garbage Collection Wake-up Time (in seconds)	The "garbage collection" is a thread for cleaning out idle threads in the cache. After "cleaning," garbage collection is put to "sleep" for the number of seconds in this setting. 300 seconds (5 minutes) is a reasonable value.	300
Maximum Attribute Display Width	A value that defines the maximum width of text or multi-text boxes, in Web Client, applying to Create and Edit modes. The unit is pixels; one character = 7.5 pixels. Valid setting is 10–100. See Display Width Attribute on page 77.	40

Preference Name	Description	Default
Maximum Query Results Displayed	Sets a maximum number of search results that can be displayed (advanced or quick searches); can be any positive integer less than 5000, but 1000 is recommended. If a user's Max Rows Displayed user preference is set to fewer rows than this systemwide preference, the former value will override the latter value. **Caution**: The Full Search Display privilege applies to results of report queries, not to ordinary searches. All users, whether or not they have the Full Search Display privilege, will see the maximum number of search results specified in this property.	1000
Maximum Report Results	Determines maximum number of objects displayed in Agile PLM Custom Reports; note that it does not apply to Standard Reports. This preference is overridden by Full Search Display (FSD) privilege (see Caution). The upper limit to this field has been increased to 500,000 (a comma is not needed in the field). The "Export to Excel" module (**Actions > Microsoft Excel > Export to Excel**; not to be confused with PLM Export utility) uses this setting: the number in this field limits the maximum number of results exported to Excel and CSV files. **Caution**: Users with the FSD privilege see all results of reports; also, all privilege checking is bypassed on users with this privilege when they view report results. Users without the FSD privilege see the maximum number of reports specified in this property.	50,000
Maximum Reports Executed Simultaneously	Defines maximum number of reports that the application server will run simultaneously.	5
Notification Wait Time (in seconds)	Determines how often the system "wakes up" to check for notification emails to send. Default is 600. Valid setting is 30 to 3600 seconds.	600
Notification Time Out (in seconds)	This setting is the timeout time for the user transaction in the notification thread. Valid setting is 30 to 3600 seconds.	1800
Object Cache Table Size	Sets the relative size of the object cache table (Hashtable), which helps determine how objects are distributed in cache (smaller means more objects per row, larger means fewer objects per row). You can choose Small, Medium, or Large Table (default is Medium Table), but it is an internally used attribute used in server implementation; therefore, no recommendation	Medium Table

Preference Name	Description	Default
	regarding performance is offered for this setting.	
Optimized Replication	When there are more than two File Managers, allows the PLM system to keep track of the File Managers that contain each file. During replication, the requesting FM only contacts other FMs that contain the file, and downloads a given file from the nearest FM (shortest 'ping'). Settings are Enabled or Disabled. Disabled can be set to troubleshoot problems with the optimizations.	Enabled
Recently Visited Folder Size	Controls the maximum number of objects that each user can store. The list selection allows these values: 10, 25, 50, 100.	10
Reference Designators Allow Range Expand Collapse	Allows reference designators to be described as a range instead of a sequence. See Reference Designators Allow Range Expand Collapse on page 293.	Collapse
Reference Designator Range Indicator	The symbol that appears between lower and upper range values in reference designator statements. Available symbols are asterisk (*****), at (**@**), caret (**^**), plus (**+**), hyphen (**-**), colon (**:**), semicolon (**;**), tilde (~), or **None**.	Hyphen (-)
Reminder/Escalation Weekend Setting	In escalation and reminder periods of changes, determines how the system will count weekend days (Skip Saturday *or* Sunday, Skip Saturday *and* Sunday, or Don't Skip [= *count both weekend days*]). This preference is not part of Product Portfolio Management scheduling.	Don't skip
Retain Local Files	When adding an attachment to a business object or checking it in, determines whether local files (on user's computer) will be deleted or retained, or whether the user is prompted to choose to delete it (Yes) or not (No). Settings are Delete, Retain, and Warning. Note: This preference is applicable only in Advanced uploader, and is not applicable in Standard uploader: Standard uploader does not delete files automatically when this preference is set to Delete.	Warning
Save As Attachments	Permits one of two ways to replicate a file, or allows each user to be prompted to choose the method. Settings are Prompt, Create new copy of file(s), Do not copy file(s), and Reference existing file(s). See Save As Attachments on page 313.	Reference existing file(s)

Preference Name	Description	Default
Save As BOM for Different Classes	Indicates whether or not to copy **BOM** tab values when copying from one item to another. See more information about the "Save As" preferences in Copy Values along with Tabs on page 292.	Values Copied
Save As Manufacturer for Different Classes	Indicates whether or not to copy **Manufacturers** tab values when copying from one item to another.	Values Copied
Save As Page 2 for Different Classes	Indicates whether or not to copy **Page Two** tab values when copying from one class to another.	Values Copied
Save As Page 3 for Different Classes	Indicates whether or not to copy **Page Three** tab values when copying from one class to another.	Values Copied
Save As Page 3 for Different Subclasses	Indicates whether or not to copy **Page Three** tab values when copying from one subclass to another.	Values Copied
Signoff User Dual Identification Type	Controls whether approve/reject signoff (including user signing off for "self" or for another user due to Escalation or Transfer Authority) requires a dual identification, or "second signoff." Settings are N/A (Not Applicable, the default), User ID, and Login Password. Selecting N/A means that these situations will not require a dual ID; selecting either User ID or Login Password means a dual ID is always required to sign off. For more information, see Signoff User Dual Identification on page 293.	N/A
Threshold (in seconds)	One of the settings that determines when certain system actions, such as cleanup and reset tasks, are performed on any object that is idle in the logged-in user session longer than the value of the setting. Valid setting is 30–3600 sec.	300

Note The proxy server for your Agile PLM system has a default connection timeout of 1500 seconds, or 25 minutes. For information on how to change the proxy timeout setting, see the chapter "Installing and Configuring Agile Web Components" in the *Agile PLM Installation Guide for Windows*.

Details of some Preferences

This section contains details about some of the systemwide Preferences.

Allow Download of Productivity Components

This preference controls whether your users will have access to the Java applets that permit advanced file uploading, download of multiple files and the Excel integration (in PG&C). If it is set to No, users will not see the File Productivity Preference in their own user profile. If it is set to Yes, users will see the File Productivity Preference and be able to choose their own method.

- The preference allows the following functions regarding attachment management. The systemwide preference operates in conjunction with each user's File Productivity (user) Preference.
  - Advanced File Uploader
  - Automated checkin based on checkout location
  - Allow download of individual files instead of a Zip file in Web Client.
- The preference allows the Microsoft Excel-based Client to be integrated with Agile PG&C, which allows supplier users to provide compliance information to buyers while using Microsoft Excel.

Allow Password Reset

The **Allow Password Reset** preference lets you choose whether Web Client users who forget their password can automatically receive a new one. The default setting is No, which forces a user to contact the administrator to reset the password. Java Client users who forget their password must contact the administrator for a new one.

When **Allow Password Reset** is set to Yes, the **Forgot your password?** link appears on Web Client's login screen. Since **Preferences** are syste*mwide* settings, every Web Client user sees the link. If a user clicks the **Forget your password?** link, he can enter his username and email address to receive a new random seven-character password. When the user logs into Web Client again, he is prompted to choose a new password.

Copy Values along with Tabs

The several "Save As" preferences determine whether values are copied from the **BOM**, **Manufacturers**, **Page Two**, and **Page Three** tabs when you use Save As to copy an object from one class to another. By default, values are copied.

Caution	There are exceptions to copying values during Save As operations. If an attribute in the source object does not exist or is not used in the target object, it is not copied even if the Save As preference is set to Values Copied. Also, if an attribute is a list value and the list ID of the source attribute is not the same as the list ID of the target attribute, the value is not copied even if the Save As preference is set to Values Copied.

Content Service Wait Time

The **Content Service Wait Time** preference controls how often the system processes transfer order objects. For example, if this setting is 300, every 300 seconds the system checks if there are any transfer order objects to process and begins to process them.

Content Service Maximum Retries

The **Content Service Maximum Retries** preference controls how many times, after the initial attempt, a transfer order object will attempt to make delivery to a failing destination. For example, if this setting is 5, the transfer order object will make one attempt at delivery. If that attempt fails, the transfer order object will make up to 5 more attempts. After the last attempt, further delivery attempts are blocked.

Online Help Manuals URL

Note Online Help for Agile PLM 9.x is not available or supported. The **Online Help Manuals URL** setting is no longer active.

Reference Designators Allow Range Expand Collapse

This setting is now editable in this release. By default, the **Reference Designators Allow Range Expand Collapse** preference is set to Collapse, which means it collapses ranges of reference designators, for example, **RefDes01–03**. A setting of Expand forces the sequence to list each individual reference designator, separated by commas, for example, **RefDes01,02,03**.

Signoff User Dual Identification

FDA-regulated or other companies may have a corporate policy that requires double authentication of user identify in approving or rejecting change orders. The Signoff User Dual Identification preference controls whether approve/reject signoff requires a dual identification, or "second signoff."

This setting is applied to the Review and Released statuses of all default and custom workflows, that is, when the Signoff dialog is filled in by a user, the system verifies the electronic signatures before advancing the workflow to the Review or Released status. The preference comprises all situations when the user is signing off for himself, signing off as a member of a user group, signing off for another user due to Escalation or Transfer Authority, or a combination of signoff responsibilities. (The Signoff UI options are detailed in *Getting Started with Agile PLM*, the chapter about Workflow.)

The administrator must attend to a combination of settings to properly realize the "second signoff" functionality.

Setting this preference to N/A (Not Applicable, which is the default) means that signoffs require only a single signoff from any user in any capacity. The password already required to sign off is the Approval Password; this represents the first level of security in the signoff protocol.

The other two settings, User ID and Login Password, effectively enable the dual ID requirement for any user in any signoff capacity. They dictate that users also be required to enter their User ID (also called username), or the Login Password.

If you set this preference to Login Password, then it is imperative to ensure that every user's Use Login Password for Approval property is set to No; once you change all users' Use Login Password for Approval property to No, only then can you set the Login Password. (For bulk settings, contact your Agile representative for a script called SecondSignature.Zip.)

If you set this preference to User ID, you should set Display User ID preference to No

Licenses

The **Licenses** node appears under **Server Settings**. This node provides information about your company's Agile PLM license configuration.

Agile PLM uses a new system of licensing as of Rel. 9.2.2.4. Agile's "Server Licenses" are no longer operative.

Agile's "User Licenses" are tabulated in **General Info** tab. User licenses are assigned to each user by the Agile PLM administrator. The combination of assigned user licenses and assigned roles and privileges determines which specific tasks a user can perform.

To view licenses information:

1. Under **Server Settings,** double-click **Licenses** node. The Licenses window appears.
2. Click the **General Information**, **Modules**, or **History** tab.

General Info Tab

Agile PLM has three types of user licenses: Named (formerly "Power"), Concurrent, and Restricted.

Restricted users are people outside your company (such as distributors and suppliers) who are given limited access to the Agile PLM system.

Named users and Concurrent users have access to the same Agile PLM functionality based on their roles and privileges and the company's licensing.

The key difference is that users with a Named license are not applied against concurrency counts. This means that a Named user can log in to the system at any time. All users who are not Named or Restricted are subject to concurrency counts, and may be locked out of the system due to a concurrency limit.

The **User Category** field in every user's profile displays which user license has been assigned to the user. For more information, see User Properties Defined on page 156.

The **General Info** tab of the Licenses window includes the information shown in the following table. You cannot edit this information.

"Name" field	Description
Count of Named Users	Shows the number of users who are active.
Count of Restricted Users	Keeps track of how many Restricted User licenses have been assigned.
Count of Concurrent Users	Shows the number of Concurrent User licenses purchased by the company. Concurrent users can access all Agile PLM functionality purchased by the company, but are subject to concurrency counts, and may be locked out of the system due to a concurrency limit.
Total Count of Users	Keeps track of how many PLM users of all types have been created by the company.

Modules Tab

The biggest change to "licensing" in Agile PLM is the removal of Agile's "Server Licenses". An Oracle "license key" was obtained (at http://licensecodes.oracle.com/agile.html#PLM) and was input at install time.

Now the administrator uses the **Modules** tab of the **Licenses** node to simply select the PLM solutions that his company has purchased. This will enable those PLM Classes and other solution-based functions that pertain to your company's business, while disabling those classes and functions that

do not pertain.

For Product Collaboration, select Yes from the dropdown list. Then open each of the remaining dropdown lists and select Yes or No, as appropriate. When you are finished and click the Save button, you will be prompted "Please verify your company is contractually licensed to use the modules [PLM solutions] selected." You will need to re-start the system for a module selection to take effect.

Product Portfolio Management (PPM) is the only PLM solution that can operate without Product Collaboration (PC); however, it is likely that even a company using only PPM will also use PC.

Important While it is possible to enable a PLM solution (by selecting Yes in **Licenses > Modules**) that your company has not purchased, it is not a Best Practice to attempt to do business using an unpurchased solution. You are likely working closely with an Oracle Consulting – Agile Practice representative, and you will likely need Support services at some point. However, if a problem you have encountered has been caused in the course of deploying and creating business objects from a PLM solution that your company has not purchased, you will find it more difficult to obtain the support for PLM that you and your company require.

If you encounter difficulties in enabling the PLM solutions that your company has purchased, please contact your Agile representative.

Task Monitor

The **Task Monitor** node is used to track the progress of certain scheduled tasks. These include:

- **Report tasks** – standard and custom reports that are scheduled to be executed

  Note Administrator reports cannot be scheduled.

- **User tasks** – refreshes user list from Directory Server (for example, LDAP server)
- **Full Text Search task** – indexing of attachments for full text search
- **Attachment Purge task** – periodic purging of attachments in the DFM server
- **PPM-specific tasks** – there are several Activity tasks
- **PCM-specific tasks** – there are several RFQ Notification tasks
- **PG&C-specific task** – the Compliance Rollup task has been added to manage scheduled compliance rollups.

You can use the **Thread Status** dropdown list to display only the tasks matching the following criteria:

- **All** – shows all tasks
- **Scheduled** – shows tasks scheduled when it is generating schedule results.
- **Running** – shows tasks currently running; this is the default filter
- **Finished** – shows tasks that have been successfully executed
- **Failed** – shows tasks that failed during execution

- **Timed Out** – shows tasks that timed out before full execution. Compliance Rollup task cannot time-out.

Note Thread status criteria (except for All) do not apply to all types of tasks. For example, report tasks are listed in the Task Monitor window only when the selected **Thread Status** is All or Finished.

The following table lists the properties of the Task Monitor window. The properties are read-only.

Property	Notes
Name	Name of the scheduled report (custom or standard). Null for all other tasks.
Task Type	Report Task, FTS Task, or Attachment Purge Task.
Owner	Name of the owner of the report schedule. Null for all other tasks.
Time Executed	When the task began.
Status	Current status of the task: Scheduled, Running, Finished, Failed, Timed Out

The **Purge** button allows you to delete tasks listed in the Task Monitor window. The Purge action applies only to selected tasks that fall within the specified date range.

To purge tasks from the Task Monitor:

1. Select a Thread Status to list certain tasks, such as all tasks or finished tasks.
2. Select one or more tasks.
3. Click the **Purge** button .
4. Specify values for **From Date** and **To Date**. Tasks that fall within the date range will be purged. Click the button to select a date and time for each field.
5. Click **OK**.

Task Configuration

From the **Task Configuration** node, you can manage various scheduled server-side activities such as reports and full text search indexing. Tasks never “time-out” before completion.

Name	Description	Default interval (minutes)
Refresh User List From Directory Server	Updates the Agile PLM user list with information from the Directory Server.	1440 (1 day)
Report Task	Checks if there are any scheduled report tasks to run. If so, it generates the report in the background, saves it on the file server, and sends an email notification to the report’s owner and shared users.	30
Activity Summary Task	Identifies the list of activities scheduled for the coming week and notifies the owners in a summary format.	User-defined

Name	Description	Default interval (minutes)
Full Text Search Scheduler	Indexes the content in files for full text search capability.	600 (10 hours)
Attachment Purging Task	Moves outdated files into a special folder and cleans up metadata in the database. The system is hard-coded to begin this process at 6:00 am local time; the default interval value of 1440 re-starts the process 24 hours later. Another value entered for this task alters the start time, then re-starts it at the new interval.See Use Case for Attachment Purging Task on page 278 for a particular use case of Attachment Purging Task.	1440 (1 day)
Activity Reminder Task	In PPM solution, identifies the list of activities that should start today and reminds the owners of these activities.	User-defined
Activity Health Task	In PPM solution, updates the "health" for all activities. It also updates the actual duration, variance, and estimated variance for these activities.	2
Compliance Rollup Task	In PG&C solution, runs compliance rollup calculations. **Note**: Even if the Product Governance & Compliance server license is disabled and not available, "Compliance Rollup Task" still appears in this list of tasks.	30
Due Tomorrow Notifications Task	In PCM solution, this sets how often the server checks for new RFQ-related notifications.	2
Admin Cache Synchronization Task	Synchronizes servers via **Web Client > Tools > Administration > Cache Health Monitor**.	5
Compliance Migration Task	In PG&C solution, for upgrades from 9.2.x to 9.2.2, this task must be enabled and run once; then this task can be disabled and is not needed. This task sorts all legacy compositions into three categories: Fully Disclosed, Partially Disclosed, or Undisclosed. See Compliance Migration Task on page 452.	1 (this task is run only once by upgrade customers)

When you double-click a task in the **Task Configuration** page (anywhere in the row), the Task Configuration **General Info** window appears. It has the following properties; you can modify the properties and save the new settings.

Property	Description
Name	Name of the task being configured.
Task Interval	Periodic time interval in minutes after which the server updates the status of the task. In general, the value for Task Lookback Window should always bigger than the value for Task Interval to make sure that no event is skipped.
Task Delay Time	How many minutes the event is delayed before it starts to run.

Property	Description
Task Lookback Window	How far back in minutes the task manager is to look to retrieve the events that can be run now. See Use Case for Attachment Purging Task on page 278 for a particular use case that involves temporarily re-setting Task Lookback Window. In general, the value for Task Lookback Window should always bigger than the value for Task Interval to make sure that no event is skipped.
Task Max Event Number	How many events can be running at the same time on one server.
Task Restart Upon Failure	Indicates whether the event should be restarted after it failed. Yes or No.
Task Load Across Server	Indicates whether the event can be executed at the same time in different servers of a cluster. Yes or No.
Task Disabled	Indicates whether this task is disabled (Yes) or enabled (No). **Notes:** In order for a given task to be executed, this property must be set to No. Also, when this property is changed for any task, it is no longer required to re-start the system.
Task Start Time	Allows you to specify the exact time a task should start. For example, you can specify that an Activity Reminder Task or an Activity Summary Task should be triggered at 8 a.m every morning. **Note**: Once you reset the time, you must restart the server for the changes to apply.

To disable a task in the Task Configuration window:

1. Double-click the task to open it.
2. In the **Task Disabled** list, select Yes.
3. Click **Save**.

Chapter 13

Configuring Product Collaboration

This chapter includes the following:

- Reference Designator Preferences 299
- Revising Item Descriptions 302
- Notes on Configuring Product Collaboration Object Tabs 307
- Notes on Configuring Agile PLM Settings that Affect Product Collaboration 307
- Configuring Sites – Distributed Manufacturing 307

This chapter provides information about Product Collaboration administration settings.

Reference Designator Preferences

Agile PLM 9.2 includes two system preferences related to reference designators. One preference defines the way reference designators are displayed in the BOM table. The second preference helps to determine the format of individual reference designators, including the format in which they are stored in the Agile database.

Caution	Changing the Reference Designator Range Indicator preference after the initial implementation of Agile PLM may affect user data. See “Reference Designator Range Indicator” below for more information.

Read this entire section about “Reference Designator Preferences” before you make any updates or changes to these preference settings.

- **Reference Designators Allow Range Expand Collapse**

  Allows reference designators to be displayed in the BOM table as a range instead of a sequence. For example, the reference designator range R1 through R5 can be displayed as either:

- **Expand** setting:

  R1, R2, R3, R4, R5

- **Collapse** setting:

  R1-R5

- **Reference Designator Range Indicator**

  The symbol that appears between lower and upper range values in reference designator statements. The default character is hyphen (**-**). If the reference designator number format that you want to use includes the hyphen character as part of the format, you can use this setting to select a different character to use as the range indicator. For important information about this preference, see “Reference Designator Range Indicator” before you make any updates or changes.

Reference Designators Allow Range Expand Collapse

This preference (RDAREC) determines how reference designators are displayed in the BOM table when *not* in edit mode. This preference affects only the end user display of the reference designator data stored in the Agile database.

- **Expand** — Displays ranges of reference designators in expanded format; each reference designator is listed and the range is not collapsed. For example, the range of reference designators beginning with **R1** and ending with **R5** is displayed as:

  R1, R2, R3, R4, R5

- **Collapse** — Displays ranges of reference designators in collapse or concatenated format. Ranges of reference designators (3 or more reference designators in a sequence) are indicated by the first reference designator in the sequence, the reference designator range indicator character, and the last reference designator in the sequence. For example, the range of reference designators beginning with **R1** and ending with **R5** is displayed as:

  R1-R5

Edit Mode — How editing reference designators is affected by the Expand/Collapse setting

When a BOM row is in edit mode, the reference designators are always displayed in expanded mode, regardless of the RDAREC preference setting. This allows the user to select and delete individual reference designators.

Regardless of the RDAREC preference setting, the user can always type a reference designator range in edit mode. If the user enters **R1-R99**, when he saves his edits, the reference designators are displayed according to the RDAREC preference setting. If the **Expand** setting is selected, each individual reference designator is displayed on the BOM table.

Note Whether they are originally entered as individual numbers or as ranges, Agile PLM stores reference designators as individual reference designator numbers. The RDAREC preference setting determines only the manner in which they are displayed on the BOM table (expanded or collapsed).

Reference Designator Range Indicator

This preference determines which character is used to indicate a range of reference designators. The default reference designator range indicator is the hyphen character:

-

When the Reference Designators Allow Range Expand Collapse (RDAREC) preference is set to **Collapse**, this character is used to indicate the “missing” reference designators in the sequence. For example, the range **R1-R5** indicates that the range consists of the reference designators beginning with **R1** and ending with **R5**. Although **R2**, **R3**, and **R4** are not displayed, the range indicator character implies that they are included in the range.

Why Select a Non-default Reference Designator Range Indicator?

If you need to use a reference designator format that includes the hyphen character as part of the reference designator number (for example, a segmented reference designator such as R3-AB46), you can use this system preference to select a different character to use as the Reference Designator Range Indicator. If you select the colon character (**:**) as the reference designator range indicator, and the RDAREC is set to **Collapse**, the range of reference designators beginning with **R3-AB44** and ending with **R3-AB48** is displayed as:

R3-AB44:R3-AB48

If the RDAREC is set to **Expand**, the same range of reference designators beginning with **R3-AB44** and ending with **R3-AB48** is displayed as:

R3-AB44, R3-AB45, R3-AB46, R3-AB47, R3-AB48

Caution	Changing the reference designator range indicator character may affect user data. Updates or changes after the initial Agile implementation should be made with **extreme caution**. Selecting a range indicator character that was previously used to segment reference designators may cause data mismatch problems.

For example, if you select the colon character as the range indicator character and use the hyphen character to segment reference designators, then you subsequently select the hyphen character as the range indicator character, a range indicator value R3-AB47 no longer has the same meaning, as the hyphen now indicates a range rather than part of the reference designator value.

Reference Designators with Leading Zeros

The following rules apply to the manner in which reference designators with leading zeros may be entered on the BOM table:

- The user may enter leading zero reference designators regardless of the Expand/Collapse setting.

  (See Reference Designators Allow Range Expand Collapse.)

- The number of the numeric characters between reference designator segments in a range need not match. For example, the user may enter **R0001-R100**.
- When the number of numeric characters does not match, the first segment's number of numeric characters is used to store the reference designator values in the database. For example, **R0001-R100** is stored as **R0001, R0002, ... R0100**.

Multi-segmented Reference Designators

The following rules apply to the format of multi-segmented reference designators, that is, when the reference designator has a suffix.

- Reference designators may be separated into a maximum of three parts:
  - Prefix — May be any character that is not designated as the Range Indicator or a delimiter.
  - Number — Must be numeric (include only characters 0 through 9)

- Suffix — May be any character that is not designated as the range indicator or a delimiter **AND** does **not** start with "**0**" (zero).

- Only the last number string is considered as the Number.

  For example, in reference designator value **A10B30D**

  - Prefix = **A10B**
  - Number = **30**
  - Suffix = **D**

Revising Item Descriptions

Agile PLM 9.2 provides several ways to manage and control the modification of the **Description** field of Item objects.

Important Regarding revision-controlled **Description** field modification: The item **Description** field cannot be modified through an MCO because an MCO does not create a new item revision. The MCO uses the **Description** field information from the ECO revision or Introductory revision on which it is based.

Three basic behaviors:

- Item object modification

  The end user edits the Description field of the item object. This method is controlled by Modify privilege masks for item objects applied to the item Description field.

  Note Item descriptions are associated with a specific item revision. Although the actual modifications are made on the item object itself (a change order is not required), the resulting descriptions are revision-specific.

- Revision controlled - all Item objects

  The end user must modify the item Description field on the Affected Items table of a change order, in the same manner that an item's Revision and Lifecycle attributes are revision controlled and, thus, are modified on the Affected Items table of a change order.

  This method is controlled by Modify privilege masks for the change order object applied to the Item Description field of the Affected Items table. Also, the Item Description field must be enabled on the Affected Items table.

- Revision controlled - selected Item subclasses

  This method is a mixture of the previous two methods: some selected item subclasses require revision-controlled modification of the Description field, while other item subclasses do not require it.

  This method is controlled by using a combination of the previous methods:

  - Modify privilege masks for the item subclass applied to the item Description field (for the subclasses that do not require revision-controlled description modification, but the users may edit the description on the item object itself).

    The Item Description field must be enabled on the Affected Items table.

- Modify privilege masks for the change order object applied to the Item Description field of the Affected Items table (for the subclasses that do require revision-controlled modification).

  In addition, the Modify privilege masks for the change order object must use the wildcard $AFFECTEDITEMTYPE to determine which subclasses require revision-controlled modifications to the specific item subclass Description field.

Setting up the Change Order Object

The Affected Items tab of change order objects (for example, ECOs) includes the following two attributes, which must be enabled or disabled appropriately for each Item Description modification method:

- Old Item Description

  This Affected Items attribute is populated with existing Item Description field value when the item is added to the change order. This attribute is not editable on the Affected Items tab. By default, this attribute is not enabled.

  For any item revision method that requires change order revision-controlled modification, you must enable this attribute.

- Item Description

  This is the default Affected Items table item description attribute. With the appropriate modify privilege masks for change order objects, this attribute is editable on the Affected Items table.

  In effect, this is the New Item Description and you may rename it if you wish.

When both these change order Affected Items table attributes are enabled, the Old Item Description field automatically displays the item description of the most recently released item (upon which the change order is based). The (New) Item Description field is available for the user to enter the desired item description for the pending revision of the item. This scenario requires the appropriate change order Modify privilege masks, with the appropriate Applied To properties for the (New) Item Description field.

Setting up the Appropriate Modify Privilege Masks for each Method

The following tables illustrate how you should modify the Agile-supplied default privilege masks for each method. Use this table as a guideline for setting up the desired method in your Agile PLM system. If you are not using the Agile-supplied default roles and privilege masks, examine the Example privilege masks and compare them to the actions outlined in the tables.

Item Object Description Field Modification

Goal: Modify the Item Description on the Item Object *only*.

Default Item Privilege Mask		Default Change Privilege Mask		Change Order Affected Items table, "Item Description" attributes
Name	Applied To property	Name	Applied To Property	
Modify Preliminary Items (applies to Introductory or Pending revisions)	ADD: Items.Title Block.Description	All default privilege masks with object type Changes	REMOVE: Changes.Affected Items.Item Description	HIDE (disable): Old Item Description Enable and RENAME: New Item Description to: Item Description
Modify Released Items	ADD: Items.Title Block.Description	All default privilege masks with object type Changes	REMOVE: Changes.Affected Items.Item Description	HIDE (disable): Old Item Description Enable and RENAME: New Item Description to: Item Description

Revision Controlled, All Items

Goal: Modify the Item description on Change Order *only*.

Default Item Privilege Mask		Default Change Privilege Mask		Change Order Affected Items table, "Item Description" attributes
Name	Applied To property	Name	Applied To Property	
Modify Preliminary Items (applies to Introductory or Pending revisions)	REMOVE: Items.Title Block.Description	All default privilege masks with object type Changes	ADD: Changes.Affected Items.Item Description	SHOW (enable): Old Item Description *and* New Item Description
Modify Released Items	REMOVE: Items.Title Block.Description	All default privilege masks with object type Changes	ADD: Changes.Affected Items.Item Description	SHOW (enable): Old Item Description *and* New Item Description

Goal: Modify the Item description on Item object *or* on Change Order.

Default Item Privilege Mask		Default Change Privilege Mask		Change Order Affected Items table, "Item Description" attributes
Name	Applied To property	Name	Applied To Property	
Modify Preliminary Items (applies to Introductory or Pending revisions)	ADD: Items.Title Block.Description	All default privilege masks with object type Changes	ADD: Changes.Affected Items.Item Description	SHOW (enable): Old Item Description *and* New Item Description
Modify Released Items	ADD: Items.Title Block.Description	All default privilege masks with object type Changes	ADD: Changes.Affected Items.Item Description	SHOW (enable): Old Item Description *and* New Item Description

Revision Controlled, All Items

Goal: Modify the Item Type (subclass) description on Change Order *only*.

Note For each Item Type (subclass) to be modified by Change Order only, a modify privilege mask for change orders (with criteria for $AFFECTEDITEMTYPE) is required.

Default Item Privilege Mask		**Default Change Privilege Mask**		**Change Order Affected Items table, "Item Description" attributes**
Name	Applied To property	Name	Applied To Property	
Modify Preliminary Items (specific Item Type) (applies to Introductory or Pending revisions)	REMOVE: Items.Title Block.Description	All default privilege masks with object type Changes	ADD: Changes.Affected Items.Item Description *where* Change.Affected Item. Item Type = (specific Item Type) Use criteria: Change.$AFFECTEDITEMTYPE = (specific Item Type)	SHOW (enable): Old Item Description *and* New Item Description

Default Item Privilege Mask		Default Change Privilege Mask		Change Order Affected Items table, "Item Description" attributes
Name	Applied To property	Name	Applied To Property	
Modify Released Items (specific Item Type)	REMOVE: Items.Title Block.Description	All default privilege masks with object type Changes	ADD: Changes.Affected Items.Item Description *where* Change.Affected Item. Item Type = (specific Item Type) Use criteria: Change. $AFFECTEDITEMTYPE = (specific Item Type)	SHOW (enable): Old Item Description *and* New Item Description

Goal: Modify the Item description on Item object *or* on Change Order.

Note For each Item Type (subclass) to be modified on the item subclass, a modify privilege mask (with criteria for Title Block.Part Type) is required.

Default Item Privilege Mask		Default Change Privilege Mask		Change Order Affected Items table, "Item Description" attributes
Name	Applied To property	Name	Applied To Property	
Modify Preliminary Items (specific Item Type) (applies to Introductory or Pending revisions)	ADD: Items.Title Block.Description	All default privilege masks with object type Changes	REMOVE: Changes.Affected Items.Item Description	HIDE (disable): Old Item Description Enable and RENAME: New Item Description to: Item Description

Default Item Privilege Mask		Default Change Privilege Mask		Change Order Affected Items table, "Item Description" attributes
Name	Applied To property	Name	Applied To Property	
Modify Released Items (specific Item Type)	ADD: Items.Title Block.Description	All default privilege masks with object type Changes	REMOVE: Changes.Affected Items.Item Description	HIDE (disable): Old Item Description Enable and RENAME: New Item Description to: Item Description

Notes on Configuring Product Collaboration Object Tabs

- Only the editable attributes on the **BOM** tab and the **Manufacturers** tab can be redlined. For more information, see Read-Through Fields on page 68.
- In the BOM Bulk Change wizard to replace or remove an item from an assembly, when the user identifies an item to bulk replace or remove, a table of assemblies where that item is used is displayed in the wizard. That table is derived from the item's **Where Used** tab. That is, any attributes that are visible on the item object **Where Used** tab will also appear in the BOM Bulk Change wizard.

  For example, if you want the assembly revision to appear in the table in the BOM Bulk Change wizard, then you must enable (make visible) the Revision attribute on the **Where Used** tab of item objects. For more information, see Configuring Tabs on page 58.

Notes on Configuring Agile PLM Settings that Affect Product Collaboration

- The **Multiple Items Per Manuf Part** SmartRule is applied when the user creates an item with the Save As feature. That is, if the original item has a manufacturer part and the user displays that item and chooses Save As, the SmartRule is applied to the new item. If the SmartRule is set to Disallow, the user is presented with an error message and will not be allowed to create the new item. If the SmartRule is set to Warning or Allow, no error message is displayed and the new item is created.

Configuring Sites – Distributed Manufacturing

Note For information about implementing and configuring Agile multi-site manufacturing, see *Administrator Guide*. For information about using Agile multi-site manufacturing, see *Product Collaboration User Guide*, in particular, chapter 2, "Sites and Distributed Manufacturing."

When the Agile administrator enables the Agile PLM Sites license, the Agile Site object is available and Agile PLM multi-site manufacturing functions become available. Agile multi-site manufacturing capabilities are used to assist a company that builds its products in multiple locations (distributed manufacturing). Before taking this step, you must determine and plan how Agile PLM multi-site manufacturing will be integrated with your ERP system.

Warning	Agile PLM multi-site manufacturing functionality is built differently than ERP sites. Agile Site objects and ERP sites are similar, but they are not identical. You should work with an Oracle Consulting - Agile practice representative to plan your Agile PLM to ERP integration before you enable the Agile Sites license. The type of information that you want to track in Agile PLM and how you choose record that information in Agile PLM may depend on how product information is stored in your ERP system.

Agile multi-site manufacturing helps a company that builds its products in multiple locations to do so by enabling parts and documents in those locations that are specific to the manufacturing process. In Agile PLM, revisions are global item attributes. If a part is used in two manufacturing sites, it must share the revision level, although the effectivity dates and disposition settings can be different.

The Agile multi-site manufacturing features allow you to annotate product data with three types of site relationships:

- **Item object-to-Site relationship**

  An item can be associated with one or more sites by adding the site object to the sites table on the item **Sites** tab. Item-site relationships are similar, but not identical to ERP item-site relationships. You can see if an Agile part is enabled in any sites by viewing its **Sites** tab.

  - Parts that are not released in any site have only global item effectivity dates and dispositions.
  - Parts released in sites are can have both site-specific item effectivity dates and dispositions and global item effectivity dates and dispositions.

- **BOM row-to-Site relationship**

  BOM row-site relationships are unique to Agile PLM. A child part can relate to its parent with no site relationship or through one or more specific sites. Each BOM row has either no site relationship or one site relationship. Use multiple rows, one for each site, to represent more than one site relationship for the same child part.

  - A child part that reports to its parent without a specific BOM row-site relationship is considered a common part, that is, a part common to all manufacturing sites.
  - A child part that reports to its parent with a BOM row-site relationship is a site-specific part, that is, a part that is specific to the related manufacturing site.

- **AML table row-to-Site relationship**

  On an part's **Manufacturers** tab, you can specify site-specific AMLs (Approved Manufacturer List). Rows on the part manufacturer table can be common (specify no site) or a site-specific (associated with a site listed on the part's **Sites** tab). BOM row-site relationships and AML row-site relationships are independent of one another.

  - An manufacturer part without a specific AML row-to-site relationship is a common manufacturer part and can be used at any manufacturing site.
  - A manufacturer part with an AML row-to-site relationship is a site-specific manufacturer part, which allows the manufacturer part to be used at the specified manufacturing site.

Other important Agile PLM sites and ERP sites differences to keep in mind:

- In many ERP systems, a part can appear in different sites and have independent revisions. Agile considers all revision to be a global attribute of the part; therefore, site-based revisions are not supported in Agile PLM. To accommodate this need, simply prefix or suffix the part number with a unique string, for example SJC-P1000 and NYC-P100. These are unique parts which have global revision, but because these parts are not used in other sites their revisions appear to be site-specific.
- The item-site relationship and the BOM row-site relationship are independent of one another in that you can add a part to a BOM as a site-specific BOM row without first adding the site to the part. Unlike typical ERP systems, Agile does not require that a part must first be released in a site before it can be added to a site-specific BOM row.
- When adding a row to a BOM where the parent has Sites that are not on the child, Agile PLM prompts the user to add the Sites to the child. This occurs only on the initial add of the BOM row - either in authoring mode (direct editing of a part) or in redlining mode (modifying a part through change redline). The user can choose only to **Copy** the sites onto the child in order to add the row to the BOM; choosing **Close** will not add the BOM row. If additional Sites are subsequently added to the parent, the newly added Sties are not automatically copied to the child. If Sites are removed from the child, no check is made on whether there is inconsistency between Sites on the parent and the child.
- The SmartRule Child Released First is enforced by the Release Audit when a part is released. When a parent part is released, this rule checks the BOM components for Site association and whether the BOM components are also released. The Release Audit verifies whether or not the item has been released by a Change or Manufacturer Change after a Site was added. In order to correctly pass this SmartRule, the Item must be released after adding a Site.

Chapter 14

Administering Attachments

This chapter includes the following:

- Evaluating Your Company's Needs with Attachments or Designs 311
- Administrator Settings Related to Attachments 311
- Assign Roles and Privileges 316
- Document Management Enhancements in Rel. 9.2.2.4 323
- Generating Attachment Quick Access URLs 324

This chapter collects information about attachments that the administrator has to know.

Evaluating Your Company's Needs with Attachments or Designs

As with other areas of Agile PLM administration, the most important step comes before setting properties in Administrator. You have to determine an overall "policy" that supports your company's uses of attachment files, file folders, and design models.

As you decide about company objectives, these are a few factors you might evaluate:

- Does your company produce CAD design and graphic files? If so, you will build from the Designs class. Please refer to the next chapter,
- Does your company need to organize and track attachments and bundles of attachments? This may indicate building from the File Folder subclass.
- Does your company work in Viewer-based attachments that want markup and redlining capabilities? This indicates building from the Markup subclass.
- Are there other special purposes or uses of Agile's attachment capabilities to take into account?
- Invisible or Visible file folders?
- How should attachment files be named? Are such files to be named in a dictated or organized system? Or is it alright to allow users to name attachment files and count on users to use file folders to search and find specific attachments?

Administrator Settings Related to Attachments

This section collects various Administrator settings – SmartRules, systemwide Preferences, and a user preference – for convenience. Roles and privileges that pertain to attachments are discussed in a subsequent section. Refer to node-specific chapters for more information about the capabilities in Administrator.

File Management in Agile PLM

Administrator settings on the **Server Settings > Locations > File Manager** tab are important in relation to attachment files and where originals and copies are found. This is documented in File Management in Agile PLM on page 271.

The Checksum internal utility is a security measure against improper handling of files. Reset privilege and Checksum Computation preference are described in Handle File Checksum on page 273.

SmartRules

The Agile PLM SmartRules are documented in SmartRules on page 237.

Copy Files To Rev

The Copy Files To Rev smartrule controls automatic copying of attachment files to a new revision; that is, the pending item revision that is created when an item is added to the Affected Item table of a change. The system checks this SmartRule only when a pending change is created and not when attachments are added. Possible settings are Copy, Reference (the default), Disallow, Copy with Warning, and Reference with Warning.

The following table illustrates how each setting works in the case of the following example:

- Part 55, Revision B, **Attachments** tab table lists attached file Test.txt, version 3; that is:

  File Name = Test.txt, **File Folde**r = Folder004, **Folder Version** = 3.

- Part 55, Revision B is added to the **Affected Items** tab of a change object, thus creating pending revision C.

Setting	How it works
Copy	For the item's new pending revision, Agile creates a new file folder and creates a new copy of the attachment file, which is placed in the new file folder. So, when pending revision C is created, the **Attachments** tab table lists the same attachments as revision B, that is, revision C inherits the same attachments as revision B: **File Name** = Test.txt, **File Folder** = Folder004, **Folder Version** = 3
Reference	Agile uses the existing file folder and creates a new reference to it on the item's pending revision **Attachments** tab.
Disallow	When pending revision C is created, the **Attachments** tab table is empty. No attachment references are copied.
Copy with Warning	The same as the **Copy** setting, with the option of choosing no attachments for the new pending revision. When you add items to the pending ECO, you are presented with a warning dialog that includes a row for each item you are adding. To add the item and to copy the attachments, check both the **Add** checkbox and the **Attachments** checkbox. To add the item with no attachments, check only the **Add** checkbox.

Setting	How it works
Reference with Warning	The same as the **Reference** setting, with the option of choosing no attachments for the new pending revision. When you add items to the pending ECO, you are presented with a warning dialog that includes a row for each item you are adding. To add the item and to reference the existing attachments, check both the **Add** checkbox and the **Attachments** checkbox. To add the item with no attachments, check only the **Add** checkbox.

Note All revision-specific rules that apply to ECO-created revisions (such as Revision B in the example above) also apply to the Introductory revision of an item.

If you set this smartrule to Disallow, files that were added to the Introductory revision after the object was associated with a change (that will result in released Rev A) will not be copied to subsequent revisions. Also, when a new Change is created, all the files that were added to the Introductory revision won't be added to the newly created revision.

Check In Attachment With Different File Extension

This smartrule determines whether an attachment file that is being checked in can have a different file extension than the file that was checked out. This smartrule applies to all business objects.

This rule is overridden when a business object's attachment is Latest-x and the file extension in the attached file folder is changed and is therefore different than the extension of the business object's checked-out file.

Preferences

Systemwide preferences are documented in Preferences on page 286.

Filename Prefix

Agile File Manager uses a prefix that is attached to each file that is stored in the file vault. Before PLM 9.2, the prefix was automatically assigned, and was derived from the Database username. But that made it difficult to retrieve files after an upgrade if the new Database username changed. Now you can type in the identifier that will be automatically added to every attachment file. The default is "agile".

Optimized Replication

When there are more than two File Managers, this preference allows the PLM system to keep track of the File Managers that contain each file. During replication, the requesting FM only contacts other FMs that contain the file, and downloads a given file from the nearest FM (which is determined by shortest 'ping' to all the FM servers).

Settings are Enabled or Disabled. Disabled can be set to troubleshoot problems with the optimizations.

Save As Attachments

Here are further details on the available choices for the Save As Attachments preference. When

Save As is used to create a new business object will include the same attached files; your choice is whether to create new copies of the files (which includes new file folders), to reuse the same file folders attached to the original business object, not to copy any files, or to allow the user to choose one of these methods at the time he performs the Save As operation.

Select the setting that best suits your company's business practices.

Note This preference does not apply to File Folder objects themselves, except as outlined in the table below.

For Product Portfolio Management objects, this preference applies only to attachments in the current object; it does not propagate down to all children tasks. The preference does apply when creating a new program from a PPM template.

The following table illustrates how each setting works in the case of the following example:

- Object ABC includes the following attachment:

  File Name = Test.txt, **File Folde**r = Folder004, **Folder Version** = 3.

- A user opens Object ABC and uses Save As to create Object XYZ.

Setting	Example of how it works
Create new copy of file(s)	When Object XYZ is created, a new copy of the Test.txt is attached in a new file folder. Object XYZ's **Attachments** tab lists: ▫ **File Name** = Test.txt ▫ **File Folde**r = Folder013 ▫ **Version** = 1 A new copy of Test.txt is created in the file vault, and a new file folder (Folder013, Version 1) is created. The end result (new copy of the file, new file folder, at Version 1) is the same as if the user had added the attachment Test.txt by using the **Add | Files** button on the **Attachments** tab of Object XYZ.
Reference existing file(s)	When Object XYZ is created, it reuses the same attachments as the original Object ABC. Object XYZ's **Attachments** tab is the same as Object ABC's **Attachments** tab, and lists: ▫ **File Name** = Test.txt ▫ **File Folde**r = Folder004 ▫ **Version** = 3 The end result (the file folder attachments are reused) is the same as if the user had added the attachment Test.txt by using the **Add | By Search** button on the **Attachments** tab of Object XYZ, searching for Object ABC and selecting its attachment: Test.txt, Folder004, Version 3.
Do not copy file(s)	When Object XYZ is created, no attachments are copied from the original Object ABC. The end result is that the newly created Object XYZ has no attachments; its **Attachments** tab is empty.

Setting	Example of how it works
Prompt	The user is prompted to select one of the Save As Attachment methods: ▫ **Reference existing file(s)** ▫ **Create new copy of file(s)** ▫ **Do not copy file(s)** Agile PLM always prompts each user whenever a Save As operation is performed. However, if the original Object ABC does not have any attachments (the Attachments table is empty), the prompt will not appear.

Allow Download of Productivity Components

This preference controls whether your users — specifically Web Client users — will have access to Java applets that permit advanced features. Besides specific applications to the PE and PG&C solutions, this preference enhances system behavior with regard to attachments in these three ways:

- The Advanced File Uploader is available to users in Web Client.
- Automated checkin is based on the checkout location in Web Client.
- Allow download of individual files instead of a single Zip file in Web Client.

Note Java Client users always have access to these advanced attachment features, regardless of the setting of this preference.

If this preference is set to Yes, the end user must also have the appropriate user profile setting for his **File Productivity Preference** attribute.

If you have set this preference to Yes, and a Web Client user does not have access to the advanced attachment features, check his user profile. See also File Productivity User Preference in the User Profile on page 316.

Setting	Results
Yes	File Productivity Preference attribute appears in the user profile, **Preferences** tab. User may set this to Advanced, Standard, or Prompt. If set to Advanced or Prompt, the Web Client user has access to advanced attachment features.
No	File Productivity Preference attribute does **not** appear in the user profile, **Preferences** tab. The Web Client user does not have access to advanced attachment features.

File Productivity User Preference in the User Profile

Note	**File Productivity Preference** is a user preference – strictly, simply an attribute in every User object – not a systemwide preference. It is discussed here because it works in conjunction with Allow Download of Productivity Components systemwide preference: the **File Productivity Preference** user preference will not appear in any user's Profile if the Allow Download of Productivity Components systemwide preference is set to No.

User properties are documented in User Properties Defined on page 156.

This user setting controls whether the user has access to advanced productivity components, or standard components, or wants to be prompted in each situation. The available settings are Prompt, Advanced, or Standard. The default is Prompt; you as administrator can set any of the values for any user; each user can change the setting in their User Profile (again, assuming the systemwide preference **Allow Download of Productivity Components** is set to Yes).

Note	The "Working with Attachments" chapter of *Agile PLM Getting Started Guide* includes instructions for the end user for setting his user profile **File Productivity Preference** and explains the behavior of each setting.

If the user preference is set to Standard mode, non-supported files will not be opened automatically. Instead, the user is prompted to choose Save or Open.

Note	Make sure you choose appropriate character sets where required. There is a potential problem when adding files or URLs from a business object to a file folder object. If the file folder's File Description attribute has a Character Set = Numeric, but the business object's File Description attribute has a Character Set = Alpha or AlphaNumeric, the latter will override the former, meaning whatever control you wanted to impose in the file folder's File Description (being numeric) will be lost, the system will save the original character set.

Assign Roles and Privileges

Agile PLM roles are fully documented in Chapter 9, Roles on page 175, and privileges are fully documented in Chapter 10, Privileges and Privilege Masks on page 195. You should evaluate your objectives carefully before creating new roles and privileges. While customized roles and privileges may need to be created, it is always preferable if your objectives can be handled by out-of-box roles and privilege masks.

Note	In Agile PLM 9.0, a user could discover and read file folders that he created, even when he did not have explicit Discover and Read privileges. To preserve that 9.0 behavior, the administrator must create and assign a privilege mask as described below.

- Migrating from Agile 8.5 to 9.2 — No need to do anything, as the business object user cannot access the file folder (the file folder object did not exist before PLM 9.0).
- Migrating from Agile PLM 9.0 to 9.2 — Grant explicit access to *all* users to Read and Discover file folders that the particular individual created. In the privilege Criteria, set CreateUser = $CREATEUSER.

The following section provides information about privileges that are constructed to realize attachment capabilities.

Attachment Privileges

Some privileges allow users to perform actions on attachments; we will call them “attachment privileges” in this discussion. Users who are assigned Folder Administrator or Folder Manager roles may need to review the information below.

The following privileges allow users to perform actions on attachments:

- Checkin
- Checkout
- Cancel Checkout
- GetFile
- PrintFile
- ViewFile
- Modify

Important GetFile privilege works in tandem with Checkout privilege to actually deliver the attachment file to the user’s machine. A user with Checkout but not GetFile will see in History that the file is checked out, but it has not been downloaded to the user. The GetFile privilege (without Checkout) allows the administrator to permit a user to get a file – open it, read it – without being able to change it in the product record.

In Agile PLM 9.2, you can create privilege masks and roles that allow you to provide users all attachment actions from the business object **Attachments** tab; direct access to the file folder object is not required. Thus, file folder objects are “invisible” to the user, even though the user has the capability to perform all attachment actions from the business object **Attachments** tab.

Note Attachment actions performed from the business object’s **Attachments** tab are carried out on the referenced file folder object. For example, checking out an attached file on the **Attachments** tab actually checks out the referenced file folder. However, if the user has the correct attachment privileges, he does not also require file folder privileges.

However, if required, attachment privileges can apply directly to file folder objects, and privileges for file folder objects should be reserved for those users who will actively maintain those objects. These users can search for file folder objects, open them, check files in and out on the **Files** tab, get files, print files, and view files. But you don’t want every user to have this range of permissions on the file folders, and those roles don’t give users the correct functionality anyway.

What will be more useful for standard users is having attachment privileges for specific classes or subclasses of business objects (or, as needed, specific objects). A user who has attachment privileges for manufacturer parts can perform attachment actions on any manufacturer part’s **Attachments** tab, provided that the Folder Version selected in the attachments table is the latest version. If a user’s attachment privileges pertain to a subclass of manufacturer parts, say, Resistors, the user can perform attachment actions on any resistor’s **Attachments** tab, again provided that the

Folder Version selected in the attachments table is the latest version.

As long as the latest version is selected, a user—from the **Attachments** tab of the current object—can check out and check in and perform the other attachment actions.

Therefore, a user with attachment privileges for *only* manufacturer parts can perform attachment actions from a manufacturer part's **Attachments** tab but *not* from an item's **Attachments** tab.

To summarize, users do not need privileges for file folder objects to work with attachments; however, they do need privileges for the business objects they will be working with (with the privilege specifying a class, subclass, or specific object). Users can create, check in, and check out file folder objects, but only in association with the Agile PLM class, subclass, or object for which they have business object attachment capability privileges.

Attachment Capability Privileges in a Role

Some out-of-box roles have all of the above-named attachment privileges for the object types that role would usually work with, that is, the object types that the role is designed to create and modify. They may also have file capabilities (get, view, and print) for other related object types.

For example, the Item Content Manager role includes all seven attachment privileges for items and changes. It also includes GetFile, PrintFile, and ViewFile privileges (not Checkout or Checkin) for manufacturers, manufacturer parts, and price objects (that is, objects that are listed on the **Manufacturers** and **Prices** tabs of an item).

Following the Item Content Manager role as an example, you can create roles that allow users to get, print, and view attachments for all objects related to that user's Agile PLM system activities, and limit the checkin/checkout privileges to only those objects that the user can create and modify. A role that includes privileges for file folder objects does not allow you to control the user's attachment capabilities to the same level of granularity.

Modify Privilege and Attachments

The Modify privilege allows a user to modify or edit fields on the tab of an object. Modify privileges are assigned using the AppliedTo attribute settings.

Agile PLM uses Modify privilege mask Applied To properties to determine and control certain specific user actions and attachment capabilities. For example, if a user has a role that includes a Modify privilege mask for parts and the Applied To property includes the **Parts.Attachment.FileDescription** attribute, then that user is able to modify the File Description field on the **Attachments** tab of a part object. This same modify action will also modify the File Description field on the **Files** tab of the referenced file folder object, however, a modify privilege mask for the file folder object is *not* required.

The following table lists the Modify privilege mask Applied To properties and which attachment actions they control.

Note This table uses File Folder or Business Object as a placeholder for the class or subclass name in the Applied To attribute column. The actual class or subclass name in any privilege mask is determined by the reusable criteria specified in the privilege mask. (See Privilege Mask Components on page 221.) If you view the example privilege masks mentioned in the Notes column, the Applied To properties will be appropriate for that specific privilege mask (for example, Manufacturer parts.Attachments.FileName).

The Notes column lists at least one example privilege mask that demonstrates a privilege mask that provides the user action; it is not a comprehensive list of example privilege masks. In cases where a Modify privilege mask is not required, only the needed privilege mask is listed (such as Example - Checkin for File Folders). If multiple privilege masks (in addition to a modify privilege mask) are needed to enable the user action, they are all listed.

User action	Privilege	Class	Applied to	Example Privilege Mask or Role / Notes
File Folder attachment actions				
Add file to File Folder	Modify	File Folder	Files.Filename	Example - Modify File Folders
Checkin File from File Folder	Checkin	File Folder		Example - Checkin for all File Folders (criteria = Example - All File Folders) Example - Checkin for File Folders (criteria = Example - All File Folders Checked Out By Me)
Delete File from File Folder	Modify	File Folder	Files.Filename	Example - Modify File Folders
Example file folder roles: Example - File Folder Manager allows user to work with his own file folder objects. Example - File Folder Administrator allows user to work with any file folder objects.				
Business Object attachment actions				
Add new attachment to Business Object	Modify	Business Object	Attachment.Filename	Example - Modify Mfr Parts
Add attachment by search to Business Object	Discover	Business Object (the business object being searched against)		As an example, if the user is searching for item objects from which to add attachments to a Mfr Part, then he requires: Example - Discover Items
	Modify	Business Object	Attachment.Filename	Example - Modify Mfr Parts
				Example - Component Engineer role includes both these example privilege masks and would allow a user to add an

User action	Privilege	Class	Applied to	Example Privilege Mask or Role / Notes
				attachment to a Manufacturer Part by using **Add | Search** to search for Items.
Add multiple attachments in one file folder to business object and specify Folder Description	Modify	Business Object	Attachment.Filename	Example - Modify Mfr Parts
	Modify	Business Object	Attachment.Folder Description	Example - Modify Mfr Parts
Checkin attachment on Business Object	Checkin	Business Object		Example - Checkin for Mfr Parts
Remove attachment from Business Object	Modify	Business Object	Attachment.Filename	Example - Modify Mfr Parts
Edit File Description on Business Object **Attachments** tab	Modify	Business Object	Attachment.File Description	Example - Modify Mfr Parts
Edit Folder Description on Business Object **Attachments** tab	Modify	Business Object	Attachment.Folder Description	Example - Modify Mfr Parts
Show Version on Business Object **Attachments** tab	Read	Business Object	Attachment.Filename	Example - Read Mfr Parts

Markup Subclass

Note Attachment redline markups and file folder Ad Hoc redline markups are created, modified, and viewed in the Agile Viewer.

The Markup subclass of the File Folders class is used to save attachment-file redline markups. By assigning the appropriate privilege masks to different kinds of users, specific users (for example, vendors) can see and modify only their own markups, but cannot see markups created by other users.

For detailed information about Markup subclass privilege masks, see Redline Markup Default Roles and Privileges on page 321.

Markup subclass objects are visible in Agile PLM for any user that has Read privileges for Markup objects. For example, if a user searches for File Folders class objects, Markup objects are included in the search results. However, the redline markup file they contain can be viewed only when viewing the item attachment-file or the file-folder file with which the redlines are associated. Attempting to view the redline markup from the **Files** tab of the Markup subclass object displays an error message when the Agile Viewer opens.

See also Discovery and Read Privileges on page 206.

Markup Promotion

Markup Promotion is a generic capability supported within AutoVue to “promote” (copy) markup files from one base file to another. The user can promote markups from previous revisions (for change-based markup) or previous versions (for ad-hoc markup), permitting the user to see if the changes made in the following revision or version address the comments originally made in the markup.

This works with both File Folders class (therefore, objects from File Folder and Markup subclasses) and the new Designs class (objects from Design subclass). It works with both types of markup:

- Change-based – from Changes **Redline Attachments** tab
- Ad-hoc – from File Folders or Designs **Files** tab

Markups are selectable for promotion if they are on a previous revision or version and the base file extension is the same, for example, if Version 1 is **file_v1.pdf** and Version 2 is **file_v2.pdf**.

Redline Markup Default Roles and Privileges

Agile PLM uses the file folder subclass Markup to store attachment redline markups created in the Agile Viewer. Agile PLM provides a default set of Markup subclass privilege masks and two default roles, **Markup for Self** and **Markup for All**. If you have upgraded PLM, you must create these roles by referring to the example roles **Example - Markup for Self** and **Example - Markup for Others**. See also Markup Subclass on page 320.

Note The **Markup for Self** and **Markup for All** default roles replace the Attachment Redlines for Self (ARS) and Attachment Redlines for Others (ARO) privileges. As of release 9.2.2.2, the privileges ARS and ARO are disabled; ARS and ARO privilege masks have no effect. However, any previously assigned custom ARS or ARO privilege masks are not deleted or removed; so, you can refer to the ARS and ARO privilege masks when creating and assigning redline capabilities with Markup subclass privilege masks or roles.

A user with Markup capabilities can create and modify the following types of redline markups:

- Create and modify attachment redline markups for the affected items of any change order object for which he has Read privileges.
- Create and modify Ad Hoc file folder redline markups for any file folder object for which he has Read privileges.

The **Markup for Self** role allows the user to redline attachments from the **Affected Items** tab of a change order and to Ad Hoc redline files on the **Files** tab of a file folder, and he can modify or delete only those redlines he created.The privilege masks in the **Markup for Self** role are based on the Markup for Self criteria: Markup Page Two.Create User Equal to $USER.

The **Markup for Others** role allows the user to redline attachments from the **Affected Items** tab of a change order and to Ad Hoc redline files on the **Files** tab of a file folder, and he can modify or delete only those redlines created by other users. The privilege masks for the **Markup for Others** role are based on the All Markups criteria.

The following table lists the default privilege masks in each of the default roles for Markup subclass:

Markup for Self role	Markup for Others role
Read My Markups	Read All Markups
Modify My Markups	Modify All Markups
Checkout My Markups	Checkout All Markups
Checkin My Markups	Checkin All Markups
Create Markups	Create Markups

Redline Markup Privilege Guidelines

The following rules and guidelines apply to redline markup capabilities:

- If a user does not have Read privilege for a specific Markup object, the associated redline markup is not listed in the markup panel in Agile Viewer.
- If a user does not have Modify privilege for a specific Markup object listed in the Agile Viewer markup panel, the Agile Viewer markup panel is disabled and the user cannot edit any redline markup for that viewed file.
- If a user does not have a Create Markup object privilege mask, he cannot create new markups from the Agile Viewer.
- In **Admin > Settings > Data Settings > Classes**, for **File folders** class, the Page Two attribute **Create User** must be enabled. The default value is $USER. This attribute is used to determine "ownership" of each redline markup.
- In order to differentiate between privilege masks for Markup subclasses and all other file folder subclasses, Create, Read, Modify, Checkout, and Checkin privilege masks for file folders must use criteria that specify specific file folder subclasses (for example, Markup subclass and File Folder subclass). This allows you to use a set of privilege masks specific to Markup subclass. The Markup-specific privilege masks are assigned only to those users to whom you wish to grant redline capabilities.

  In contrast, privilege masks based on criteria that specify the File Folders base class or the File folders class will apply to all file folder subclasses, thus depriving you of the ability to restrict redline capabilities (by *not* assigning to users Markup subclass privilege masks). That is, privilege masks based on criteria for the File Folders base class or the File folders class will always apply to Markup subclass objects.
- The default Markup subclass privilege masks are based on broadly-defined reusable criteria (**All Markups** and **Markups for Self**). However, you are not limited to these criteria when creating Markup subclass privilege masks. For example, you can enable a list attribute or a multilist attribute, then create criteria that will determine Markup capabilities based on the settings of that list attribute or multilist attribute.

Document Management Enhancements in Rel. 9.2.2.4

A few enhancements in Rel. 9.2.2.4 are listed here:

- Bulk download of attachments in Web Client
- Limit Attachment Size
- Identify Checkin User
- URLs can be up to 255 characters

Version Browser

On the standard **Actions** menu, the most significant added Action is **Version Browser**. The Version Browser action is available in File Folder and Design objects.

The **Version Browser** utility is extremely useful as file-folder structures or design structures grow, as it tracks the versions of each design or file-folder. Each version displays:

- Approved (users who have approved file folder or design in workflow), including the Awaiting Approval icon (users who have not yet approved);
- Checkin Date;
- Checkin User (which captures the user who checked in the version, and also can read through to the design **Structure** tab and to **Attachments** tabs in designs or file folders);
- Change Info and Label (as filled in by users); and,
- Revision and Revision Date.

Many of these fields are pulled from the object's **Title Block** tab.

Using the **View** dropdown, you can have a quick **View** of a selected version of the design, or select two versions and **Compare** them visually.

Limit Attachment Size

Administrators can set the maximum file size that can be uploaded at **System Settings > Viewer and Files > Upload File Size Limit (in MB)**. This setting defines the maximum size (in MB) of uploaded files for Java Client, Web Client, Portal Client, and SDK.

The default value, 0, indicates "No Limit"; any non-negative integer sets the size limit in MB. Users will see an error message in Java and Web clients if a file is too large. Files that successfully upload (before a failure occurs) remain uploaded, other files (after a failure occurs) will not be uploaded.

Identify Checkin User

The Checkin User field is available on File Folders and Designs **Title Block** tab and on any business object's **Attachments** tab. It identifies the user who checked in the specified version.

This field is not available on Project Content Tab.

URLs can be up to 255 characters

Attached URLs can be up to 255 characters in length.

Generating Attachment Quick Access URLs

Attachment URLs allow you to do the following:

- Generate a URL for an attachment on item objects.
- Generate a URL for a file on file folder objects.
- Generate a URL for a file on the **Content** tab of Program objects.
- Paste URLs from Agile to another application
- Externally open files outside of the Agile application.

You can generate attachment URLs from Items, Activities, and File Folders by two methods:

- Using Agile PLM commands to copy a URL to your clipboard:

  Agile-Generated Attachment Quick Access URLs on page 324

- Manually typing an Attachment Smart URL in an easy-to-understand format:

  User-Generated Attachment Quick Access Smart URL Formats on page 325

The URL format enables you to identify which object and files are being referenced. Because of the easy-to-understand format, you can generate your own URLs to point to specific file attachments without logging into the Agile system, if you know where the files are located.

Agile-Generated Attachment Quick Access URLs

From Web Client, you can only generate Attachment Quick Access URLs from the **Attachments** tab of any object, the **Content** tab of Activities, and **Files** tab File Folders by clicking **Get Shortcut** after performing one of the following scenarios:

- Selecting **only** one row from the **Attachments**, **Content**, or **Files** tab to generate a URL that points to the folder corresponding to the file on that row.
- Selecting all the rows on the **Attachments**, **Content**, or **Files** tab to generate a URL that points to the collection of files on the tab.

Note You must have Read privileges for an object in order to generate a URL for the object.

Caution If you select more than one row on the **Attachments**, Content, or **Files** tab, the Get Shortcut link is disabled.

The URL is copied to your clip board. You can then paste it into another application or file, such as a word processing file, a spreadsheet file, or an email.

User-Generated Attachment Quick Access Smart URL Formats

With the easy-to-understand Smart URL format, you can generate your own URLs to point to specific file attachments without logging into the Agile system, if you know where the files are located.

The formats of user-generated attachment Smart URLs depend on the object type, and fall into three main categories:

- Item Attachment Quick Access URL Formats (on page 325)
- File Folders Quick Access URL Formats (on page 327)
- Program Content Quick Access URL Formats (on page 328)

Item Attachment Quick Access Smart URL Formats

You can generate Smart URLs for item attachments in the following format:

```
http://<server:port>/<VirtualPath>/link/<ObjectType>/<ObjectNumber>[/Revision/ChangeNumber]/files/Folder/<FolderNumber>[/<FileAction>]
```

or

```
http://<server:port>/<VirtualPath>/link/<ObjectType>/<ObjectNumber>[/Revision/ChangeNumber]/files/<FileName>[/<FileAction>]
```

where

<Server:Port>/<Virtual Path> element	Identifies the Agile instance
link	The text "link" identifies the URL as a special attachment URL to the Agile server.
ObjectType	Refers to the subclass of the Item, File Folder, or Program/Activity.
ObjectNumber	Refers to the actual object number for the object type.
Revision	Identifies an item revision by specifying the change number corresponding to that revision.
ChangeNumber	Identifies a unique revision (Released or Pending) of the item. If the number is not specified, the latest released revision is attached. If the number is not specified and the item does not have a released change, the Introductory revision is attached.
Folder	Indicates that the object is a file folder, not the actual file.
FolderNumber	Identifies the file folder related to the selected row. The version of the file retrieved is the most current version, based on the specific revision of the item.
FileName	Refers to the name of the specific file attached to the specified revision of the item.

<Server:Port>/<Virtual Path> element	Identifies the Agile instance
FileAction	Determines the action performed with the retrieved files. Values are GET or VIEW. If FileAction is not specified, a GET is performed. If the parameters specified in the URL point to a single file, the file is retrieved in its native format. If the parameters specified in the URL point to a collection of files, then all the files are returned as a zipped file called "Download.zip".

If the specific revision of an item has multiple files contained in the same folder on the Attachments tab, but is referenced from different versions of the folder, then a Folder-based URL may not reflect the actual set of attachments from the item revision's Attachments tab.

Examples of user-generated URLs for item attachments:

- http://myappserver/mycompany/Link/Document/DOC0001/files/Folder/Folder001

  Returns a zipped file containing all files from Folder001 that are attached to the latest released revisions of DOC0001.

- http://myappserver/mycompany/Link/Document/DOC0001/files/Folder/Folder001/VIEW

  Opens all files from FOLDER001 that are attached to the latest released revision of DOC0001 in AutoVue for Agile.

Limitations for Item Object Attachment Quick Access Smart URLs

The following limitations apply to retrieving the attached files of item objects:

- In the case where a specific revision of an item has multiple files on its **Attachments** tab that belong to the same folder, but are referenced from different versions of the folder, a folder-based URL may not reflect the true set of attachments from that item+revision's **Attachments** tab. For example, consider an item P0001, whose revision A has two attachments: P0001_3dmodel.dwg and P0001_specs.pdf, both in Folder1. Assume that the DWG file is from version 2 of the file folder, and the PDF file is from version 5 of the file folder. In this case, the following URL:

  http://server:port/<VirtualPath>/link/Part/P0001/Revision/C0001/files/Folder/Folder1

  returns all the files contained in either version 5 or version 2 (results are not predictable) of Folder1.

  However, the following URL:

  http://server:port/<VirtualPath>/link/Part/P0001/Revision/C0001/files/ALL

  returns the complete set of files belonging to revision A of the item, including P0001_3dmodel.dwg from version 2 of Folder1 and P0001_specs.pdf from version 5 of Folder1.

- You cannot generate an item-based URL that will return a file from a historical version of a file folder referenced on an item's attachments tab. The user can, however, generate a folder-based URL to achieve this.

- In case of the following format example,

  http://server:port/<VirtualPath>/link/ObjectType/ObjectNumber[/Rev/ChangeNumber]/files/

FileName[/FileAction]

If two files of the same name (filename + file extension) exist on the attachments table, and a user generate a URL using filename, only the first encountered file is retrieved. If the "ALL" option is used to access files from the **Attachments** tab of an item where there are multiple files by the same name on the attachments table, or if a URL is generated to return all the files of a file folder where there are more than one file with the same name, an error is displayed indicating that there are multiple files by the same name and therefore a valid zip archive of files cannot be generated.

- If the ALL option is used to access files from a Program's **Content** tab where multiple files with the same name exist, an error is displayed indicating that there are multiple files by the same name and therefore a valid zip archive of files cannot be generated.

File Folders Quick Access Smart URL Formats

You can generate Smart URLs for file folders in the following format:

```
http://<server:port>/<VirtualPath>/link/<ObjectType>/<ObjectNumber>/files/<FileName>[/</version][/<FileAction>]
```

where

<Server:Port>/<Virtual Path> element	Identifies the Agile instance
link	The text "link" identifies the URL as a special attachment URL to the Agile server.
version	Identifies the specific version of the file folder. The value can be a number, or the string, LATEST (default).
FileName	Refers to the name of the specific file from the folder or string ALL which attaches all the files in the specified version of the folder. If more than one file of the same name exists in a specific version of a folder and a URL is generated based on filename, only the first version of the file is attached. You cannot use the ALL value to access files from a folder where more than one file of the same name exists.
FileAction	Determines the action performed with the retrieved files. Values are GET or VIEW. If fileaction is not specified, a GET is performed. If the parameters specified in the URL point to a single file, the file is retrieved in its native format. If the parameters specified in the URL point to a collection of files, then all the files are returned as a zipped file called "Download.zip".

Examples of user-generated URLs for file folder attachments:

- http://myappserver/mycompany/Link/FileFolder/Folder0001/files/abc.txt/1

  Gets the abc.txt file from version 1 of Folder0001.

- http://myappserver/mycompany/Link/FileFolder/Folder0001/files/ALL/VIEW

  Opens all files from the latest version of FOLDER001 in AutoVue for Agile.

Program Content Quick Access Smart URL Formats

You can generate Smart URLs for files on the **Content** tab of Programs and Activities. The **Content** tab allows specification of any object as valid content and allows the addition of external files, just like the **Attachments** tab. However, the **Content** tab stores the folder object related to an attached file as valid content. So, when retrieving, you must attach the entire folder.

The Smart URL for files on the **Content** tab is generated in the following format:

```
http://<server:port>/<VirtualPath>/link/<ObjectType>/<ObjectNumber>/content/Folder/<FolderNumber>[/<FileAction>]
```

where

ObjectType	Represents the subclass of the Program object.
ObjectNumber	Represents the identifier of the Program object.
Content	Indicates the Content tab.
Folder	Indicates that a specific folder is being retrieved.
FolderNumber	Refers to the number of the folder being retrieved from the Content tab. The most current version of the folder is always retrieved.
FileAction	Determines the action performed with the retrieved files. Values are GET or VIEW. If fileaction is not specified, a GET is performed. If the parameters specified in the URL point to a single file, the file is retrieved in its native format. If the parameters specified in the URL point to a collection of files, then all the files are returned as a zipped file called "Download.zip".

Accessing Attachment Files using Quick Access URLs

After clicking or opening an Attachment Quick Access URL, a login popup appears and you must log into the Agile system to view the attachment. Agile PLM then validates that you have the appropriate privileges to get or view the file or set of files specified in the URL. The attachments are viewable in all supported browsers, AutoVue for Agile, or the native application.

For example:

1. In an email, the user clicks the Attachment Quick Access URL and an Agile login popup is displayed.
2. The user enters her login information.

   Agile PLM verifies that the user has the appropriate privileges to read and view the file.

Note If the URL returns a collection of files and the user does not have the appropriate Get or View privilege for one or more files, those files are excluded from the returned collection. However, a collection of files is returned to the user containing the rest of the files for which he does have the appropriate Get or View privileges.

Chapter 15

Administering Designs

This chapter includes the following:

- Evaluating Your Company's Needs with Designs 329
- Purpose of Design Data Model 329
- Designs Class Overview 330
- Designs Class Tabs 331
- Administrator Settings Related to Designs 333

Evaluating Your Company's Needs with Designs

As with other areas of Agile PLM administration, the most important step comes before setting properties in Administrator. This chapter assumes that you answered the first question in the previous chapter affirmatively.

- Does your company produce CAD design and graphic files? If so, you will build from the Designs class.

The Designs class is a new business class in the File Folders base class, with PLM Release 9.2.2.4.

Objects created in the Designs class have many of the same properties and behaviors of File Folders, but have been significantly enhanced for use with Agile Engineering Collaboration (EC). Therefore, this chapter highlights the differences; however, information in the previous chapter contains useful foundations about the File Folders base class.

Note It is assumed that deployment of Design structures in Agile PLM will require an Agile EC integration. That is, full use of CAD design graphics files needs an integration application that can automatically check out and check in Designs objects, track and update parent-to-child versioning of design structures, and so forth. Contact your Oracle Consulting–Agile Practice representative for additional information about Agile EC.

Purpose of Design Data Model

The new Designs class supports structures between Design objects with explicit versions – let's call these "design structures" – and it supports integration with CAD tools. The Design object is very similar to File Folders, but has a few "extras" and specific features to realize its intended purpose.

The Designs class overcomes limitations that have existed in PLM using Documents class and the "DocuBOM" data model, which were not expressly designed for CAD use-cases. Three primary issues are resolved with design structures:

- **Structure Resolution is easily captured**

  "Structure" information between designs can be captured, as required by CAD environments,

while the "DocuBOM" structure does not directly support fixed structure resolution.

- **Data Navigation is greatly enhanced**

  Structures of Designs objects are evident and easy to navigate, while the combination of Part-and-Document BOMs are difficult to navigate in the Agile user interface.

- **Change Control Process carries much less "overhead"**

  The full change control process (in the Product Collaboration solution) has too much overhead for many CAD use cases.

Although the Designs class is enabled in new installations, it is disabled upon PLM upgrade: in upgrading installations, the Agile administrator must enable the Designs class.

Benefits of Designing Structures using the Designs Class

Besides the benefits to CAD environments mentioned above, additional benefits are:

- Easy recognition of CAD data in PLM; CAD data will "look" more like it does in CAD
- Users can "double-use" part names since Designs and Parts are separate classes of objects
- Searching for design objects will be easier for CAD engineers
- Using a single object has several advantages:
  - Change history is on the Design object instead of on a separate Change object
  - Design files are not in a separate "file folder"
  - Version-specific Where Used
  - Version-specific Routing Slip
- Designs class enables the next version of Agile EC, which will capture and exploit the capabilities built into the PLM model structures.

Designs Class Overview

The Design object can be opened from Java Client, but it opens Web Client and the user works with Designs exclusively in Web Client.

There is a **Checkout** button, and modifications to a design structure cannot be done by a user without checking out the design.

Since a "parent" version of a design explicitly points at a "child" version, a user has to check out a version, update the children, and check it back in for the parent to reflect the changes. In CAD there can be multiple models for 1 part – there could be, for example, 20 or 30 versions of a single object – but in Product Collaboration the part is assigned to a single structure; moreover, the system lets you check in a "design structure" *without* checking in all child parts.

Now, those engineers who have “child" parts checked out must check that part back in, that is, he cannot "Cancel Checkout" for the part to “rejoin” the BOM. Attempting to do so will throw the error message: “This version is in use and cannot be canceled.”

So, "Version 1" of the parent is always going to point to a specific version, namely, the Latest version of the child; this follows accepted practices in CAD environments.

A new feature of the Version dropdown list is that the checked-out version is incremented and

displayed in brackets, for example **[4]**, so the user can always see what the new version number will be when the object is checked back in. This applies to both File Folders and Designs classes.

Version Browser

On the standard **Actions** menu, the most significant added Action is **Version Browser**. The Version Browser action is available in File Folder and Design objects.

The **Version Browser** utility is extremely useful as file-folder structures or design structures grow, as it tracks the versions of each design or file-folder. Each version displays:

- Approved (users who have approved file folder or design in workflow), including the Awaiting Approval icon (users who have not yet approved);
- Checkin Date;
- Checkin User (which captures the user who checked in the version, and also can read through to the design **Structure** tab and to **Attachments** tabs in designs or file folders);
- Change Info and Label (as filled in by users); and,
- Revision and Revision Date.

Many of these fields are pulled from the object's **Title Block** tab.

Using the **View** dropdown, you can have a quick **View** of a selected version of the design, or select two versions and **Compare** them visually.

Designs Class Tabs

The tabs on Designs objects are: **Title Block**, **Files**, **Structure**, **Routing Slip**, **Relationships**, **Where Used**, and **History**. Most of these are given a look in the sections below; **Relationships** and **History** tabs are documented in *Getting Started with Agile PLM*.

Title Block Tab

By default, the Design object **Title Block** tab contains the fields listed in the following table. Agile administrators determine which fields are enabled and visible on the **Title Block** tab.

In Web Client, the **Title Block** can contain two additional sections, called **PageTwo** and **PageThree** by default. Agile administrators can add custom class fields to **PageTwo** section and custom subclass fields to the **PageThree** section. The Agile administrator determines whether these sections are enabled, and what they are called.

Field	Description
Number	The Design object's number, completed when the file object is created.
Type	The subclass of this Design object. Depending on Agile system settings, this field is automatically completed when the Design object is created.
Lifecycle Phase	Current lifecycle; selected from a list.
Description	Text describing the Design object

Field	Description
Version	The currently selected version of the Design object
Last Modified Date	Date the Design object was last modified
Checkout Status	Indicates whether the Design object is currently checked out or checked in.
Checkout User	When the Design object is checked out, displays the user who checked out the Design object.
Checkout Date	When the Design object is checked out, displays the checkout date
Checkout Location	When the checkout user's File Productivity Preference is set to Advanced, the checkout location is automatically filled in
Create Date	The date the Design object was created
Label	Version-specific text field that holds a specified label
Component Type	Displays the type of component represented by the Design
Revision	Version-specific text field that holds the targeted revision of the Design version
Revision Date	Version-specific date field that holds the revision date associated with the Design version
Checkin User	Version-specific field indicating the user who checked in the currently selected version; completed automatically

Files Tab

The actions available on Designs **Files** tab are generally the same as File Folders **Files** tab. Similarly, privileges around the **Files** tab of both kinds of objects will mostly be the same; however, for best control of user access, privileges should not be based on the File Folders *base class*, which will apply to the **Files** tab of both File Folders and Designs *class* objects.

In order for the end-user to execute **Files** tab actions for Design model objects, he must have the appropriate Modify privilege masks. Refer to Attachment Privileges on page 317, especially Modify Privilege and Attachments on page 318: see the section of the table for File Folder Attachment Actions.

Important If you are using privilege masks based on the File Folders *base class*, assigned users will have the *same* Modify, Checkin, Checkout (and so forth) capabilities for both File Folders class objects and Designs class objects. If you need to give users separate types of access to these two classes, you must create and define privilege masks based on the File Folders class (or subclasses) or the Designs class (or subclasses).

Structures Tab

The Designs **Structure** tab supports "read-through" fields from Designs **Title Block** tab or **PageTwo**.

Like the **Files** tab, the **Structure** tab can only be edited when the object is checked out

In Structure, the parent explicitly specifies the version of the child.

The Multi-level dropdown allows you to **Expand** or **Collapse** the structure.

Agile Viewer supports Designs **Structure** tab as well as File Folder **Attachments** tab.

Note	File Folders (objects from File Folder and Markup subclasses) do not have a Structure tab, and they cannot be in a model structure. On the other hand, where you can use an "attachment" (that is, a file folder object), you can use a Design.

Icons indicate whether a Design is:

- Checked out
- Attached
- Latest Version
- Has Attachments

Routing Slip Tab

The Routing Slip tab is now functionally "version-specific". Signoff on the Design object only signs off that specific version of the object.

Adding and removing Approvers and Observers can be done only when Design objects are checked in. In order to add or remove approvers and perform signoff actions, the user needs the appropriate privilege masks for Design objects.

Where Used Tab

Files that are associated with this design are listed on two tables of the **Where Used** tab, the **Attachments** table and **Design** table.

The **Where Used** tables inherit **Structure** tab columns and read-through fields.

Administrator Settings Related to Designs

This section collects various Administrator settings for convenience. Refer to node-specific chapters for more information about the capabilities in Administrator.

Display Structure Tables SmartRule

The new SmartRule "Display Structure Tables" offers the choice between No Display (appropriate for non-CAD business environments) or Display.

Design-specific Role & Privilege

Design Engineer is a new Role tailored to create, access, and manage Designs class objects.

Privileges and privilege masks around the Designs business object use the existing Agile PLM Discovery and Read model, including on the **Structure** tab.

In order to add or remove approvers and perform signoff actions, the user needs the appropriate privilege masks for Design objects.

Note When working in conjunction with a CAD-to-Agile PLM integration application, each CAD user must also be an Agile PLM user. Each CAD user must have appropriate PLM roles and privileges to allow him to perform Checkout, Modify, Checkin (and so forth) actions on Design model objects. Contact your Oracle Consulting–Agile Practice representative for additional information about CAD-to-Agile PLM integration applications.

Important Remember that privilege masks written at the File Folder *base class* level will affect both the File Folders class (File Folder and Markup subclass) and the Designs class (Design subclass). Privilege masks tailored for CAD environments should be entered at Designs class level.

Chapter 16

Configuring Product Cost Management

This chapter includes the following:

- Product Cost Management Configuration Checklist 335
- Ship To Location 336
- Product Cost Management Roles 337
- RFQ Terms and Conditions 337
- Configuring Product Cost Management Classes 341
- Configuring BOM Filters 356

This chapter provides information about nodes in the Product Cost Management folder under System Settings.

Product Cost Management Configuration Checklist

Use the following checklist to configure Agile PLM server settings for Product Cost Management:

- **Define your company profile** — Specify the name, address, phone number, URL, and the corporate currency for your company. For more information, see Company Profile on page 262.
- **Define currency exchange rates** — Suppliers may quote prices in different currencies. You must maintain a table of currency exchange rates so that you can view normalized prices that have been converted to the project currency. For more information, see Currency Exchange Rates on page 262.
- **Define your company's Ship To locations** — Ship To locations are essential to take advantage of Product Cost Management features. For more information, see Ship To Location on page 336.
- **Configure SmartRules** — Make sure you properly configure SmartRules related to price fields, effectivity periods, automatic publishing of quote histories, and commodities. For more information, see SmartRules on page 237.
- **Configure the Product Cost Management class** — Configure the Agile PLM classes for Product Cost Management. For more information, see Configuring Product Cost Management Classes on page 341.
- **Configure the Sourcing Projects class** — There are several things you can do to customize the Sourcing Projects class, which affects all of its subclasses. For example, you can enable flex fields on different tabs, configure **AML** tab attributes to pull values from other Item and Manufacturer Part attributes, and define price adders and non-material price fields for RFQ responses. For more information, see Configuring Product Cost Management Classes on page 341.
- **Define Suppliers** — Define the Suppliers with whom sourcing project managers and RFQ managers will be working. This may be the responsibility of another user, someone with the Organization Manager role. For more information about creating and managing suppliers, see *Getting Started with Agile PLM*.

Note Separately, supplier managers should define the contact users and line cards for their particular suppliers. Supplier users have restricted access to Product Cost Management functionality.

- **Define Supplier Offering Ratings —** In the Agile PLM List Library, there is a list called Supplier Offering Rating, which is used to rate each supplier offering. You can customize the list of ratings. By default, the ratings are Approved, Strategic, Offered Active, and Offered Inactive. For information on how to customize lists, see Lists on page 85.
- **Define Product Cost Management Users and Roles** — Define the users who will create and manage sourcing projects, RFQs, and prices. Assign those users appropriate roles, such as Sourcing Administrator, Sourcing Project Manager, RFQ Manager, and Price Administrator. For more information, see Product Cost Management Roles on page 337. Make sure every user who will create sourcing projects has at least one authorized Ship To location. Otherwise, the user will not be able to move a project from Draft to Open status. For information about setting up new users, see Users and User Groups on page 151
- **Configure Administrator Privilege** — In order to see the **RFQ Terms and Conditions** node on the **Admin** tab in Java Client, you must configure the Administrator privilege. This is covered in Configuring the RFQ Terms and Conditions Node on page 338.
- **Define new subclasses of the Sourcing Projects class** — Agile PLM provides one subclass of the Sourcing Projects class called Sourcing Project, but you can extend Sourcing Projects and define any number of subclasses for specific types of projects. For more information, see Classes on page 45, on page 47
- **Configure BOM Filters** — In order to use the BOM filtering feature in PCM, you must create and configure certain attributes in **Data & Workflow Settings > Classes > Parts**. For more information about how to use this feature after it is set up, refer to *Agile PLM Product Cost Management User Guide*, "Working with Sourcing Projects" chapter. Also, refer to Configuring BOM Filters on page 356.
- **Establish Relationships between Objects** — For information about how to establish relationships between fields, refer to *Getting Started with Agile PLM,* "Working with Business Objects" chapter.

Ship To Location

Ship To locations are important for differentiating sourcing projects and for disseminating requests for quotes (RFQs) to suppliers.

To add a Ship To location:

1. Under **System Settings > Product Cost Management,** double-click **Ship To Location**. The *Ship To Locations* window opens.
2. Click **New** icon. The *Create Ship To Location* dialog box appears.
3. Type the name and location code of the new Ship To location. Fill in other fields as needed.
4. Click **OK**. The new Ship To location appears on the list.

Note Sourcing project managers must have at least one Ship To location defined in their user profiles. Otherwise, the projects they create cannot be opened. Similarly, each sourcing project must have a specified Ship To location. A project's Ship To location determines how RFQs are disseminated to suppliers based on their line cards.

Note When a Ship To Location is being used (referenced to) in any Sourcing Project, be the project in Draft or Open stage, it cannot be deleted in Java Client. When you attempt deleting, system issues a warning message "Fail to delete Ship To; one of the Ship To(s) is referenced to other objects".

Product Cost Management Roles

Agile PLM provides pre-defined roles you can assign to Product Cost Management users. These roles grant users the privileges for working with sourcing projects, RFQs, prices, discussions, suppliers, customers, and PCOs.

Roles with names that start with the prefix *(Restricted)* are intended for Suppliers. For a complete list of the predefined Agile PLM roles, see Default Agile PLM Roles.

Note Although the Agile PLM administrator may not have assigned you the privileges needed to work with a sourcing project, other users with access to a project can share them with you, thereby granting you the same privileges that apply to the project and all the objects contained within it. However, you cannot access other projects that are not shared with you.

RFQ Terms and Conditions

You can limit a Supplier's access to an RFQ until they electronically agree to RFQ Terms and Conditions that you specify in Java Client. The **RFQ Terms and Conditions** node must be enabled in Java Client, then you can set and store the content of the Terms and Conditions page.

To use the RFQ Terms and Conditions feature, you will need to complete several tasks.

Tasks to Enable RFQ Terms and Conditions:

1. Enable the **RFQ Terms and Conditions** node in Java Client. For a detailed description of this task, see Configuring the RFQ Terms and Conditions Node on page 338.
2. Set up and enter the content of the RFQ Terms and Conditions that you want the supplier to read and accept. For a detailed description of this task, see Setting and Storing the RFQ Terms & Conditions Content on page 338.
3. Make the **Require RFQ Terms and Conditions** attribute visible in the Sourcing Project class. For a detailed description of this task, see Making the Attribute Visible in Sourcing Project Class on page 339.
4. Make the **Require RFQ Terms and Conditions** attribute visible in the Requests for Quotes class. For a detailed description of this task, see Making the Attribute Visible in Requests for Quote Class on page 339.
5. Update **Modify My Sourcing Project General Info** privilege to include **Applied To** field value: *Sourcing*

Projects.Sourcing Project.Require RFQ Terms and Conditions. For a detailed description of this task, see Adding Criteria to Modify My Sourcing Project Privilege on page 340.

6. Update **Read RFQs** privilege to include **Applied To** field value: *Requests for Quote.RFQHeader.Require RFQ Terms and Conditions.* For a detailed description of this task, Adding Criteria to Read RFQs Privilege in Sourcing Project Manager Role on page 340.
7. Update **Read RFQs** privilege to include the following **Applied To** field values: *Status Accept Date, Status Accept User, Status Status, and Status Supplier*. For a detailed description of this task, see Adding Criteria to Read Privilege on page 340.

Note Optionally, you can make Terms mandatory at the project level. For a detailed description of this task, refer to *Product Cost Management User Guide.*

Configuring the RFQ Terms and Conditions Node

In order to see **RFQ Terms and Conditions** node in Java Client, you must configure the user's Administrator privilege. By default, it is disabled.

For more information about the Administrator Privilege, and how Administrator nodes are made available to a user, see Administrator Privilege and the AppliedTo Capability on page 203.

Configuring the Administrator Privilege

1. Go to **Settings** > **User Settings > Privileges**.
2. Double-click **Administrator** privilege key to open Administrator window.
3. Select **Show All** in **Match If** dropdown list and click **Apply**.
4. Double-click **Administrator** privilege line. The *Privilege:Administrator* window opens.
5. Click the Arrow button in the **Applied To** field.
6. Select the RFQ Terms and Conditions option in the **choices** list and move it to the **Selected** list. Click **OK**.
7. Make sure the **Enabled** field is set to Yes.
8. Click **Save** and **Close**.
9. Close the *Privileges for Administrator* window.
10. Log out of Java Client and log back in. You should see **RFQ Terms and Conditions** node under **Settings > System Settings > Product Cost Management**.

Setting and Storing the RFQ Terms & Conditions Content

After you have enabled the **RFQ Terms & Conditions** node, you can set and store the content.

Create RFQ Terms & Conditions Content

1. Under **Settings**, expand **System Settings** node, and then the **Product Cost Management** node.
2. Double-click **RFQ Terms and Conditions.** The *RFQ Terms and Conditions* window appears.
3. Enter the content for your RFQ's Terms and Conditions in the text field.
4. Click **Save** followed by **Close**.

Making the Attribute visible in Sourcing Project class

You must make the **Require RFQ Terms and Conditions** attribute visible in the Sourcing Project class **General Information** tab.

To make the attribute visible:

1. Double-click **Settings** > **Data Settings** > **Classes**.
2. Double-click **Sourcing Projects** class.
3. Double-click **General Information** in **User Interface Tabs** tab.
4. Go to **Attributes: General Information** tab and double-click **Require RFQ Terms and Conditions**.
5. Select **Yes** in the **Visible** field.
6. Click **Save** followed by **Close**.

Also

1. Double-click **Classes** in **Settings** > **Data Settings**.
2. Double-click **Sourcing Projects** class.
3. Double-click **General Information** in **User Interface Tabs** tab.
4. Go to **Attributes:General Information** tab and double-click **Require RFQ Terms and Conditions**.
5. Select Yes in **Enable for Search Criteria.**
6. Click **Save** followed with **Close.**

Making the Attribute Visible in Requests for Quote class

You must make the “Require RFQ Terms and Conditions” attribute visible in the Requests for quote class.

To make the attribute visible:

1. Double-click **Classes** in **Settings > Data Settings**.
2. Double-click **Requests for Quote** class.
3. Go to **User Interface Tabs** tab and double-click **Cover Page.**
4. Go to **Attributes:Cover Page** tab and double-click **Require RFQ Terms and Conditions**.
5. Select Yes in the **Visible** field.
6. Click **Save** and **Close**.

Bid Decision attribute in RFQ Responses

The **List** entries of **Bid Decision** attribute are pre-defined, i.e., preset by Agile. You can neither add a new list item, nor modify or delete any.

To see the available list items:

1. In **Request for Quote** class, go to **User Interface Tabs** tab

2. <double-click> **Responses** row and go to **Attributes:Response** tab
3. <double-click> **Bid Decision** attribute.
4. In Attributes:Bid Decision window, click **View Details** button. The List:Response_Bid_Decision window opens.
5. Go to **List** tab to see the pre-defined entries.

Adding criteria to Modify My Sourcing Project privilege

You need to add criteria to “Modify My Sourcing Project General Information” privilege.

To add criteria to Modify My Sourcing Project General Information Privilege:

1. Go to **Settings > User Settings > Privileges**.
2. Double-click **All Privileges**.
3. Type *Modify My Sourcing Project* in the **Value** field and click **Apply**.
4. Double-click **Modify My Sourcing Project** row
5. Click the arrow button next to the **Applied To** field.
6. From **Choices** cell, pick **Sourcing Projects.General Information.Require RFQ Terms and Conditions** and move it in **Selected** cell.

Note	If you do not find **Sourcing Projects.General Information.Require RFQ Terms and Conditions** in the **Choices** list, clear the 'Show visible attributes only' checkbox.

Adding Criteria to Read RFQs Privilege in Sourcing Project Manager Role

To Add Criteria to Read RFQs Privilege in Sourcing Project Manager Role:

1. Double-click **Roles** in **Settings > User Settings**.
2. Type *Sourcing Project Manager* in the value field and click **Apply**.
3. Double-click **Sourcing Project Manager**.
4. Go to **Privileges** tab.
5. Double-click **Read RFQs** in Name column
6. Click the arrow button next to the **Applied To** field.
7. From **Choices** cell, pick **Requests for Quote.RFQHeader.Require RFQ Terms and Conditions** and move it to **Selected** cell
8. Click **OK**.

Adding Criteria to Read Privilege

To Add Criteria to Read Privilege:

1. Double-click **Read** privilege key in **Settings > User Settings > Privileges**.

2. Type *Read RFQs* in the **Value** field and click **Apply**.
3. Double-click **Read RFQs**.
4. Click the arrow button next to the **Applied To** field.
5. From **Choices** cell, pick the following and move them to **Selected** cell
   - **Requests for Quote.Terms and Condition Status.Accept Date**
   - **Requests for Quote.Terms and Condition Status.Accept User**
   - **Requests for Quote.Terms and Condition Status.Status**
   - **Requests for Quote.Terms and Condition Status.Supplier**
6. Click **OK**.

Configuring Product Cost Management Classes

This section describes ways to configure Product Cost Management specific Agile PLM classes. For details on how to configure Agile PLM classes, see Classes on page 45, on page 47

Product Collaboration and Product Cost Management automatically exchange data between the Item Master and Sourcing Projects. If your Agile PLM system has enabled custom flex fields, you must configure the fields consistently and map them correctly to make sure the data exchange occurs successfully between the Item Master and sourcing projects for those fields.

If you require help customizing your Agile PLM system, contact your Oracle Consulting – Agile Practice representative.

If your company has purchased both Product Cost Management and Product Governance & Compliance solutions, you must decide how to configure the Part Groups class.

Note If you have set the *Force Commodity and Part Family to be Identical* SmartRule to **No**, enable the Make *Available As* attribute in **Class:Part groups > User Interface Tabs** tab **> General Info > Attributes:General Info** tab (set Visible to Yes). The Make Available As attribute allows you to specify whether a part group is used as a commodity in PCM, a part family in Product Governance & Compliance (PG&C), or both.

Disabling Flex Fields

Class	Flex Fields Supported	
	Page Two	Page Three
Sourcing Project	Yes	Yes
Request for Quote	Yes	No
RFQ Responses	No	No

To avoid **Create New Attribute** buttons being disabled (grayed out) in an RFQ or Sourcing Project's **Page Two**, you must set the **Page Two** tab as invisible in Java Client.

Creating a new Flex field in **Page Two** or **Page Three** is not supported for Request of Quote and Sourcing Projects classes. By default, the Icon "New" in their corresponding Attributes Tabs is

disabled (grayed out). However still, the Page Two /Page Three Attributes can be enabled or disabled in Java Client.

Note User-defined Flex Fields can be created in Prices and PCO classes.

To make Page Two invisible in Web Client:

1. Go to **Settings > Data Settings > Classes**.
2. Double-click either **Sourcing Projects** or **Request for Quotes** class.
3. Click **User Interface Tabs**, and double-click **Page Two**.
4. Select the attribute **Visible** as No.
5. Click **Save** and **Close**.

Tips for Configuring Flex Fields

When you configure flex fields to share data between the Item Master and sourcing projects, make sure you configure the fields consistently across classes. Otherwise, the *Map Data To* and *Publish* actions in a sourcing project may not work. If you map a list field to another list field, both fields must be configured to use the same list.

Remember to name flex fields consistently across classes. Before modifying the **Name** of an attribute, copy the original name into the **Description** field so that you can identify the original attribute name later.

Product Cost Management does not support user-defined flex fields, except for Product Collaboration classes such as Parts and Manufacturer Parts. Consequently, you cannot map sourcing project attributes to any user-defined flex fields.

Pulling Data from Item Master Flex Fields into Sourcing Projects

Sourcing projects can contain Items and Manufacturer Parts added directly from the Item Master. They are added as a **copy** of the Part in Item Master, and not as a **reference**. The Item or Manufacturer Part inside a Project supports only a few flex fields, as against unlimited in the Item Master.

Standard fields on the **Title Page** tab of Items and the **General Info** tab of Manufacturer Parts are mapped automatically to related Project AML fields. However, you may also want to pull data from Item and Manufacturer Part flex fields (such as those on Page Two or Page Three) into the **AML** and **Analysis** tab of sourcing projects and the **Responses** tab of RFQs. You can map custom fields so that sourcing projects automatically pull data from them correctly when you import those objects.

List flex fields (SingleList or MultiList) in a sourcing project have both a *List* property and a *Map Data To* property. If you select a value for the Map Data To property, the List property is automatically disabled (you cannot pull data from two places into one field). You can subsequently reconfigure the list field to pull data from another item master field, even after items have already been added to the project. However, when you change the value of the Map Data To property, you'll see a message warning that application data already exists with the current settings. If you decide to continue, the original flex field mapping is purged and cannot be recovered.

Note There are a limited number of flex fields provided for the **AML** tab of sourcing projects, so you cannot map AML attributes to all the flex fields that exist for item and manufacturer part attributes.

Field Type	Number of Fields
Date	5
List	5
Money	5
Multi-list	2
Multi-text	2
Number	5
Text	10

You can map these fields to flex fields in Item-Page Two & Item-Page Three.

Similarly, a Manufacturer Part in a Sourcing Project has the same number of flex fields. You can map them to flex fields in **Manufacturer Parts > Page Two or Page Three.**

When you map attributes from Project to the Page Three attributes of Items or Manufacturer Parts, you must ensure that they comply with the names of Page Three attributes and point to the same list (for List attributes) across all subclasses of the Item or Manufacturer Part.

To map sourcing project flex fields to Item and Manufacturer flex fields:

1. Enable and configure any of the following item, manufacturer part, and sites flex fields:
2. Enable and configure similar flex fields (that is, of the same data type) in the Sourcing Projects class. Make sure the fields are configured consistently with their related Item and Manufacturer Part flex fields. Otherwise, the data transfer between Product Collaboration and Product Cost Management won't work. For more information, see "Tips for Configuring Flex Fields on page 342".

   The mapping of flex fields for Items & Manufacturer Parts can be done only in **Sourcing Projects > AML** tab. For each flex field that you enable in **Sourcing Projects > AML > Items** and in **Sourcing Projects > AML > AML**, specify the **Map Data To** property. This establishes the mapping between Product Collaboration and Product Cost Management.

   The following table lists the Sourcing Projects flex fields that you can map to Item and Manufacturer Part flex fields.

Class/Tab	Attributes	Pull From
Sourcing Projects > AML > Items	Date (5)	Items.Page Two fields
	List (5)	Page Three fields
	MultiText (2)	Items.Page Two fields
	Text (10)	Page Three fields
	Money (5)	
	Number (10)	

Class/Tab	Attributes	Pull From
	MultiList (2)	
Sourcing Projects > AML > AML	Date (5) List (5) Money (5) MultiList (2) MultiText (2) Number (10) Text (10)	Manufacturers Parts.Page Two fields Page Three fields

- You can also enable flex fields on the **Sourcing Projects > Analysis > Analysis** and **Requests for quote > Responses** tabs. Fields with an “ipn” prefix and an “mpn” prefix automatically map to the **Map Data To** fields you have selected for **Sourcing Projects > AML**.

  For example, the **Sourcing Projects > AML > Items > Date01** field shares its **Map Data To** mapping with **Sourcing Projects > Analysis > Analysis > ipnDate01** and **Requests for quote > Responses > ipnDate01**.

  The following table lists IPN and MPN flex fields.

Class/Tab	Item flex fields	Manufacturer Part flex fields
Sourcing Projects > Analysis > Analysis	ipnDate (5) ipnList (5) ipnMoney (5) ipnMultiList (2) ipnMultiText (2) ipnNumber (10) ipnText (10)	mpnDate (5) mpnList (5) mpnMoney (5) mpnMultiList (2) mpnMultiText (2) mpnNumber (10) mpnText (10)
Requests for quote > Responses		

Example: Mapping Sourcing Project Flex Fields to Item Master Flex Fields

The following example shows how to configure sourcing projects to Map Data To flex fields, a Page Two field for items and a Page Two field for manufacturer parts. You can follow these steps to configure other item or manufacturer part flex fields for Product Cost Management.

Step 1: Enable a Page Two field for the Parts class

1. Under **Data Settings**, double-click the **Classes** node. The Classes page appears.
2. Double-click the **Items > Parts** class.
3. Click **User Interface Tabs**.
4. Double-click **Page Two**.
5. Click the **Attributes: Page Two** tab.
6. Double-click **Text01.**
7. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
8. In the **Name** field, change the value to **Part Dimensions**.
9. In the **Visible** field, select Yes.
10. Click **Save**.

Note In Java Client, when you, for example, map *part.pagetwo.Text01* to *Sourcing Project.AML.Items.Text05*, this data will be pulled to Text05 in *sourcing project.AML* tab. If the *sourcing project.item.Text05* is enabled, this value will be pulled to *sourcing project.items.Text05*.

Step 2: Enable a Page Two field for the Manufacturer Parts class

1. Under **Data Settings**, double-click the **Classes** node. The Classes page appears.
2. Double-click the **Manufacturer Parts > Manufacturer parts** class.
3. Click **User Interface Tabs**.
4. Double-click **Page Two**.
5. Click the **Attributes: Page Two** tab.
6. Double-click **Text01.**
7. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
8. In the **Name** field, change the value to **Mfr Part Dimensions**.
9. In the **Visible** field, select Yes.
10. Click **Save**.

Step 3: Map a sourcing project AML attribute to a Page Two attribute for items

1. Under **Data Settings**, double-click the **Classes** node. The Classes page appears.
2. Double-click the **Sourcing Projects** class.
3. Click **User Interface Tabs**.
4. Double-click **AML**.

5. Click the **Attributes: Items** tab.
6. Double-click **text1**.

   Note If you want to map a List or a Multi List field, make sure it points to the same list as pointed by the Page Two field in Items

7. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
8. In the **Name** field, change the value to **Part Dimensions**.
9. In the **Visible** field, select Yes.
10. Click **Map Data To** field. Select **Parts.Page Two.Part Dimensions**. The **AML** tab attribute will pull its data from that Page Two attribute.
11. Click **Save**.

Step 4: Map a sourcing project AML attribute to a Page Two attribute for manufacturer parts

1. Go to **Data Settings > Classes**.
2. Double-click **Sourcing Projects** class.
3. Click **User Interface Tabs**.
4. Double-click **AML**.
5. Click the **Attributes: AML** tab.
6. Double-click **text1**.

   Note If you want to map a List or Multi List field, make sure it points to the same list as pointed by the Page Two field in Manufacturer Parts.

7. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
8. In the **Name** field, change the value to **Mfr Part Dimensions**.
9. In the **Visible** field, select Yes.
10. Click **Map Data To** field. Select **Manufacturer Parts.Page Two.Text01**. The **AML** tab attribute will pull its data from that Page Two attribute.
11. Click **Save**.

Step 5: Enable corresponding text attribute in sourcing project > analysis tab

1. Go to **Data Settings > Classes**.
2. Click **User Interface Tabs**.
3. Double-click **Analysis**.
4. Click the **Attributes: Analysis** tab.
5. Double-click **ipnText1**.

Note If you want to map a List or Multi List field, make sure it points to the same list as pointed by the Page Two field in Items.

Note Each flex field with the “ipn” prefix is automatically mapped to the same Item flex field as its related **Sourcing Projects > AML > Items** flex field.

6. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
7. In the **Name** field, change the value to **Part Dimensions**.
8. In the **Visible** field, select Yes.
9. Click **Save**.
10. Double-click **mpnText1**.

Note If you want to map a List or multiList field, make sure it points to the same list as pointed by the Page Two field in Manufacturer Parts

Note Each flex field with the “mpn” prefix is automatically mapped to the same Manufacturer Part flex field as its related **Sourcing Projects > AML > AML** flex field.

11. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
12. In the **Name** field, change the value to **Mfr Part Dimensions**.
13. In the **Visible** field, select Yes.
14. Click **Save**.

Step 6: Enable corresponding text attributes in RFQ Responses > Response tab

1. Go to **Data Settings > Classes**.
2. Double-click the **Requests for Quote > Requests for quote** class.
3. Click **User Interface Tabs**.
4. Double-click **Responses**.
5. Click the **Attributes: Responses** tab.
6. Double-click **ipnText 1**.

Note If you want to map a List or Multi List field, make sure it points to the same list as pointed by the Page Two field in Items

7. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
8. In the **Name** field, change the value to **Part Dimensions**.
9. In the **Visible** field, select Yes.
10. Click **Save**.
11. Double-click **mpnText 1**.

Note If you want to map a List or Multi List field, make sure it points to the same list as pointed by the Page Two field in Manufacturer Parts.

12. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
13. In the **Name** field, change the value to **Mfr Part Dimensions**.
14. In the **Visible** field, select Yes.
15. Click **Save**.

Pushing Price Flex Fields from Sourcing Projects into the Item Master

Your company can enable custom price fields, such as additional material or non-material prices, for Item Master classes (such as Parts and Manufacturer Parts) and the Sourcing Project class. After you receive price quotes from a supplier, you can publish the prices from the project back to the Item Master. For subsequent sourcing projects, you can verify existing price scenarios by doing price lookups from the **Analysis** tab.

The **Price Details** tab of a sourcing project provides several price flex fields that you can enable for Product Cost Management. There are both Material Price Adder fields and Non Material Price Adder fields.

Price adders are basically overhead rates. Price adders can be the additional cost of an item such as the intellectual property value, the royalty value, and so on, apart from the material cost. You are limited to seven price adders fields, which are common to all projects. Price adder fields can be enabled for suppliers or buyers, that is, for Supplier or Internal only (Buyer) purposes.

Important There are seven Material Price Adder fields. All the material price adders can be set to visible "internally" (these will not be visible to suppliers) or to suppliers (suppliers will be able view & edit these fields). These fields also can be configured if they have to store a "fixed" value or a "percent" value.

Non-material prices are prices that include the labor rate, sales tax, and other overheads.

The following table lists Material Price and Non-Material Price flex fields you can enable in different classes. Make sure you configure the fields consistently from one class to another.

The fields are automatically mapped to one another based on ID. For example, Non Material Price 1 in one class is automatically mapped to other Non Material 1 fields. For more information about configuring flex fields, see Tips for Configuring Flex Fields on page 342.

Class/Tab	Material Price Attributes	Non-Material Price Attributes
Sourcing Projects > Price Details	7 Material Price Adders	Non Material Price (25)
Sourcing Projects > Analysis > Non Material Price Entry	n/a	nonMaterialModifier (20) Non-Material Price (5)
Prices > Published Prices > Price Lines	Material Price (7)	Non Material Price (25)

Class/Tab	Material Price Attributes	Non-Material Price Attributes
Prices > Quote Histories > Price Lines	Material Price (7)	Non Material Price (25)
Items > Documents > Prices	Material Price (7)	Non Material Price (25)
Items > Parts > Prices	Material Price (7)	Non Material Price (25)
Manufacturer Parts > Prices	Material Price (7)	Non Material Price (25)

Price Adders

Price Adders can be either Material or Non-Material. Many customers require Partners/Suppliers to apply adders to the top level of assemblies, not at the individual line-items. Often, these adders are represented as a percent (%) value instead of a fixed value.

Most Non-Material costs can be a fixed value only, so to use a percent value, configure one of the percent-specific Non-Material Adders that are configurable.

The price adders that can be configured are:

- **Material Adders**—numbers 1 through 7 can be configured as Internal or Supplier.
- **Non-Material Adders**—numbers 20 through 25 can be configured as a calculation type of either percent (%) or a fixed value.

When a supplier enters a percent value, the system will multiply the percentage with the Material Cost and the result is added to the Non-Material Price.

Note Non-Material percent types are useful only if Material Price exists.

The attributes are added to the Total Cost and are not associated with the non-material costs as shown in the table below.

Non-Material Price	Material Price
Non-Material Price_1 (fixed value) = 50	Material Price = 100
Non-Material Price_20 (percent value) = 25	
Total Non-Material Price = 75 ((0.25 * 100) + 50)	Total Material Price = 100
Total Extended Cost = 175	

Configuring Material Price Adders

You can configure Material Adders numbered 1 through 7 as Internal or Supplier, with a fixed or percent value. The Material Adders function as Cost Elements that are added to every Cost Estimate after the initial Estimate of Costs for material and labor. Adders typically include General and Administrative Cost, Overhead and Profit.

Note The Material Adders can be given a fixed or percent value.

Configuring Material Adders

1. Go to **Data Settings > Classes**.
2. Double-click the **Sourcing Projects** class and go to **User Interface Tabs** tab.
3. Double-click **Price Details** and go to **Attributes: Price Details** tab.
4. Double-click **Material Price Adder 1.**
5. Select either *Fixed* or *Percent* from the **Calculation Type** dropdown list
6. Select either *Internal Only* or *Supplier* from the **Visible To** dropdown list
7. Click **Save** and **Close**.

Non-Material Adders

Non-material costs support a percent value of Material Costs. Some costs that are added to a Cost Estimate, such as royalties, warranties, and guarantees.

You can configure Non-Material Adders 20 through 25 to support a percent value of Material Costs.

Note Sometimes the Non-Material Adders are referred to as **Non-Standard Adders** in the industry.

Configuring Non-Material Adders as a Percent value:

1. Go to **Data Settings > Classes**.
2. Double-click the **Sourcing Projects** class and go to **User Interface Tabs** tab.
3. Double-click **Price Details** and go to **Attributes: Price Details** tab.
4. Double-click **Non-Material Price 20.**

   Note You can only configure Non-Material Price Adders 20 to 25 as “Percent.” All others are set to “Fixed” and are not configurable.

5. Select either *Fixed* or *Percent* from the **Calculation Type** dropdown list.
6. Click **Save** and **Close**.

Example: Enabling a Labor Cost Per Unit Field

The following example shows how to enable a Non-Material Price flex field called **Labor Cost Per Unit** for several Agile PLM classes. You can follow these steps to configure other price flex fields for Product Cost Management.

Enabling a Labor Cost Per Unit Field

1. Go to **Data Settings > Classes**.
2. One by one, take the following steps, followed by steps 3 through 9.
   a. For Parts: double-click the **Items > Parts** class
   b. For Documents: double-click the **Items > Documents** class
   c. For Manufacturer Parts: double-click the **Manufacturer Parts > Manufacturer parts** class

d. For Published Prices: double-click the **Prices > Published Prices** class
e. For Quote Histories: double-click the **Prices > Quote Histories** class
f. For Sourcing Projects: double-click the **Sourcing Projects > Sourcing projects** class.

3. Go to **User Interface Tabs** tab.
4. Double-click **Prices** and go to **Attributes: Prices** tab.
5. Double-click **Non-Material Price1**.
6. Cut the text from the **Name** field and paste it in the **Description** field. This will help you identify the original attribute name.
7. In the **Name** field, type **Labor Cost Per Unit**.
8. Select Yes in the **Visible** list.
9. Click **Save**.

Note In all the above, if you want to use a specific price field (like Non-Material Price1), you have to use the same Non-Material Price1 field in all corresponding classes (Parts, Documents, Manufacturer Parts, Published Prices, Quote Histories & Sourcing Projects). You cannot use Non-Material **Price1** to capture Labor Cost in Parts Class and Non-Material **Price 2** to capture the same in Manufacturer Parts Class.

Pushing Response Flex Fields from Project-Analysis into Published Prices & Quote Histories

RFQ responses contain a header area that can include several flex fields. If you enable any flex fields on the **Responses** tab of RFQs, you can map to Page Two fields in Published Prices & Quote Histories. When you publish the responses to the Item Master, the flex fields that you map will be updated.

To map Response Flex fields in Project-Analysis tab to Page Two or Price Line fields in Published Prices & Quote Histories

1. Enable and configure any of the following flex fields in Sourcing Projects class. The same set of flex fields are also available in "Requests for Quote" class and these can be filled by the Suppliers when responding to RFQs..
2. Enable and configure similar flex fields (that is, of the same data type) listed in the tables below. Make sure the fields are configured consistently with their related Requests for Quote flex fields. Otherwise, the data transfer between Product Collaboration and Product Cost Management won't work. For more information, see "Tips for Configuring Flex Fields" above.

Class/Tab	Attributes
Sourcing Projects > Analysis > Analysis	resp Date (5) resp List (5) resp Money (10) resp MultiList (2) resp MultiText (2) resp Number (10) resp Text (10)
Items > Documents > Prices	Date (5) List (5) Money (5) MultiList (2) MultiText (2) Number (10) Text (10)
Items > Parts > Prices	
Manufacturer Parts > Prices	
Prices > Published Prices > Page Two	
Prices > Published Prices > Page Three	
Prices > Published Prices > Price Lines	
Prices > Quote Histories > Page Two	
Prices > Quote Histories > Page Three	
Prices > Quote Histories > Price Lines	

- Finally, enable and configure flex fields on the **Sourcing Projects > Projects > Analysis > Analysis** tab. Make sure you specify the **Map Data To** property. This establishes the mapping between Product Cost Management and Product Collaboration.

Pushing Data in Flex Fields from Sourcing Project to Item Master

To publish data from Flex Fields in Sourcing Project to Item Master, you can use the **Map Data To** field. This field actually functions to “push” data to that location, and requires a value.

Class/Tab	Attributes	Push Data To
Sourcing Projects > Analysis > Analysis	respDate (5) respList (5) respMoney (10) respMultiList (2) respMultiText (2) respNumber (10) respText (10)	Prices.Price Lines fields Prices.Page Two fields Page Three fields

Example: Mapping a Response Flex Field

The following example shows how to enable a Response Flex Field called **Supplier Note** in Sourcing Project so that it is mapped to "Published Price" or "Quote History" classes. You can follow these steps to configure other RFQ flex fields for Product Cost Management.

Step 1: Enabling a Supplier Note field for the Responses tab of RFQs

1. Go to **Data Settings > Classes**.
2. Double-click the **Requests for Quote > Request for quote** class.
3. Click **User Interface Tabs**.
4. Double-click **Responses**.
5. Click **Attributes: Responses**.
6. Double-click **resp MultiText 1**.
7. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
8. In the **Name** field, type **Supplier Note**.
9. In the **Visible** field, select Yes.
10. Click **Save**.

Step 2: Enabling a Supplier Note Field for Published Prices

1. Go to **Data Settings > Classes**.
2. Double-click the **Prices > Published Prices** class.
3. Click **User Interface Tabs**.
4. Double-click **Price Lines**.
5. Click the **Attributes: Price Lines** tab.
6. Double-click **MultiText01**.
7. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
8. In the **Name** field, type **Supplier Note**.
9. In the **Visible** field, select Yes.

10. Click **Save**.

Step 3: Enabling a Supplier Note Field for Quote Histories

1. Go to **Data Settings > Classes**.
2. Double-click the **Prices > Quote Histories** class.
3. Click **User Interface Tabs**.
4. Double-click **Price Lines**.
5. Click the **Attributes: Price Lines** tab.
6. Double-click **MultiText01**.
7. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
8. In the **Name** field, type **Supplier Note**.
9. In the **Visible** field, select Yes.
10. Click **Save**.

Step 4: Enabling a Supplier Note Field for Parts

1. Go to **Data Settings > Classes**.
2. Double-click the **Items > Parts** class.
3. Click **User Interface Tabs**.
4. Double-click **Prices**.
5. Click the **Attributes: Prices** tab.
6. Double-click **MultiText01**.
7. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
8. In the **Name** field, type **Supplier Note**.
9. In the **Visible** field, select Yes.
10. Click **Save**.

Step 5: Enabling a Supplier Note Field for Documents

1. Go to **Data Settings > Classes**.
2. Double-click the **Items > Documents** class.
3. Click **User Interface Tabs**.
4. Double-click **Prices**.
5. Click the **Attributes: Prices** tab.
6. Double-click **MultiText01**.
7. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
8. In the **Name** field, type **Supplier Note**.

9. In the **Visible** field, select Yes.
10. Click **Save**.

Step 6: Enabling a Supplier Note Field for Manufacturer Parts

1. Go to **Data Settings > Classes**.
2. Double-click the **Manufacturer Parts > Manufacturer parts** class.
3. Click **User Interface Tabs**.
4. Double-click **Prices**.
5. Click the **Attributes: Prices** tab.
6. Double-click **MultiText01**.
7. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
8. In the **Name** field, type **Supplier Note**.
9. In the **Visible** field, select Yes.
10. Click **Save**.

Step 7: Enabling a Supplier Note field for the Analysis tab of sourcing projects

1. Go to **Data Settings > Classes**.
2. Double-click the **Sourcing Projects > Sourcing projects** class.
3. Click **User Interface Tabs**.
4. Double-click **Analysis**.
5. Click the **Attributes: Analysis** tab.
6. Double-click **resp MultiText 1**.
7. Copy the text in the **Name** field and paste it into the **Description** field. This will help you identify the original attribute name.
8. In the **Name** field, type **Supplier Note**.
9. In the **Visible** field, select Yes.

   In the **Map Data To** field, select “Published Prices.Price Lines.MultiText01”. Even though the dropdown will list the fields from both Published Prices & Quote Histories, you can choose only one.

   You can also map the above flex field to a Multi Text field in Page Two tab of "Published Prices" class. The above example maps it to the Price Lines tab of the "Published Prices" class.

   Note Although the field is named **Map Data To**, in this case it *pushes* data to the selected field when you publish responses to the Item Master.

10. Click **Save**.

Configuring BOM Filters

This section explains how to set up the BOM filters. For more details on concepts and usage of BOM filters, see *Product Cost Management User Guide*. The "Working with Sourcing Projects" chapter contains a section, "Adding Items to a Project," that explains how to set up the BOM filter in Web Client.

Set up a Sourcing Project Class BOM attribute:

1. Go to **Data Settings > Classes**.
2. Double-click **Sourcing projects** class.
3. Go to **User Interface Tabs** tab and double-click **Items** in the list.
4. Go to **Attributes: Items** tab.
5. Double-click **Filter** in the Attributes name list.
6. Select Yes from the **Visible** dropdown list.
7. Rename the Filter for your purposes. For example: "Production BOM."

Setting up Names of BOM Filters

To distinguish between BOM items that you will filter for import, you must first set up and name certain Attributes for each specific BOM that you plan to import.

For example, if you have two versions of the same BOM, one called "Production" and another called "Prototype," you would need to set up a list attribute for each BOM. It is suggested that you name the list attribute based on your use case scenario. You can use any existing attribute as a template; this example uses "BOM List 3" as a template.

Note	BOM Filters are supported in the **Parts** class, but not in the **Documents** class.
Note	A BOM Filter supports filtering on multiple BOM flex fields only. It supports only Text1-5, Numeric1-5, List1-5 that are defined in Item.BOM tab, besides Qty from the Item.BOM tab. It does not support filtering on date fields, multi list fields and multi text fields.

Set up a Parts Class BOM attribute:

1. Go to **Data Settings > Classes**.
2. Double-click **Parts** class.
3. Go to **User Interface Tabs** tab and double-click **BOM**.
4. Go to **Attributes: BOM** tab.
5. From the list of attribute names, double-click the attribute you will use as a template. For example, "BOM List 3."
6. Copy the original attribute's name into the description field and rename the attribute according to your use case scenario, for example: "Prod Load."
7. In the **Visible** field, select Yes.

8. To the right of the List field, click the **New List** button to Create a new list. A *Create List* window pops up.
9. Name the list the same as the new attribute, and give a description. For example, name it “Prod Load” and give it the description, “Filter.”
10. You may Enable or Disable the New List by making appropriate selection in **Enabled** dropdown list
11. Chose Yes or No from **Cascade** dropdown list to create a cascaded List .
    a. If you select No for **Cascade**, the *List* window (the New List name window) appears along with the *Create a new list value* pop-up. Enter a name in **Name** field and click **Add** button, or click **Add Another** button to continue adding more list values.
    b. You can also add the list values later. For more information on adding or configuring Lists, see Lists on page 85.
    c. If you select Yes for **Cascade**, the *List* window (the New List name window) appears. In the **List** tab, you will find the New List Name as the first item, denoting that it is the base value of the Cascade List. Click **New** button to add cascade list values under this.
    d. The *Create a new list value* pops up. Enter a name in **Name** field and click **Add** button, or click **Add Another** button to continue adding more list values. These list values appear as a cascaded under the New List name.
    e. You can add list values to these list values to get any level of cascaded lists. To do so, select a List Value in and click **New** button. Follow step 3 above.
    f. Click **Save** and <close> to return to BOM List 3.
12. Click **Save** and <close>

For detailed instructions on how to create a sourcing project using this new BOM filter, refer to the “Working with Projects” chapter in *Product Cost Management User Guide*.

Chapter 17

Configuring Product Portfolio Management

This chapter includes the following:

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- Configuring Project Summary Display 361
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Information about configuring settings for Product Portfolio Management is provided here.

PPM-specific Privileges

The following topics provide some details about PPM-specific privileges.

Create from Template Privilege

This privilege, enabled for the Program Administrator and Program Manager roles, allows the user to create a program from an existing template. Users who do not have either of the “Program” roles will also need to have the following privileges in order to use the Create from Template privilege:

- Read privilege for the template that is being accessed
- Create privilege to create subclasses in the template

Microsoft Project Privilege

Depending on the AppliedTo property of a Microsoft Project privilege mask, the Microsoft Project privilege allows the user to perform specific tasks between Microsoft Project and Agile PPM. By

default, this privilege mask is enabled for the Program Administrator and Program Manager roles.

This privilege contains five properties in the Applied To field.

- Launch in Edit Mode — launch a PPM project Microsoft Project in Edit mode
- Launch in Read Only — launch a PPM project Microsoft Project in Read Only mode
- Publish from MS Project — publish from Microsoft Project
- Save As XML–Edit — save PPM project data in XML in Edit mode
- Save As XML–Read Only — save PPM project data in XML in Read Only mode.

To enable these properties, move the required properties from the **Choices** list to the **Selected** list.

Note Before PLM Rel. 9.2.2, the Modify privilege contained the capability to access MS Project, which is now broken out to the Microsoft Project privilege. In addition to this privilege, you must enable **General Info.Lock User** and **General Info.Schedule Editor** in the Modify privilege to access MS Project in PPM Gantt Chart.

Update All Timesheets Privilege

This privilege introduced in 9.2.2.4, is enabled for the Timesheet Administrator role, and allows the user to administer all timesheets recorded in Agile PLM. With this privilege, a user can do the following:

- Search and view timesheets for other users.
- View all tasks for a selected user, then view and change timesheet data recorded for each task.

Note This privilege overrides system privileges for viewing tasks. The user need not be a team member on the task in order to perform these actions.

Adding Program Contents in Modify Privilege

Note In PLM 9.2.2, the Relationships tab has been renamed to Content tab for PPM objects. However, in the Programs classes, the properties under Content tab are displayed under Attributes: Relationships tab.

You can add other objects or contents to an existing program such as Customers, File Folders and so on. To enable this privilege, two properties have been added – **Content.Name** and **Content.Rule**. The AppliedTo property of any Modify privilege mask can be tailored to permit the user to add content (that is, add relationships) or add a Content rule (that is, add a rule to a relationship) based on the **Name** and **Rule** attributes, respectively, being enabled in the AppliedTo property.

To enable the ability to add content (**Name** attribute) and content rules (**Rule** attribute), in the Modify privilege mask's AppliedTo property, move **Content.Name** and **Content.Rule** properties from the **Choices** list to the **Selected** list. These properties are displayed in the AppliedTo property list as **Activity.Content.Name** and **Activity.Content.Rule**, and as **Gates.Content.Name** and **Gates.Content.Rule**. (Note that in other classes, the format will read, for example, **Substances. Relationships.Name**.) See AppliedTo Capability on page 203.

Enabling Assign Action in User Groups

Resource Pool owners can assign pending assignments to resources from **Tools > Administration > User Groups > Assignments** in Agile Web Client.

Note The **User Groups > Assignments** tab is not available for configuration in Java Client.

To enable the **Assign** action button in the **User Groups > Assignments** tab, a new property **User groups.Assignments.Name** has been added to the Modify User Groups privilege mask. From Modify User Groups privilege mask's AppliedTo property, move **User groups.Assignments.Name** from the **Choices** list to the **Selected** list. (AppliedTo is detailed in AppliedTo Capability on page 203.)

Configuring Project Summary Display

You can configure the layout and widgets of the **Summary** page if you have the Administrator privilege with "PPM Summary Page Configuration" as an AppliedTo value. This configuration applies to all Activities across the Agile PLM system.

To configure the Summary page, go to **Tools > Administration**. Under **Web Client Configuration**, click **Project Summary Configuration**.

The Summary page offers a two-column view - one wide and one narrow. Each column contains a set of configurable widgets.

To configure summary page widgets:

1. Click the **Edit** link that appears just below the **Configure Wide Column** or **Configure Narrow Column** headings. The data in the tables become editable.
2. In the **Display Title** column, edit the default title to a title of your choice.
3. In the **Visible** column, select **Yes** or **No** to define whether or not this widget should be visible on the summary page.
4. In the **Display Order** column, use sequential numbers to define the vertical display order for the widget. 1 for the widget that should appear first, 2 for the second and so on.
5. In the **Configuration** column, if you see an **Edit** link, further configuration is supported for the widget. Click **Edit** to open a dialog where you can define the values that you want displayed within the widget:
   a. Within the dialog, multi-select the desired values from the **Available Values** list and move these to the Selected Values area, using the right arrow button. You can filter the list using the filter options available, for faster selection.
   b. Arrange the selected values in the order that these should appear within the widget.
   c. Click **OK**.
6. When you finish configuring all the widgets, click **Save** to save your settings, or click **Cancel** to revert to the default settings. Saved settings are immediately reflected on the Project Summary page.

Configuring Timesheet Display

The Timesheet feature enables you to view records of actual time reported against all In Process programs in the system. Program and portfolio managers with appropriate privileges can view time transactions reported against a project or group of projects, in order to conduct audits across programs, business units, or other criteria.

The Timesheet tab is visible only if your user settings are configured appropriately.

To display the Timesheet tab:

1. From the **Tools** menu, select **My Settings**.
2. Click **User Profile**.
3. In the **Preferences** tab, click **Edit** to make the fields editable.
4. Under **Display Preferences**, change the **Show Timesheet** option to **Yes**.

The Timesheet tab is now displayed next to My Assignments.

Note	When you change preference settings, you must log out and then log in again for the changes to become effective.

Status Nodes

The **Status** nodes provide visibility to whether a project's targets in the areas of Schedule, Cost, Quality, and Resources are currently being met (the **1** value), currently not being met (the **2** value), or are seriously off the target (the **3** value).

Note	The **Rollup Health Status** attribute on the **General Info** tab of an activity object determines whether that activity object is included in the rollup. By default, statuses from leaf node activities (tasks with no children) roll up to higher levels in the project structure (**Rollup Health Status** = Yes). The user can determine which objects are excluded from the rollup by editing the **Rollup Health Status** attribute on the **General Info** tab to **No**. This enables the user to include or exclude a selected activity in the rollup.

Changing the Status Names the End User Sees

In Agile PPM Web Client, the health statuses are attributes on **General Info** tab. They are also reported in the health status indicators in the upper right of the activity window. By default, these are named: Overall Status, Schedule Status, Cost Status, Resource Status, and Quality Status.

To change the labels or names that appear in Agile PLM Web Client, modify the names of the health status attributes on the **General Info** tab of Activities or Gates class.

For example, to change the name of the Activities object's **Cost Status** attribute to **Accounting Status**, change its name on the **Classes** node; see Modifying Attributes on page 77. The new name, **Accounting Status**, appears on the Activities object's **General Info** tab; it also appears in the health status indicators in the upper right of the activity window.

Modifying Status Node Settings

When you open one of the **Status** nodes (Schedule, Cost, Quality, or Resource), the appropriate Status window appears. The properties on the main table are Order (1, 2, or 3), Name, Description, and Enabled. The buttons are **Create** and **Delete**.

When you double-click anywhere in the row of a status table, the object opens to the **General Information** tab. You can edit the fields in this window as necessary.

Note	Quality and Resource status are not programmatically set by Agile PPM. These fields can be renamed and used for other status purposes, such as Risk. These are subjective ratings. Cost and Schedule status are always calculated according to the thresholds set. It is not possible to turn off this automatic calculation.

Schedule Status

The **Schedule Status** window reports the status of the project regarding schedule.

Note	The **Overdue Value** can be either a positive number or a negative number.

The **Overdue Value** can be either days or a percentage of the duration.

To set the Overdue Type (Days or Percentage):

1. In Agile Administrator, open the **Schedule Status** node under **Settings | System Settings | Product Portfolio Management.**

   The Schedule Status window opens with the **General** tab displayed on top.
2. On the **General** tab, in the **Overdue Type** dropdown list, select either Days or Percentage.
3. When you are finished, click **Save**.

To modify the Schedule Status values:

1. In Agile Administrator, open the **Schedule Status** node under **Settings | System Settings | Product Portfolio Management.**

   The Schedule Status window opens with the **General** tab displayed.
2. Click the **Status** tab to display the schedule statuses.
3. Double-click the status row you want to modify. The schedule status window is displayed.
4. Make the desired modifications.

Note	It is important that you follow the guidelines explained in Schedule Status Guidelines on page 363.
5. When you are finished, click **Save**.

Schedule Status Guidelines

The following table shows the default Schedule Status settings (Overdue Type = Days).

Order	Name	Description	Overdue Value	Icon
1	On Track	On Track	0	Green
2	Needs Attention	Needs Attention	1	Yellow
3	Off Track	Off Track	5	Red

In order for the schedule status to evaluate correctly, follow these rules when setting the **Overdue Value** attributes:

- All three states (On Track, Needs Attention, and Off Track) *must* have a value for **Day_Overdue**. A blank value is not valid, however, zero (0) is a valid value.
- The **Overdue Value** values must be have ascending values that follow the order. That is, On Track (1) must have the lowest value, Needs Attention (2) must have a higher value than On Track, and Off Track (3) must have a higher value than Needs Attention.
- The above rules apply for both Overdue Type = Days and Overdue Type = Percentage.
- The following tables show some examples of valid **Overdue Value** settings:

Overdue Value settings, Days:

Order	Name	Overdue Value Days	Overdue Value Days	Overdue Value Days	Overdue Value Days
1	On Track	–10	–5	0	5
2	Needs Attention	–5	0	5	10
3	Off Track	0	5	10	15

Overdue Value settings, %

Order	Name	Overdue Value %	Overdue Value %	Overdue Value %
1	On Track	–150	–150	0
2	Needs Attention	–100	0	50
3	Off Track	0	75	100

How Schedule Status is Determined

If the activity's workflow status is Not Started, Schedule Status is determined by comparing the current date against the calculation of the Scheduled Start Date and the Overdue Value.

If the activity's workflow status is In Process, Schedule Status is determined by comparing the current date against the calculation of the Scheduled End Date and the Overdue Value. The following examples illustrate how Needs Attention and Off Track statuses are determined:

Overdue Value Days	Overdue Value % of Duration	Task Duration	Calculation	Schedule Status changes when the current date is...
5		10	Scheduled End Date + 5	5 days after the scheduled end date
–5		10	Scheduled End Date – 5	5 days before the scheduled end date
0		10	Scheduled End Date	On the scheduled end date
5		2	Scheduled End Date + 5	5 days after the scheduled end date
–5		2	Scheduled End Date – 5	5 days before the scheduled end date (not dependent on duration)
	–150	10	–150% * 10 = –15 days	15 days before the scheduled end date
	–100	10	–100% * 10 = –10 days	10 days before the scheduled end date
	–50	10	–50% * 10 = –5 days	5 days before the scheduled end date
	0	10	0% * 10 = 0 days	On the scheduled end date
	50	10	50% * 10 = 5 days	5 days after the scheduled end date
	100	10	100% * 10 = 10 days	10 days after the scheduled end date
	150	10	150% * 10 = 15 days	15 days after the scheduled end date

Cost Status

The **Cost Status** window reports the status of the project regarding cost and budget. Total Cost is the sum of the four cost types: Labor Cost, Capital Expenses, Fixed Cost and Flex Cost. The Cost Status color indicator is based on comparing Total Budgeted Cost to the sum of Total Actual Cost and Total Estimated to Completion and determining the percentage over Total Budgeted Cost.

Note The **Percentage** value cannot be a negative number.

Order	Name	Description	Percentage	Icon
1	On Budget	On Budget	0	Green
2	Off Budget	Off Budget	5	Yellow
3	Over Budget	Over Budget	10	Red

Quality Status

The **Quality Status** window reports the status of the project regarding issues of quality.

Order	Name	Description	Icon
1	Meets Quality	Meets Quality	Green
2	Below Quality	Below Quality	Yellow
3	Poor Quality	Poor Quality	Red

Resource Status

The **Resource Status** window reports the status of the team, or users with similar skill sets. Resource status allows you to evaluate the assignment of resources to programs and to help manage employees' workloads.

Order	Name	Description	Icon
1	Staffed	Staffed	Green
2	Under Staffed	Under Staffed	Yellow
3	Not Staffed	Not Staffed	Red

Automatic Installation from PPM SmartRule

Auto-Installs From PPM is a SmartRule that can be set to Allow, Disallow, or Warning. This SmartRule controls the automatic installation of Microsoft Project (2002 and 2003) DLLs into a user's system Registry. Installation of the DLLs enables seamless publishing using an Agile menu within Microsoft Project. **Auto-Installs From PPM** also controls the installation of Sun's JRE for the java-based Gantt Chart. The JRE is required to launch the Gantt Chart.

The default setting for **Auto-Installs From PPM** SmartRule is Allow.

Set this **Auto-Installs From PPM** SmartRule to Disallow if your company does not want any applications to be automatically installed.

Note If end users do not have Administrator rights on their PCs, you should consider setting **Auto-Installs From PPM** to Disallow and have your IT organization load the DLLs and/or JRE.

If **Auto-Installs From PPM** is set to Allow and a user does not have Administrator rights on his PC, selecting the Gantt Chart or Microsoft Project buttons in Agile PPM will initiate the installation process but it will not successfully install. This will happen every time a user selects one of these buttons and will become a usability issue.

IT departments can do system-wide installations of the JRE or Microsoft Project DLLs, in which case, the functionality of the Microsoft Project integration and Gantt Chart will be fully supported regardless of the setting of this SmartRule. **Auto-Installs From PPM** SmartRule governs only the automatic installation of the JRE or Microsoft Project DLLs; it does not govern the launch of these applications.

Default Roles Assigned Automatically to Agile PPM Users

The **Default Role** node allows you to specify which Agile PLM roles are assigned automatically to users when a task is delegated to them or when a Microsoft Project, along with its users and roles, is published to Agile PLM.

Note Access to the Default Role node requires that the administrator user have PPM Default Role selected in the Applied To property of that user's Administrator privilege mask. For more information, see "Administrator Privilege and the AppliedTo Capability" on page 10-6 and "Modifying the AppliedTo Property" on page 10-26.

When you open the **Default Role** node, the Default Role window appears. It lists two Agile PPM roles:

- **Default MSP Synchronization Role** — Controls the role assigned to a user from a Microsoft Project that was published to Agile PLM. By default, the user is assigned the Program Team Member role.
- **Default Object Owner Role** — Controls the role assigned to a user when another user delegates a task to him. By default, the user is assigned the Program Manager role.

  The Default Object Owner Role is also assigned to the object owner in the **Team** tab when an activity is created. When an activity is delegated, the role is assigned to the delegated owner only after the delegated owner accepts the delegation.

You can change the roles used for Microsoft Project synchronization or task delegation. By default, available roles you can choose are:

- Change Analyst
- Program Team Member
- Program Manager
- Resource Pool Owner
- Program Administrator

Note If you have modified the Agile PPM roles or defined additional roles for Agile PPM, the list of roles in the Default Role **Role(s)** lists may differ from the list above. For more information, see "How the Lists of Available Agile PPM Roles are Determined" below.

To change default roles used for Microsoft Project synchronization and task delegation:

1. Under **System Settings > Product Portfolio Management**, double-click **Default Role**. The Default Role window opens.
2. Double-click the **Default MSP Synchronization Role** to open it.
3. Click the **Role(s)** list and select a role.
4. Click **Save**.
5. Click **Close** to close the window.
6. In the Default Role window, double-click the **Default Object Owner Role** to open it.
7. Click the **Role(s)** list and select a role.
8. Click **Save**.
9. Click **Close** to close the window.

How the Lists of Available Agile PPM Roles are Determined

There are several actions in Agile PLM where the Agile administrator or the end user is required to select an Agile PPM role from a list. Agile PPM role-selection actions include:

- When the Agile administrator selects the **Default MSP Synchronization Role** or the **Default Object Owner Role**, as described above.
- When the end user adds team members or resources to the **Team** tab of an activity.

The Agile PPM roles that appear in these lists are roles assigned to the login user that include at least one privilege mask with an object type of activities or gates. For example, the Agile-supplied Change Analyst role includes the privilege mask Subscribe to Gates Class; therefore, the Change Analyst role appears in the list of available PPM roles. If you were to remove that privilege mask (thus removing all activity and gate privilege masks) from the Change Analyst role, the Change Analyst role would no longer appear on the list of available Agile PPM roles.

Note End users do not need to have these PPM roles assigned at the system level (that is, in the **Roles** property of their User Profiles), as these roles are applied only on specific the Agile PPM objects.

UI Configuration Data

In Web Client, a user can view details of a task from the Project Summary page, the **My Assignments** tab or the **Content** tab, using the icon next to the task. The task editing dialog that opens when this icon is clicked allows the user to view and edit subclass details. As an administrator, you can define the primary fields that task owners are required to edit and design how these fields should display. Task owners can then edit task details without having to navigate to the task details.

To configure the display, you must first define and select each component that you want to display in the dialog, such as attribute groups, tables and action menus. Think of attribute groups, tables, and actions as the building blocks of the task editing dialog. These can be combined in different ways to form different layouts. All you have to do is select the components, and assemble them into specific layouts.

One layout can be associated to any one subclass.

To configure a task editing dialog:

1. Navigate to **System Settings > Product Portfolio Management**.
2. Click **UI Configuration Data**. The UI Configuration window opens.
3. Configure the following:
   - Attribute Groups
   - Tables
   - Action Groups
4. Assign a layout.

To configure an attribute group:

1. Click **Attribute Groups**.
2. Provide a name for the group. For example, “Cost” or “Schedule”.
3. From the **Available Attributes** list, select the attributes that you want to display. You can use the dropdown list to filter the attributes by subclass. Make sure the **Name** field is in one of the attribute groups to ensure that it is in the header.
4. Use the forward arrow button to move the selected attributes to the **Selected Attributes** area. You can reorder the selected attributes using the arrow buttons.
5. Click **Add** to add the selected attributes to the dialog.

To configure tables:

1. Click **Tables**.
2. Choose a table and provide a display name for it. For example, “Relationships”.
3. From the **Available Columns** list, select the columns that you want to display.
4. Use the forward arrow button to move the selected columns to the **Selected Columns** area. You can reorder the selected columns using the arrow buttons.
5. Click **Add** to add the selected columns to the dialog.

To configure Action Groups:

1. Click **Action Groups**.
2. Provide a name for the group. For example, “Task Actions”.
3. From the **Available Actions** list, select the actions that you want to display for workflow sign-offs. For example, Approve, Reject, and Mark Complete.
   a. To add a process extension to an action, click **New**. In the dialog that opens, specify the Action Name and then select a process extension to apply.
   b. To change the name of a selected action, click **Edit** and enter a new name for the action in the dialog that opens.
   c. To delete a selected action name, click **Delete**. You can only delete action names that you created.
4. Use the forward arrow button to move the selected actions to the **Selected Actions** area. You can reorder the selected actions using the arrow buttons.
5. Click **Add** to add the selected actions to the dialog.

To assign a layout:

1. Click **Layout**.
2. In the **Define Layout For** field, choose the object for which you want to assign a layout. For example, Program.
3. Select the desired attribute group, table and action group.
4. Use the forward arrow button to move your selections to the **Form** area. You can reorder the components using the arrow buttons.
5. Click **Add** to assign the layout for the specified object.

You can verify the results of your configuration actions in the Project Summary page.

Accessing Gantt Charts

In Agile PLM 9.2, the Gantt base privilege was removed. The Gantt capability is now covered by Read Program Schedule and Modify Program Schedule privilege masks. For more information, see the section below.

Modify Privilege Mask Applied To Properties that Control Specific User Actions

Agile PLM uses Modify privilege mask Applied To properties to determine and control certain specific user actions and capabilities in Agile PPM. For example, if a user has a role that includes a Modify privilege mask for activities and the Applied To property includes the Activities.Schedule.Name attribute, then that user is able to use the **Add** function on the **Schedule** tab.

Agile PLM roles and privilege masks allow you to define very specific and narrow Agile PPM user capabilities if required. For detailed information about privilege masks, see Privileges and Privilege Masks on page 195.

The following table lists the Modify privilege mask Applied To properties and which PPM actions they control.

Note This table uses <*object*> as a place holder for the class or subclass name in the Applied To attribute column. The actual class or subclass name in any privilege mask is determined by the reusable criteria specified in the privilege mask. (See Privilege Mask Components on page 221.) If you view the example privilege masks mentioned in the Notes column, the Applied To properties will be appropriate for that specific privilege mask (for example, Activities.General Info.Lock User).

Action or capability provided	Applied To attribute	Example Privilege Mask / notes
Object-level actions		
Lock or unlock programs **Lock** and **Unlock**	<*object*>.General Info.Lock User	Example - Modify Program Schedule
Cancel Locked Program **Unlock** Allows user to cancel the locked condition of a program that was locked by a different user.	<*object*>.General Info.Locked From Program	Example - Cancel Lock Program

Action or capability provided	Applied To attribute	Example Privilege Mask / notes
Edit the Gantt chart **Gantt Chart**	<*object*>.General Info.Lock User and <*object*>.General Info.Schedule Editor	Example - Modify Program Schedule (for Lock User) and Example - Read Program Schedule (for Schedule Editor). Note that the user requires modify privilege for *both* of these attributes in order to edit the Gantt chart.
Read the Gantt chart **Gantt Chart**	<*object*>.General Info.Schedule Editor (and the user **does not** also have <*object*>.General Info.Lock User)	Example - Read Program Schedule If the user has Modify applied to General Info.Schedule Editor, but he lacks Modify applied to Lock User, he will be able to open and read the Gantt chart, but he will not be able to edit the Gantt chart
Save as XML **Microsoft® Project > Save As XML**	<*object*>.General Info.Schedule Editor	Example - Read Program Schedule. Note that this is a Modify type privilege mask, not a Read type privilege mask. **Note**: **Save as XML** and **Launch in Edit Mode** set the Schedule Editor attribute to MSP. This disables the roll-up of dates in Agile PPM.
Launch in Microsoft Project in read-only mode **Microsoft® Project > Launch as Read Only**	<*object*>.General Info.Schedule Editor	Example - Read Program Schedule. Note that this is a Modify type privilege mask, not a Read type privilege mask.
Launch in Microsoft Project in edit mode **Microsoft® Project > Launch in Edit Mode**	<*object*>.General Info.Schedule Editor and <*object*>.General Info.Lock User	Example - Read Program Schedule. Note that this is a Modify type privilege mask, not a Read type privilege mask. and Example - Modify Program Schedule **Note**: **Save as XML** and **Launch in Edit Mode** set the Schedule Editor attribute to MSP. This disables the roll-up of dates in Agile PPM.
Publish from Microsoft Project **Microsoft® Project > Publish From Microsoft® Project**	<*object*>.General Info.Lock User	Example - Modify Program Schedule

Action or capability provided	Applied To attribute	Example Privilege Mask / notes
Substitute Resource **Actions > Substitute Resource**	<*object*>.Team.Name	Example - Modify All Programs, Phases, Tasks and Gates.
Change Parent **Actions > Change Parent**	<*object*>.Schedule.Name	Example - Add Programs, Example - Add Phases, Example - Add Tasks.
Change Archive Status **Actions > Change Archive Status**	<*object*>.General Info.Archived	Example - Modify All Programs, Phases, Tasks and Gates.
Delegate Delegate an activity (you are the owner) to a different owner **Actions > Delegate**	<*object*>.General Info.Delegated Owner	Example - Modify All Programs, Phases, Tasks and Gates.
Delete Delete the current object **Actions > Delete**	Always requires a Delete privilege mask for the current object where the delete action is in Agile PPM. Requires Delete privileges for subordinate objects on the current object's **Schedule** tab. If there is a parent object, Delete of the current object also requires the following: •ĄDelete privilege mask for the parent object. •ĄModify privilege mask for the parent object: <*parent object*>.Scehdule.Name	When the current PPM object is deleted in Agile PPM Web Client, all three privilege masks are required (if there is a parent object) ▫ Current object Delete privilege ▫ Children objects Delete privileges ▫ Parent object Delete privilege ▫ Parent object Modify Schedule.Name
Schedule tab actions		
Add activities **Add** button	<*object*>.Schedule.Name	Example - Add Programs, Example - Add Phases, Example - Add Tasks.

Action or capability provided	Applied To attribute	Example Privilege Mask / notes
Delete activities **Delete** button	<*object*>.Schedule.Name for the current **Schedule** tab object. Requires Delete privileges for the deleted object and the deleted object's subordinate object	The user must have modify Schedule.Name privilege mask for the object where the Delete activities action (on the **Schedule** tab) is preformed. Also requires Delete privileges for the deleted objects and their children. Example - Add Programs, Example - Add Phases, Example - Add Tasks. **Note:** Delete privileges for the current object are not required.
Edit > Dependencies	<*object*>. Dependencies Dependent Upon.Name for the object in **Schedule** tab row that is being edited.	Example - Modify All Programs, Phases, Tasks and Gates
Edit > Display Order	<*object*>.Schedule.Name	Example - Add Programs, Example - Add Phases, Example - Add Tasks.
Edit > Reschedule	<*object*>.General Info. Schedule Start Date and <*object*>.General Info. Schedule End Date	The user must have a modify privilege masks that allow him to modify the Schedule Start Date and Schedule End Date of the object where the Reschedule action (on the **Schedule** tab) is performed. Example - Modify All Programs, Phases, Tasks, and Gates
Edit > Add Team	<*object*>.Team.Name	Example - Add Programs, Example - Add Phases, Example - Add Tasks.
Create Baseline	<*object*>.Schedule.Name	Example - Add Programs, Example - Add Phases, Example - Add Tasks.
Remove Baseline	<*object*>.Schedule.Name	Example - Add Programs, Example - Add Phases, Example - Add Tasks.
Dependencies tab actions		
Add activities **Add** button	<*object*>.Schedule.Name	Example - Add Programs, Example - Add Phases, Example - Add Tasks.

Action or capability provided	Applied To attribute	Example Privilege Mask / notes
Add or remove dependencies **Add** button **Remove** button	<*object*>. Dependencies Dependent Upon.Name	Example - Modify All Programs, Phases, Tasks and Gates
Team tab actions		
Add team members **Add** button	<*object*>.Team.Name	Example - Modify All Programs, Phases, Tasks and Gates. Modify privilege for attribute Team.Name allows the user **only** to add or to remove team members. In order to edit the Team table, the user must have additional modify privileges for the specific Team table attributes; refer to the row below.
Edit team member **Edit** button	<*object*>.Team.%_Allocation <*object*>.Team.Actual_Hours <*object*>.Team.Assigned From <*object*>.Team.Roles	In order to edit the Team table, the user must also have a modify privilege mask with explicit Applied To properties for the specific Team table attributes he needs to edit, for example, **Actual Hours**.

Notes about Privileges for Gantt Chart and Microsoft Project

The table above includes definitions of the Modify privilege masks necessary to grant users:

- The ability to open an Agile PPM activity in Gantt Chart and, therefore, edit that activity and its children, including creating new children.
- The ability to Launch in Microsoft Project an Agile PPM activity and, therefore, edit that activity and its children, including creating new children.

When activities are edited in Gantt or Microsoft Project, Agile Create privilege masks and Modify privilege masks pertaining to the editing of the contents of specific fields cannot be checked within the Gantt or Microsoft Project applications. For example, it is possible that a user may not be able to create a particular Agile PPM subclass when working in Agile PPM, but he will be able to create that subclass in Gantt or Microsoft Project. In a similar manner, a user may not be able to edit the content of specific Agile PPM object attributes when working in Agile PPM, but he will be able to edit those fields in Gantt or Microsoft Project.

Caution	If you wish to precisely limit the create and modify attribute privileges of some users, then do not give those users the ability to edit in Gantt or Microsoft Project. Gantt and Microsoft Project edit capabilities are more appropriate for Agile PPM users requiring broad create and modify capabilities.

Delete Object Privileges for Gantt Chart and Microsoft Project

When a user edits an Agile PPM program in the Gantt Chart or he uses **Microsoft Project > Launch in Edit Mode** to edit in Microsoft Project, he can perform many actions including deleting objects (activities or gates), changing the parent, changing dates or adding dependencies.

When the user updates his changes to the Agile PPM server (**Update** function in Gantt Chart, **Agile > Publish to PPM** in Microsoft Project), Agile PLM checks to ensure that the user has the appropriate delete privilege masks for all activities and gates that he deleted. If the user does not have the appropriate delete privilege mask for an object that he deleted in Gantt Chart or Microsoft Project, none of the modifications he made will be written to the Agile database. An error message informs the user that he does not have the necessary delete privileges.

Therefore, you can define mandated activities in Agile PPM, that is, activities that cannot be deleted from a program. This is enforced by configuring Delete privilege masks that do not allow users to delete mandated activities. See Setting Up Restricted Delete Privileges on page 375.

Setting Up Restricted Delete Privileges

The Agile-supplied Delete privileges masks are very broad, for example, **Delete All Programs, Phases, and Gates** allows the user to delete any object in the Programs base class, with no restriction. To create a restricted Delete privilege mask, create a reusable criteria that defines the objects the user will be allowed to delete, then use that criteria to create a Delete privilege mask. (For more information about reusable criteria, see Criteria on page 107. For more information about privilege masks, see Privileges and Privilege Masks on page 195.)

When a user modifies a PPM program in the Gantt Chart or in Microsoft Project, the restricted Delete privilege masks are applied when the user updates or publishes back to Agile PPM.

Here are some examples of how you might set up and use restricted Delete privilege masks:

- Create a specific subclass for mandated activities that you will not allow to be deleted. You can then create reusable criteria that either exclude the mandated subclass, or include all subclasses except the mandated subclass.
  - Object Type: **Activities**
    General Info. Activities Type Not Equal to Mandated Task

  Where **Mandated Task** is a subclass you created to use for tasks that cannot be deleted. This allows all other Activities subclasses to be deleted, but Mandated Tasks cannot be deleted.

  - Create individual criteria and individual Delete privilege masks for each subclass, but no do not create or assign a Delete privilege mask for the **Mandated Task** subclass. For example, you might create Delete privilege masks using the reusable criteria:

    Object Type: **Programs**

    Object Type: **Phase**

Object Type: **Task**

(No Delete privilege mask created for **Mandated Task**.)

- Define an object attribute that determines whether the task is mandated or not. This allows users to define mandated tasks on a case-by-case basis. This designation can be set up in a template and new programs copied from the template will carry over the value.

  Once you have defined the attribute, you can create reusable criteria that evaluate the contents of that attribute. For example:

  Page Two.List01 Not Equal to Mandated

  Where **Page Two.List01** is a list field that you have defined in order to set whether an activity is mandated or not. This also requires:

  - You must define a list for the **Page Two.List01** attribute, for example, list selections **Mandated** and **Non-Mandated**.

    See Lists on page 85 and in particular Creating Custom Lists and Adding to Lists on page 86.

  - In order to limit who may edit the **Page Two.List01** attribute, you must create and assign Modify privilege masks that allow and disallow the ability to change whether or not a task is mandated. Including **Page Two.List01** in the Applied To property of a Modify privilege mask allows the user to change this attribute. Typically, you will allow very few users to change this attribute.

Caution	If you plan to use restricted Delete privileges for Agile PPM, remove any broadly-defined Delete privilege masks from the Agile PPM roles.

Agile privilege masks are additive. If a user has a Delete privilege mask that restricts delete privileges for Mandated Task subclass objects, but he also has the **Delete All Programs, Phases, and Gates** privilege mask (which allows him to delete any object in the Programs base class), then the user will be able to delete Mandated Task subclass objects.

Settings Required for Menu Command: Actions > Change to Canceled

The **Actions > Change to Canceled** menu command allows users to cancel the displayed program object and automatically cancel all its children (change workflow status to Canceled). In addition, users can also cancel leaf node objects by using the **Change Status** button.

Regardless of which method the user chooses, his ability to change the workflow status of a PPM object (including canceling a PPM object) is determined both by the workflow status property Valid Manual Next Status setting and by the user's assigned Change Status privilege masks.

The Agile-supplied default Change Status privilege masks for PPM objects provide the ability to change statuses from any status to any other status. If you use custom Change Status privilege masks for PPM objects, please review them to verify that the end users will be able to perform a top-level cancellation. For more information see Change Status on page 216 and Manual Valid Next Status on page 134.

Variances Displayed in the General Info Tab Summary Table

The following variance calculations appear in the summary table at the top of the **General Info** tab of Activity objects and Gate objects. Use the **Classes** node to make the variance calculations visible in the summary table by enabling the attributes. Work days indicates the variance in scheduled days of work. Calendar days indicates the variance according to days on the calendar. A four week variance would appear as 20 work days and 28 calendar days.

If Actual and Estimated date fields are blank, no variance calculations are performed for those attributes.

Use the **Classes** node to choose which variance calculations will be visible in the summary table by enabling or disabling the attributes. In addition, you can use the Applied To property of PPM object Read privilege masks to control which users can read these attributes.

Variance attribute	Difference between
Estimated Start Variance Work Days	Estimated Start Date - Scheduled Start date (in work days)
Estimated Duration Variance Work Days	Estimated Duration - Schedule Duration (in work days)
Estimated Finish Variance Work Days	Estimated Finish Date - Scheduled Finish date (in work days)
Estimated Start Variance Calendar Days	Estimated Start Date - Scheduled Start date (in calendar days)
Estimated Duration Variance Calendar Days	Estimated Duration - Schedule Duration (in calendar days)
Estimated Finish Variance Calendar Days	Estimated Finish Date - Scheduled Finish date (in calendar days)
Actual Start Variance Work Days	Actual Start Date - Scheduled Start date (in work days)
Actual Duration Variance Work Days	Actual Duration - Schedule Duration (in work days)
Actual Finish Variance Work Days	Actual Finish Date - Scheduled Finish date (in work days)
Actual Start Variance Calendar Days	Actual Start Date - Scheduled Start date (in calendar days)
Actual Duration Variance Calendar Days	Actual Duration - Schedule Duration (in calendar days)
Actual Finish Variance Calendar Days	Actual Finish Date - Scheduled Finish date (in calendar days)

Object Classes for Deliverables

The objects that a user can specify as a deliverable are determined by several factors:

- If the appropriate Agile solution is installed at your site. For example, in order to select a Declaration, Agile PG&C must be installed at your site.
- Whether the user has the appropriate privileges to discover and read the object.

Class	Target Event Attribute	Notes	Deliverables tab table	Add by
Item base class	Lifecycle	Defined in Agile Administrator **Classes** node, **Lifecycle Phases** tab. Controlled by the Agile change process.	Affected By	Search Create New
Changes base class	Workflow.Status	Target status list is dependent on the workflow that has been selected for the specified object.	Affected By Affects	Search Create New
Manufacturer Part class	Lifecycle	Defined in Agile Administrator **Classes** node, **Lifecycle Phases** tab. Not controlled by the Agile change process.	Affected By	Search Create New
Manufacturer class	Lifecycle	Defined in Agile Administrator **Classes** node, **Lifecycle Phases** tab. Not controlled by the Agile change process.	Affected By	Search Create New
File Folder base class	Lifecycle	Defined in Agile Administrator **Classes** node, **Lifecycle Phases** tab. Not controlled by the Agile change process.	Affected By	Search Create New
PSR base class	Workflow.Status	Target status list is dependent on the workflow that has been selected for the specified object.	Affected By Affects	Search Create New
QCR base class	Workflow.Status	Target status is dependent on the workflow that has been selected for the specified object.	Affected By Affects	Search Create New

Enabling the Calculate Attributes

By default, all costs are calculated. However, by enabling the **General Info** tab Calculate attributes, the end user can choose whether to use the calculated cost or a cost value that he enters. The Calculate attributes are list type attributes that use a Yes/No selection list. When the Calculate attributes are disabled (not visible), the default setting is Yes (calculate). Refer to the *Product Portfolio Management User Guide* for details on how costs are calculated.

With the exception of Labor costs, each of the cost fields shown in the table below has an associated Calculate attribute. You can enable all the Calculate attributes or only the Calculate attributes you want to use.

If the Calculate attribute is visible and the end user has the privilege to modify the attribute, he has the option to select **Yes** or **No**.

- **Yes** — When rolling up the costs of the current activity to its parent activity, use the calculated cost of the current activity's children.
- **No** — When rolling up the costs of the current activity to its parent activity, do not use the calculated cost, rather, use the cost entered in the cost field. In this case, there will be no rollups. Instead, cost will be calculated based on the values specified for the parent activity.

To use a Calculate attribute you must:

- Enable the appropriate Calculate attribute of the object's **General Info** tab. (**Settings > Data Settings > Classes**)
- Edit the appropriate Modify privilege masks by adding the Calculate attribute to the Applied To property of the privilege mask. (**Settings > Privileges > Modify**)

  For example, in order to use the Yes/No selection list for **Calculate Capital Cost - Budget** on the **General Info** tab of Activities, the user must have a Modify privilege mask for Activities that includes **Activity.General Info.Calculate Capital Cost - Budget** in the Applied To property.

The following table shows the cost attributes, their associated Calculate attributes, and the Modify privilege mask attributes that must be added to the Modify privilege mask Applied To property.

General Info tab Cost attribute:	Enable the associated General Info tab Calculate attribute:	Add to the appropriate Modify privilege mask Applied To property:
Actual Labor Cost	Actual Labor Cost and Budgeted Labor Cost are always calculated. Estimated Labor Cost to Completion can be edited on the **General Info** tab; it is not calculated. No Calculate attributes are provided for labor costs.	(Not applicable)
Budgeted Labor Cost		

General Info tab Cost attribute:	Enable the associated General Info tab Calculate attribute:	Add to the appropriate Modify privilege mask Applied To property:
Estimated Labor Cost to Completion		
Actual Capital Cost	Calculate Capital Cost - Actual	<*object*>.General Info.Calculate Capital Cost - Actual
Budgeted Capital Cost	Calculate Capital Cost - Budget	<*object*>.General Info.Calculate Capital Cost - Budget
Estimated Capital Cost to Completion	Calculate Capital Cost - EAC	<*object*>.General Info. Calculate Capital Cost - EAC
Actual Fixed Cost	Calculate Fixed Cost - Actual	<*object*>.General Info.Calculate Fixed Cost - Actual
Budgeted Fixed Cost	Calculate Fixed Cost - Budget	<*object*>.General Info.Calculate Fixed Cost - Budget
Estimated Fixed Cost to Completion	Calculate Fixed Cost - EAC	<*object*>.General Info. Calculate Fixed Cost - EAC
Actual Flex Cost	Calculate Flex Cost - Actual	<*object*>.General Info.Calculate Flex Cost - Actual
Budgeted Flex Cost	Calculate Flex Cost - Budget	<*object*>.General Info.Calculate Flex Cost - Budget
Estimated Flex Cost to Completion	Calculate Flex Cost - EAC	<*object*>.General Info. Calculate Flex Cost - EAC

Support for Microsoft Project Integration

Note In Agile PLM 9.2.1, integration with Microsoft Project 98 and 2000 project files is no longer supported. Microsoft has discontinued support for these versions. If users have Microsoft Project 98 or 2000 project files with which they would like to work, users must open the files in Microsoft Project 2002 or 2003 to automatically convert the project files to the appropriate format. For more information, select **Help > Microsoft Project Help** in the Microsoft Project 2002 or 2003 menu.

Integration with Microsoft Project 2002 and 2003 is supported. See Automatic Installation from PPM SmartRule for more information about automatic installation of the appropriate DLLs.

See also:

- Modify Privilege Mask Applied To Properties that Control Specific User Actions for information about modify privilege mask properties that control access to Microsoft Project integration features.
- Transferring Microsoft Project Work Values to Agile PPM as Days Effort.
- Using Custom Agile PPM Subclasses in Microsoft Project 2002 and 2003.
- Microsoft Project/Agile PPM Integration: MSPSyncMapping.properties File.

Transferring Microsoft Project Work Values to Agile PPM as Days Effort

In Agile, days effort is always calculated based on the % allocation and duration. Agile requires an allocation to a resource or resource pool in order for days effort to be populated. To handle the publishing of tasks from Microsoft Project, where work values are entered, you can set up a generic resource pool to hold the work/days effort values. If you set up a generic resource pool, users will notice that tasks which satisfy these conditions have a generic resource pool associated to them on the **Team** tab.

To set up the global resource pool:

1. Enter the resource pool name in the MSPSyncMapping.properties file.
2. Restart the server.
3. Create the resource pool ensuring that:
   a. You use the name you entered in the MSPSyncMapping.properties file.
   b. The resource pool is a Global resource pool.

      The resource pool must be created as Global in order to enable the mapping.

Important This mapping is ignored and work values are discarded if either of the following is true:

The resource pool name is configured in the properties file, but the resource pool does not exist (not created).

The resource pool name is configured in the properties file and the resource pool has been created, but it does not meet the criteria; it is not a Global resource pool.

Using Custom Agile PPM Subclasses in Microsoft Project 2002 and 2003

If you have defined custom Agile PPM subclasses, users can specify those subclasses in Microsoft by using Microsoft Project column Text29.

To enable the use of custom Agile PPM subclasses in Microsoft Project 2002 or 2003:

1. In Microsoft Project, right-click on the column headers.

2. Select **Insert Column**.
3. Select **Text29** for the field name. The default Agile PPM subclass names are displayed.
4. As you create new tasks and enter them, you can type in this field the name of any custom Agile PPM activity subclass. If you leave the field blank, the Agile PPM default subclasses are used.

Note The subclass name you enter must be spelled correctly; if the name is not spelled correctly, the out-of-box default subclass names will be displayed.

Microsoft Project/Agile PPM Integration: MSPSyncMapping.properties File

The Agile-provided MSP/Agile PPM mapping file (MSPSyncMapping.properties on the Agile server) provides synchronization mapping between Agile PPM objects and Microsoft Project.

For Activities and Gates separate mapping is provided below.

Only TEXT and DATE EXTENDED ATTRIBUTES, DEADLINE attribute (task level attribute) are supported. They can be mapped to out-of-the-box TEXT, DATE FLEX FIELDS on PAGE TWO. Page Three attributes cannot be mapped.

The attribute mapping should be in the following format:

<key> = [<Mapping 1>],[<Mapping 2>],[<Mapping3>],..[<Mapping n>]

where

- **<key>** represents the class for which the attribute mapping is defined. It can have following values only
  - "msp.pe.attribute.activities.map" for Activity class
  - "msp.pe.attribute.gates.map" for Gate class
- **<Mapping 1>, <Mapping 2>, <Mapping 3>,..., <Mapping n>** represents one attribute mapping definition.

All individual attribute mapping definitions above should be in the following format i.e every **<Mapping n>**

<Field Name> | ExtendedAttribute.<Field Name> = PAGE_TWO.<DB Column Name>]

where

- **<Field Name>** represents MSP attribute name with following notation
  - Use **<Field Name>** notation to specify MSP task level attributes (right now only Deadline is supported).
  - Use **ExtendedAttribute.<Field Name>** notation to specify MSP Extended attributes.
- **<DB Column Name>** represents the "PAGE_TWO" table's column name in Agile database. This is available in the attribute property of the attribute in Java Client Administrator under the **Data Settings > Classes** node.

For each extended attribute mapped from MSP side, you need to specify the field ID associated

with it. The field IDs for each of MSP extended attributes used for mapping definition should be specified in the following format:

msp.attribute.ExtendedAttribute.<Field Name>.id = <Field ID>

where

- **<Field Name>** represent the MSP Extended Attribute's name.
- **<Field ID>** represents the unique integer(ID) defined in MSP that is associated with the extended attribute. After enabling the extended attribute in MSP, the field ID can be obtained from the Project Element's ExtendedAttributes tag in the .xml file.

Note Any mismatch with the above specified FORMAT in mapping definition, the corresponding definition will be IGNORED and an error message will be printed in server console. NO USER EXCEPTION will be shown.

The sample format is given below and you need to extend this if you want to map more extended attributes from MSP.

**msp.pe.attribute.activities.map=[ExtendedAttribute.Text1 = PAGE_TWO.TEXT11], **

**[ExtendedAttribute.Date1 = PAGE_TWO.DATE01], **

[Deadline = PAGE_TWO.DATE02]

**msp.pe.attribute.gates.map=[ExtendedAttribute.Text1 = PAGE_TWO.TEXT11], **

**[ExtendedAttribute.Date1 = PAGE_TWO.DATE01], **

[Deadline = PAGE_TWO.DATE02]

msp.attribute.ExtendedAttribute.Text1.id = 188743731

msp.attribute.ExtendedAttribute.Date1.id = 188743945

Chapter 18

Configuring Agile Content Service

This chapter includes the following:

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- How Agile Content Service Works 385
- Setting Up Agile Content Service 386
- Workflows for Transfer Orders 388
- Tracking Published Data 389
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This chapter contains information about configuring the settings for Agile Content Service.

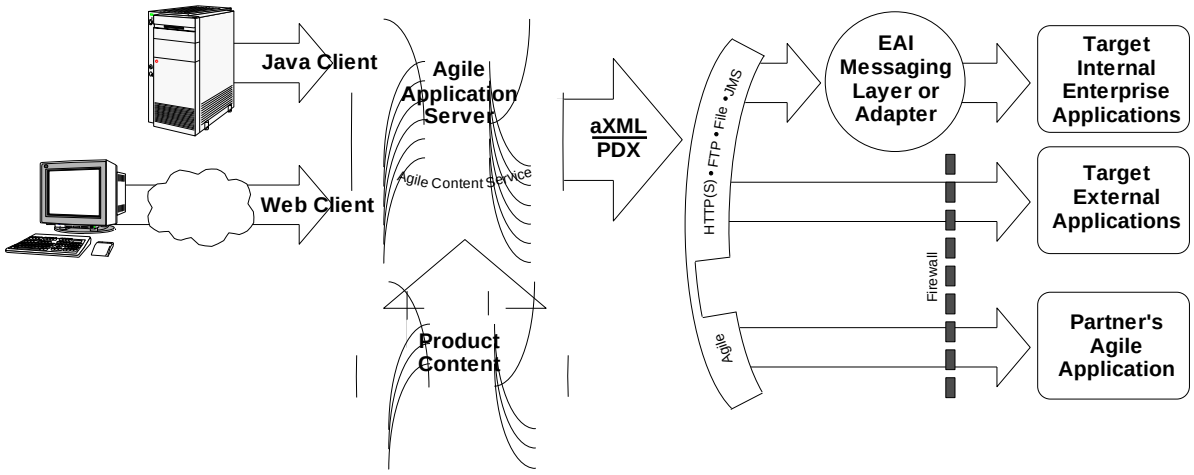
About Agile Content Service

Agile Content Service™ is an event-driven XML-based publishing service that makes the product record available to a wide variety of business applications and users, both internally and across the global manufacturing network. In addition to allowing employees and supply chain partners to publish the product record on demand, Agile Content Service can be configured to automatically publish the Item Master, BOM, and AML changes during any phase of the product lifecycle to multiple destinations, ensuring that everyone is working with up-to-the-minute information.

How Agile Content Service Works

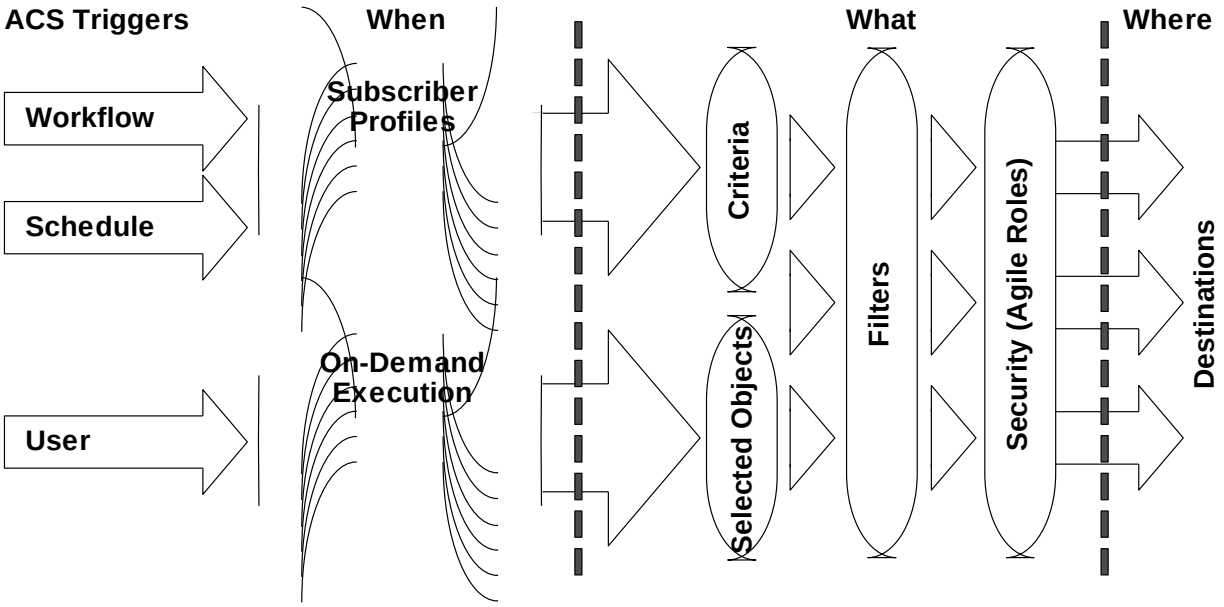
Every time Agile Content Service publishes product content, it produces a transfer order that keeps track of what, where, and when product content is transferred. Agile Content Service allows for destination-specific content, ensuring that external entities receive only the information to which they should have access. Roles and privilege masks can be configured to ensure that the right information is sent.

Agile PLM users can publish product content in real time with a content transfer order (CTO) or set up subscribers to automatically create automated transfer orders (ATO) based on a schedule or triggered by a workflow status change. Agile Content Service is easily configured and can support transfers to multiple destinations and transfer protocols, including a file, HTTP, HTTPS, FTP, JMS, or another Agile PLM system.



Setting Up Agile Content Service

Before publishing content, Agile Content Service needs to know exactly what content must be transferred, as well as when it goes, where it goes, and a few other factors.



Agile Content Service consists of the following components:

- **Destinations** (Where)

  Destinations define where to publish product content. Agile PLM provides a file, FTP, HTTP(S), JMS queue, and Agile system as destination types. Users can publish product content to any number of destinations across these destination types.

  A file destination is useful when users publish to internal systems. FTP and HTTP(S) destinations are useful when users publish to external systems. A JMS queue destination type is useful when users publish to an EAI system. An Agile destination type is used to publish to a supply chain partner's Agile PLM system.

- **Events** (When)

  Events define when to publish automated product content for an ATO. Events can be based either on a schedule or on an object's moving to a specified workflow status.

- **Filters** (What)

  Filters determine what data elements to publish. Filters provide the ability to configure the data of the element that gets published. Agile Content Service provides default filters for all objects.

- **Criteria** (What)

  For ATOs, criteria allow automated subscribers to determine what objects they should process. For CTOs, the user decides what objects to process by selecting them on the **Selected Contents** tab of the CTO.

- **Subscribers**

  Subscribers are created by the Agile PLM administrator. All applications and external systems

that need access to a specific product content are defined as subscribers. Subscribers are defined by their configured destinations, filters, criteria, events, assigned roles, and ATO creation data.

- **Package Services**

  Package services contain settings used to create the package in the Agile PLM target system for Agile-to-Agile transfers. Package services are defined on the target Agile PLM system in an Agile-to-Agile transfer; an ACS Server license is not required to configure package services.

- **Response Services**

  Response services define where automated responses are delivered. They are part of an acknowledgment by the remote recipient of the data. Response services are defined on the target Agile PLM system in an Agile-to-Agile transfer; an ACS Server license is not required to configure response services.

Workflows for Transfer Orders

Agile PLM provides a default workflow for ATOs and a default workflow for CTOs. Because ATOs and CTOs use automated processes, certain restrictions apply to their workflows.

Default ATOs Workflow

Because ATO processing is completely automated, the Default ATOs workflow is read-only and cannot be modified. Correct processing of ATOs cannot be ensured if you use a different workflow.

Caution	*Use only the Default ATOs workflow to process ATOs.*

Default CTOs Workflow

Unlike the Default ATOs workflow, the Default CTOs workflow allows you to route CTOs for review. Agile strongly suggests that you use the Default CTOs workflow to process CTOs.

Any workflow used for CTOs must observe the following restrictions. Correct processing of CTOs cannot be ensured if the workflow you use does not observe these restrictions.

Note	When the CTO enters the Released type status, that is the signal to ACS that the CTO is ready to be processed. When a CTO enters the Released type status, ACS automatically finds the released CTO, automatically processes it, and automatically moves it to the Complete type status. Any alteration of the Released or Complete type statuses may prevent correct CTO processing.

- A CTO workflow may have only one Released type status.
- The workflow status immediately following the Released type status must be the Complete type status.
- The Released type status must not have any approvers. Therefore, do not modify this workflow status to automatically add approvers, and be sure that the Ad Hoc Approvers/Observers property for this status is set to No.

If you need a different CTO workflow, the best way to create one is to open the Default CTOs workflow and use Save As to create the new CTO workflow. In the new CTO workflow, do not alter the Released and Complete type statuses in any way. However, you may add as many Submit and Review type statuses as you need and modify the settings of those statuses to suit your needs.

Tracking Published Data

Completed transfer orders, both ATOs and CTOs, provide a record of what, where, and when product content is transferred and whether those transmissions were successful. This allows you to maintain an audit trail of all published product content data.

When you use ATOs to automatically publish product content data, Agile Content Service keeps track of what data has been transferred with ATOs. The next time an ATO publishes object data to the same destination, the Agile PLM system compares the object data specified for extraction on the new ATO against the ATO records of previously transferred data. An object that was previously transferred to that destination will not be transferred again.

In contrast, a CTO always publishes the specified data, regardless of whether if it was transferred to that destination previously. If you need to republish data specified on an ATO, a simple method is to open the ATO, and use Save As to create a CTO. You can edit the **Selected Content** tab of the CTO to specify only the objects you want to republish.

Setting and Editing Destinations

Destinations define which resources can accept the extracted content. These are managed from the **Destinations** node. With Agile Content Service, you can define the following destination protocols:

- Agile
- FTP
- File
- HTTP/HTTPS
- JMS Queue or Topic

You can now specify the filename extension at the Destination level. That is, any extract that goes to a given destination will use the specified file extension, if provided. If an extension is not provided, the default is based on the format of the extraction.

Users cannot create destinations. Destinations must be created and assigned by the administrator before a user can create a transfer order. When creating a destination, you can also test the connection to verify that the destination can be located.

The Status column in the Destinations window indicates the status of the last attempted transmission of data to this destination. When a destination is created or reset, the default status is Success, even though no transmission has occurred.

Agile PLM provides an example destination with the file protocol that saves the transfer file to the root directory of the application server. You can use this example destination when creating a subscriber or CTO, if the properties meet your company's needs.

Agile Destinations

Agile Content Service can publish to another Agile PLM system. Agile Content Service creates a package in the target system using Web services. After the package is accepted, the data can be directly imported from the **Attachments** tab of the package. Make sure to use aXML format if you want to directly import the data.

Note	To create an Agile destination on your Agile PLM system, you need the following information about the target Agile PLM system: server URL (including the host name, the virtual path name, and the port number), the appropriate username and password to use on the target Agile PLM system, and the name of the package service to select on the target Agile PLM system. To obtain this information, you may need to contact the administrator of the target Agile PLM system.

For information about how to configure your Agile PLM system to receive data from another Agile PLM system, see Setting and Editing Package Services on page 408. (For information about ACS settings for both source Agile PLM systems and target Agile PLM systems, see Settings Required for Agile-To-Agile Publishing on page 413.)

To create an Agile destination:

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.
2. Click . The Create Destination dialog box appears.
3. Type a name and a description of the destination in the **Name** and **Description** fields.
4. Select Agile from the **Protocol** list.
5. Select either Yes or No from the **Response Expected** list.

   For information about how to configure your Agile PLM system to send responses from a destination, see Setting and Editing Response Services on page 410.
6. Click the button next to the **Notification User** field to display the list of available users. Select the users to be notified if a transfer failure occurs.
7. Select either HTTP or HTTPS from the **Server URL** dropdown list.
8. Type the URL and port of the target Agile PLM application server in the host and port fields, respectively. Type the virtual path name in the virtual path field, which is the last field.

Note	The virtual path is determined when an Agile PLM system is installed. For example, if the URL used to log in to the Web Client on the target Agile Application Server is:

   http://www.clapton.com/Agile/PLMServlet
9. Enter the URL information as shown above, where www.clapton.com is the host name, and **Agile** is the virtual path name. The field following the colon (:) is reserved for a port number. 80 is usually used for HTTP and 443 is usually used for HTTPS. If a port other then 80 or 443 is being used, the port will appear in the URL used to log in to the Agile Web Client. Omit **PLMServlet**, which is the application name. Contact the administrator of the target Agile PLM application server if you have questions about the correct URL to use.
10. Type the username and password of the target Agile PLM application server in the **User Name**

and **Password** fields. Click **Grab Package Services**.

If the remote Agile PLM system can be properly contacted, the Package Service list is populated with the package services from the target Agile PLM server.

Note	If the user's password in the target Agile PLM system changes, be sure to edit the destination with the new password.

11. Select the appropriate Package Service from the dropdown list.

Note	You may need to contact the administrator of the target Agile PLM system to determine which package service you should select.

12. Edit the following destination parameters, if necessary:
    - **Filename Prefix** (default is TO)
    - **File Number** (default is 000001)
    - **Filename Extension**

    The name of the transfer order file consists of the Filename Prefix parameter followed by the File Number parameter with the extension of the Filename Extension parameter. The File Number parameter increments by one each time a file is transferred.

    Check **Enable User-defined Filename Extension** to activate the Filename Extension field. Specify the filename extension, either .pdx or .axml. All files extracted with this destination have the same file extension. If no extension is specified, the default is based on the format of the extraction.
13. Click **OK**.

FTP Destinations

You can publish data to an FTP site. Agile Content Service uses the user name and password, if set, to log in to the FTP server. You can also verify the connection to the site during creation to ensure access.

Note	If a file with the same name already exists at the FTP site when the transfer order is published, it is overwritten.

To create an FTP destination:

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.
2. Click . The Create Destination dialog box appears.
3. Type a name and a description of the destination in the **Name** and **Description** fields.
4. Select FTP from the **Protocol** list.
5. Click the button next to the **Notification User** field to display the list of available users. Select the users to be notified if a transfer failure occurs.
6. Type the URL of the FTP site where the transfer order is sent, including port number, if needed, in the **URL or Target Path** field.

Note	When entering the URL of the FTP site you do not need to enter ftp://.

7. Type the username and password of the FTP site, if needed, in the **User Name** and **Password** fields.
8. Edit the following destination parameters, if necessary:
   - **Filename Prefix** (default is TO)
   - **File Number** (default is 000001)
   - **Filename Extension**

   The name of the transfer order file consists of the Filename Prefix parameter followed by the File Number parameter with the extension of the Filename Extension parameter. The File Number parameter increments by one each time a file is transferred.

   Check **Enable User-defined Filename Extension** to activate the Filename Extension field. Specify the filename extension, either .pdx or .axml. All files extracted with this destination have the same file extension. If no extension is specified, the default is based on the format of the extraction.
9. Select Binary from the **Transfer Mode** list.
10. Click **Test** to verify the destination.

    When testing the connection to the destination, temporary files are created in the destination location. You can delete these files after the connection is verified.
11. Click **OK**.

File Destinations

You can publish data to a file system. Agile Content Service must have access to the fully qualified path where the file will be located for a successful transfer. Sufficient disk space must also be available to write the file to the destination. You can verify the connection to the path during creation to ensure access.

Note	If a file with the same name already exists at the destination when the Transfer Order is published, it is overwritten.

To create a file destination:

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.
2. Click . The Create Destination dialog box appears.
3. Type a name and a description of the destination in the **Name** and **Description** fields.
4. Select File from the **Protocol** list.
5. Click the button next to the **Notification User** field to display the list of available users. Select the users to be notified if a transfer failure occurs.
6. In the **URL or Target Path** field, type the fully qualified path where the transfer order is to be located.

Note	You can specify any directory on your network to which the Agile Application Server can write successfully.

   The target path you specify is located on the computer on which the Agile PLM application is

installed. It is *not* located on the logged-on user's computer. For example, if you specify **C:\temp** the transfer file will be written to the directory named **temp** on the **C** drive of the computer where the Agile PLM application is installed. The transfer file will *not* be written to the **C:\temp** directory of your computer.

Solaris: File destinations can be located in the /opt/Agile folder and its subfolders. Users may not have write privileges to other folders. Remember to use slashes (/) instead of backslashes (\) in the path.

7. Edit the following destination parameters, if necessary:
   - **Filename Prefix** (default is TO)
   - **File Number** (default is 000001)
   - **Filename Extension**

   The name of the transfer order file consists of the Filename Prefix parameter followed by the File Number parameter with the extension of the Filename Extension parameter. The File Number parameter increments by one each time a file is transferred.

   Check **Enable User-defined Filename Extension** to activate the Filename Extension field. Specify the filename extension, either .pdx or .axml. All files extracted with this destination have the same file extension. If no extension is specified, the default is based on the format of the extraction.
8. Click **Test** to verify the destination.
9. Click **OK**.

HTTP and HTTPS Destinations

Agile Content Service can publish data to an HTTP server using the POST method. The complete URL entered in the **URL or Target Path** field gives the location of the server.

To create an HTTP or HTTPS destination:

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.
2. Click . The Create Destination dialog box appears.
3. Type a name and a description of the destination in the **Name** and **Description** fields.
4. Select HTTP or HTTPS from the **Protocol** list.
5. Select either Yes or No from the **Response Expected** list.

   If Yes is selected, the status of any Transfer Order subscribed with this destination is not changed to Complete until a Success response is returned from this destination. If a Success response is not received, no additional Transfer Orders are sent to the destination.

   For information about how to configure your Agile PLM system to send responses from a destination, see Setting and Editing Response Services on page 410.
6. Click the button next to the **Notification User** field to display the list of available users. Select the users to be notified if a transfer failure occurs.
7. Type the URL of the HTTP(S) site where the transfer order is to be sent in the **URL or Target Path** field.

Note When entering the URL, you do not need to enter **http://** or https://.

8. In the **Request File Field** field, type the name to use for the MIME part (i.e., section) which will contain the file data.

   (If you need information about how the HTTP POST is constructed, contact Agile Support.)

9. Edit the following destination parameters, if necessary:
   - **Filename Prefix** (default is TO)
   - **File Number** (default is 000001)
   - **Filename Extension**

   The name of the transfer order file consists of the Filename Prefix parameter followed by the File Number parameter with the extension of the Filename Extension parameter. The File Number parameter increments by one each time a file is transferred.

   Check **Enable User-defined Filename Extension** to activate the Filename Extension field. Specify the filename extension, either .pdx or .axml. All files extracted with this destination have the same file extension. If no extension is specified, the default is based on the format of the extraction.

   Note You cannot remove these parameters.

10. Click the button next to the **Additional Parameters** field to display a dialog box. Click the **Add** button to enter any additional name/value parameter pairs needed when the URL is submitted. Click **OK**.

    These parameters will be included as named parts of the generated MIME message.

11. Click **Test** to verify the destination.
12. Click **OK**.

Sample HTTP Destination

The following example HTTP destination illustrates how the destination settings are used to construct the HTTP POST.

Destination parameter	Setting
Name	**HTTP 1**
Description	**Test HTTP destination**
Protocol	**HTTP**
Notification User	
URL or Target Path Http:	**localhost:9522**
Request File Field	**ACS File Data**
Filename Prefix	**TO**
File Number	**00001**
Additional Parameters	**foo=bar**

```
POST / HTTP/1.1
Content-Length: 7414
Content-Type: multipart/form-data; boundary=----AlQiUnIdLaEvS-f2a7b238
Cache-Control: no-cache
Pragma: no-cache
User-Agent: Java/1.4.2
Host: localhost
Accept: text/html, image/gif, image/jpeg, *; q=.2, */*; q=.2
Connection: keep-alive

------AlQiUnIdLaEvS-f2a7b238
content-disposition: form-data; name="foo"

bar
------AlQiUnIdLaEvS-f2a7b238
content-disposition: form-data; name="ACS File Data"; filename="TO00001.AXML"
Content-type: Application/Octet-stream;
Content-Transfer-Encoding: binary

...

------AlQiUnIdLaEvS-f2a7b238--
```

JMS Destinations

Agile Content Service can publish data to Java Messaging Service (JMS). The TIBCO Enterprise™ for JMS is the only JMS queue or topic currently supported by Agile Content Service.

Before configuring the JMS destination, you may need to make some modifications to the JMS installation to connect with Agile Content Service. For details, see the Agile PLM installation guide for the appropriate application server.

To create a JMS destination:

Note	You can perform either JMS queue processing or JMS topic processing, depending on the settings of the **Connection Factory** and **Destination Name** parameters of the JMS destination. See step 8 and step 10 below.

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.
2. Click . The Create Destination dialog box appears.
3. Type a name and a description of the destination in the **Name** and **Description** fields.

4. Select JMS from the **Protocol** list.
5. Select either Yes or No from the **Response Expected** list.

   If Yes is selected, the status of any Transfer Order subscribed with this destination is not changed to Complete until a Success response is returned from this destination. If a Success response is not received, no additional Transfer Orders are sent to the destination.

   For information about how to configure your Agile PLM system to send responses from a destination, see Setting and Editing Response Services on page 410.

6. Click the button next to the **Notification User** field to display the list of available users. Select the users to be notified if a transfer failure occurs.

   Note For the parameters **Provider Context Factory**, **Connection Factory**, and **Default Provider URL** (in step 7, step 8, and step 9 below), the Agile PLM system fills in the fields with server-specific defaults. For example, if your Agile PLM system is running on an Oracle application server, Oracle defaults are used. Verify whether these defaults are correct for your Agile PLM installation and make any needed modifications.

7. Type the name of the context factory class of the JMS server in the **Provider Context Factory** field. The name of the context factory class should be in a format similar to the following example (which is the proper value to use for TIBCO):

   com.tibco.tibjms.naming.TibjmsInitialContextFactory

8. In the **Connection Factory** field, enter the name of the connection factory that will be obtained from JNDI tree. This is the name under which the JMS connection factory is registered. Whether queue processing or topic processing is used is determined by the type of connection factory named in the **Connection Factory** field.

   For example, the default TIBCO installation provides the following two sample connection factories:

   QueueConnectionFactory (for queue processing)

   TopicConnectionFactory (for topic processing)

9. Type the URL, including the address and port, of the host in the **Default Provider URL** field. The default value that appears in this field should be valid for the application server's built-in JMS provider. Consult your JMS documentation for more information.

   For TIBCO, the URL should be in a format similar to the following example:

   tibjmsnaming://*JMS_ServerName***:7222**

10. Type the name of the queue or topic in the **Destination Name** field. The name of the queue or topic depends on how you have configured your JMS server. Consult your JMS documentation for information about creating and configuring queues and topics.

    For example, TIBCO provides the following sample queue and topic:

    queue.*sample*

    topic.*sample*

11. Type the username and password needed to access the queue in the **User Name** and **Password** fields.
12. Click the button next to the **Additional Parameters** field to display a dialog box. Click the **Add**

button to enter any additional name/value parameter pairs. Click **OK**.

Note Theses parameters are passed as JMS header properties when delivering content to the JMS destination.

13. Click **Test** to verify the destination.
14. Click **OK**.

JMS Message Properties

Messages sent to JMS destinations contain the following three components:

- message header—used for message identification
- properties—contain application-specific fields
- body—holds the content of the message.

ACS adds the following properties to its JMS messages:

Property Name	Property Value
ClientName	"Agile Content Service"
ServerName	"Agile Product Lifecycle Management"
ServerVersion	The specific Agile server version
AgileRecordLocator	The key used to identify the **Where Sent** row from the transfer order
TransmissionTimestamp	The timestamp when the JMS message was transmitted displayed as a long number representing the number of milliseconds since January 1, 1970, 00:00:00 GMT.
AgileTransferObjectNumber	The transfer order number
AgileTransferObjectSelectedContentNumbers	A semicolon delimited list of the object name or number from the **Selected Content** tab. If the object is an item, then the change number is noted in parenthesis. For example, if the **Selected Content** tab for the transfer order contains change C1 and item P1 at revision A C2, then this property value would be "C1; P1(C2)".
AgileTransferObjectSelectedContentIdentifiers	A semicolon delimited list of the object identifiers from the **Selected Content** tab. If the object is an item, then the change ID is appended following a colon. For example, if the **Selected Content** tab for the transfer order contains change C1 with ID 6001 and item P1 with ID 6002 at revision A C2 with ID 6003, then this property value would be "6001;6002;6003".

Editing Destinations

You can edit all of the parameters of the destination, except Protocol. Any future Transfer Orders referencing the edited destination use the updated settings.

You cannot edit a destination if it is referenced by an enabled subscriber. You must disable the subscriber before any changes can be made to the destination. See Enabling and Disabling Subscribers on page 408 for more information.

To edit a destination:

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.
2. Double-click the name of the destination you want to edit.
3. Edit the **General Information** tab of the destination to make changes to the necessary fields.
4. Click **Save** and **Close**.

Resetting Destinations

If delivery to a destination fails, the failure appears on the **Where Sent** tab of the transfer order and in the **Transmission Status** column on the Destinations window. The **Where Sent** tab of the transfer order indicates the transmission status and displays an error message in the **Transmission Notes** column.

On a destination window, the **History** tab of the destination displays details indicating which transfer order caused the failure. After you make any necessary changes to the transfer order or the destination to correct the problem, you can reset the destination to attempt delivery again.

Once a destination has failed, no other transfer orders can be sent to that destination until it has been reset. Transfer orders for that destination are queued in the order they were scheduled to be transmitted. The **Transmission Notes** column indicates that the transfer order is waiting for another destination. Once the destination is reset, the transfer orders are transmitted according to their order in the queue.

To reset a destination:

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.
2. Select the destination to reset.
3. Click .

Deleting Destinations

Destinations can be deleted only if they are not currently assigned to a transfer order or subscriber.

To delete a destination:

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.
2. Select the destination you want to delete.

3. Click .

Setting and Editing Events

Events determine when content is transferred to a destination. These are handled from the **Events** node.

Events can be based either on a schedule or on an object's moving to a specified workflow status. For example, if you wanted to query for objects matching a specific definition every night at midnight, you would create a scheduled event. Or if you wanted to watch for all change orders moving to a Released status, you would create a workflow event.

Scheduled Events

Scheduled events are repeated after a specified period of time has elapsed, or at a specific time hourly, daily, or weekly. When a scheduled event is processed, all Agile PLM objects that meet the definition specified in the subscriber that have not been processed are extracted.

Agile PLM provides an example scheduled event that is set to trigger at midnight on Saturday and Sunday. This event can be used when creating a subscriber if the schedule properties meet your company's needs. (For information about subscribers, see Setting and Editing Subscribers on page 406.)

To create a scheduled event:

1. Under **System Settings > Agile Content Service**, double-click **Events**. The Events window appears.
2. Click . The Create Event dialog box appears.
3. Type a name and a description of the event in the specified fields.
4. Select Scheduled from the **Event Type** list.
5. Click in the **Frequency** field to schedule the event.
6. Review the following schedule properties and change them, if necessary.

   The default setting is **Every X hours Y Minutes**. If you accept this default, you must select a time interval.

Setting	Action
Once A Day	Automatically runs the extraction once a day at the designated start time.
Every X Hours Y Minutes	Specifies the time interval between extractions, calculated from the Starting At time: ▫ If the previous extraction is not finished, the next extraction follows after the previous extraction is complete. ▫ The minimum time is 0 hours, 5 minutes: the maximum time for each field is 11 hours and 59 minutes.

Setting	Action
Starting At	Specifies an absolute time to start checking for subscriber criteria. If the starting time and ending time are the same, the subscriber criteria is checked for 24 hours.
Ending At	Specifies an absolute time to stop checking for subscriber criteria.
Days	Specifies the days to process extractions according to the hourly schedule.

Click **OK**.

Workflow Events

Workflow events enable subscribers to publish data based on a status change of an object. When the workflow status of an object changes and a subscriber is configured for that particular change, the data is published. A subscriber cannot act on the first status of a workflow, such as Pending.

Agile PLM provides an example workflow event that is set to trigger when change orders are released. This event can be used when you create a subscriber if the workflow properties meet your company's needs.

Note Only the object controlled by the workflow is extracted. For example, the Example Workflow Event uses the Default Change Orders workflow and the Released status. The triggering event is when any routable object using the Default Change Orders workflow makes a status transition into the Released status. The routable object and its associated objects (for example, affected items) and attachments are extracted and published.

Any changes to an object after Agile Content Service is triggered to process it, but before the extraction process begins, are reflected in the extracted content. For example, if a subscriber is configured to publish an ECO at the Review status, but the ECO is immediately promoted to the Released status, then the extracted status for the ECO may be Released.

To create a workflow event:

1. Under **System Settings > Agile Content Service**, double-click **Events**. The Events window appears.
2. Click . The Create Event dialog box appears.
3. Type a name and a description of the event in the specified fields.
4. Select Workflow from the **Event Type** list.
5. Select a workflow from the **Workflow** list.
6. In the **Workflow Status** field, select a status from the list of available values based on the selected workflow.
7. Click **OK**.

Editing Events

You cannot change the event type after the event is created, but you can change the **Frequency** field in a scheduled event and the type of workflow in a workflow event.

You cannot edit an event if it is referenced by an enabled subscriber. You must disable the subscriber before any changes can be made to the event. See Enabling and Disabling Subscribers on page 408 for more information.

To edit a scheduled event:

1. Under **System Settings > Agile Content Service**, double-click **Events**. The Events window appears.
2. Double-click the scheduled event you want to edit.
3. Edit the **General Information** tab of the event.
4. Make changes to the **Name** and **Description** fields, if necessary.
5. Click the button next to the **Frequency** field.
6. Make the necessary changes to the schedule.
7. Click **OK**.
8. Click **Save**.

To edit a workflow event:

1. Under **System Settings > Agile Content Service**, double-click **Events**. The Events window appears.
2. Double-click the workflow event you want to edit.
3. Edit the **General Information** tab of the event.
4. Make changes to the **Name** and **Description** fields, if necessary.
5. Select a different workflow from the **Workflow** list, if necessary.
6. In the **Workflow Status** field, select a different workflow status, if necessary.
7. Click **Save**.

Deleting Events

You can delete an event only if it is not assigned to a Subscriber.

To delete an event:

1. Under **System Settings > Agile Content Service**, double-click **Events**. The Events window appears.
2. Select the event you want to delete.
3. Click .

Setting and Editing Filters

Filters define what content is published in the transfer order. These are managed from the **Filters**

node.

Note Filters that you save in the Agile Content Service node are also available for use in the Agile PLM Export wizard. For more information, see the *Agile PLM Import & Export Guide*.

Filters are limited to windows within base classes. If a filter for a specific class makes a tab visible that a subclass does not have visible, the tab is omitted from the extracted data. For example, the **Page Three** tab of an ECO is not visible, but the filter for the Change Orders class allows you to extract **Page Three** tabs. When an ECO is extracted using this filter, the data on Page Three is skipped because it is not visible on the subclass.

You can have multiple filters for the same base classes, but with different filter names. Agile Content Service provides default filters for the following classes. (Object classes that are not included in this list are not supported by Agile Content Service.)

- Changes
  - Change Orders
  - Change Requests
  - Deviations
  - Manufacturer Orders
  - Price Change Orders
  - Sites Change Orders
  - Stop Ships
- Declarations
  - Homogeneous Materials Declarations
  - IPC 1752-1 Declarations
  - IPC 1752-2 Declarations
  - JGP Declarations
  - Part Declarations
  - Supplier Declarations of Conformance
  - Substance Declarations
- Discussions
- Items
  - Parts
  - Documentation
- Manufacturers
- Manufacturer Parts
- Packages
- Part Groups
- Prices

  - Published Prices
  - Quote Histories
- Product Service Requests
  - Problem Reports
  - Non-Conformance Reports
- Programs
  - Activities
  - Gates
- Quality Change Requests
  - Audits
  - Corrective and Preventive Actions
- Specifications
- Substances
  - Substances
  - Substance Groups
  - Subparts
  - Materials
- Suppliers
- Transfer Orders
  - Content Transfer Orders
- Users
- User Groups

You can use any of the default filters when creating a subscriber or CTO if the properties meet your company's needs, or use them as templates when creating new filters.

Note A filter for ATO objects is not needed. To extract data about ATO objects to aXML files, specify a role that includes privilege masks that allow a user to view ATO objects. When the selected role allows access to ATO objects, data about the ATO object itself is extracted and included in the aXML file. This information can be used to troubleshoot delivery issues.

To create a filter:

1. Under **System Settings > Agile Content Service**, double-click **Filters**. The Filters window appears.
2. Click . The Create Filter dialog box appears.
3. Type a name and a description of the filter in the specified fields.
4. Select an object class or base class from the **Filter Object Type** list.
5. Click the button next to the **Viewable Tabs** field to display the list of available tabs based on

the selected class

Note The first tab (Title Block, General Information, or Cover Page) is required for every filter and is already selected for each object type.

6. Select any additional tabs you want in the filter.
7. Click **OK**.

   Depending on which class you select and the tabs that are viewable in that class, the tab options displayed and available in the lower part of the Create Filter dialog box are updated.
8. Click the button to display the dropdown list of available tab filter options.
   a. Select one of the following options from the **BOM Options** list:

Note This field is available only for classes with a BOM tab selected in the **Viewable Tabs** field for items or item-associated classes.

- **Tab Only:** extracts only the displayed table values.
- **Tab and Items:** you provide a numeric value to indicate the number of levels to be extracted from the BOM, or you can check a box to indicate all levels.

   b. Select one of the following options from the **Attachments Options** list:

Note This field is available only for classes with an Attachments tab selected in the **Viewable Tabs** field.

- **Tab Only**: only the Attachment information is packaged with the extracted data.
- **Tab and Files**: all attachments are packaged with the extracted data.

   c. Select one of the following options from the **Affected Items Options** list:

Note This field is available only for classes with an Affected Items tab selected in the **Viewable Tabs** field for changes or change-associated classes.

- **Tab Only**: only the Affected Items information is packaged with the extracted data (includes redline BOM and AML redline data).
- **Tab and Items**: all items are packaged with the extracted data.

   d. Select one of the following options from the **AML Options** list:

Note This field is available only for classes with a Manufacturers tab selected in the **Viewable Tabs** field for items or item-associated classes.

- **Tab Only**: only the manufacturer information is packaged with the extracted data.
- **Tab and Manufacturer Parts**: all AML tab and manufacturer parts information is packaged with the extracted data.

   e. Select one of the following options from the **General Info Options** list:

Note This field is available only for the Manufacturer Part class.

- **Tab Only**: only the manufacturer information is packaged with the extracted data.
- **Tab and Manufacturer**: all manufacturers are packaged with the extracted data.

   f. Select one of the following options from the **Affected Prices Options** list:

Note This field is available only for the Prices class or price-associated classes.

- **Tab Only**: only the price information is packaged with the extracted data.

- **Tab and Prices**: all prices are packaged with the extracted data.

9. Click **OK**.

Editing Filters

The contents of a filter can be changed if the filter is not assigned to a transfer order or not referenced by an enabled subscriber.

If the filter is assigned to a transfer order, it can be edited when the transfer order is completed. If the filter is referenced by an enabled subscriber, you must disable the subscriber to edit the filter. See Enabling and Disabling Subscribers on page 408 for more information.

To edit a filter:

1. Under **System Settings > Agile Content Service**, double-click **Filters**. The Filters window appears.
2. Double-click the name of the filter you want to edit.
3. Edit the **Name** and **Description** field on the **General Information** tab.
4. Make changes to other filter details on the **Filter** tab.

Note	If you selected the Affected Items tab when you created your filter, you can choose to send only the BOM and AML redline changes from the **Redline changes only** dropdown list on the **Filter** tab.
Note	If you selected the Attachments tab along with the Tab and Files attachment option when you created your filter, you can choose files of only specific types to be included during export by entering a comma-separated list of file extensions in the **Include File Extensions** field.

5. Click **Save**.

When you edit a filter, if the attachment option is Tab and Files, you can set the Include File Extensions field, which lets you indicate the file extensions that should be included in the extract. If an extension is not specified, then all extensions are included; if an extension is specified, then only files with the indicated extension(s) are included.

For example, if you specify .doc as the extension (note that the period is not required), and a part that you are extracting has both a .doc and a .gif file attached, only the .doc file will be included in the extract This option is not available when a filter is created, just when a filter is being edited.

Deleting Filters

Filters can be deleted only if they are not currently assigned to an existing transfer order or subscriber.

To delete a filter:

1. Under **System Settings > Agile Content Service**, double-click **Filters**. The Filters window appears.
2. Select the filter you want to delete.
3. Click .

Setting and Editing Subscribers

After you configure events, filters, destinations, roles, and criteria, you can create subscribers to publish data automatically when all of the subscriber requirements are met. A subscriber is associated with only one event and criteria, but can contain multiple destinations, filters, and roles. These are managed from the **Subscribers** node.

Agile PLM provides an example scheduled subscriber and an example workflow subscriber. The example subscribers incorporate the other Agile Content Service example settings as a template you can use when creating a subscriber to match your company's requirements.

To create a subscriber:

1. Under **System Settings > Agile Content Service**, double-click **Subscribers**. The Subscribers window appears.
2. Click . The Create Subscriber dialog box appears.
3. Type a name and a description of the subscriber in the **Name** and **Description** fields.
4. Select the subclass from the **Subclass** list.

   This is the ATO subclass Agile Content Service generates when an event occurs that matches all the properties of this subscriber.
5. Select the **Default ATOs** workflow from the *Workflow list.*

   For more information about workflows, see Getting Started *with Agile PLM*.
6. Select ATO Number from the **AutoNumber** list to select an autonumber source for the selected subclass.

   The default autonumber source is ATO Number. For more information about autonumbers, see Chapter 5, "Autonumbers." Because ATOs are processed automatically, an autonumber source is required.
7. Select the object that should be processed by selecting an available criteria from the **Criteria** list. For more information about criteria and how to create a new criteria, see Chapter 6, "Criteria."

   Note If you are creating a scheduled event subscriber, be sure to define your criteria as specifically as possible, to avoid receiving unwanted data in your transfer order. For example, "All Change Orders released after 8/18/2003" returns a specific group of change orders, unlike "All Change Orders" which returns every change order in your system.
8. Select the event specific to this subscriber from the **Event** list.
9. Click **OK**. The window of the new subscriber appears.
10. Select Yes or No from the **Include Modified Objects** dropdown list. (Scheduled Subscribers only)

    If yes, new and modified objects since the last processing of the subscriber are published. If no, only objects that have been created since the initial processing of the subscriber and meet the Criteria specified by the subscriber are published.
11. Click the **Subscriber Details** tab to add destinations, filters, and roles, and to select the transfer file format.

12. Click to display the Subscriber Detail dialog box.
13. Click to select values for the **Destinations**, **Filters**, and **Roles** fields from the lists of options available for this subscriber. Roles are applied to further fine-tune or define the data extraction. For more information about roles, see Chapter 9, “Roles,”.
14. Select the file type of the transfer file, PDX or aXML, from the **Data Format** dropdown list.

    Product Definition Exchange (PDX) packages contain product content, such as item or change details, plus BOM data, manufacturer information, drawings, and other attached files. PDX packages are based on an industry-standard format for encoding structured data in an XML format. This standard provides an application-independent way to describe product content. PDX does not support all the object types supported by Agile Content Service.

    The Agile Extensible Markup Language (aXML) format is an XML representation of Agile PLM’s business schema. aXML contains all product content managed in Agile PLM including items, change details, manufacturer information, problem reports, cost, drawings, and other files. aXML does support all object types supported by Agile Content Service. An aXML file is a ZIP file, which includes the XML representation of the Agile PLM content and the associated attachments.
15. Select the language to use from the **Language** dropdown list.

    The language setting does not affect or translate data in the transfer file; it does determine which language is used to label object attributes, for example, field and column names.
16. Select a site to use from the **Site** dropdown list.

    The site setting further defines the data extraction. For example, if you select the Hong Kong site, only BOM information visible for the Hong Kong site will be extracted.
17. Click **Save**.

    The destination detail is displayed in a row on the **Subscriber Details** tab.
18. For each detail row you want to add, click to display the Subscriber Detail dialog box. Follow the instructions in step 13 through step 17 above.

Validating Subscribers

After you have created your subscriber, you should review the settings to ensure a successful transfer. Review at least the following settings:

- Destination — Make sure this setting points to the correct location and the connection has been verified. Make sure that the appropriate personnel are designated for notification.
- Event — If it is a scheduled event, make sure the proper schedule is set. If it is a workflow event, make sure it is set to the proper workflow and status.
- Filter — Make sure there is a filter for each object you want to transfer.
- Roles — Make sure the correct fields are being extracted.

If the criteria, events, and filters are not well defined for a subscriber, Agile Content Service may not trigger the ATO or you may not receive the expected results in the ATO.

Enabling and Disabling Subscribers

When a subscriber is created, it is disabled by default. This allows all fields of the subscriber to be changed before it is used. You must enable a subscriber before it is recognized by the Agile Content Service.

When a subscriber is enabled, you cannot edit its subscriber details and you cannot edit any of its referenced destinations, events, or filters. If any of these settings require changes, you must disable the subscriber.

To enable or disable a Subscriber:

1. Under **System Settings > Agile Content Service**, double-click **Subscribers**. The Subscribers window appears.
2. Select the subscriber you want to enable or disable.
3. Click **Enable** or **Disable** .

Deleting Subscribers

Subscribers can be deleted only if they are disabled and not currently assigned to any transfer order objects.

To delete a subscriber:

1. Under **System Settings > Agile Content Service**, double-click **Subscribers**. The Subscribers window appears.
2. Select the subscriber you want to delete.
3. Click .

Setting and Editing Package Services

Note	For Agile-to-Agile publishing, you must create package services on the target Agile PLM system; package services are not needed on the source Agile PLM system. For a summary of the Agile-to-Agile communication configuration tasks required on both the source Agile PLM system and the target Agile PLM system, see Settings Required for Agile-To-Agile Publishing on page 413.

Package services are used to define what Package subclass, autonumber source, and workflow are used when content is received from a remote system through an Agile destination. When you enable Agile-to-Agile communication, you must configure the target Agile PLM system to properly create the package object using the correct autonumber source and route it to the correct program manager. You can configure multiple package services on a target Agile PLM system if you wish to treat data from each source in a specific manner. However, it is not necessary to create a package service for each source; several sources can use the same package service.

The following modifications or settings are also required for you to successfully define and use package services:

- The following package object fields must be visible on the **Cover Page** tab of the Package object class:
  - **Response Expected**
  - **Source GUID**
  - **XFER Order Locator**
- Create or identify a user who has a role that provides the ability to create, modify, and delete package objects and the ability to change the status of the package object to the required workflow status. You must provide this user's username and password to the administrator of the source Agile PLM system; it is needed to define a destination on the source Agile PLM system (see Setting and Editing Destinations on page 389). If the package service moves the package object to the Submit status, then the privilege masks in the default Partner role are sufficient if you modify the Modify Pending Package privilege mask by adding the following fields to the **Selected** list in the Applied To property:
  - Packages.Cover Page.Program Manager
  - Packages.Cover Page.Response Expected
  - Packages.Cover Page.Source GUID
  - Packages.Cover Page.XFER Order Locator

  If you do not want to modify this privilege mask, use the Partner role and privilege masks as a guide to create the necessary role.

Note Verify that the package service will work successfully with the package object configuration, package workflow settings, and login user role. For information, see Verifying Agile-to-Agile Publishing on page 415.

To create a package service:

1. Under **System Settings > Agile Content Service**, double-click **Package Services**. The Package Services window appears.
2. Click . The Create Package Service dialog box appears.
3. Type a name and a description of the subscriber in the **Name** and **Description** fields.
4. Select Package from the **Subclass** list.

   Note If you have defined a specific package subclass for use in package services, select that subclass from the list.
5. Select Package Number as the autonumber from the **Number Source** list.
6. Select Default Packages from the **Workflow** list.

   Note If you have defined a specific package workflow for use in package services, select that workflow from the list.
7. Select a workflow status from the **Workflow Status** dropdown list.

   Agile recommends using the Submitted workflow status to ensure that the receiving program manager is notified about the package.

   When an Agile-to-Agile transfer occurs, the package object is created on the target Agile PLM

system and the package workflow status is set to the status specified in the **Workflow Status** field of the package service.

Note	When creating a package service with a target package workflow status other than Pending, make sure the target workflow allows changes directly from the Pending status to the status to be used (determined by the Manual Valid Next Status property for the Pending status if the status to be used is not the next status after Pending in the workflow). Also make sure that the logged-in user specified in the target Agile PLM system destination has the privilege to make the change (Change Status (CS) privileges for packages) in the target Agile PLM system.

8. Click **OK**.

Editing Package Services

You can edit all of the parameters of the package service except the **Subclass** field.

To edit a package service:

1. Under **System Settings > Agile Content Service**, double-click **Package Services**. The Package Services window appears.
2. Double-click the package service you want to edit.
3. Edit the **General Information** tab of the service to make the necessary changes.
4. Click **Save** and **Close**.

Deleting Package Services

You can delete a package service at any time. Because a package service does not restrict or define other ACS settings and does not have relationships with database objects, your ability to delete it is not restricted.

Note	If a source Agile PLM system attempts to deliver content to a deleted package service, the content transfer will fail.

To delete a package service:

1. Under **System Settings > Agile Content Service**, double-click **Package Services**. The Package Services window appears.
2. Select the package service you want to delete.
3. Click .

Setting and Editing Response Services

A remote target Agile PLM system, HTTP/S destination, or JMS destination can relay an accept or reject message back to the source Agile PLM system after the expected data is received. These messages are called responses. Responses are recorded in the Response column of the **Where Sent** tab (on transfer orders in the source Agile PLM system) of the transfer order corresponding to the responding destination. An Agile PLM target system makes use of a response service and pre-built process extensions to respond to the source Agile PLM system. Process extensions are used to

determine what package workflow state should initiate a response, and the response service is used to define how and where to respond.

To define a response service, you must enable the process extensions and define their Initiate From property from the **Process Extension** node and you must define, from the **Workflows** node, which package workflow status initiates a response. See Process Extensions on page 93. Where the response is sent is managed from the **Response Services** node.

Note Package Services and Response Services are defined on an Agile PLM system that receives Agile-to-Agile data. (See Settings Required for Agile-To-Agile Publishing on page 413.)

The Global Unique ID (GUID) attribute in a response service definition is a non-editable text field that uniquely defines the source Agile PLM server. It is used to determine how to respond to the package sender. The target system looks up the GUID and locates the corresponding response service. That response service has all the information needed to contact the package sender, such as username, password, protocol, and host.

When you create a new response service, the GUID from the source Agile PLM system is retrieved automatically. After the values for server, port, protocol, and context are set, the source Agile PLM system is contacted. If the contact is successful, the GUID is retrieved and the response service's GUID property is set automatically.

To create a response service:

1. Under **System Settings > Agile Content Service**, double-click **Response Services**. The Response Services window appears.
2. Click . The Create Response Service dialog box appears.
3. Type a name and a description of the destination in the **Name** and **Description** fields.
4. Select HTTP or HTTPS from the **Server URL** dropdown list.
5. Type the URL and port of the target Agile PLM application server in the host and port fields, respectively. Type the virtual path name in the virtual path field, which is the last field.

   Note The virtual path is determined when an Agile PLM system is installed. For example, if the URL used to log in to the Web Client on the target Agile PLM application server is:

   http://www.clapton.com/Agile/PLMServlet

6. Enter the URL information as shown above, where www.clapton.com is the host name, and **Agile** is the virtual path name. The field following the colon (:) is reserved for a port number. 80 is usually used for HTTP, and 443 is usually used for HTTPS. If a port other then 80 or 443 is being used, the port will appear in the URL used to log in to the Agile Web Client. Omit **PLMServlet**, which is the application name. Contact the administrator of the target Agile PLM application server if you have questions about the correct URL to use.
7. Type the username and password of the source Agile PLM application server in the **Username** and **Password** fields.
8. Click **Retrieve GUID** to verify the destination.

   If the destination is verified, the **GUID** field is completed automatically.

9. Click **OK**.

Editing Response Services

You can edit all of the parameters of the response service.

To edit a response service:

1. Under **System Settings > Agile Content Service**, double-click **Response Services**. The Response Services window appears.
2. Double-click the response service you want to edit.
3. Edit the **General Information** tab make the necessary changes.

Note	If you change the **Server URL**, **Username**, or **Password** field, click **Retrieve Response Service** to automatically verify and update the **GUID** field.

4. Click **Save** and **Close**.

Deleting Response Services

You can delete a response service at any time. Because a response service is neither enabled nor disabled, your ability to delete it is not restricted.

Note	If you delete a response service, your target Agile PLM system will no longer be able to respond to the referenced source Agile PLM system.

To delete a response:

1. Under **System Settings > Agile Content Service**, double-click **Response Services**. The Response Services window appears.
2. Select the response you want to delete.
3. Click .

Responses and Process Extensions

The reject and accept responses are generated by process extensions. Agile PLM provides two process extensions that you can use to send an accept or reject response to the source Agile PLM system. To use the Agile-supplied process extensions successfully you must do the following:

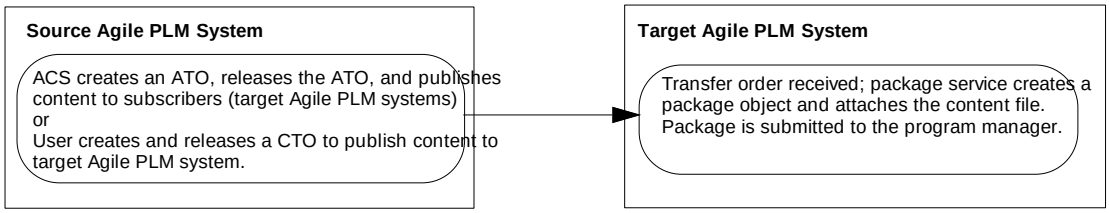
- From the **Classes** node, on the Package base class **Process Extensions** tab, you must assign the accept and reject process extensions to list them on this tab.
- From the **Process Extensions** node, you must enable the accept and reject process extensions.
- From the **Process Extensions** node, you must open the two process extensions and modify the **Initiate From** field on the process extension **General Information** tab. Select either Workflow State (to initiate the process extension upon entering a specific workflow status) or Actions Menu (to manually initiate the process extension from the **Actions** menu. You can select both, if they meet your needs. (The Tools Menu selection is not appropriate for transfer responses.)

- From the **Workflows** node, you must modify the workflow for the Package subclass specified in the package service.

Process Extensions on page 93 explains in detail how to select and enable process extensions and how to modify the appropriate workflow.

Settings Required for Agile-To-Agile Publishing

To successfully publish content data from a source Agile PLM system to another target Agile PLM system, the appropriate Agile Content Service settings and process extension settings must be defined. The same settings are *not* required for both the source and target system. The following two diagrams and tables summarize the settings required when the source Agile PLM system does not request a response and the settings required when the source Agile PLM system does request a response.L

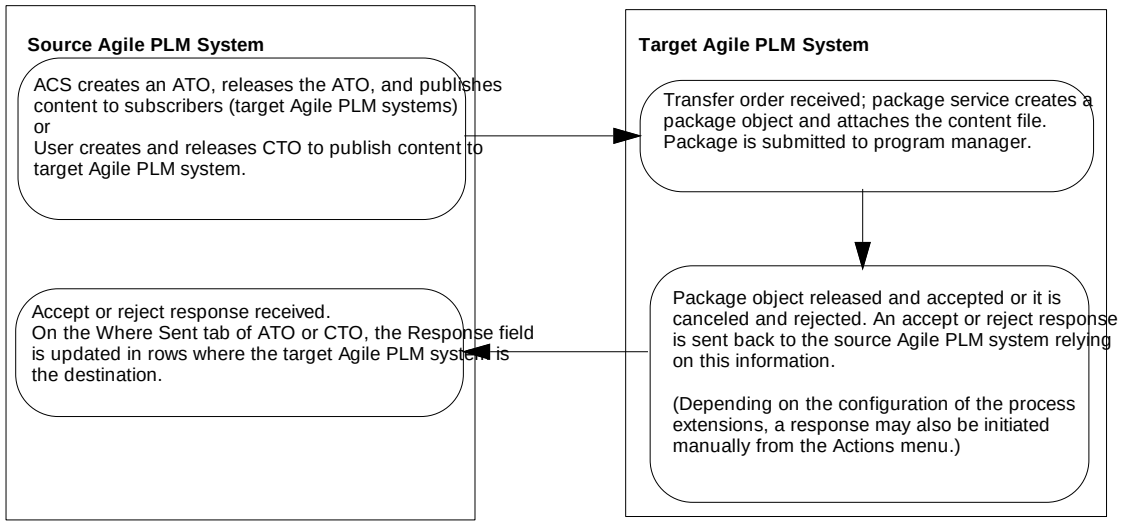


Source Agile PLM system settings	Target Agile PLM system settings
Define the required Agile destinations. (See Setting and Editing Destinations on page 389.)	Define the package service, which specifies what Package subclass, autonumber source, workflow, and workflow status (typically Submitted) to use when receiving content in an Agile-to-Agile transfer. (See Setting and Editing Package Services on page 408.)
Define the required event. (See Setting and Editing Events on page 399.)	
Define the required criteria or use Agile-supplied criteria. (See Criteria on page 107.)	
Define the required filters or use Agile-supplied filters. (See Setting and Editing Filters on page 401.)	
Define the required roles or use Agile-supplied roles. (See Roles on page 175.)	

Define the subscriber, specifying the event, criteria, destinations, roles, and filters you have previously defined. (See Setting and Editing Subscribers on page 406.)	

When the source Agile PLM system requests a response, the target Agile PLM system must also have response services defined, which also requires settings for process extensions and package object workflows. See the following diagram and table.

For details about the required settings, refer to the following table and the sections and chapters listed below.



Source Agile PLM system settings	Target Agile PLM system settings
Define the required Agile Destinations. (See Setting and Editing Destinations on page 389.)	Define the Package Service, which specifies what Package subclass, autonumber source, workflow, and workflow status (typically Submitted) to use when receiving content in an Agile-to-Agile transfer. (See Setting and Editing Package Services on page 408.)
Define the required Event. (See Setting and Editing Events on page 399.)	Define the Response Service, which specifies the details required to relay an accept or reject message back the source Agile PLM system. (See Setting and Editing Response Services on page 410.)
Define the required criteria or use Agile-supplied criteria. (See Criteria on page 107.)	Verify that on the Package base class node, the process extensions have been assigned on the **Process Extensions** tab. Verify that for the Package class, the proper fields are visible on the object **Cover Page** tab. (See Responses and Process Extensions on page 412 and Process Extensions on page 93.)

Define the required filters or use Agile-supplied filters. (See Setting and Editing Filters on page 401.)	Verify that the Accept Package Response and Reject Package Response process extensions are properly configured: ▫ The process extensions must be enabled. ▫ To automatically initiate the process extension, Workflow State must be included in the process extension **Initiate From** field. ▫ To manually initiate the process extension, Actions Menu must be included in the process extension **Initiate From** field. (See Process Extensions on page 93.)
Define the required roles or use Agile-supplied roles. (See Roles on page 175.)	
Define the Subscriber, specifying the event, criteria, destinations, roles, and filters you have previously defined. (See Setting and Editing Subscribers on page 406.)	Modify the package workflow status criteria to specify the statuses at which an accept and reject response will be initiated, typically the Released and Canceled statuses. (See Process Extensions on page 93.)

Verifying Agile-to-Agile Publishing

Before you attempt an Agile-to-Agile transfer, you can perform the following simple test which verifies that the login user on the target Agile PLM system can perform the actions specified in the package service. This test verifies that the package object and workflow are configured correctly, and that the login user has the necessary privileges. Perform the steps in the order given.

To verify the package service, package object, package workflow and login user settings:

1. Log in to the target Agile PLM system using the username and password specified in the destination (on the source Agile PLM system) for this target Agile PLM system. (See Setting and Editing Destinations on page 389.)

   Note If a user on the source Agile PLM system (for example, the administrator of the source Agile PLM system) logs in to the target Agile PLM system and performs this test, you will also verify that the source Agile PLM system can log in automatically from outside the target Agile PLM system firewall. However, a user on the target Agile PLM system can also perform this test and verify that the package object and workflow configuration and login user privileges are correct.

2. Create a package object. Use the package subclass specified in the target Agile PLM system package service.
3. Delete the package object. This verifies that the user has the necessary privilege to delete the package object.
4. Create another package object. Use the package subclass specified in the target Agile PLM system package service.

5. On the **Cover Page** tab of the package object, verify that the following fields are available for modifying. You should be able to enter text or make a selection from a dropdown list or dialog box.
   - **Originator** (Select a different user.)
   - **Date Originated** (Select a different date.)
   - **Description** (Enter text.)
   - **Workflow** (Select the workflow specified in the target Agile PLM system package service.)
   - Modify the following three fields. In an Agile-to-Agile content transfer, these fields are filled in automatically; however, for the content transfer to be successful, the fields must be both visible on the **Cover Page** tab and available for modifying. If you can modify these fields manually, you have verified that the login user has the necessary privilege masks for these fields, and, therefore, the fields can be successfully filled in automatically during an Agile-to-Agile transfer.
   - **Response Expected** (Select a setting from the dropdown list.)
   - **Source GUID** (Enter text.)
   - **XFER Order Locator** (Enter text.)
6. Click **Save**.
7. Click the **Attachments** tab to display it.
8. Verify that the login user can attach a file to the package object.

   Choose **Add | Files** and add a file to the **Attachments** tab. Use any file type; a simple text file is sufficient.
9. Click the **Workflow** tab to display it.
10. Verify that the login user can change the workflow status of the package object to the workflow status specified in the package service.

    On the workflow flowchart, click the workflow status specified in the package service. (See Setting and Editing Package Services on page 408.)

    For example, if the package service specifies the Review status, you should be able to click that status box in the flowchart and change the workflow status of the package object. If the Review status is not available and clickable, verify that the workflow you are using allows a change in status from the Pending status directly to the Review status. This is determined by the Manual Valid Next Status property of the Pending status. Also verify that the role of the login user has the appropriate privilege to change the status from Pending to Review. Refer to the following table for more details.

    Note The Default Packages workflow and the Agile-supplied Partner role (modified as explained in Setting and Editing Package Services on page 408) allow the login user to move a package from the Pending status directly to the Submit status. If you are using the Default Packages workflow and the Partner role, and, in the package service, you selected a workflow status other than Submit, you must make the appropriate modifications to the package workflow and login user role.

If you can perform the preceding steps successfully, the login user can create a package object, modify specific fields, attach a file, and move the package object to the specified workflow status. These are the same actions specified in the package service.

Problem	Possible cause	Solution
In the source Agile PLM system, on the **Where Sent** tab of the ATO, the error "Insufficient Privilege" appears.	The target Agile PLM system user specified as the login user in the Agile PLM source system destination does not have the necessary privileges to either create a package object in the target system or does not have the necessary privileges to move the package object to the specified workflow status.	In the target Agile PLM system, modify the role of the login user to one that has the necessary privileges. See Setting and Editing Response Services on page 410.
In the target Agile PLM system, the package object is created, but does not move to the correct workflow status; the error "Insufficient Privilege" appears.	If the login user on the target Agile PLM system has the necessary privileges (see row above), then the package workflow on the target system may not allow the package to move directly to the workflow status specified in the package service.	If the login user has the necessary change status privileges (see row above), verify that the package workflow (on the target system) you are using allows a status change directly from the Pending type status to the status specified in the package service. This is determined in the workflow by the Manual Valid Next Status property for the Pending status. Refer to the note in step 7 under "Setting and Editing Response Services" for more details.
Duplicate package objects appear on the target Agile PLM system.	If the package object on the target system cannot be moved to the workflow status specified in the package service (for any reason, including, but not limited to, insufficient login user privileges), the target Agile PLM system attempts to delete the package object. If the login user does not have the appropriate Delete privilege mask, this may fail, and thus it is possible to have duplicate package objects.	In the target Agile PLM system, verify that the login user has a role that includes a Delete privilege mask for package objects. If not, modify the role or assign an appropriate role. Also verify that the login user has a role with the necessary privileges to move the package object to the workflow status specified in the package service. See Setting and Editing Response Services on page 410.

Security Considerations

Roles and privileges play an important part in limiting and defining the Agile PLM content that is extracted by a transfer order.

Content Transfer Order Originator Field

The **Originator** field on the **Cover Page** tab of a CTO is an important component of the security safeguards for CTOs. The roles and site assignments of the user who is specified in the **Originator** field are used to further define the data that is extracted. In ATOs, the roles used to extract data are defined in the subscriber. In contrast, for CTOs, the roles used to extract data are defined by the roles of the user specified in the **Originator** field.

For example, if the originator user does not have the necessary privileges to view items assigned to

the Libra product line, when BOM items are extracted, any Libra product line items will not be extracted.

In a similar manner, if the originator user is not assigned to the Hong Kong site, Hong Kong BOM data will not be extracted, even if Hong Kong is selected in the Site column on the **Destinations** tab.

By default, when a CTO is created, the **Originator** field is populated with the name of the creator of the CTO. Using the Agile-supplied Content Manager role, the content manager user is able to select a different user in the **Originator** field and also release the CTO, thus publishing product content that the content manager cannot access. Before assigning the Content Manager role to users, determine whether this ability meets your company's needs.

If you do not want the originator of a CTO to publish data he cannot access, one way is to modify the existing Content Manager role, or to create a similar role that includes a Change Status privilege mask for CTOs with a criteria that forces the user who changes the status of a CTO to be the user whose name is in the **Originator** field of the CTO (Cover Page.Originator Equal to $USER). If you create and assign a role with this restricted privilege mask, the user listed in the **Originator** field of the CTO (by default, the creator of the CTO) must also be the user who changes the status and releases the CTO.

If you create additional roles and privilege masks for CTO objects, keep this powerful security feature in mind. If you allow a user to both modify the **Originator** field and release the CTO, this makes it possible for the creator of a CTO to specify a user with more powerful roles than the creator user has, which may violate your company's security objectives.

Using Agile PLM Roles to Define Destination-Specific Content in Automated Transfer Orders

When you define a subscriber, the roles you specify for each destination on the **Subscriber Details** tab (in conjunction with the specified **Filters** and **Subscriber Sites** settings for each destination) determine exactly what product content is extracted. The flexibility of Agile PLM roles, privilege masks, and criteria allows you to create, if needed, roles for each destination. Agile PLM Discovery and Read privilege masks determine which objects can be extracted. The Applied To property of these privilege masks determines which object tabs and fields can be extracted. You can specify individual fields in the Applied To property of the privilege mask, thus defining, field by field, the specific product content that can be extracted.

For more information about roles, privilege masks, and criteria see Chapter 9, "Roles," Chapter 10, "Privileges and Privilege Masks," and Chapter 6, "Criteria.".

Chapter 19

Configuring Product Governance & Compliance

This chapter includes the following:

- Configuring Agile PG&C 419
- Checklists for Configuring the PG&C Solution 422
- Declarations Classes in Brief 424
- Integrated Components for PG&C 425
- Administrator Nodes for PG&C-specific Settings 429
- Configuring the PG&C Classes 436
- Defining PG&C Users – Roles and Privileges in PG&C 443
- Using the Declarations Workflow in RFIs 444

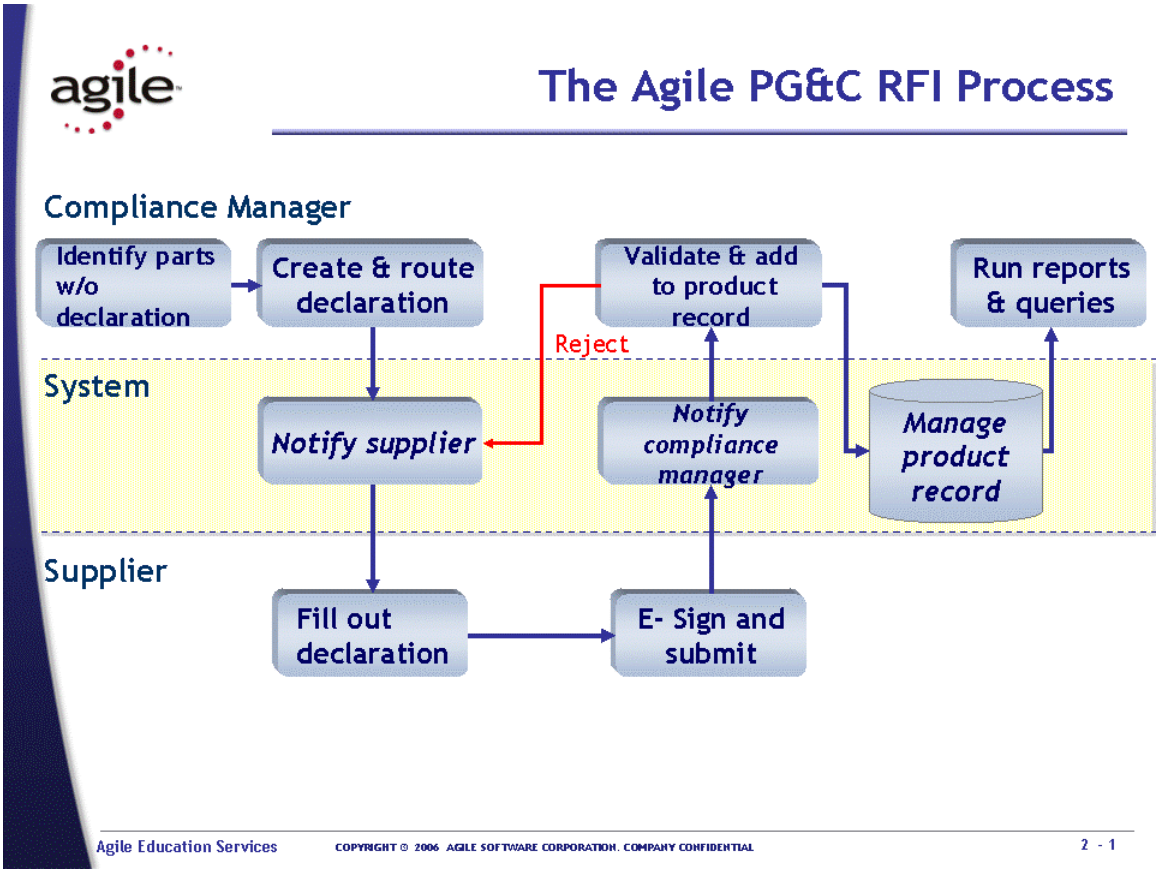
This chapter contains information about configuring the Product Governance & Compliance solution.

Configuring Agile PG&C

This chapter provides an overview of settings in Administrator that are required to configure PG&C. You may find the *PG&C User Guide* useful in configuring PG&C for end-users: it describes the PG&C business objects, compositions and the Bill Of Substances (BOS), how the configured PG&C solution works (for example, the automated compliance rollups), and other important components and concepts that inform the Agile PG&C compliance process.

This chapter assumes that PG&C is being configured for the first time; the checklists and this chapter do not attempt to document adjustments that must be made to an upgraded PLM installation. See the ReadMe for this release and your Oracle Consulting – Agile Practice consultant.

For upgrading Agile PLM customers, Appendix A, “Changes to PG&C Objects, Roles, and Privileges in an Upgraded Database,” is indispensable. It tells you new attributes for each release of PG&C.



Added to Agile PG&C Rel. 9.2.2.4

Features added to Agile PG&C in PLM Rel. 9.2.2.4 include:

- the system's ability to "re-use" compositions based on specifications and per supplier
- the system's ability to re-use exemptions in compliance rollups
- the user's ability to exclude a composition from compliance rollups when its compliance is not needed
- "Calculated Compliance" can be set externally – this is mentioned in several places in *PG&C User Guide* (for example, Affected Parts Tabs); technical details are available in *Agile SDK Developer's Guide*
- a new icon for Pending Declarations
- BI Publisher has been incorporated into Agile PLM for defining report layouts and output formats – see Report Template on page 26.

The first five bulleted items above are documented in *PG&C User Guide* and you can find precise locations in that volume's "Added to PG&C in Rel. 9.2.2.4."

Added to Agile PG&C Rel. 9.2.2.2

Features added to Agile PG&C in PLM Rel. 9.2.2.2 include:

- Substance editing – lets you add, remove, and edit substances directly in (unpublished) declarations; see Substance Editing
- Compliance state "Not Applicable" – this labels a part/PG so it is not evaluated by the system for compliance; see Compliance States
- Activate compositions that have been archived – the user can decide that an archived, Inactive composition should be reinstated as Active; see Inactivating and Reactivating Compositions on page 438
- Support of IPC version 1.1 – see IPC Formats Supported in this Release

Added to PG&C in PLM Release 9.2.2.1

Features added to Agile PG&C in PLM Rel. 9.2.2.1 include:

- Specification Mapping – permits the user to see Result Compliance on a spec-by-spec basis on the PageTwo of Parts, Documents, and Manufacturer Parts. The node in Administrator (**System Settings** > **PG&C** folder) is documented in this chapter. The feature is also described for the end-user in *PG&C User Guide*, "Parts and Part Groups."
- Bulk Specification Removal – not controlled by Admin setting or node. For more information, see *PG&C User Guide*, "Parts and Part Groups" chapter.

Added to PG&C in PLM Release 9.2.2

Features added to Agile PG&C in PLM Rel. 9.2.2 include:

- Substance Aliasing for Substances and Substance Groups classes;
- Support for Intentionally Added flag on **Substances** data on Specifications, Declarations, Items, Manufacturer Parts, and Part Groups;
- Full Material Disclosure – in Substance and Homogeneous Material Compositions – is supported by:
  - Mass Disclosure types are Fully Disclosed, Partially Disclosed, and Undisclosed;
  - Unreported (System) substance in Partially Disclosed compositions;
  - Administrator: Compliance Rollup setting called Mass Tolerance Percentage;
- Import Compositions, Bill of Substances, Specifications, and Suppliers to Items based on Change Number;
- Import of “local substances” into Declaration;
- Support of IPC version 1.02.

A complete list of new attributes in Rel. 9.2.2 is found in Changes to PG&C Objects, Roles, and Privileges in an Upgraded Database on page 451.

Checklists for Configuring the PG&C Solution

Use the following checklists to configure Agile PLM server settings for PG&C. Again, the PG&C User Guide can be quite useful to "fill in" aspects of the configuration as it will be experienced by the end-user.

PG&C "infrastructure"

- **Configure Administrator Privilege** — Make sure you can see **UOM** node and the **Product Governance & Compliance** node folder, both of which are under **System Settings**. If there are missing elements, configure the Administrator privilege. For more information, see Administrator Privilege and the AppliedTo Capability on page 203.
- **Be aware of the log.xml file (established at Install time) and the added ComplianceRollup.log** — It is likely that you do not need to configure this, as it should be enabled out-of-the-box; however, the location changed for PLM 9.2.2: see ComplianceRollup.log in Log.xml File on page 425.
- **Ensure that the Microsoft Excel-based Client has been properly installed** — Your company may want to use the integrated Microsoft Excel-based Client, which facilitates the process of your suppliers completing certain declarations. See Ensure that the Microsoft Excel-based Client has been properly Installed on page 426.
- **Configure process extensions** — There are eight out-of-box process extensions that apply to PG&C. Assign the PG&C extensions to the proper class, as described in Integrated Components for PG&C on page 425; also see Process Extensions on page 93.
- **Change the names of the compliance states, as needed —** You can change the names of the five compliance states to fit the requirements of your company. See Renaming Compliance States on page 433.

PG&C-specific Nodes

- **Configure the PG&C nodes in Administrator —** These are:
  - **System Settings > UOM** node – see Setting Unit Of Measure on page 429
  - **System Settings > Product Governance & Compliance** node folder, which in turn includes:
  - **Signoff Message** node – see Setting Your Signoff Message on page 429
  - **Compliance Rollup Scheduling** node – see Scheduling Compliance Rollups on page 429
  - **Compliance Rollup Rule-Setting** node – see AML Rollup and Composition Rollup Rules on page 430, Treat Exempt as Compliant in BOM Rollup Rule on page 430, and Mass Tolerance Percentage Setting on page 431
  - **Supplier Declaration Process Extensions** node folder – see Supplier Declaration Process Extensions on page 433
  - **Specification Mapping** – see Specification Mapping on page 434

PG&C-specific Classes

- **Configure the PG&C-related classes – Substances, Specifications, Parts/Documents, Manufacturer Parts, Part Groups, and Declarations classes** — see Declarations Classes in Brief on page 424 and

Configuring the PG&C Classes on page 436; the items listed below are discussed in the latter section.

- **Configure the Child Level attribute** — The Child Level attribute is required for substances and weights rollups to execute properly in Excel. Other attributes in Items and Manufacturer Parts must also be enabled. See Items and Manufacturer Parts: Substances and Weights Rollups and the Child Level Attribute on page 436.
- **Configure the Composition Type attribute** — The Composition Type attribute is required in a part or part group for a composition to be imported into the part. It must be set to Visible and Required, and users must be able to Read (privilege) it to ensure the **View Substances** link is enabled on the **Compositions** table in items, manuparts, and part groups. See Parts and Part Groups: Composition Type on page 438.
- **Use the "mapping feature" to configure flex fields —** Mapping of attributes is required for some **Page Two / Page Three** attributes in parts and part families so they will distribute changed values on published declarations that are associated with those parts. See Parts and Part Groups: Mapping Feature on page 440.
- **Add applicable exempted substances to specifications from the Exemptions list (Lists node) —** Exemptions field on **General Info** of a specification can be populated with substances selected from the Exemptions list.
- **Configure the Part Groups class and create part families** — If your company has purchased both Product Cost Management (PCM) and PG&C solutions, you must decide how to configure the **Part Groups** class. See Part Groups: Configuring Part Families on page 441.
- **Configure SmartRules** — If you have both PG&C and PCM solutions, you must also properly configure the **Force Commodity and Part Family to be Identical** SmartRule on page 442.

Note Please note that PG&C does not support compliance rollup of "recursive BOMs" (a BOM in which a subassembly "names itself" in its own BOM). To avoid recursive BOMs, set the SmartRule "BOM Multi-Level Recursion" to Disallow.

PG&C Users and Workflow

- **Define PG&C users and assign them appropriate roles** — Define those users within your company who will create and manage compliance projects, RFIs, and the PG&C objects. Add users to Compliance Searches and Reports (detailed in *PG&C User Guide*). Assign those users appropriate roles; see Defining PG&C Users – Roles and Privileges in PG&C on page 443. For information about setting up new users, see Users and User Groups on page 151.

  Note Be sure to understand how to enable users to archive compositions, and the hazard of assigning the appropriate privilege to too many users. See Items and Manufacturer Parts: Inactivating and Re-activating Compositions on page 438.

- **Configure the Declaration default workflow** — See Using the Declarations Workflow in RFIs on page 444.

  The **My Open Declarations** criteria must be changed to permit suppliers receiving custom workflows. See Deploying Custom Workflows in PG&C on page 445.

Suppliers

- **Define a PG&C Supplier subclass and create PG&C supplier firms** — Before you define specific supplier firms, examine the "out-of-box" Supplier subclasses. These were tailored for RFQs and

the sourcing process (PCM). Note, for instance, that these objects all have a **Commodities** tab, which is the PCM-related subclass of the Part Groups class, instead of a **Part Families** tab. You might rename and reconfigure one of the existing Supplier subclasses; or, you might create “compliance-oriented” subclass(es) of Suppliers that pertain to your compliance requirements more specifically.

Note Unless you define the Supplier field for a class of declaration (or all declarations) as ‘Not Required’, an Active supplier must be named by the user who creates a declaration. Currently it is not required that the supplier be a Web Supplier (that is, in Supplier object, Web Supplier field = Yes; when Web Supplier field = No, the supplier is called “non-Web Supplier”); PLM allows declarations to name either kind of supplier, but a Web Supplier must have at least one associated "Default Declaration Recipient", while a non-Web Supplier may be named in the declaration with no associated default declaration recipients.

For more information about creating and managing suppliers, see the *PG&C User Guide*, Chapter 9, “Managing Your Suppliers. You may also want to refer to Supplier Groups on page 172.

- **Populate supplier firms with Default Declaration Recipients** — Most important is deciding which Restricted supplier users will work in Agile Web Client (standard user interface) and which in the “Basic mode" of Web Client (a modified interface for supplier users). The simplified version of Web Client is seen by Restricted users whose Response Edit Mode user preference is set to Basic. If the Response Edit Mode user preference is set to Advanced Table Edit or Advanced Wizard Edit, that user will see full Web Client.

Note When you create default declaration recipients, decide whether their Approval Password can be the same as their Login Password.

Declarations Classes in Brief

The PG&C business classes – Substances, Specifications, Part Groups, Declarations – are described fully in the *PG&C User Guide*. This overview of the Declarations classes is for the administrator’s reference.

A declaration is the main object of record in the PG&C solution. Declarations keep track of all the substances and materials that are contained in parts and part groups. When a declaration is released, the information gathered from it is published to the product record, thereby updating the composition data contained by the declaration.

The Declarations base class has seven default classes of declarations, each with a single child subclass. The following table defines the kinds of declarations in PG&C.

Declaration class	Definition	Specification type
Substance Declarations	The supplier is requested to provide compliance information for each substance within the specification.	must be part-level spec
Homogeneous Material Declarations	The supplier is requested to provide a complete BOS breakdown of the part and provide compliance information at the homogeneous material level.	must be homogeneous-level spec

Declaration class	Definition	Specification type
Part Declarations	Receive part-level compliance information as well as other composition information (manufacturing parameters).	can add any type of spec
JGPSSI Declarations	The supplier is requested to provide compliance information (weights) according to the JGP standard. There is now a fully supported Japanese version of the JGPSSI template for creating JGPSSI Declarations; see your administrator.	must be part-level spec
Supplier Declarations of Conformance	A questionnaire to assess supplier compliance with specifications from customers and government agencies. The survey addresses compliance at a general company level. Can be used for CSR type declarations.	can add any type of spec
IPC 1752-1 Declarations	A Joint Industry Guide (JIG) substance declaration for electronic products.	specs should be part level
IPC 1752-2 Declarations	A Joint Industry Guide (JIG) homogeneous-material declaration for electronic products.	specs should be homogeneous-level

Note Substances and substance groups are pre-populated only in Substance Declarations. (In PLM 9.2, substances were also pre-populated in JGPSSI Declarations, but this has been removed.)

Integrated Components for PG&C

This section provides information about configuring process extensions and other integrated components in PG&C. In some cases, the components may have been integrated during installation, as noted below.

ComplianceRollup.log in Log.xml File

A log called **ComplianceRollup.log** is a component of the **log.xml** file, which is established at Install time. Note that they are stored in locations that are different than in PLM 9.2.1.x. You can change these locations as required.

Log.xml is found in **<AgileInstallFolder> \ AgileDomain \ config**

ComplianceRollup.log is enabled out-of-the-box; whenever a scheduled compliance rollup is started, this log session is written to:

- In OAS environment: **<OracleInstallFolder> \ j2ee \ home \ log**
- In WebLogic environment: **<AgileInstallFolder> \ AgileDomain \ log**

Both the “one-time” special log for the Compliance Migration Task (for PG&C upgrade, see Compliance Rollup Task on page 296 and Compliance Migration Task and Mass Tolerance

Percentage on page 452) and the log of the nightly scheduled rollup are captured in this log.

Information written to this log can be set to one of these two log types: **Info**[rmation], or most complete information, or **Error**, or information about errors only. Also, it can be turned off.

Once a rollup is triggered, the log session is ongoing. The **Info** setting reports on such factors as how many parts are present in the rollup, how many parts have been processed, and how many there are still to run.

More specifically, the contents of **ComplianceRollup.log** are as follows ("flagged" refers to an object's Need Compliance Check attribute changing from No to Yes and therefore being examined by the system for compliance during rollup):

Part 1: **a.** Latest Released Shippable Items; **b.** Pending Shippable Items

Part 2: **a.** Flagged Part Groups; **b.** Flagged Items; **c.** Flagged Manufacturer Parts

For each part of the rollup, the Compliance Rollup log includes: Process Log–every 1000 parts; Large BOM info; and, Causes of rollup failure.

Note The AXML schema has been changed from http://support.agile.com/misc/axml/2006/03/ to

Note http://support.agile.com/misc/axml/2007/03/

Ensure that the Microsoft Excel-based Client has been properly Installed

Although installation of Agile PLM may have been successful overall, it is recommended that you confirm the results of this particular component so your users do not encounter problems later. Depending on the brand of your company's application servers, Agile PLM was installed using one of the following installation guides:

- *Installing Agile PLM with Oracle Application Server*
- *Installing Agile PLM with WebLogic Server*
- *Installing Agile PLM with IBM Websphere Application Server*

Referring to the appropriate installation guide, review the chapter "Configuring the Microsoft Excel-based Client for PG&C." Agile's integration of Microsoft Excel with the PG&C solution is, first, in support of JGPSSI manufacturing regulations; it facilitates your suppliers completing a JGPSSI declaration. You may also want to explore the possibilities of creating in-house templates in Excel for use by your users and suppliers.

There is now a fully supported Japanese version of the Substances and Weights template. Localized versions of the Substances and Weights template are supported in Simplified Chinese, French, and German. Additionally, there is now a fully supported Japanese version of the JGPSSI template.

Important The new Japanese-language templates are only available to customers who have purchased the Japanese Server License. Localized versions also need appropriate License Key.

Changes to the Excel-related process extensions are detailed in the above-referenced “Excel” chapter in the installation guides.

Also, the administrator must set users’ Language and Encode user preferences to the appropriate setting to work in that language in the Agile clients’ user interfaces.

Configure Process Extensions for PG&C

The out-of-box process extensions specific to PG&C are listed below. One – **Rollup in Excel** – applies to Items only; the others apply to the various Declarations classes. These special export and import commands let suppliers integrate data in declaration requests with other Agile PLM systems or complete the requests in other clients, such as Microsoft Excel or Adobe Reader.

Each process extension must be assigned to the appropriate classes. This likely has been done during installation; if it has not been done, see Process Extensions on page 93, especially Assigning Process Extensions to Classes on page 96. In other words, you must verify the URLs on the process extensions under **Data Settings > Process Extensions:** the server name on these URL-based process extensions should match the server name on the login URL; if the application server is pointed to a different database, you must configure these URLs manually (as follows).

To manually configure the Rollup in Excel, Import aXML, and Export aXML process extensions, set these values:

For <http>://<server>.<domain>.com:<port>/<virtual_path>/

- <http> should be replaced by "https" if SSL has been enabled
- <server> is the name of the server
- <domain is the fully qualified domain
- <port> is the port number of the Web server (if port 80 is used, you can omit the port)
- <virtual_path> is the application server virtual path; the default is "Agile".

Below are examples for **Export aXML** and **ImportaXML**:

Export AXML:
http://pgcdemo.agile.agilesoft.com:8888/Agile/MDOServlet?action=getData&filetype=AXML&internalurl=true&height=220&width=365

Import AXML:
http://pgcdemo.agile.agilesoft.com:8888/Agile/default/MDOImportPX.jsp?filetype=AXML&internalurl=true&height=190&width=350

You may need to work with an Oracle Consulting – Agile Practice representative or with Agile Support to effectively configure the PG&C process extensions: see the Preface of this guide.

Note Supplier Declaration Process Extensions on page 433 presents another aspect of process-extension configuration, namely, selecting which ones are visible to suppliers in their declaration requests.

Process Extension	Assign To
Rollup in Excel	Parts class Documents class
Open in Excel **Import JGPSSI** **Export JGPSSI**	JGPSSI Declarations class
Import aXML **Export aXML** Although these two PXs are assigned to these 3 classes of declarations out of the box, they can be assigned to the other declaration classes.	Homogeneous Materials Declarations class Part Declarations class Substance Declarations class
Import IPC XML **Export IPC XML**	IPC 1752-1 Declarations class IPC 1752-2 Declarations class

Note **Open in Excel** can be added to any Declarations class, but it requires developing a custom Excel template and integrating it with Agile PLM using the Excel Integration Framework.

The data format for these export and import commands is predefined by the Agile XML (aXML) format, the JPGSSI template, and the IPC 1752-1 and -2 forms. You must work in Agile Content Service on page 385 or Agile Integration Services (AIS, see *AIS Developer Guide*) to configure your system to export and import aXML files. Note that these process extensions, as well as PG&C in general, all function without either ACS or AIS server licenses.

Configuring the Substances and Weights Rollups in Excel Integration

Users can use Microsoft Excel to perform analysis of the Bill of Substances (BOS) information for an assembly. Using the **Rollup in Excel** and **Run Scenario** process extensions, the integrated Excel spreadsheet can roll up the substances and weights for the assembly. Here is a short checklist about the **Rollup in Excel** process extension:

- **Rollup in Excel** process extension is not enabled by default.
- **Rollup in Excel** process extension must be assigned to the Parts class and the Documents class. (Note that this PX may not work correctly for Documents class before Rel. 9.2.1.3.)
- Ensure that the **Rollup in Excel** process extension Initiate from is set to Action Menu.
- Ensure that the systemwide Preference “Allow Download of Productivity Components” is enabled.

Administrator Nodes for PG&C-specific Settings

This section describes configuring the following nodes:

- **System Settings > UOM** node
- **System Settings > Product Governance & Compliance** node folder, which in turn includes:
  - **Signoff Message** node — configure the signoff message that your suppliers will (electronically) sign
  - **Compliance Rollup Scheduling** node — configure Rollup Time and Recurrence Pattern
  - **Compliance Rollup Rule-Setting** node — configure the AML Rollup rule, Composition Rollup rule, Treat Exempt as Compliant in BOM Rollup rule, and Mass Tolerance Percentage setting
  - **Supplier Declaration Process Extensions** node folder — for each class in the Declarations base class, configure which process extensions will appear in the declaration requests to your information suppliers.
  - **Specification Mapping** — for Parts, Documents, and Manufacturer Parts classes, configure a mapping between each specification and a **PageTwo** field that displays the Result Compliance for the part-spec combination

Setting Unit Of Measure (UOM)

The **UOM** node allows you to define different units of measure for use in Agile PLM. Units of measure are important in the PG&C solution with so much emphasis on the weight or quantity of restricted substances contained in your products. Please see Unit of Measure (UOM) on page 260 for more information.

Setting Your Signoff Message

The **Signoff Message** node provides a legal disclaimer that is configured at your site. The message field allows an unlimited number of characters. The signoff message is visible to each supplier who receives a declaration from a compliance manager at your company. The supplier “signs” and returns the declaration to the compliance manager. The text should affirm that the information tendered by the supplier is true, and that the supplier is responsible for any mis-statements in the returned declaration.

Note Although the supplier would likely sign off any declaration only once, the rule is that the supplier must sign off for any status he changes in a workflow. This could be a factor to consider if you create a custom declaration workflow in which the supplier is expected to change more than one status. Although that possibility has been restricted through Rel. 9.2.1.x, as of Rel. 9.2.2 suppliers can respond to custom declaration workflows, not just the default Declarations Workflow. See Deploying Custom Workflows in PG&C on page 445.

Scheduling Compliance Rollups

This node allows you to manage the start time and periods for a recurring, scheduled rollup to be

executed by the system. This will roll up any items marked as Shippable Items, as well as all parts/part groups that have specifications where the Need Compliance Check attribute has switched to Yes.

For rollup scheduling to function, the Compliance Rollup Task in **Server Settings > Task Configuration** must be enabled. See Task Configuration on page 296, on page 296.

The **Rollup Time** settings let you set a start time (Hour:Minute) for your regular rollup. The **Recurrence Pattern** settings let you select a daily (or nightly) or weekly regular rollup schedule.

Setting Compliance Rollup Rules

This node sets rules that operate during compliance rollups, whether they are started manually or automatically.

AML Rollup and Composition Rollup Rules

The **AML Rollup** and **Composition Rollup** rules let you select Relaxed or Strict for these two types of compliance rollup. The default for both these rules is Strict, or "worst" case. This means that all present elements must be compliant. The Relaxed setting ("best" case) means that only one element present must be compliant. ("Relaxed/strict" is also known as "best/worst.") Compliance rollups are documented in Chapter 10 of *PG&C User Guide*.

- **AML Rollup** sets the best/worst guideline on how the compliance of an item is determined, based on compliance of the manufacturer parts associated with the item. For instance, if there are two manufacturer parts in an item, the Strict setting means that the item will be compliant only if both manufacturer parts are compliant. The Relaxed setting means that the item can be compliant as long as just one manufacturer part is compliant.
- **Composition Rollup** sets the best/worst guideline on how the compliance of a part or part family is determined, based on compliance of the compositions of the part/PG, which implies the presence of suppliers. So, if four suppliers are represented on a part's compositions, the Strict setting means all four suppliers have to declare the part is compliant for the composition rollup to result in the Compliant state.

A rollup rule governs the special use of the Exempt compliance state.

Treat Exempt as Compliant in BOM Rollup Rule

Treat Exempt as Compliant in BOM Rollup is a Yes/No setting (No is the default) that permits a company to declare a BOM (that is, an assembly or product) as Compliant even if some components are flagged Exempt.

Because Exempt is one of the 'non-compliant' compliance states, a part that is declared Exempt can render the entire assembly Exempt. By setting this rule to Yes, once a part is Exempt, the rule prevents "Exempt" from rolling all the way to the top of the assembly.

Of course, other parts in the assembly may have more serious non-compliance problems, so this setting does not bypass those states being rolled up.

Also note that the ability of the administrator to change the names of default compliance states makes it possible to change Compliant to, for example, "Compliant with possible Exemption."

Mass Tolerance Percentage Setting

Mass Tolerance Percentage (MTP) is used to determine if a composition can be considered "fully disclosed" despite a slight discrepancy. (Although it is located in **Compliance Rollup Rules** subnode, because this value does not govern outcomes of compliance rollups in the same way that the other rules do, we tend to refer to Mass Tolerance Pct. as a setting.) The MTP setting enables the system to determine the disclosure type of the composition, and whether an "Unreported" substance needs to be added to a composition (more detail is given below after other concepts are introduced).

Mass Tolerance Percentage facilitates error correction, so the setting will likely be quite small, for example, perhaps 0.1%. The default is 0%, which is equivalent to "no tolerance" of any discrepancy. The discrepancy can be set to a maximum of 5%; the system will not accept a value greater than 5%. Values can be expressed in decimals to an unlimited place.

The concept of mass tolerance works with other features introduced in Rel. 9.2.2, including mass disclosure and the use of the "Unreported (System)" substance. These topics are given in brief below, even though the administrator does not have to configure them; for more information, see the *PG&C User Guide*.

Caution	The Mass Tolerance Pct. setting and the "Unreported (System)" substance feature are used expressly to account for small discrepancies between part mass and substance mass. They are *not* to be used to "hide" a portion of substances in a declaration that could be thought of as a proprietary formula (or "recipe") in a manufacturer's product. This will be a part of a future release of PG&C, but proprietary hiding is *not* supported in Rel. 9.2.2.

How System Uses Mass Tolerance Percentage

For example, let **Mass Tolerance Percentage** be set to 1% and part P1's mass is 90 g. The composition will be identified as Fully Disclosed as long as the sum of its materials (the Bill Of Substances mass) is at least 89.1 (because 1% of 90 is 0.9). (This is a simplification to illustrate MTP: for the composition to be considered Fully Disclosed by the system, it would also check the substances under each material, not just the material weight, as mentioned here.)

Mass Tolerance Percentage is used only when the sum of the substances' mass is lower than the immediate parent's mass, whether for a substance composition or for a homogeneous material composition.

When the sum of substances' mass is higher than the parent's mass, the system automatically considers the composition as Fully Disclosed.

Note that in homogeneous material compositions, MPT is actually used twice:

- First, when the sum of materials (parents of substances) is less than the part mass. In this case, when the difference is greater than the MTP value, the composition becomes Partially Disclosed (there is no "Unreported Material").
- Second, when the sum of substances' mass is less than the material (or subpart) mass. In this case, if the difference is within the MTP value, no unreported substance is added; if the difference is greater than the MTP value, the system adds the "unreported substance" to accommodate the difference in mass under that material or subpart.

The MTP setting operates "going forward" upon any composition that is calculated by a user from

the time it is set in Administrator. When you change the MTP value, the system gives this warning: “Changing the “Mass Tolerance Percentage” value does not automatically affect previously calculated rollup results for existing compositions. If you want to recalculate the rollup result for an existing composition, run “Calculate Compliance” on its declaration. Click **Yes** to change the value.”

If your company is upgrading to PLM 9.2.2, be sure to see Compliance Migration Task and Mass Tolerance Percentage on page 452.

Mass Disclosure – Full, Partial, and No Disclosure – and Unreported Substances

The Admin List “Mass Disclosure” has three values: Fully Disclosed, Partially Disclosed, and Undisclosed. The correct value is generated by the system during composition rollups. The attribute is found on the **Composition** tab of parts and part groups, and on the **Part/PG** tabs of declarations.

- **Full Disclosure** or **Fully Disclosed** composition:
  - A **Substance composition** is considered to be Fully Disclosed if the difference between the part’s mass and the sum of the masses of all the substances is less than or equal to the **Mass Tolerance Percentage** setting.
  - A **Homogeneous Material composition** is Fully Disclosed if this two-step process is satisfied: (1) The difference between each material’s mass (that is, the immediate parent of the substances) and the sum of mass of the substances under that material is less than or equal to the **Mass Tolerance Percentage** setting; and, (2) The difference between the part’s mass and the sum of mass of the parents of the substances should be within the **Mass Tolerance Percentage**.
- **Partial Disclosure** or **Partially Disclosed** composition: The difference is more than the **Mass Tolerance Percentage**, in which case an “Unreported” substance is added by the system to fill in the missing mass.
- **No Disclosure** or **Undisclosed** composition: If the mass is missing for the part, substance, or the immediate parent of the substances, it is considered an Undisclosed composition.

So, if the part and all the substances/materials have masses, and the sum of their masses does not match exactly, the system checks whether the sum of the material masses falls within the tolerance (%) of the part’s mass.

Unreported Substances in Partially Disclosed Compositions

PLM Release 9.2.2 also adds a system-generated entity or object that “fills in” the unaccounted difference between the total mass of the part or assembly and the sum of all its constituent substances. The name in the application is “Unreported (System)” and it can simply be referred to as “unreported substance.” The unreported substance is searchable in the application; the user can edit any field in the **PageOne** or **PageTwo** of unreported substance, exclude the name. But the user cannot delete the unreported substance. Its presence in a composition is inferred when compliance rollups mark a composition as Compliant but the weights of the part and its substances do not match.

Note	An unreported substance should not be added manually by a user; that is, the purpose of the unreported substance is circumvented if an object called “Unreported Substance” or the like is created and used as a “filler” – the system should be allowed to work its calculations and create the entity as needed.

Renaming Compliance States

Compliance states, compliance rollups, and the business logic at work in rollups are fully described in the *PG&C User Guide* (Chapter 10). The default compliance states are Not Applicable, Compliant, Exempt, Waived, Missing Info, and Non-Compliant, the latter four all being 'non-compliant' compliance states.

You are able to change the names of compliance states to fit the requirements of your company. However, you cannot add or remove compliance states, nor change their essential meaning. For example, you might change Compliant to Accepted, and Non-compliant to Rejected. Assigning names that are not consistent with the meaning of the original name could compromise the reliability of compliance rollups.

There are three Administrator lists for compliance states (**Data Settings > Lists**). When a compliance state's name is changed in the lists (below), it is changed in all existing business objects. It is recommended that name changes be made across all three lists, for consistency and users' clarity. The lists are:

- Part Compliance List
- Calculated Compliance List
- Declared Compliance List

Important Besides making these lists consistent, you must also adjust any process extensions that use the original names in Declared Compliance field. Also, if you are using the Microsoft Excel-based client, you must make Excel style sheets consistent.

For more information about the Administrator lists, see Lists on page 85.

Supplier Declaration Process Extensions

Under the **Product Governance & Compliance** node folder is a node folder called **Supplier Declaration Process Extensions**. This subnode is not the locale for configuring process extensions (see Process Extensions on page 93). In the present subnode, you set which process extensions are visible for each type of declaration request that your Restricted supplier-users receive. This pertains to the "Basic supplier interface," that is, the simplified version of Web Client that is seen by Restricted users whose Response Edit Mode user preference is set to Basic.

For example, if your PG&C solution does not use aXML, you may remove the **Export aXML** and **Import aXML** process extensions from all declarations so they are not potentially confusing to your suppliers.

Important In the **Selected** field, the first-listed process extension will appear in each declaration (of that type) as a live link next to the declaration's name on the home page of the Basic supplier. The other "Selected" process extensions appear when the Default Declaration Recipient opens the declaration itself.

Note that if a process extension is disabled in the **Process Extensions** node, its name still appears in the **Supplier Declaration Process Extensions** subnodes. These subnodes configure what Restricted supplier-users potentially see: all Restricted users do not see those process extensions that you

leave in the Choices fields in these subnodes. Neither the supplier-users nor your users ever see disabled process extensions.

Note While it would not make sense to assign the "JGPSSI" process extensions to the "non-JGPSSI" classes of declarations, you can assign the "aXML" process extensions to the JGPSSI Declarations class, depending on your anticipation of what method your suppliers might use (in fact, the "AXML" process extensions can be applied to all the declaration classes). However, there are already three process extensions available to complete JGPSSI-based RFIs, and they are much simpler than working with aXML files, so it is generally not necessary to add the aXML process extensions to the JGPSSI Declarations class.

To configure a class of declarations with process extensions:

1. Open **System Settings > Product Governance & Compliance > Supplier Declaration Process Extensions** node folders.
2. Double-click one of the Declarations classes. The Choices–Selected dialog appears.
3. Use the Move Right and Move Left arrows to move process extensions to Choices or to Selected.
4. Use the Move Up and Move Down arrows to set the order of the process extensions that are in the Selected field.
5. Click **Save**. The first process extension in the Selected field automatically appears for those type of declarations as a live link in the Basic supplier interface. So, if **Open in Excel** is first in the Selected field for JGPSSI Declarations, when a Restricted supplier opens a JGPSSI Declaration, he can click a link that says **Open in Excel**, and the system opens Microsoft Excel and the JGPSSI template for that declaration.

Specification Mapping

Specification Mapping is a new subnode in the PG&C node folder, provided so the administrator can set up a mapping between each specification and (for Parts, Documents, or Manufacturer Parts class) a **PageTwo** field that displays the Result Compliance for the part-spec combination. This mapping simply allows users to see the Result Compliance for a specification on the **PageTwo** of the part, rather than forcing them to go to the **Compliance** tab > **Specifications** table.

For each specification in the PG&C system, the administrator can choose an attribute (or creates a user-defined flex field) of List type on **PageTwo** (of Parts class or Documents class or Manufacturer Parts class), in which its value is copied from the Result Compliance field (**Compliance** tab > **Specifications** table > Result Compliance).

You can map the same specification to different Pg2 attribute for different classes.

Then, when a part is rolled up for compliance, and therefore has a value (a compliance state) in the Result Compliance field on its **Specifications** table, that value is also copied to the mapped attribute on **Pg2** of the part. More specifically, the Result Compliance (RC) value of the specification is copied to the mapped **PageTwo** field if any one of the following events occurs:

- a rollup is done on the Latest Released rev (LRR) of a part or document;
- a rollup is done on on a manufacturer part;
- a rollup is done on a BOM: if a child is the LRR, its RC value is copied to the child's

PageTwo field; or,

- a rollup is done on an item that is associated with a manufacturer part: the RC value of the mfr. part is copied to the mfr. part's **PageTwo** field.

To map a specification to a PageTwo field (within Items or Manufacturer Parts):

1. Double-click the **Specification Mapping** node, the page opens. You will see listed all the specifications entered in your PG&C solution.
2. Select a row for a spec, and select **Parts, Documents,** or **Manufacturer Parts** tab (since the mapping can be different for each of these classes).
3. Click the **Edit Selected Mapping** button. The Update PGC Spec Mapping dialog appears.
4. The Specification field has been selected, and so cannot be changed in the dialog. For the Attribute field, use the dropdown list to select the name of the attribute that you want mapped. (They appear because they are already mapped to the Result Compliance list. Details of the mapping are listed below.)
5. Click **OK**. Now the row for the spec you selected (for Parts, Documents, or Mfr.Parts) also shows the Attribute you selected.
6. Later, when the part (item Latest Released rev, or mfr. part) has gone through a compliance rollup, that value will appear in the mapped attribute on **PageTwo** of the part.

For a PageTwo attribute to appear in the Attribute dropdown list of the Update PGC Spec Mapping dialog, all of the following must be true:

a. It must be a List attribute
b. It must be enabled (Visible = Yes)
c. It must point to the Administrator List "Calculated Compliance"

Note that the fields Result Compliance and Calculated Compliance both point to the "Calculated Compliance" Admin List.

Notes on Changed Mappings and System Cleanup

You can edit the mappings in the node. Changed mappings affect future rollups; objects that might be affected by the changed mapping do not change if they are not rolled up.

Every time you change the mapped attribute to a new mapping, the system removes the previous mapped attribute and also "erases" the old values from the **Pg2** field. Also, if you change the attribute to point to a different list (not Calculated Compliance List), the system removes the mapping and also "erases" the old values from the **Pg2** field.

A potential inconsistency can occur if the end-user were to manually change the value in the (mapped) **Pg2** field, this change would not be read back to the **Specifications** table. If this is a concern, the solution is to turn off Modify privilege for the **Pg2** field.

The copying of Result Compliance to a Part's **Pg2** happens only for the LRR of the part, since **Pg2** is always applicable to LRR. So, if the rollup changes the RC of a previously Released rev (or a Pending rev), that value is not copied to the mapped **Pg2** field. Similarly, if that **Pg2** field is enabled in the item **BOM** tab, it only displays the value corresponding to the LRR of the item.

When a specification is removed from the system, you do not need to do "cleanup" on the classes. "Cleanup" is automatic the next time you open the **Specification Mapping** node in Java Client.

Configuring the PG&C Classes

This chapter gives an overview to configuring the PG&C solution, with specific instructions that the administrator may find useful. This chapter does not provide a comprehensive description on how to fully configure the PG&C solution; more information about configuring Classes, Users, and Roles, for example, are found elsewhere in this Administrator Guide. You may also find it helpful to refer to the *PG&C User Guide* for more information about the use of the Declarations, Specifications, Part Groups, and Substances business objects.

When you customize a PG&C-related class, all its subclasses are affected. Items and Manufacturer Parts are already likely involved in the Product Collaboration solution for your company, so you must be careful when working at the class level of these business objects. Similarly, the Part Groups class may be involved with the Product Cost Management solution as well as PG&C (this is addressed in Part Groups: Configuring Part Families on page 441). You can configure **Items, Manufacturer Parts**, and **Part Groups** tab attributes to pull values from other parts and part groups.

Overall Compliance / Summary Compliance in PG&C Business Objects

This clarifies the presence of an attribute that is named slightly differently in different objects and tabs.

Overall Compliance indicates the compliance state of the part using the worst-case scenario and matched across all specifications associated with the part. This attribute is found on these objects:

Items > **Title Block** tab > Overall Compliance

Manufacturer Parts and Part Groups > **General Info** tab > Overall Compliance

The Overall Compliance attribute also reads through to these objects, although in these cases it is named "**Summary Compliance**". It should be enabled in these tabs as well as those listed above:

Items base class (Parts and Documents) > **BOM** tab and **Manufacturers** tab > Summary Compliance

Changes base class (ECOs, MCOs, etc.) > **Affected Items** tab > Summary Compliance

Items and Manufacturer Parts: Substances and Weights Rollups and the Child Level Attribute

For Substances and Weights rollups to be successfully calculated, the system must be clear about both the BOM (levels of subassemblies and parts) and the BOS (Bill of Substances, levels of substances contained in parts; the Bill of Substances is described in the *PG&C User Guide*.). The Child Level attribute being enabled (set to Visible) promotes both system clarity and user clarity about substances in the levels of the Bill of Substances.

Particularly for running rollups through the Microsoft Excel-based Client, it is important that the administrator enable the following attributes in Parts, Documents, and Manufacturer Parts classes (Part Groups do not use the Excel integration and so do not need to be considered).

- **Items** and **Manufacturer Parts > Compliance** tab > **Composition** table > attributes: Specification Name, Declaration Name, Declared Weight, Supplier

- **Items** and **Manufacturer Parts > Compliance** tab > **Substances** table > attributes: Child Level, Substance Name, Substance Type, Mass, Declared PPM, CAS Number, Conversion Factor
- **Items** > **BOM** tab > attributes: Item Number, Item Description, Item Rev, Quantity
- **Items** > **Manufacturers** tab > attributes: Mfr. Part Number, Mfr. Part Description, Manufacturer Name

All of these attributes need to be enabled, that is, the Enabled property set to Yes.

Specifications: Adding Exemptions

When you or a compliance manager creates a new specification, it can be associated with substances of concern to the regulatory agency. To add exemptions to a specification (Exemptions field on **General Info** of the specification), first add exempted substances to the Exemptions list; then they are available for selection by the user who creates the specification object. See Lists on page 85.

Note	It is a best practice to add exemptions with a "Spec Name" added to each item, facilitating the process when the user selects appropriate exemptions. For example, all the RoHS-related exemptions in the global Exemptions list might begin with "**RoHS-**".

that there are also Exemptions fields in declarations (on the **<Parts/PGs>** tab and on a declaration's **<Parts/PGs> Substances** table). The values a user sees for Exemptions in a declaration comes from the associated specification.

Declarations: Length of Declaration Name

To avoid potential problems opening declarations with long names, you should restrict declaration names to less than 50 characters for every class that you are enabling the Microsoft Excel-based client. You can do this by making autonumbers required (assuming that each number in the autonumber sequence is less than 50 characters) or by adjusting the maximum length of the **Cover Page** > **Reference Number** attribute.

Items: Need Compliance Check Attribute Removed

The Need Compliance Check field is no longer *visible* on items; however, the system still recognizes it and reacts to it in items during rollups. (It remains visible on manufacturer parts and part groups **Compliance** tab > **Specifications** table.) The reason for this has to do with items being so central to the Product Collaboration solution. PC-specific change orders means that the Need Compliance Check value (Yes or No) may not reflect the actual compliance state consistently: even if the field is No, the system should run the rollup since a non-PG&C–related change to the item might affect its compliance.

Parts and Part Groups: Elapsed Time since Last Rollup Attribute Added

Elapsed Time since Last Rollup field indicates how long it has been since the previous compliance calculation was done. You do not need to configure this field. You may assist your users by pointing it out on the **Compliance** tab of parts and part groups, and its use may influence your settings for

rollups and the objects involved.

Items and Manufacturer Parts: Inactivating and Re-activating Compositions

The **Archive** button is on the **Specifications** table of items and manufacturer parts. This button is enabled only if the user has the proper Modify privilege for the Declared Compliance attribute on the **Compliance** tab > **Specifications** table for that part.

The use case for the **Archive** button considers the possibility that non-compliant declarations, when published, could render an entire top-level assembly in the Non-Compliant state. You want to enable those users who have the authority to decide not to buy non-compliant parts to remove offending compositions from the product record. When the **Archive** button is used and the composition is inactivated, that is, removed from Active status, those assemblies containing that part now have a better chance of being in compliance.

However, it is possible that a mistake has been made, and to decide that an archived, Inactive composition should be reinstated as Active. This can be done by clicking the **Historical** link on the **Compositions** table, selecting the composition (select the row), and clicking the **Activate** button. Reactivation of compositions also applies only to items and manufacturer parts.

When the system activates a composition, it automatically archives any "matching" Active compositions (compositions with the same supplier and specification). If there are compositions with the same specification and same supplier for one item, so that one composition is in the Active table and one is in the Historical table, when you click **Activate** from the Historical table, the system automatically archives the active composition. This is consistent with established behavior of the system when importing compositions. Note that, on the item's or mfr.part's **History** tab, both the Activate and Archive actions are recorded.

Note Both the archiving (inactivating) and (re-)activating process cause the Need Compliance Check field to re-set to Yes. While that change is visible in manufacturer parts, the field is not visible in items. Moreover, the Archive and Activate action may change the compliance states for all specifications on the part or assembly. The best practice is, whenever you change a composition's Inactive or Active state, do a compliance rollup on the part or related assemblies.

Parts and Part Groups: Composition Type

The Composition Type attribute is essential to a user's ability to import compositions and substances into parts or part groups (see next topic). When a declaration is published, this field has a value that corresponds to the type of the declaration. If the composition is imported to a manufacturer part, it is "marked" as one of these three types:

Composition Type has this value...	...if the composition came from this type of declaration:
Part Composition	Part Declaration
Substance Composition	Substance Declaration, JGPSSI Declaration, IPC 1752-1 Declaration
Homogeneous Material Composition	Homogeneous Material Declaration, IPC 1752-2 Declaration

Also, when running a compliance rollup against a specification that has no composition, the system looks at any compositions with no spec that are of the same Composition Type as the specification's Validation Level.

Composition Type is a List attribute (**Admin > Data Settings >** Lists), with these entries:

- Part Composition
- Substance Composition
- Homogeneous Material Composition.

You must ensure that **Classes > <Parts/PGs>** classes **> User Interface Tabs > Compliance** tab **> Composition** table **> Composition Type** attribute is visible (Visible = Yes) and required (Required = Yes). Then, ensure that the attribute is included in the AppliedTo property of the appropriate Read and Modify privilege masks (that is, Read Mfr Parts, Read Items, and so forth). There is no default value for Composition Type. See AppliedTo Capability on page 203.

For compositions published from declarations, the system will determine the composition type based on declaration class. For the compositions that are being imported into parts, the user must specify the Composition Type.

Items and Mfr. Parts: Importing Compositions and Substances

PG&C enables users to import compositions and substances into items and manufacturer parts (using **Compliance** tab > **Compositions** table). Users can also import specifications (**Compliance** tab > **Specifications** table) and suppliers (**Suppliers** tab) into items, manufacturer parts, and part groups.

If your company uses Part Miner or Total Parts Plus to download substance information, Agile Product Interchange can be used to pull data from these content providers. Agile PI creates the necessary aXML file (Agile XML) and then imports it into the PLM system.

If your company does not use Part Miner or TPP, you will still need to create aXML-format files with composition and composition substances. Then Agile Import is used to import the compositions and composition substances into the system.

Users who need to import PG&C data must be assigned Create, Discover, Read, and Modify privileges for each kind of PG&C object including items and manufacturer parts.

You may consult these Agile documents:

- Importing compositions for the user: *PG&C User Guide*, Chapter 8, "Importing and Exporting Data in PG&C"
- Using the Import and Export tools: *Import and Export Guide*
- Using Product Interchange: *Product Interchange Administrator Guide* and *Product Interchange User Guide.*

Note	Contact the Oracle Consulting – Agile Practice for information about Agile XML (aXML) format and to refine your import procedures.

Parts and Part Groups: Mapping Feature

Mapping of attributes is required for some **Page Two/Page Three** attributes in parts (items or manufacturer parts) and part groups so they will distribute changed values on published declarations that are associated with those parts.

For example, let us map some attribute of a part's **Compliance** tab:

Part > **Compliance** tab > **Composition** table attribute > **Date02** field

is mapped to

Part > **Page Two** > **Date05**.

This can be enabled on **PageTwo** (class level) or **PageThree** (subclass level). The crucial attribute is Map Data To. When this part is added to a declaration, the system pulls the **Date02** field's value into

Declaration > **Items** tab > **Date05**.

Assuming that you have enabled and mapped Part > **PageTwo** > **Date05** and Part > **Compliance** > **Composition** > **Date02**, these two things are true:

1. If you enabled Declaration > **Items** tab > Part (link) > **PageTwo** tab > **Date02** attribute, then the value from Part > **PageTwo** > **Date02** is pulled into this attribute; however, you cannot edit this attribute since it is a "read-through" attribute.
2. If you enabled Declaration > **Items** > Part (link) > **PageTwo** > **Date02** (which corresponds to Part > **Compliance** > **Composition** > **Date02**), then you can edit this attribute and the value is published back to Part > **Page Two** > **Date05**.

Now let us say the supplier alters the **Date02** field while completing the declaration. When the declaration is returned, released, and the data is published to the system, this new value automatically carries over to

Part > **Page Two** > **Date05**.

that the mapping works two ways: when adding this item to the declaration, the system pulls the value from the item's **Page Two** / **Page Three** into the declaration's **<Parts/PG>** table onto the mapped attribute.

Use Case

Here is a use case: in PG&C there are six Declarations classes that hold compositions (only Supplier Declarations of Conformance do not). Let a List field called List01 be enabled in Parts **> Compliance > Composition** and be mapped to Parts **> Page Two**. Be aware that there is a corresponding List01 field in Declaration **> Items** tab, and that the mapping must be set up in all six classes of Declarations. So, if Parts **> Compliance > Composition > List01** is set to point to **Continents** list, List01 in all of Declaration **> Items** tab should point to **Continents** list.

Enabling the Mapping Feature

To enable mapping for a given part/part group:

1. For any part, enable some attributes on **PageTwo** (class level) or **PageThree** (subclass level).
2. On the part's **Compliance** tab, enable some attributes on the Composition table.
3. Map the respective fields:

   Compliance tab > **Composition** table > flex fields to **PageTwo** / **PageThree** attributes.
4. Enable the respective fields in the parts and part families tables of an associated declaration.
5. As pointed out in the use case above, when mapping list/multilist attributes, the corresponding list/multilist attributes in the following should all point to the same list:
   - Part or Part Group > **Compliance** tab > **Composition** table
   - Part or Part Group > **Page Two/Page Three** tab, and
   - Declaration > **Item**s, **Manufacturer Parts**, or **Part Groups** tab

   For example, if you want the supplier to be able to edit a list attribute that points to "countries" and also want the value to be copied into **Page2/Page3** when the Declaration is released, make sure all the list attributes in the tabs listed above point to the "Countries" list.

When multiple declarations regarding the same part are sent to different suppliers, the rule in Agile is "Latest Released Wins." This means that the value of a mapped attribute can change if later declarations dictate it. If the new declaration did not have a value on one of the mapped attributes, when it is released, the value on the item's **Page Two** / **Page Three** mapped attribute is not removed.

Part Groups: Configuring Part Families

Objects from the Part Groups base class and Part Groups class are used for two purposes in Agile PLM, as reflected by the default subclasses: Part Family and Commodity. Because of its relationship to parts and manufacturer parts, the Part Groups class is licensed by the Product Collaboration server license; however, objects from the Part Groups class are more often used in the PG&C and Product Cost Management (PCM) solutions.

If your company purchased both PG&C and PCM, you can set part families and commodities to behave identically – the default setting – or differently. If you want to use different business rules for PCM commodities and PG&C part families, you have to complete the steps in the task below.

Note These configuration steps apply only if your company has purchased *both* the PG&C and PCM solutions. Otherwise, you can ignore this section.

In the PG&C solution, part families allow compliance managers and suppliers to quickly categorize parts, and are used to collect compliance information on restricted substances for groups or "families" of parts. In the PCM solution, commodities are used to categorize parts for product sourcing. It is important for you to define the **part families** in your system because RFI responses can be disseminated by the **part families** that suppliers offer.

Caution If the Part Groups class is disabled, you must hide the **Part Groups** tab in each Declarations class, or the Microsoft Excel-based Client will not properly work for those declarations. Go to **Classes** > each **Declarations** class > **User-Interface Tabs** > **Part Groups** and set Visible property to No.

Force Commodity and Part Family to be Identical SmartRule

The **Force Commodity and Part Family to be Identical** SmartRule can be set to Yes or No ("Force/Identical SmartRule"). The setting has no impact if your company does not own both PG&C and PCM. Assuming your company owns both these solutions, you must decide how your company will use objects from the Part Groups class. You will then make the Make Available As attribute visible or not.

If the Force/Identical SmartRule is set to No, the Make Available As attribute could be visible if there are reasons for your users to be able to choose what kind of commodity they create. If the Force/Identical SmartRule is set to Yes, it is unlikely you would make the Make Available As attribute visible.

Make Available As Attribute

With the Make Available As attribute visible (and assuming the Force/Identical SmartRule is set to No), users that create an object from the Part Groups class will be prompted to choose whether to make the Part Group object available in one of these three formats:

- **Commodity and Part Family** (the default) — The part group object is used for collecting parts with similar substances in a compliance context (PG&C) *and* for collecting similar parts in a sourcing context (PCM).

  Note When the Force/Identical SmartRule is set to Yes (that is, the two solutions share the Part Groups class), and a user updates both the **Item.Commodity** and **Item.Part Family** attributes, the user must enter the same value for both the Commodity and Part Family attributes. If the values are different, the Agile system ignores the Part Family attribute.

- **Commodity Only** — The part group object is used for collecting similar parts in a sourcing context. Only items can be added to the **Contents** tab. In this configuration, the commodity object cannot be used in declarations.
- **Part Family Only** — The part group object is used for collecting parts with similar substances in a compliance context. Both items and manufacturer parts can be added to the **Contents** tab.

To make part group objects behave differently for PCM and PG&C:

1. Under **System Settings**, double-click the **SmartRules** node. The SmartRules window appears.
2. In "Force Commodities and Part Families to be Identical," select No, and click **Save**.
3. Under **Data & Workflow Settings**, double-click the **Classes** node. The Classes window appears.
4. Open the **Part Groups > Part Groups** class, and click the **User Interface Tabs** tab.
5. Double-click **General Info** to open it, then click the **Attributes: General Info** tab.
6. Double-click the **Make Available As** attribute. The Make Available As attribute is available only if you have a PG&C license.

7. For **Visible**, select Yes.
8. For **Default Value**, you may decide to select one of the options as the default that users will see when they create new commodities – a user can always select any of the three options, no matter which one was selected as the "default."
9. Click **Save**.

Defining PG&C Users – Roles and Privileges in PG&C

Important If your company has used PG&C and is upgrading to a new release of PLM, you must ensure that your roles and privileges are completely updated. This will involve manually adding new attributes. See Changes to PG&C Objects, Roles, and Privileges in an Upgraded Database on page 451.

Important If your company is upgrading to a new release of PLM *but* it has never used PG&C before, new attributes are included in the PG&C classes and related privileges; however, in this same case, note that you still need to manually update the Product Collaboration-related classes and privileges to include the attributes introduced by PG&C on PC objects.

A privilege called Import is required for users to work in Agile Import. This privilege must be added to existing roles and certain "restricted" roles. (See Appendix A.) Because the restricted roles cannot be changed in Java Client, please contact Agile Support.

Note Be sure to review the section "Setting Privileges for PG&C Objects" in the PG&C configuration chapter in *Installing Agile PLM with OAS / WebLogic*.

Adding Users to Compliance Manager Lists and Compliance Searches

As you configure users for PG&C, remember to consider these two items: users who will work in the capacity of Compliance Manager must have Compliance Manager List selected in their Lists user property; this results in those names appearing in the dropdown list when a user creates a declaration. Also, users must have Compliance Searches selected in their Searches user property to see the folder of compliance searches in Web Client.

There are two out-of-box roles that are specific to PG&C:

- **Compliance Manager** (buyer side) — Provides privileges needed to create and manage PG&C objects and run PG&C reports. This role also has read-only access to parts (items and manufacturer parts). Compliance managers are responsible for routing declarations to suppliers.

  Note When a user creates a declaration and selects a compliance manager, the values on these attributes are added immediately: Title, Phone, email, and Fax.

  The Compliance Manager role has been enhanced to permit configuring the AppliedTo fields in

the Read and Modify privileges. This pertains to the Supplier Read Items privilege discussed below.

- **(Restricted) Material Provider** (supplier side) — Provides privileges needed to create, modify, and complete declarations, as well as read all other types of PG&C objects. This role is typically assigned to supplier users, who have restricted access to the Agile PLM system.

Note The (Restricted) Material Provider role had the **(Restricted) Read Items** privilege mask; it has been replaced by the **Supplier Read Items** privilege mask.

Caution It is possible to remove the **(Restricted) Material Provider** role from the Modify My Open Declarations privilege mask (**Where Used** tab), and then it is not possible to restore it, which would be a bad situation. Should this happen, you would start with the Example Roles to save the Material Provider role to a new instance, which will contain the Modify My Open Declarations privilege mask.

Important If you have upgraded your PG&C system to Rel. 9.2.2.4, you will need to manually modify a specific privilege mask in two specific roles. You must add the new Default Declaration Recipient attribute to the AppliedTo field in the privilege mask, as follows:

Important To Compliance Manager role, Read Supplier privilege mask: add "Suppliers.General Info.Default Declaration Recipient" to the AppliedTo list;

Important To (Restricted) Material Provider role, (Restricted) Read My Supplier Profile privilege mask: add "Suppliers.General Info.Default Declaration Recipient" to the AppliedTo list.

Supplier Read Items Privilege

A new privilege called Supplier Read Items has been added to the following restricted roles: Material Provider, RFQ Responder, and Supplier Manager. You can decide what attributes are enabled for the supplier to see. Previously, the Restricted Read Item privilege was part of these roles, which lacked control over some kinds of information.

Using the Declarations Workflow in RFIs

The Request For Information (RFI) process is initiated by a compliance manager, that is, an Agile user who has been assigned the Compliance Manager role. This user creates a new declaration, or modifies an existing declaration, to specify the components for a parts assembly.

The following table shows how the RFI process unfolds via the default Declarations workflow.

Status	Action
Pending	▫ **Compliance Manager** creates a new declaration or modifies an existing declaration and adds new items, manufacturer parts, or commodities ▫ Adds specifications to the declaration ▫ Invites the Supplier of those parts to confirm that they comply with the specified regulations

Status	Action
Open to Supplier	▫ The **supplier** is at the supplier firm, and is an Agile user who has been assigned the **(Restricted) Material Provider** role ▫ Supplier confirms or denies that those parts comply with regulations ▫ Supplier may also suggest alternative parts that do comply, or comply better ▫ Electronically "signs" and returns the declaration to the compliance manager
Submit to Manager	Compliance Manager verifies the contents of the declaration have been completed by the supplier, and he routes the declarations to approvers and observers
Review	Approvers and observers approve or reject the declaration
Released	By moving the workflow to Released status, compliance manager publishes the materials into the product records. Once published, the materials are visible on the **Item** tab, **Composition** tab, and the **Manufacturer Part Composition** tab
Implemented	Compliance Manager changes the status of the declaration to Implemented once it is manufactured and disseminated in the field.

The declaration lists the parts in a product assembly and shows the substances and materials that are contained in those parts. It is linked to one or more specifications, which may restrict how much of a particular substance that product assembly may contain. A declaration is always sent to only one supplier.

When the declaration is returned to the compliance manager, reviewed for verification, and released, the data in the declaration is published to the rest of the system. Unlike other Agile Changes (that is, routable objects that move through workflows), a declaration cannot be unreleased. It can, however, be moved to a previous status without affecting any of the contents.

Deploying Custom Workflows in PG&C

Whereas suppliers have previously been able to access only the default Declarations workflow, PG&C permits suppliers to access custom declarations, as long as they are properly set up. To permit access to custom workflows, you must change My Open Declarations from this:

Declarations Cover Page.Status Equal To Default Declarations.Open To Supplier AND

Cover Page.Supplier Equal To $USERORG

to this:

(Declarations Cover Page.Status Equal To Default Declarations.Open To Supplier **OR**

Cover Page.Status Equal To Custom workflow <Name>.Open To Supplier) AND

Cover Page.Supplier Equal To $USERORG

Declaration Notifications

Declaration notifications behave like Changes in Agile. When a declaration is sent to the supplier, the default recipient in the **Suppliers** tab is notified (of course, depending on the supplier user being correctly configured). When the declaration is returned to the buyer, the compliance manager is notified.

Other PG&C objects support notifications similarly to objects in Product Collaboration.

Appendix A

Configuring Single Sign-On

This Appendix includes the following:

- Overview of Single Sign-On in PLM 447
- Configuring and Deploying SSO with Windows NTLM 448

PLM Release 9.2.2.4 introduces the possibility of integrating aspects of your PLM system with Single Sign-On (SSO) capability. The PLM releases following 9.2.2.4 also include the SSO capability.

Overview of Single Sign-On in PLM

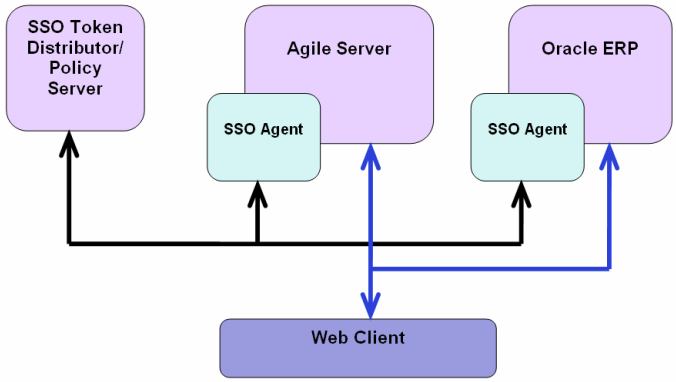
With SSO configured and enabled for your PLM system, a user that has signed in to the system once (for instance, through the corporate portal) is not prompted again by a "login" dialog in such cases as:

- Launching Web Client
- Clicking on a URL for an email notification
- When a customer's supplier launches the Microsoft Excel-based Solution from a Declaration
- When Web Client times out.

Note SSO is a Web-based solution that can be enabled only for Agile Web Client. SSO cannot be configured or applied from Java Client, Administrator module in Java Client, or the Agile SDK.

Single Sign-on integrates with the centralized security management, other business and training applications, and improves user productivity in Agile Web Client environment.

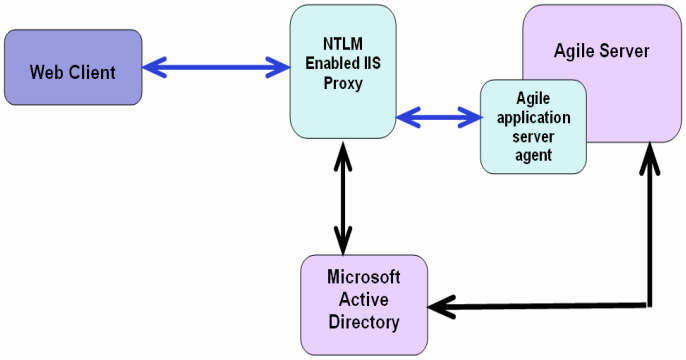
The sections below give a general overview to Single Sign-On in Agile PLM, followed by steps to configure and deploy SSO with Windows NTLM.



Configuring and Deploying SSO with Windows NTLM

The following sections outline the steps to configure and deploy NTLM for Single sign-on capability.

SSO NTLM Authentication



Configure SSO for Windows NTLM

Microsoft Windows NTLM has been certified for PLM Rel. 9.2.2.4, and is therefore recommended for SSO deployment (over other third-party software). Please discuss your company's needs with your Oracle Consulting – Agile Practice representative.

Configure IIS Proxy

These are the steps to configure Windows NTLM for Single sign-on with Internet Information Services (IIS) as proxy server.

Note	The prerequisite for this configuration is that the Windows server on which IIS is running has been joined to a Windows domain. "Microsoft Active Directory" is the name of the Windows Domain controller since Windows 2000.

1. In Windows 2003, choose **Start > Settings > Administrative Tools > IIS Manager**.
2. Select local computer, right-click and choose **Web Sites > Default Web Site**.
3. Select **Directory Security** tab.
4. Click **Edit**.
5. Uncheck **Enable anonymous access**, check **Integrated Windows authentication**, and click **Apply**.
6. Restart IIS service.

Configure PLM for NTLM

To configure your PLM system for SSO with NTLM, please perform these operations.

A. Edit this file:

$ORA_HOME/j2ee/home/config/jazn.xml.

- Comment out the following elements:

```
<!--property name="idm.authentication.name" value="JavaSSO" />
<property name="idm.token.asserter.class"
value="oracle.security.jazn.sso.SSOCookieTokenAsserter" />
<property name="idm.token.collector.class"
value="oracle.security.jazn.sso.SSOCookieTokenCollector" />
<property name="idm.token.type" value="HTTP_COOKIE" />
<property name="idm.token.collector.cookie.1" value="ORA_OC4J_SSO"
/-->
```

- Add the following elements:

```
<property name="idm.authentication.name" value="AgilePLM-SSO" />
<property name="idm.token.asserter.class"
value="com.agile.admin.security.oracle.TokenAsserterImpl" />
<property name="idm.token.collector.class"
value="com.agile.admin.security.oracle.TokenCollectorImpl" />
<property name="idm.token.type" value="HTTP_REQUEST" />
<!-- SSO Type, can be one of following values: SECURE-PROXY,
SITEMINDER, NTLM /-->
<property name="agile.security.sso.interceptor.type" value="SECURE-
PROXY" />
```

B. Edit this file:

$ORA_HOME/j2ee/home/application-deployments/Agile/orion-application.xml.

- Add this element:

```
<jazn-web-app auth-method="CUSTOM_AUTH" />
```

C. Restart Agile.

Deploy NTLM

The following are possible SSO deployment scenarios with NTLM, one for secure proxy and one for transparent or no proxy.

With Secure Proxy

With this deployment, authentication takes place on the proxy server, so it is recommended for those companies that use a proxy server.

Request flow with this deployment:

1. User launches browser to access Agile PLM (for example,

http://agileplm.xyz.com/Agile/PLMServlet).

2. The NTLM-enabled IIS server challenges the browser for credentials.
3. After a successful NTLM handshake, the request reaches Agile Application Server (AAS) agent with user information.

   NTLM is a connection-based authentication protocol. For each new socket connection between client and server (or proxy), it has to exchange credentials by sending and responding to HTTP requests and responses.
4. The AAS agent passes the user information to the application server security framework.
5. The user will be allowed to access Agile applications.

   This authentication happens whenever the client sends an HTTP POST request; therefore, authentication can re-occur even during an established user session.

With Transparent Proxy or No Proxy

Request flow with this deployment:

1. User launches browser to access Agile (for example, http://agileplm.xyz.com/Agile/PLMServlet).
2. The Agile Application Server (AAS) agent installed on server challenges the browser for credentials.
3. After a successful NTLM handshake, the AAS agent passes the user information to the application server security framework.
4. The user will be allowed to access Agile applications.

Appendix B

Changes to PG&C Objects, Roles, and Privileges in an Upgraded Database

This Appendix includes the following:

- Upgrading PG&C Business Objects, Roles, and Privilege Masks 451
- Attributes to be Added to PG&C Classes (Rel. 9.2.2.4) 452
- Upgrading PG&C (Rel. 9.2.2) 452
- Attributes to be Added to PG&C Business Objects (Rel. 9.2.2) 453
- Upgrading PG&C (Rel. 9.2.1.3) 456
- Attributes to be Added to PG&C Business Objects (Rel. 9.2.1) 456
- Privilege Masks to be Added to Compliance Manager Role (Rel. 9.2) 457
- Attributes to be Added to Read Privilege Masks, by Base Class (Rel. 9.2) 457
- Attributes to be Added to Modify Privilege Masks, by Base Class (Rel. 9.2) 464

Upgrading PG&C Business Objects, Roles, and Privilege Masks

When you upgrade your Agile PLM database, scripts in the database upgrade tool (AUT) check to see if any PGC-related data already exists in the system from a previous release. If your company is upgrading its Agile PLM configuration but did not previously own the PG&C solution, all PG&C attributes introduced in the current release are automatically added to your database.

However, any existing Agile PLM roles and privilege masks that your company uses are not automatically updated by the upgrade scripts.

For instance, privileges and attributes that were added in the 9.2.2 release (if you used PG&C in 9.2.1) are not added to existing roles during upgrade. You must add them manually in Java Client.

Agile PLM includes a number of “example roles” that you can use to modify your own roles (**Java Client** > **Admin** > **Examples** node folder > **Example Roles**). Example roles are read-only and cannot be modified. However, you can use Save As to make a copy of an example role and modify the copied role.

Example roles include example privilege masks (**Examples** > **Example Privileges**). When you use Save As to create a copy of an example role, the system populates the new role with the privilege masks.

Note that the PC-related privileges still need to be updated manually.

Attributes to be Added to PG&C Classes (Rel. 9.2.2.4)

Declarations > Items [and] Manufacturer Parts [and] Part Groups; Items > Compliance tab > Compositions table; Manufacturer Parts > Compliance tab > Compositions table; and, Part Groups > Compliance tab > Compositions table

Exclude from Compliance Check

Items > BOM [and] Manufacturers tabs

Pending Declarations (new icon)

Change Orders > Affected Items tab, and Manufacturer Orders > Affected Items tab

Pending Declarations (Image)

Suppliers > General Info tab

Default Declaration Recipient

Upgrading PG&C (Rel. 9.2.2)

The most important part of upgrading from an earlier version of PG&C to PLM Release 9.2.2 is running the Compliance Migration Task.

Compliance Migration Task and Mass Tolerance Percentage

For customers who used PG&C before Rel. 9.2.2, the Compliance Migration Task must be enabled and run once; then this task can be disabled and is not needed. It is very important that this task is run to complete the data migration for legacy compositions; otherwise, rollup results may be unreliable.

However, before running this task, you must set the error tolerance for substances in compositions, as this setting gives value to the levels of disclosure.

1. Set a reasonable Mass Tolerance Percentage on page 431.
2. Then run Compliance Migration Task on page 452.

So, for step 1, please read the description of Mass Tolerance Percentage setting and think about a reasonable level of tolerance for your company's legacy compositions. This will apply to the compositions when the system runs the Compliance Migration Task.

You may change the Mass Tolerance Percentage value later on, but that value will apply only to

future compositions; to evaluate legacy declarations and the compositions they delineate after Mass Tolerance Percentage is changed, you would have to check the compliance of individual declarations, manually, one by one.

Note If the weights of Items or Manufacturer Parts came through the association of a Part Group with a Conversion Factor of 1, the masses do not account for the conversion factor. If you run in to this problem, please contact Oracle Consulting – Agile Practice for a solution.

For step 2, the Compliance Migration task does these tasks:

Part 1: Performs rollup for all declarations and manually imported mfr. part compositions;

Part 2: Performs the Full Material Disclosure check for all legacy compositions whose Mass Disclosure Type are not set, sorting them into three categories: Fully Disclosed, Partially Disclosed, or Undisclosed.

Known Issue with Part Group and Conversion Factor

This issue has been fixed for Rel.9.2.2, but still must be dealt with by upgrade customers: it is *not* resolved by the 9.2.2 Upgrade, nor the Compliance Migration task mentioned above.

If the composition of Items or Manufacturer Parts was copied from a Part Group, and the Conversion Factor is not equal to 1, the mass on the copied composition does not account for the conversion factor. If you run in to this problem, contact your Oracle Consulting – Agile Practice representative for a solution.

To describe the issue more fully: if a part has been added to a part group that already has compositions published to it *and* if the conversion factor is greater than 1, the system can fail to take the conversion factor into account when the mass is copied from the part group to associated items or manufacturer parts. If the conversion factor is 1 (or less than 1), which is most frequently the case, there is no issue; but if the conversion factor is, for example, 2 and the part group's mass is 10 g, the system can copy the associated part's mass as 10 g when it should be 2 x 10 g = 20 g.

This is mentioned so you will review the data in returned declarations (before publication) to ensure mass of parts is being correctly copied. Manual entry of data may be required.

Composition Type and Legacy Compositions

When upgrading to PLM 9.2.2, the Composition Type for existing (legacy) compositions must be identified. During the migration, if the composition is identified as "re-usable," the Result Compliance of the composition may change from Missing Info to a better value such as Exempt or Compliant. Later, when the user manually runs Calculate Compliance on an assembly or a scheduled rollup evaluates the assembly, rollup results can change.

If a composition without specification is identified as re-usable, if there are other compositions (with specification) that are re-usable, the system tries to use all of the re-usable compositions to calculate compliance of the specification. In this case, if the Composition Rollup Rule (see page 18-8) is set to Strict, then all the re-usable compositions must be Compliant in order to make the spec "compliant". (This contrasts with the "All Spec" compositions in Rel. 9.2.1, which is detailed in *PG&C User Guide*.)

Attributes to be Added to PG&C Business Objects (Rel. 9.2.2)

Substances > General Info tab

Alias

Declarations > Cover Page tab

Has Invalid Substance

Need Rollup

Declarations > Items / Manufacturer Parts / Part Groups tabs

Mass Disclosure

Declarations > Item Composition / Manufacturer Part Composition / Part Group Composition tables

User-entered CAS number

Intentionally Added

Calculated Mass

Result PPM

Result Mass

Spec Intentionally Added

Specification > Substances tab

Disallow Intentionally Adding

Items / Manufacturer Parts / Part Groups

The attributes below apply to the several “parts” classes and are organized by tabs:

Compositions tab

Mass Disclosure

Substances tab

User-entered CAS number

Intentionally Added

Calculated Mass

Result PPM

Result Mass

Spec Intentionally Added

Source (for Item object only)

BOM tab (for Item Object only)

Summary Compliance

Change Object

Affected Items tab

Summary Compliance

Default Read / Modify Privileges

Read Privileges

All of the new (9.2.2) attributes that are listed *above* must be added to the **privilege masks** *below* for the corresponding Agile class. For example, **Read Items** and **(Restricted) Read Items** need to have added all the attributes listed in “Items / Manufacturer Parts / Part Groups” above.

Read Items

(Restricted) Read Items

Read Mfr Parts

(Restricted) Read Mfr Parts

Read Part Groups

(Restricted) Read Part Groups

Read Specifications

Read Substances

Read Declarations

Read My Open and Submitted Declarations

Read Supplier Created Declarations

Modify Privileges

New (9.2.2) attributes that are listed below must be added to the named **privilege masks**.

Modify All Items: User-entered CAS number, Intentionally Added, Source

Modify Preliminary Items: User-entered CAS number, Intentionally Added, Source

Modify Released Items: User-entered CAS number, Intentionally Added, Source

Modify Mfr Parts: User-entered CAS number, Intentionally Added, Source

Modify Substances: Alias

Modify Specifications: Disallow Intentionally Adding

Modify Declarations: User-entered CAS number, Intentionally Added

Modify My Open Declarations: User-entered CAS number, Intentionally Added

Modify Supplier Created Declarations: User-entered CAS number, Intentionally Added

Upgrading PG&C (Rel. 9.2.1.3)

Upgrade customers need to manually add the new Import privilege to the roles that they created and to any user who will need to use Agile Import. The (Restricted) Material Provider role cannot be changed in Java Client, so you must contact Agile Support.

Attributes to be Added to PG&C Business Objects (Rel. 9.2.1)

Declarations – Cover Page

Compliance Manager Title

Compliance Manager Phone

Compliance Manager Email

Compliance Manager Fax

Supplier DUNs Number

Supplier Address

Supplier Contact Title

Supplier Contact Phone

Supplier Contact Email

Supplier Contact Fax

Supplier Contact Name

Items – Compliance Tab – Composition Table

Source

Composition Type

Date submitted by Supplier

Date Released

Manufacturer Parts – Compliance Tab – Composition Table

Source

Composition Type

Date submitted by Supplier

Date Released

Part Groups – Compliance Tab – Composition Table

Source

Composition Type

Date submitted by Supplier

Date Released

Privilege Masks to be Added to Compliance Manager Role (Rel. 9.2)

Export

Read Items

Read Mfr Parts

Read Suppliers

Attributes to be Added to Read Privilege Masks, by Base Class (Rel. 9.2)

Substances

Substances.Compositions.Conversion Factor

Substances.General Info.Base Substance

Specifications

Specifications.General Info.Exemptions

Specifications.General Info.Validation Type

Part Groups

Part Groups.Compositions.Calculated Compliance

Part Groups.Compositions.Composition

Part Groups.Compositions.Declaration Type

Part Groups.Compositions.Declared Compliance

Part Groups.Compositions.Declared Weight

Part Groups.Compositions.Effective From Date

Part Groups.Compositions.Exemption Expiration Date

Part Groups.Compositions.Exemptions

Part Groups.Compositions.Result Compliance

Part Groups.Compositions.Specification

Part Groups.Compositions.Supplier

Part Groups.Compositions.Type (Image)

Part Groups.Part Family Title Block.Compliance Calculated Date

Part Groups.Part Family Title Block.Overall Compliance

Part Groups.Specifications.Calculated Compliance

Part Groups.Specifications.Declared Compliance

Part Groups.Specifications.Description

Part Groups.Specifications.Exemption Expiration Date

Part Groups.Specifications.Exemptions

Part Groups.Specifications.Jurisdictions

Part Groups.Specifications.Lifecycle Phase

Part Groups.Specifications.Need Compliance Check

Part Groups.Specifications.Result Compliance

Part Groups.Specifications.Specification

Part Groups.Specifications.Specification Type

Part Groups.Specifications.Type (Image)

Part Groups.Specifications.Validation Type

Part Groups.Substances.Calculated Compliance

Part Groups.Substances.Calculated PPM

Part Groups.Substances.Child Level

Part Groups.Substances.Conversion Factor

Part Groups.Substances.Exemption Expiration Date

Part Groups.Substances.Exemptions

Part Groups.Substances.Reporting

Part Groups.Substances.Result Compliance

Part Groups.Substances.Specification

Part Groups.Substances.Threshold Mass PPM

Declarations

Declarations.Item Composition.Calculated Compliance

Declarations.Item Composition.Calculated PPM

Declarations.Item Composition.Child Level

Declarations.Item Composition.Conversion Factor

Declarations.Item Composition.Exemption Expiration Date

Declarations.Item Composition.Exemptions

Declarations.Item Composition.Result Compliance

Declarations.Item Composition.Specification

Declarations.Items.Calculated Compliance

Declarations.Items.Declared Compliance

Declarations.Items.Effective From Date

Declarations.Items.Exemption Expiration Date

Declarations.Items.Exemptions

Declarations.Items.Result Compliance

Declarations.Items.Specification

Declarations.Manufacturer Part Composition.Calculated Compliance

Declarations.Manufacturer Part Composition.Calculated PPM

Declarations.Manufacturer Part Composition.Child Level

Declarations.Manufacturer Part Composition.Conversion Factor

Declarations.Manufacturer Part Composition.Exemption Expiration Date

Declarations.Manufacturer Part Composition.Exemptions

Declarations.Manufacturer Part Composition.Result Compliance

Declarations.Manufacturer Part Composition.Specification

Declarations.Manufacturer Parts.Calculated Compliance

Declarations.Manufacturer Parts.Declared Compliance

Declarations.Manufacturer Parts.Effective From Date

Declarations.Manufacturer Parts.Exemption Expiration Date

Declarations.Manufacturer Parts.Exemptions

Declarations.Manufacturer Parts.Result Compliance

Declarations.Manufacturer Parts.Specification

Declarations.Part Group Composition.Calculated Compliance

Declarations.Part Group Composition.Calculated PPM

Declarations.Part Group Composition.Child Level

Declarations.Part Group Composition.Conversion Factor

Declarations.Part Group Composition.Exemption Expiration Date

Declarations.Part Group Composition.Exemptions

Declarations.Part Group Composition.Result Compliance

Declarations.Part Group Composition.Specification

Declarations.Part Groups.Calculated Compliance

Declarations.Part Groups.Declared Compliance

Declarations.Part Groups.Effective From Date

Declarations.Part Groups.Exemption Expiration Date

Declarations.Part Groups.Exemptions

Declarations.Part Groups.Result Compliance

Declarations.Part Groups.Specification

Declarations.References.Description

Declarations.Relationships - Affected By.Type (Image)

Declarations.Relationships - Affects.Criteria Met

Declarations.Relationships - Affects.Current Status

Declarations.Relationships - Affects.Description

Declarations.Relationships - Affects.Event

Declarations.Relationships - Affects.Notes

Declarations.Relationships - Affects.Number

Declarations.Relationships - Affects.Result

Declarations.Relationships - Affects.Type (Image)

Items

Items.Compositions.Calculated Compliance

Items.Compositions.Composition

Items.Compositions.Declaration Description

Items.Compositions.Declaration Lifecycle Phase

Items.Compositions.Declaration Type

Items.Compositions.Declared Compliance

Items.Compositions.Declared Weight

Items.Compositions.Effective From Date

Items.Compositions.Exemption Expiration Date

Items.Compositions.Exemptions

Items.Compositions.Result Compliance

Items.Compositions.Specification

Items.Compositions.Supplier

Items.Manufacturers.Summary Compliance

Items.Specifications.Calculated Compliance

Items.Specifications.Declared Compliance

Items.Specifications.Description

Items.Specifications.Exemption Expiration Date

Items.Specifications.Exemptions

Items.Specifications.Jurisdictions

Items.Specifications.Lifecycle Phase

Items.Specifications.Need Compliance Check

Items.Specifications.Result Compliance

Items.Specifications.Specification

Items.Specifications.Specification Type

Items.Specifications.Validation Type

Items.Substances.CAS Number

Items.Substances.Calculated Compliance

Items.Substances.Calculated PPM

Items.Substances.Child Level

Items.Substances.Conversion Factor

Items.Substances.Declaration

Items.Substances.Declared Compliance

Items.Substances.Declared PPM

Items.Substances.Exemption Expiration Date

Items.Substances.Exemptions

Items.Substances.Lifecycle Phase

Items.Substances.Mass

Items.Substances.Reporting

Items.Substances.Result Compliance

Items.Substances.Specification

Items.Substances.Substance Name

Items.Substances.Substance Type

Items.Substances.Threshold Mass PPM

Items.Substances.Type (Image)

Items.Suppliers.Lifecycle Phase

Items.Substances.Substance Type

Items.Substances.Supplier

Items.Suppliers.Site

Items.Suppliers.Supplier

Items.Suppliers.Type (Image)

Items.Title Block.Compliance Calculated Date

Items.Title Block.Exclude from Rollup

Items.Title Block.Overall Compliance

Items.Title Block.Shippable Item

Mfr Parts

Manufacturer parts.Specifications.Declared Compliance

Manufacturer parts.Compositions.Declared Compliance

Manufacturer parts.Compositions.Declared Weight

Manufacturer parts.Specifications.Description

Manufacturer parts.Compositions.Effective From Date

Manufacturer parts.Specifications.Exemption Expiration Date

Manufacturer parts.Compositions.Exemption Expiration Date

Manufacturer parts.Substances.Exemption Expiration Date

Manufacturer parts.Specifications.Exemptions

Manufacturer parts.Compositions.Exemptions

Manufacturer parts.Substances.Exemptions

Manufacturer parts.Specifications.Jurisdictions

Manufacturer parts.Specifications.Lifecycle Phase

Manufacturer parts.Specifications.Need Compliance Check

Manufacturer parts.Specifications.Result Compliance

Manufacturer parts.Compositions.Result Compliance

Manufacturer parts.Substances.Result Compliance

Manufacturer parts.Specifications.Specification

Manufacturer parts.Compositions.Specification

Manufacturer parts.Substances.Specification

Manufacturer parts.Compositions.Supplier

Manufacturer parts.Specifications.Specification Type

Manufacturer parts.Specifications.Type (Image)

Manufacturer parts.Compositions.Type (Image)

Manufacturer parts.Specifications.Validation Type

Manufacturer parts.Compositions.Declaration Type

Manufacturer parts.General Info.Compliance Calculated Date

Manufacturer parts.General Info.Overall Compliance

Manufacturer parts.Substances.Child Level

Manufacturer parts.Substances.Threshold Mass PPM

Attributes to be Added to Modify Privilege Masks, by Base Class (Rel. 9.2)

Modify Declarations

Declarations.Item Composition.CAS number

Declarations.Item Composition.Conversion Factor

Declarations.Item Composition.Exemption Expiration Date

Declarations.Item Composition.Exemptions

Declarations.Item Composition.Substance Name

Declarations.Item Composition.Substance Type

Declarations.Items.Declared Compliance

Declarations.Items.Effective From Date

Declarations.Items.Exemption Expiration Date

Declarations.Items.Exemptions

Declarations.Items.Item Rev

Declarations.Items.Specification

Declarations.Manufacturer Part Composition.CAS Number

Declarations.Manufacturer Part Composition.Conversion Factor

Declarations.Manufacturer Part Composition.Exemption Expiration Date

Declarations.Manufacturer Part Composition.Exemptions

Declarations.Manufacturer Part Composition.Substance Name

Declarations.Manufacturer Part Composition.Substance Type

Declarations.Manufacturer Parts.Declared Compliance

Declarations.Manufacturer Parts.Effective From Date

Declarations.Manufacturer Parts.Exemption Expiration Date

Declarations.Manufacturer Parts.Exemptions

Declarations.Manufacturer Parts.Mfr Name

Declarations.Manufacturer Parts.Specification

Declarations.Manufacturer Part Composition.CAS Number

Declarations.Part Group Composition.Conversion Factor

Declarations.Part Group Composition.Exemption Expiration Date

Declarations.Part Group Composition.Exemptions

Declarations.Part Group Composition.Substance Name

Declarations.Part Group Composition.Substance Type

Declarations.Part Groups.Declared Compliance

Declarations.Part Groups.Effective From Date

Declarations.Part Groups.Exemption Expiration Date

Declarations.Part Groups.Exemptions

Declarations.Part Groups.Mfr Name

Declarations.Part Groups.Specification

Declarations.References.Notes

Declarations.References.Number

Declarations.Relationships-Affected By.Event

Declarations.Relationships-Affected By.Notes

Declarations.Relationships-Affected By.Number

Declarations.Relationships-Affected By.Result

Declarations.Relationships-Affects.Event

Declarations.Relationships-Affects.Notes

Declarations.Relationships-Affects.Number

Declarations.Relationships-Affects.Result

Declarations.Declaration Specification.Is Compliant

Declarations.Declaration Specification.Specification

Modify Mfr.Parts

Manufacturer Parts.Specifications.Declared Compliance

Manufacturer Parts.Substances.Declared Compliance

Manufacturer Parts.Substances.Declared PPM

Manufacturer Parts.Specifications.Exemption Expiration Date

Manufacturer Parts.Specifications.Exemptions

Manufacturer Parts.Substances.Mass

Manufacturer Parts.Specifications.Specification

Modify My Open Declarations

Declarations.Cover Page.Compliance Manager

Declarations.Cover Page.Description

Declarations.Cover Page.Due Date

Declarations.Cover Page.Name

Declarations.Cover Page.Workflow

Declarations.Item Composition.CAS Number

Declarations.Item Composition.Conversion Factor

Declarations.Item Composition.Exemption Expiration Date

Declarations.Item Composition.Exemptions

Declarations.Item Composition.Substance Name

Declarations.Item Composition.Substance Type

Declarations.Items.Declared Compliance

Declarations.Items.Effective From Date

Declarations.Items.Exemption Expiration Date

Declarations.Items.Exemptions

Declarations.Items.Specification

Declarations.Items.Text10

Declarations.Manufacturer Part Composition.CAS Number

Declarations.Manufacturer Part Composition.Conversion Factor

Declarations.Manufacturer Part Composition.Exemption Expiration Date

Declarations.Manufacturer Part Composition.Exemptions

Declarations.Manufacturer Part Composition.Substance Name

Declarations.Manufacturer Part Composition.Substance Type

Declarations.Manufacturer Parts.Declared Compliance

Declarations.Manufacturer Parts.Effective From Date

Declarations.Manufacturer Parts.Exemption Expiration Date

Declarations.Manufacturer Parts.Exemptions

Declarations.Manufacturer Parts.Mfr Name

Declarations.Manufacturer Parts.Specification

Declarations.Manufacturer Parts.Text10

Declarations.Part Group Composition.CAS Number

Declarations.Part Group Composition.Conversion Factor

Declarations.Part Group Composition.Description

Declarations.Part Group Composition.Exemption Expiration Date

Declarations.Part Group Composition.Exemptions

Declarations.Part Group Composition.Substance Name

Declarations.Part Group Composition.Substance Type

Declarations.Part Groups.Declared Compliance

Declarations.Part Groups.Effective From Date

Declarations.Part Groups.Exemption Expiration Date

Declarations.Part Groups.Exemptions

Declarations.Part Groups.Mfr Name

Declarations.Part Groups.Specification

Declaration.Declaration Specification.Is Compliant

Declaration.Declaration Specification.Specification

Modify Preliminary Items

Items.Specifications.Declared Compliance

Items.Specifications.Exemptions Expiration Date

Items.Specifications.Exemptions

Items.Specifications.Specification

Items.Substances.Declared Compliance

Items.Substances.Declared PPM

Items.Substances.Mass

Modify Released Items

Items.Specifications.Declared Compliance

Items.Specifications.Exemptions Expiration Date

Items.Specifications.Exemptions

Items.Specifications.Specification

Items.Substances.Declared Compliance

Items.Substances.Declared PPM

Items.Substances.Mass

Modify Specifications

None

Modify Substances

Substances.Attachments.Attachment Type

Substances.Attachments.File Description

Substances.Attachments.Filename

Substances.Attachments.Folder Description

Substances.Attachments.Folder Version

Substances.Attachments.Notes

Substances.Compositions.Conversion Factor

Substances.Compositions.Name

Substances.General Info.Base Substance

Substances.General Info.CAS Number

Substances.General Info.Description

Substances.General Info.Lifecycle Phase

Substances.General Info.Name