

Agile Product Lifecycle Management

Administrator Guide

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Contents

Preface	xxiii
Audience	xxiii
Documentation Accessibility	xxiii
Related Documents	xxiii
Conventions	xxiii
 1 Introduction	
Welcome to Agile PLM Administrator	1-1
How to Find Documentation for Agile PLM	1-1
Documentation for the PLM Administrator	1-1
Agile Configuration Propagation (ACP) Guide	1-1
Recipe & Material Workspace Administrator Guide	1-1
Getting Started with Agile PLM	1-1
PLM Solution-Specific User Guides	1-2
Agile Product Lifecycle Management Solutions	1-2
What's New in Administrator	1-3
Features and Enhancements added in Rel. 9.3.4	1-3
Features and Enhancements added in Rel. 9.3.3	1-4
Features and Enhancements added in Rel. 9.3.2	1-5
Features and Enhancements added in Rel. 9.3.1	1-5
Features and Enhancements added in Rel. 9.3	1-6
Installation Test Notice	1-7
 2 Getting Started in Administrator	
Overview	2-1
Logging in to Agile Clients as an Administrator	2-1
Creating New Administrator Users	2-2
Dates and Times in Agile PLM	2-3
Example	2-4
Administrator User Interfaces	2-4
Filtering Data in Java Client	2-4
Administrator Nodes in Java Client	2-4
Administrative Capabilities	2-7
Guidelines for Implementing Agile PLM	2-8
Example Nodes in Java Client	2-8

Administration in Web Client	2-9
Agile PLM Variables	2-9
Default Value Variables	2-10
\$CURRENTREV Criteria Logic.....	2-10
Privilege Mask Criteria Variables.....	2-10
Workflow Assignment and Status Type Variables	2-11
Routing Manager Variables.....	2-12

3 Administrator Functions in Web Client

Overview to Administrator in Web Client	3-1
Configuring the Dashboard	3-2
Tab Display Configuration	3-2
Visual Themes	3-3
Selecting Theme Options	3-3
Branding Logo.....	3-3
Icon Motif.....	3-3
Color Palette.....	3-3
Replacing the Oracle Logo.....	3-4
Modifying Style Schemes.....	3-5
Specifying Colors in Hexadecimal Format.....	3-6
Report Templates	3-6
Manage Report Template (AppliedTo Choice).....	3-7
Dynamic and Static Templates.....	3-7
Creating Report Templates.....	3-7
Reports Unsupported by BI Publisher	3-8
Logging Configuration	3-8
Cache Health Monitor	3-9
How the Cache Health Monitor Works	3-10
Buttons on Cache Health Monitor Page	3-10
Automatic Synchronization using Java Client Administrator	3-11
Logging and Debugging Errors	3-11
Deleting Objects in Agile	3-13

4 Administrator Functions in Java Client

API Name	4-1
API Name field in Java Client	4-1
Administrator Reports	4-2
Utilities on Admin Toolbar	4-4
Sending Email to Users	4-4
Global Replace	4-5
Global Replace Properties.....	4-5
History Tracking	4-6
Object History and Administrative Object History	4-7
Administrator History.....	4-7
Purging Administrator History	4-8
History of Deleted Objects.....	4-8
Deleting Objects in Agile.....	4-9

Administrator Import and Export	4-10
Encoding Types	4-10
Administrator Export	4-11
Administrator Import	4-11
Process Extensions Library	4-12
Multiple Language Support	4-12
Administrator Data that is Supported for Multi-Language Capability	4-13
Supported Administrator Nodes	4-13
Data Settings	4-13
Workflow Settings	4-14
User Settings	4-14
System Settings	4-14
Supported Predefined System Objects	4-15
Administrator Data that is Not Supported for Multi-Language Capability	4-15
Configuring a System for Multi-Languages	4-16

5 Classes

Configuring Business Objects with Agile PLM Classes	5-1
Agile PLM Class Structure	5-1
Routable and Nonroutable Objects	5-2
Object Types in Agile PLM	5-3
Viewing Agile PLM Classes	5-3
Agile PLM's Installed Routable Object Types	5-3
Agile PLM's Installed Nonroutable Object Types	5-5
Disabling Object Types	5-9
Customizing Lifecycle Phases	5-9
Modifying a Lifecycle Phase	5-10
Adding a Lifecycle Phase	5-10
Removing a Lifecycle Phase	5-11
Configuring Subclasses	5-11
Before You Begin	5-12
Viewing Subclass Properties	5-12
Changing the AutoNumber Source Property	5-12
Preventing Manual Number Assignment	5-13
Changing a Subclass Name or Description	5-14
Changing the Site-Specific BOM Property	5-14
Creating a New Subclass	5-15
Deleting a Subclass	5-15
Configuring Tabs	5-16
About Page Two Tabs	5-16
About Page Three Tabs	5-16
Showing, Hiding, or Renaming a Tab	5-17
Modifying the Format of Tabs	5-18
Modifying Attribute Order on a Form Tab, Single Column	5-18
Multi-Column Layout on a Web Client Form Tab	5-19
Attribute Input Width Setting	5-19
Two-Column Attribute Order	5-20

Thumbnails on Two-Column Form Tabs	5-21
Modifying Attribute Order on a Table Tab	5-22
Designing a Page Two or Page Three Tab	5-22
About the Page Two Create User Attribute	5-23
Guidelines for Designing Page Two and Page Three Tabs	5-23
Preparing Page Two or Page Three Attributes	5-23
Before You Begin	5-24
Stage II: Setting Up the Tab	5-25
Field Tab Order	5-25
Using Heading Attributes	5-25
Removing a Page Two or Page Three Tab	5-26
About Attributes, Flex Fields, and Read-Through Fields	5-27
User-Defined Flex Fields	5-27
Where user-defined flex fields are fully supported:	5-28
Where user-defined flex fields are partially supported:	5-29
Where User-Defined Flex Fields cannot be Used	5-29
Read-Through Fields	5-29
Read-Through Fields Made Consistent in Items and Changes	5-30
Read-Through Fields on the BOM and Manufacturers Tabs	5-30
Defining Attributes	5-31
Recognizing Attribute Types	5-32
Defining Attribute Properties	5-33
An Exception Involving Required Fields in Object Modification	5-38
Image Attributes	5-38
Defining LargeText Attributes	5-38
HTML Features	5-40
Configuring Attributes	5-42
Modifying Attributes	5-43
Matching the Properties of Attributes Common to Several Tabs	5-43
Setting Default Values	5-44
Showing or Hiding an Attribute on a Tab	5-44
Editing a Field Label or Table Column Name	5-44
Using Custom Icons for Subclasses	5-45
Smart URL Quick Access to Objects, Files, and Searches	5-46

6 Character Sets

Available Character Sets	6-1
Creating a Character Set	6-2
Modifying a Character Set	6-3

7 Lists

Overview	7-1
Routing Manager Lists	7-1
Creating Custom Lists and Adding to Lists	7-2
More Kinds of Lists	7-4
Simple Lists	7-5
Cascade Lists	7-6

Dynamic Lists	7-6
Criteria Association to Dynamic Lists	7-7
Configuring Lists	7-7
Setting Default Values for Lists.....	7-9
Display Type for Lists in Web Client.....	7-9
Failure Mode Lists.....	7-9
Creating Cascade Lists	7-10
 8 Process Extensions	
Overview to Process Extensions	8-1
Using the Process Extension Library	8-2
Assigning Process Extensions to Classes.....	8-4
Assigning Process Extensions to Workflow Statuses.....	8-4
 9 AutoNumbers	
How AutoNumbers Are Used.....	9-1
Modifying an AutoNumber Source.....	9-1
About AutoNumber Sources.....	9-2
Configuring AutoNumber Sources.....	9-4
Changing an AutoNumber's Prefix or Suffix.....	9-5
Changing Where an AutoNumber Source Is Used	9-5
Custom AutoNumbers	9-6
Timeout.....	9-6
Creating a New AutoNumber Source.....	9-6
Before You Begin	9-6
Deleting an AutoNumber Source.....	9-7
 10 Criteria	
About Reusable Criteria	10-1
Exploring Reusable Criteria	10-1
Viewing Reusable Criteria	10-2
Criteria Windows and Tabs.....	10-3
Creating a New Criteria	10-3
Modifying an Existing Reusable Criteria.....	10-5
Using Affected Items Tab Fields in Reusable Criteria	10-5
How Changes Are Matched When Reusable Criteria Specify Affected Items Tab Fields ...	10-5
Difference Between "Item" and "Part" in Affected Items Names	10-6
More about Affected Items: Adding Approvers, Acknowledgers, and Observers.....	10-6
Using \$CURRENTREV and \$LATESTREV in Criteria for Items	10-7
About TitleBlock.Rev	10-7
Rules for Using the \$CURRENTREV Variable	10-7
Rules for Using the \$LATESTREV Variable.....	10-9
Item Relationship Creation Using \$CURRENTREV and \$LATESTREV Criteria.....	10-10
Using File Folder Attributes in Reusable Criteria	10-10

11 Workflows

How Workflows Automate the Change Control Process	11-1
Modifying a Workflow	11-2
Workflow Basics	11-2
Routing Managers	11-2
Other Workflow Basics	11-3
Keep It Simple!	11-4
Default Status-Based Workflows	11-5
Status Types Defined	11-5
Creating New Workflows with Save As	11-7
General Workflow Properties	11-8
General Information Tab	11-8
About Workflow Name	11-9
Workflow Criteria Matching Type	11-9
Status Criteria Matching Type	11-10
Creating and Using Custom Workflows	11-11
Before You Begin	11-11
Custom Workflow Example	11-12
Guidelines for Creating Workflows	11-13
Creating a New Workflow	11-14
When a New Workflow is Enabled	11-16
Routing to a User Group	11-16
Status Properties Defined	11-16
If No Criteria Apply At Exit, Notify	11-17
Manual Valid Next Status	11-17
Save Routing Slip Content when Advancing Change	11-17
Send Workflow Status Comments and Notifications to all Previous and Current CCB Members	11-18
AutoPromote	11-18
If AutoPromote Fails, Notify	11-19
Ability to Fail AutoPromote More than Once within same Change Status	11-19
Ad-Hoc Reviewers	11-20
If Rejected, Set Status To	11-20
If Rejected, Notify	11-20
Reminder Period	11-21
Review Escalation Period	11-21
Designated Escalation Person	11-22
Comments for Approval	11-23
Comments for Rejection	11-23
Comments for Acknowledgement	11-23
Dual Identification Required	11-23
Password Required	11-23
Criteria-Specific Properties Defined	11-24
Approvers, Observers, and Acknowledgers	11-24
Group Signoff Expansion	11-24
Criteria Usage	11-25
Default Change Analyst / Component Engineer	11-25

Notify Upon Entry	11-26
Pass Release Audit	11-26
Two Levels of Audit	11-28
Status Audit, or Audit Current Status for Conditions to Advance	11-28
Release Audit, or Audit Current Status for Conditions to Release	11-28
Entry Required and Exit Required Fields.....	11-29
Workflow Functionality Testing.....	11-30
Areas of Workflow Validation	11-30
Quick Tips on Testing.....	11-31
Migrating Workflows to Production	11-31
Quick Tip on Migrating Workflows	11-31
Workflow Migration Process.....	11-31
Changing Active Workflows.....	11-32
Modifying Properties in an Enabled Workflow	11-32
When You Can Disable, Modify, and Re-enable a Workflow	11-32
What You Can Modify If a Workflow Has Any Routable Objects Applied	11-32
What You Cannot Modify If a Workflow Has Any Routable Objects Applied.....	11-33
Disabling, Changing, and Reactivating Workflows.....	11-34
 12 Account Policy	
Before You Begin	12-1
Default Account Policy	12-2
Configuring the Account Policy	12-2
Administrator Reset of Locked Out Account.....	12-4
 13 Users	
Adding New Users	13-1
Before You Begin	13-2
About Usernames	13-4
About Passwords	13-4
Change Internal User Password	13-5
LDAP as a Node in Administrator	13-5
Modifying User Properties	13-5
Changing a User's Password	13-6
Changing a User's Role Assignments	13-8
User Properties Defined.....	13-8
General Info Tab User Properties	13-8
Preferences Tab User Properties	13-12
Escalations Tab User Properties.....	13-13
User Groups Tab User Properties.....	13-14
 14 User Groups	
Creating a New User Group	14-1
User Group Properties.....	14-3
Modifying a User Group.....	14-4
Assigning Escalation Persons to User Groups.....	14-5

Adding User Groups as Default Reviewers in a Workflow	14-5
Setting Up User Groups as Partners	14-7

15 Supplier Groups

Overview	15-1
Properties	15-1
Available actions	15-1

16 Roles

Overview of Roles and Privileges in Agile PLM	16-1
What is a Privilege Mask?	16-1
Getting Familiar with Roles	16-2
Viewing the Roles Window	16-3
Viewing a Role	16-3
Guidelines for Working with Roles	16-4
Default Agile PLM Roles	16-4
Administrator roles	16-4
General-function Agile PLM roles	16-5
Engineering Collaboration role	16-6
Product Collaboration roles	16-6
Product Quality Management roles	16-7
Product Cost Management roles	16-7
Product Portfolio Management roles	16-8
Reports roles	16-9
Agile Content Services role	16-9
Product Governance & Compliance roles	16-9
Agile Configuration Propagation roles	16-10
Example Roles	16-10
Restricted Roles	16-10
Role-based Enhancements	16-10
Securing and Maintaining Roles and Privilege Masks	16-11
Using Agile Configuration Propagation to Restore Admin Settings	16-12
Recommended Security and Maintenance Plan	16-12
Database Backup Procedures	16-13
Exporting Agile PLM Administrative Settings	16-13
Running Reports	16-13
Working with Roles	16-14
Modifying a Role	16-15
Building and Testing Attributes, Read/Modify Privileges, and Roles	16-16
Creating a New Role	16-17
Before You Begin	16-17
Creating a New Role Using Save As	16-17
Creating a New Role from Scratch	16-18
Using the Example Roles	16-19
Example Privilege Masks in Example Roles	16-19
Creating a New Role from an Example Role Using Save As	16-19
Deleting a Role	16-20

17 Privileges and Privilege Masks

About Privileges and Privilege Masks	17-1
Getting Familiar with Privileges and Privilege Masks	17-1
Viewing Privilege Masks	17-2
Viewing Privilege Mask Properties.....	17-2
Tasks Performed from the Privileges Window.....	17-3
Removing a Privilege Mask from a Role	17-4
Adding a Privilege Mask to a Role.....	17-4
Default Agile PLM Privileges	17-5
Further Discussion of Specific Privileges	17-11
More Information about Selected Privileges.....	17-11
Add Reviewer and Remove Reviewer.....	17-11
Add to Table and Delete from Table Privileges	17-12
Change Status	17-13
Client Access	17-14
Export	17-15
Full Search Display	17-16
Grant	17-16
Override	17-17
Purge Folder Version Privilege.....	17-18
Transfer Authority for Self	17-18
Transfer Authority for Others	17-18
Site Change Order Save As Limitations	17-19
Subscribe	17-19
Privilege Mask Components	17-19
All Privilege Masks have a Privilege, an Object Type, and a Criteria.....	17-20
A Few Privileges are the Basis to Privilege Masks with AppliedTo	17-20
Diagramming Privilege Masks	17-20
Naming Privilege Masks.....	17-21
Privilege Mask Component 1: Privileges.....	17-22
Privilege Mask Component 2: Object Type.....	17-22
Privilege Mask Component 3: Criteria.....	17-24
Privilege Mask Component 4: Attributes	17-24
Enabling a Privilege Mask	17-25
Modifying Privilege Masks	17-26
Modifying Privilege Mask Criteria.....	17-26
AppliedTo Property in Select Privileges.....	17-26
Administrator Privilege and the AppliedTo Capability	17-27
Show Visible Attributes Only Check Box.....	17-27
Viewing the AppliedTo Property	17-27
Modifying the AppliedTo Property	17-28
Specialized Administrator Privilege Masks.....	17-29
Options for Building Administrator Assistants	17-29
Save Import Preference Setting (AppliedTo Choice).....	17-30
Manage Report Template (AppliedTo Choice)	17-30
Dashboard Management.....	17-30
Project Summary Page Configuration	17-31

Creating New Privilege Masks	17-31
Before You Begin	17-31
Copying a Privilege Mask Using Save As	17-32
Creating a New Privilege Mask from Scratch.....	17-32
Combining Options in Criteria and AppliedTo Attributes	17-33
Privilege Mask Example 1: Modify Stop Ships	17-34
Privilege Mask Example 2: Change Status	17-34
Privilege Mask Example 3: Modify Items	17-35
Discovery and Read Privileges	17-36
Discovery Privilege.....	17-36
Discovery Privilege and Sites.....	17-37
Discovery Privilege and Life Cycle Phases	17-37
Related SmartRules.....	17-38
Discovery Privilege and Reports	17-38
Relationships among Discovery and Read Privileges	17-38
Field-Level Read Privilege.....	17-39
Modifying the AppliedTo Fields of Read Privilege Masks	17-39
Display No Privilege Fields	17-40
Enforce Field-Level Read Privilege	17-40
Display on Tables Due to Enforce Field-level Read.....	17-41
Modify Privilege.....	17-41
Some 'Modify' Basics and Rules.....	17-42
Controlling the Ability to Modify Items at Introductory Revision with \$CURRENTREV	17-43
Applicable Item Attributes	17-43
\$CURRENTREV Criteria Logic.....	17-43
Definition of a Released Revision.....	17-44
Definition of a Pending Revision.....	17-44
Building Criteria for Specific Use Cases	17-44
Allow broad Modify at Introductory only	17-44
Allow targeted Modify for a Pending revision	17-45
Allow targeted Modify for a Released revision.....	17-45
\$CURRENTREV Criteria Examples	17-45
Applying Create User Criteria	17-50
Using Privilege Mask Criteria Variables.....	17-51

18 Other User Settings

User Monitor	18-1
Refreshing the User Monitor Window	18-1
Terminating a User Session	18-1
Deleting and Undeleting Users	18-2
Deleting a User Group.....	18-2
Deleting a Functional Team.....	18-3
Hard-Deleting a User Group	18-3
Hard-Deleting a Functional Team	18-3
Undeleting a User Group.....	18-3
Undeleting a Functional Team.....	18-4

19 SmartRules

Modifying SmartRules Settings	19-1
SmartRules Defined	19-2
Allow Deletion of Attachments.....	19-2
Auto-Installs from PPM	19-2
Auto Publish Quote History	19-2
BOM Multi-Level Recursion.....	19-2
Change Status Approver Rejected Change	19-3
Change Status No Response From Acknowledger	19-3
Change Status No Response From Approver	19-3
Change Status Observer Rejected Change	19-3
Check In Attachment With Different File Extension	19-3
Copy Files to Rev - Designs	19-4
Copy Files to Rev - File Folders.....	19-4
Copy Relationships to Rev.....	19-5
Delete Instance With BOM	19-5
Demotion Approvers Removal	19-5
Demotion Signoff Removal.....	19-5
Detailed TimeSheet Entry	19-6
Discovery Object Tables	19-6
Discovery Results Table	19-6
Display BOM Tables	19-6
Display Structure Tables	19-6
Duplicate Find Numbers.....	19-7
Duplicate Item Numbers.....	19-7
Duplicate Ref Des.....	19-7
Effectivity Date Order	19-8
Effectivity Gap	19-8
Effectivity Overlap	19-8
Enable Addition of Activities and Gates to Completed Activities	19-8
Enable Comments for Deleting, Archiving & Delegating.....	19-8
Force Commodity and Part Family to be Identical	19-8
Items Released First	19-9
Many Items per PSR	19-9
Many QCR per PSR.....	19-9
Multiple Items Per Manuf Part	19-9
Negative Value For Material Price Adder Fields	19-9
Negative Value For Material Price Fields.....	19-9
Negative Value For Non-Material Price Fields.....	19-9
Notify Resource Pool Owner for Proposed Programs.....	19-9
Object Edit Conflicts	19-10
Overlap Price Line Effectivity Periods	19-10
PSR Contains Items and Related PSRs.....	19-11
Redline Attributes	19-11
Redline Manufacturers On Change Order	19-11
Release QCR With Unresolved Items.....	19-11
Released Rev Required.....	19-11

Unrelease Change Order.....	19-11
Unrelease Change Request	19-12
Unrelease Deviation.....	19-12
Unrelease Manufacturing Order.....	19-12
Unrelease QCR	19-12
Unrelease Stop Ship	19-12
Workflow Matching Criteria Attribute Modification	19-12
Zero Value For Material Price Adder Fields	19-12
Zero Value For Material Price Fields.....	19-13
Zero Value For Non-Material Price Fields	19-13

20 Viewer and Files

Viewer & Files Properties	20-1
Options for Purging and Retaining Files	20-2
AutoPurge Enabled.....	20-2
File Version Keep	20-3
Purge Redlined Files.....	20-3
Directly Use These Thumbnail Image Types	20-4
Thumbnail generation options.....	20-4
CAD Revision BOM Attribute.....	20-5
File Association tab	20-5
Specifying Supported File Types for AutoVue for Agile	20-5
Printing Banners and Watermarks	20-8
Banner and Watermark Properties.....	20-10
Specifying Banner Text and Location.....	20-10

21 Notifications

Overview of Notifications	21-1
Preliminary Admin Settings for Notifications	21-1
Default Notifications	21-2
Attributes of Default Notifications	21-2
Event-based Notifications	21-2
Attributes of Event-based Notifications	21-3
Working with Events-based Notifications	21-5
Creating a Notification.....	21-5
Deleting a Notification	21-6
Invoking Notifications Programmatically.....	21-6
Working with Default and Event-based Notifications	21-7
Editing a Notification	21-7
Entering Subject and Body Text.....	21-7
Creating a Notification using Save As	21-7

22 Full Text Search

Full Text Search Limitations	22-1
Full Text Search Properties	22-2
Indexing Attachment Files	22-3

	Using FileLoad and Indexing New Files	22-3
	Index Attachment Button.....	22-3
	Update Content URLs Now Button.....	22-3
	"Stop" Words.....	22-3
23	My Assignments	
	Overview.....	23-1
	Columns	23-1
24	Unit of Measure (UOM)	
	Creating Categories of Measure and Units of Measure.....	24-1
25	Other System Settings	
	Company Profile.....	25-1
	Currency Exchange Rates.....	25-1
26	Dashboard Management	
	View Dashboard Tabs	26-1
	Adding Dashboard Tabs.....	26-1
	Deleting Dashboard Tabs.....	26-1
	Adding Tables to Optional Tabs.....	26-2
	Adding Data to Tables.....	26-2
	Adding Charts to Optional Tabs	26-2
	Adding Advanced Search to Optional Tabs	26-3
	Configure Table for Advanced Search.....	26-4
	Adding Custom (URL) Process Extensions for Optional Tables	26-5
	Reordering Table Rows in a Tab.....	26-5
	Displaying Optional Tabs	26-5
27	Solution-specific Administration	
	Documentation	27-1
	Configurable Solutions for Administrator.....	27-1
28	Reference Objects Management	
29	Event Management	
	Introduction to Event Management.....	29-1
	Preliminary Configuration.....	29-1
	Access to the Event Management nodes	29-1
	Global Event control.....	29-1
	Systemwide Preferences that pertain to Events	29-2
	Event Management Node Folder.....	29-2
	Events node -	29-2
	Event Handlers node -.....	29-2

Event Subscribers node -	29-2
Event Types node -	29-2
Event Handler Types node -	29-3
Event Handler Monitor node -	29-3
About Process Extensions and Notifications Nodes.....	29-3
Default Notifications and Event-based Notifications.....	29-3
Custom Process Extensions and Event-based Process Extensions	29-3
Anatomy of Event Subscriptions	29-3
Mask Names in an Example Event Subscription.....	29-4
Event Subscription Components are Interconnected	29-5
Event Subscribers Tab on All Object Types	29-6
Handler Types	29-7
Process Extension-based Handler Types.....	29-7
Java Process Extensions	29-7
Script Process Extensions.....	29-8
Notification-based Handler Type	29-8
Notification Masks	29-8
Notes on Event Handler Types Node	29-8
Event Types	29-8
Default Event Types.....	29-9
Multiple Triggers from Single Action.....	29-13
Applies to these PLM base classes.....	29-14
Global Event Types.....	29-14
Working in Events Node	29-15
Attributes of Event Masks.....	29-15
Checklist for Creating an Event Mask.....	29-16
Creating an Event Mask	29-17
Working in Event Handlers Node	29-17
Attributes of Handler Masks	29-18
Roles in Handler Masks	29-18
Checklist for Creating a Handler Mask	29-19
Creating a Handler Mask.....	29-19
Working in Event Subscribers Node	29-20
Filtering in Dialogs during Create Subscriber	29-20
Attributes of Subscriber Masks	29-21
Trigger Type: Pre and Post	29-22
Execution Mode: Synchronous or Asynchronous.....	29-23
Trigger Types and Execution Mode	29-23
Order and Execution Mode	29-23
Checklist for Creating a Subscriber Mask	29-24
Creating a Subscriber Mask	29-24
Sample Event Subscriptions	29-25
Monitoring Events	29-25
Event Handler Monitor	29-26
Attributes of Event Handler Monitor	29-26
Event Log File	29-27
Object History Tab	29-27

Control of Event Components	29-27
Global Event Control	29-28
When an Event Type is Disabled	29-28
When a Handler Type is Disabled	29-28
When an Event Mask is Disabled	29-29
When a Handler Mask is Disabled	29-29
When a Subscriber Mask is Disabled	29-29
More about Selected Event Types.....	29-29
More about Selected Global Event Types	29-29
More about Selected Generic Object-based Event Types	29-30
More about Selected Specific Object-based Event Types	29-32
More about Workflow-based Event Types.....	29-32
More about Variant Management Event Types.....	29-34

30 Scripting and Sample Event Subscriptions

Overview to Scripting in Agile PLM.....	30-1
Using Groovy Scripting Language.....	30-1
Choosing Script-based Handlers	30-2
Steps to Develop or Update Handler Masks.....	30-2
Editing Scripts in the Handler Mask	30-3
Logging of Scripts	30-3
Checklist for Specifying Script-based Event Subscriptions.....	30-3
Sample Event Subscriptions with Scripts	30-4
Update Item Description.....	30-5
Event mask: [Update Title Block Items]	30-5
Handler mask: [Update Item Description].....	30-5
Subscriber mask: [Update Title Block Items Update Item Description]	30-5
Notify Create User when Item is Incorporated	30-6
Event mask: [Incorporate Item]	30-6
Handler mask: [Incorporated Item]	30-6
Subscriber mask: [Incorporate Item Incorporated Item]	30-6
Set Change Analyst.....	30-7
Event mask: [Change Analyst for Workflow].....	30-7
Handler mask: [Set Change Analyst].....	30-7
Subscriber mask: [Change Analyst for Workflow Set Change Analyst]	30-8
Add Document to New Part.....	30-8
Event mask: [Create Parts].....	30-8
Handler mask: [Add Doc to New Part]	30-8
Subscriber mask:	30-10
Notify when Affected Items Table is Updated	30-10
Event mask: [Update Table ECO].....	30-10
Notification mask: [Notify ECO AffItem Change].....	30-10
Subscriber mask: [Update Table ECO Notify Item ECO AffItem Change].....	30-11

31 Locations and File Management

Configuring Web Client Notification	31-1

Configuring Java Client Notification	31-2
File Management in Agile PLM	31-2
Agile File Management Server	31-2
File Vault	31-2
Using FileLoad and Indexing New Files	31-3
Distributed File Management.....	31-3
Optimized Replication Systemwide Preference	31-3
Using the AutoVue for Agile Server in a Distributed Environment.....	31-3
How Distributed File Manager Works	31-3
File Management Security	31-4
Server Security	31-4
Client Access Security	31-4
Handle File Checksum	31-4
Configuring a File Manager.....	31-5
Creating a Custom File Vault.....	31-7
Base Storage Directory and Purge Directory Fields.....	31-8
Configuring Custom Vaults for Multiple Distributed File Managers.....	31-8
Modifying a File Manager Definition	31-10
Deleting a File Manager Definition or Removing a File Server	31-10
Setting the Preferred File Manager for a User	31-10
Purging Older Versions of Files	31-11
Use Case for Attachment Purging Task.....	31-11

32 Database

Configuration of Database Settings	32-1
Database Properties	32-1

33 LDAP

Configuring WebLogic Server for LDAP with Agile PLM	33-1
Configuring WebLogic with Oracle Internet Directory	33-2
Configuring WebLogic with Sun Java System Directory Server	33-3
Configuring WebLogic with Microsoft Active Directory Server	33-5
Configuring WebLogic with Microsoft Active Directory Directory Lightweight Services Server	33-6
Configuring WebLogic with Oracle Virtual Directory Server.....	33-8
Creating Users in an LDAP Directory	33-10
Configuring Multiple LDAP User Repositories	33-10
Enhanced LDAP.....	33-10
Synchronizing LDAP and Agile PLM.....	33-11
LDAP-controlled User Properties	33-11
Agile LDAP Configuration.....	33-12
Directory Service Connection Parameters.....	33-12
LDAP Configuration Properties	33-12
Mapping LDAP Attributes	33-14
Generic LDAP Agent	33-14
Script for Active Directory Server	33-14
Script for Active Directory Lightweight Directory Services.....	33-16

Script for Oracle Internet Directory Server	33-17
Script for Sun Java System Directory Server.....	33-18
Multiple Directory Server Support.....	33-19
Configuration Scripts.....	33-19
Synchronizing Users and User Groups.....	33-19
34 Systemwide Preferences	
Modifying Preferences	34-1
Default Systemwide Preferences	34-1
Details of Selected Preferences.....	34-11
Agile Drive	34-11
Allow Download of Productivity Components.....	34-12
Allow Password Reset.....	34-12
Copy Values along with Tabs.....	34-12
Content Service Wait Time	34-12
Content Service Maximum Retries	34-13
Maximum Non-BOM Report Results Limit	34-13
Maximum BOM Report Results Limit	34-13
Price Scale.....	34-14
Reference Designators Allow Range Expand Collapse	34-15
Signoff User Dual Identification	34-15
Languages tab.....	34-16
35 Licenses	
General Info Tab	35-1
Modules Tab.....	35-2
Recipe and Material Workspace Module	35-2
36 Task Monitor and Task Configuration	
Task Monitor	36-1
Task Configuration	36-2
37 Administering Attachments	
Evaluating Your Company's Needs with Attachments or Designs	37-1
Administrator Settings Related to Attachments	37-1
File Management in Agile PLM	37-1
How SmartRules affect Attachments	37-2
Check In Attachment With Different File Extension	37-3
How Preferences affect Attachments	37-3
Filename Prefix.....	37-3
Optimized Replication	37-3
Save As Attachments.....	37-3
Allow Download of Productivity Components	37-4
Administrator Settings for File Upload and Download	37-5
Upload Max Chunk Size	37-5

Upload Max Concurrent Transfers.....	37-5
Max File Upload Histories Displayed.....	37-6
Download Max Chunk Size.....	37-6
Download Max Concurrent Transfers	37-6
Download Token Max Resumes Allowed.....	37-6
Download Token Use Duration	37-6
Assign Roles and Privileges for Attachments	37-7
Attachment Privileges	37-7
Attachment Capability Privileges in a Role	37-8
Attachment Privileges and Thumbnails	37-8
Reusable Criteria for Attachment Privilege Masks.....	37-9
Modify Privilege and Attachments	37-9
Markup Subclass	37-12
Markup Promotion	37-12
Redline Markup Default Roles and Privileges.....	37-13
Redline Markup Privilege Guidelines	37-14
Document Management Enhancements	37-14
View All Versions	37-14
Limit Attachment Size.....	37-15
Identify Checkin User.....	37-15
URLs can be up to 255 characters	37-15
Generating Attachment Quick Access Smart URLs	37-15

38 Administering Designs

Evaluating Your Company's Needs with Designs.....	38-1
Purpose of Design Data Model	38-1
Benefits of Designing Structures using the Designs Class	38-2
Designs Class Overview	38-2
View All Versions	38-3
Designs Class Tabs	38-3
Title Block Tab	38-3
Files Tab.....	38-4
Structure Tab.....	38-4
Routing Slip Tab.....	38-5
Where Used Tab	38-5
Administrator Settings Related to Designs.....	38-5
Display Structure Tables SmartRule	38-5
Copy Files to Rev - Designs SmartRule	38-5
Design-specific Role & Privilege.....	38-5

39 Administering Agile Drive

File Management.....	39-1
Enabling Agile Drive.....	39-1

40 Administering Approval Matrix

Approval Matrix Overview	40-1

Configuring Approval Matrix	40-1
Enable Approval Matrix Classes and Attributes	40-2
Modify Privilege Masks	40-4
Assign Approval Matrix Administrator Role	40-4
Create Approval Matrix Administrator Reports Role	40-5
Configure Job Functions in the Workflow.....	40-6
Approval Matrix Administration Overview	40-7
Assigning Job Functions to Users and User Groups.....	40-7
Creating and Managing Functional Teams	40-8
Resolving Missing Users	40-10
Running Approval Matrix Reports	40-11
Inactive Users / User Groups on Active Functional Teams Report.....	40-11
Workflow Approval Report	40-12
Workflow Job Functions Without Users Report.....	40-12
Using Functional Teams with Routable Objects.....	40-13
 41 Administering Reference Objects	
What are Reference Objects?.....	41-1
Reference Object Setup	41-1
Define External Application	41-2
Specify Reference Object Webservices	41-3
Define Reference Object Subclasses.....	41-3
Define Reference Object Attribute Mappings	41-4
Create Reference Object Privilege Masks	41-5
 42 Administering Revision-Specific Relationships	
Revision-Specific Relationship Attributes	42-1
Revision-Specific Relationship System Settings	42-2
Privileges for Revision-Specific Relationships.....	42-3
 43 Intellectual Property Reporting	
Attachment IP Reports	43-1
User History Reports	43-1
Recording User Actions in the Database	43-2
 44 Administering Thumbnails	
Thumbnail File and Streaming File Settings.....	44-1
Possible Combinations of Thumbnail Settings	44-3
 A Configuring Single Sign-On	
Overview of Single Sign-On in PLM	A-1
Configuring and Deploying SSO with Windows NTLM	A-2
SSO NTLM Authentication.....	A-2
Configure SSO for Windows NTLM.....	A-2
Configure IIS Proxy with WLS.....	A-3

Install and enable Windows Authentication in IIS:	A-3
IIS7.5 Proxy Configuration with Agile PLM:.....	A-3
IIS8 Proxy Configuration with Agile:	A-4
Configure PLM for NTLM with WLS	A-5
RMW SSO Configuration.....	A-6
Deploy NTLM	A-6
With Secure Proxy	A-7
With Transparent Proxy or No Proxy	A-7
The Oracle Access Manager	A-7
OAM 11gR2 Configuration with Agile PLM 9.3.4	A-7
OAM11gR2 Configuration with Agile PLM 9.3.4 Using IIS 7.5 Web Server.....	A-8
IIS 7.5 Web Server Configuration Prerequisites	A-8
OAM WebGate Registration in OAMServer (IIS 7.5)	A-8
IIS 7.5 Webserver Configuration with WebGate	A-9
WebLogic Proxy Configuration for IIS 7.5 Webserver	A-9
OAM Webgate Configuration for IIS 7.5 Webserver	A-11
Agile PLM Configuration for IIS 7.5 Webserver	A-12
Testing (IIS 7.5).....	A-13
OAM11gR2 Configuration with Agile PLM 9.3.4 Using OHS1213 Web Server.....	A-13
OHS1213 Web Server Configuration Prerequisites	A-13
OAM11gR2 Server Configuration Main Steps	A-14
OAM WebGate Registration in OAMServer (OHS1213 Webserver)	A-15
OAM WebGate Configuration for OHS1213 Webserver	A-15
Agile PLM Configuration for OHS1213.....	A-17
Testing (OHS1213)	A-18
OAM11gR2 Configuration with Agile PLM 9.3.4 Using Apache 2.4 Web Server	A-18
OAM 11gR2 Configuration Prerequisites (Apache 2.4)	A-18
WebGate Agent Configuration in OAM Server (Apache 2.4)	A-19
OAM WebGate Configuration (Apache 2.4).....	A-19
Agile PLM Application Configuration (Apache 2.4)	A-21
Testing (Apache 2.4)	A-21

Preface

Agile PLM is a comprehensive enterprise PLM solution for managing your product value chain.

Audience

This document is intended for administrators and users of the Agile PLM products.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at
<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit
<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit
<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Related Documents

Oracle's Agile PLM documentation set includes Adobe® Acrobat PDF files. The Oracle Technology Network (OTN) website
<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 website, 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.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

Convention	Meaning
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Introduction

This chapter introduces you to Agile PLM Administrator, the Java Client module that helps you configure and customize all Agile PLM solutions.

Welcome to Agile PLM Administrator

Welcome to Oracle's *Agile PLM Administrator Guide* for Agile Product Lifecycle Management (Agile PLM, or PLM).

How to Find Documentation for Agile PLM

The Agile PLM documentation set is found at this website:
<http://www.oracle.com/technetwork/documentation/agile-085940.html>.

Documentation for the PLM Administrator

This manual is the primary handbook for Agile PLM administrators. It is a comprehensive reference for setting up users and business objects in PLM. The *Agile PLM Administrator Guide* documents most of the nodes in the Administrator user interfaces ("Admin" UI specifics are discussed in the next chapter).

However, the administrator must access other manuals in the Agile PLM documentation set for many situations, as listed below.

Agile Configuration Propagation (ACP) Guide

ACP is a separate utility that enables the administrator to propagate changed Administrator settings from a Test system to the Production system. The ACP utility has its own manual, *Agile PLM Configuration Propagation Guide*, which covers installation and use by the Agile administrator.

Recipe & Material Workspace Administrator Guide

Agile PLM's Recipe & Material Workspace (RMW) is a robust solution for pharmaceutical development companies. RMW administration and configuration is documented in a standalone manual, *Agile PLM Recipe & Material Workspace Administrator Guide*.

Getting Started with Agile PLM

Getting Started with Agile PLM is more than a "primer" for the PLM end-user, as it contains in-depth information about features and functions that are common to all

PLM solutions. The Agile administrator will find the *Agile PLM Getting Started Guide* to be an indispensable reference of many features in PLM, including:

- Terminology and concepts used in the Agile PLM solutions;
- General features such as:
 - Searches,
 - Workflows,
 - Reports,
 - Attachments and File Management;
- The user interfaces and operation of Java Client and Web Client:
- PLM administrators generally use Java Client to set up and manage the Agile system; therefore, before starting on the present manual (*Agile PLM Administrator Guide*), examine Chapter 3, "Navigating in Agile Java Client" in the *Agile PLM Getting Started Guide*;
- Most PLM users work in Web Client; some administration tasks can be done in Web Client, for example, creating users; Chapter 2, "Navigating in Agile Web Client" in *Agile PLM Getting Started Guide* is recommended.

PLM Solution-Specific User Guides

Most user guides for the PLM solutions contain a chapter (or appendix) for the administrator. These chapters deal with specific settings and configurations for each solution, and are mandatory reading for each solution purchased by your company.

For instance, every installation of PLM includes the solution called Product Collaboration. In the *Agile PLM Product Collaboration User Guide*, there is a chapter dedicated to the Agile administrator, not the end-user. The main solutions in Agile PLM are listed in the next section.

The Agile administrator should also become familiar with the end-user documentation of PLM solutions. The manuals for end-users contain valuable information that assist the Agile administrator in grasping what the solution is all about and what the user experience incorporates.

Agile Product Lifecycle Management Solutions

The Agile Product Lifecycle Management (PLM) suite provides the following product solutions that are accessed through Java Client and/or Web Client:

- **Agile Product Collaboration (PC)** - Management and collaboration of product record information, including Model Option BOMs using Variant Management, throughout the product lifecycle, across internal organizations and the extended supply chain.
- **Agile Product Portfolio Management (PPM)** - Integration of project and product information in the context of overall product development in order to streamline business processes across the product portfolio and lifecycle.
- **Agile Product Quality Management (PQM)** - Management of customer, supplier and product quality issues, tied to the product design through a closed loop corrective action process.

- **Agile Product Cost Management (PCM)** - Management of product costs across the product lifecycle and synchronization of product cost and cost processes with both internal and external participants.
- **Agile Product Governance & Compliance (PG&C)** - Management and tracking of all 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.
- **Agile Engineering Collaboration (EC)** - Management of CAD design data from the engineer's desktop directly in a central PLM product record, automating both the design and product BOM change processes and supporting IP reuse.
- **Agile Recipe & Material Workspace (RMW)** - The Recipe & Material Workspace solution enables companies to create products, improve business productivity, visibility, scientific outcomes, and proactive compliance during the product development lifecycle.
- **Agile Enterprise Visualization** - Visualization, markup, and analysis of native documents (office, image, drawing, and CAD) through the Web across the extended enterprise, without the need for the original authoring tool or conversion to a neutral format.

Again, there are separate user guides for each product solution listed above, and most contain a chapter for the Agile administrator. (Exceptions are *Agile PLM Product Quality Management User Guide* and the RMW user guides; also, Agile RMW has its own *Agile PLM Recipe & Material Workspace Administrator Guide*.)

What's New in Administrator

See also the *What's New in Agile PLM 9.3.4 White Paper*.

Features and Enhancements added in Rel. 9.3.4

For a complete list of Agile PLM 9.3.4 features and enhancements, refer to *Agile PLM Product Lifecycle Management Readme* and *What's New in Agile 9.3.4 white paper*.

Administration

- LargeText is a new attribute type for Page Two and Page Three tabs.
 - LargeText attributes have a default length of 60,000 characters and a maximum length of 2,000,000 characters. See ["Defining LargeText Attributes"](#) on page 5-38.
 - LargeText attributes can be edited with a configurable HTML editor. See ["HTML Features"](#) on page 5-40. See also *Agile PLM Getting Started Guide*.
- AutoVue streaming files can be pre-generated. See ["Specifying Supported File Types for AutoVue for Agile"](#) on page 20-5.
- The Agile Product Cost Management preference Price Scale has been maximum settings has increased from 6 decimal places to 9 decimal places. See ["Default Systemwide Preferences"](#) on page 34-1. See also *Agile PLM Product Cost Management User Guide*.
- Agile PLM Product Portfolio Management now has the ability to create multiple work day management calendars.

- A new Calendar Configuration function is accessed in Web Client through **Tools and Settings > Calendar**, and opens the Calendar Configuration dialog. For detailed information about configuring calendars, see *Agile PLM Product Portfolio Management User Guide*.
- A new User profile attribute, Preferred Calendar, has been added. See ["User Properties Defined"](#) on page 13-8.
- A new privilege, Calendar Administrator, has been added. See ["Default Agile PLM Privileges"](#) on page 17-5.

Features and Enhancements added in Rel. 9.3.3

For a complete list of Agile PLM 9.3.3 features and enhancements, refer to *Agile Product Lifecycle Management Readme* and *What's New in Agile 9.3.3* white paper.

Administration

- New Administrator reports regarding user history actions; see ["Administrator Reports"](#) on page 4-2.
 - The Attachments Accessed by User Report shows all attachment history actions performed by a user within a time period. The user running the report selects a Date Range and one or more User Names, or All Users. Attachment actions include Get File, View File, Add File, Remove File, Checkout, and Checkin.
 - The Attachment History Report shows all attachment history actions from a set of objects, either individually selected or based on a search. The user running the report selects a set of objects or a search.
- Get File and View File privileges apply to thumbnail images: A user must have Get File or View File privilege for an attachment file in order to view the associated thumbnail.
- New privileges introduced: Add to Table and Delete from Table. These new privileges provide additional methods to control when users can add or remove from tables, including Attachments tables. See ["Add to Table and Delete from Table Privileges"](#) on page 17-12.
- Improved File Transfers - up to 16 GB file sizes are supported. In Web Client, new File Upload Selector, File Upload Manager, and web browser-based file download capabilities are introduced. The Advanced File Loader has been eliminated in Web Client. See ["Administrator Settings for File Upload and Download"](#) on page 37-5.
- In order to configure the new Web Client file transfer capabilities, the following Administrator settings have been added or modified:
 - Allow Download of Productivity Components preference has been updated. The user profile File Productivity Preference has been eliminated. See ["Allow Download of Productivity Components"](#) on page 34-12..
 - Updated systemwide preferences: Allow Download of Productivity Components no longer applies to Web Client file transfer capabilities.
- ECR Redlining: Redlining is now enabled on ECR Attachments tab. This is similar to Ad-Hoc redlines that have previously been available on File Folders. ECR redlining allows users to specify potential changes to documentation as part of the standard ECR process.
- Revision-Specific Relationships: This is an optional feature. When Revision-Specific relationships are enabled, Item relationships can be specific to a

selected specific revision, All revisions, or the Latest revision. See [Chapter 42, "Administering Revision-Specific Relationships."](#)

Features and Enhancements added in Rel. 9.3.2

For a complete list of Agile PLM 932 features and enhancements, refer to *Agile Product Lifecycle Management Readme*.

Administration

- Approval Matrix capability added to Agile PLM. In the routable object Workflow table, this feature enables you to automatically assign Approvers, Observers, Acknowledgers, and Notified Upon Entry users by their job functions. For more information, see ["Administering Approval Matrix"](#) on page 40-1.
- New Administrator Reports to manage the Approval Matrix feature. for more information, see ["Running Approval Matrix Reports"](#) on page 40-11.
- Acknowledger signoff action added to the routable object Workflow tab. An Acknowledger user signs off the routable object to indicate that he is aware of the content of the routable object.
- Audit screen improvements. The Web Client workflow Audit screen has been enhanced. When the user clicks an error or warning link in the audit screen, Agile PLM navigates to the attribute, table cell, or object where the issue can be fixed. See ["Pass Release Audit"](#) on page 11-26.
- New preference Multiple Report Restriction. See ["Default Systemwide Preferences"](#) on page 34-1.
- New preference Maximum BOM Reports Results. (Previously, this BOM limit was set in the agile.properties as report.maxStandardBOMReportsResults.) See ["Maximum BOM Report Results Limit"](#) on page 34-13.
- Renamed Non-BOM (Maximum Reports Results as Maximum Non-BOM Reports Results. See ["Maximum Non-BOM Report Results Limit"](#) on page 34-13.

User Experience

- Form tabs (for example, Title Block or Cover Page) can be configured as a one-column displays or two-column displays by setting the Multicolumn Display system preference. Attribute sizes are set to Small, Medium or Large to accommodate the two-column display. See ["Multi-Column Layout on a Web Client Form Tab"](#) on page 5-19.
- The Navigator capability has been expanded to additional object tabs. Additionally, navigator capability has been expanded to additional object classes: Changes, PSR, QCR, Part Groups, Declarations, Specifications, and Sourcing Projects.
- Descriptions in Recently Visited: The links in the Recently Visited list now display the object description in addition to the object number or name.

Features and Enhancements added in Rel. 9.3.1

- **Agile Recipe & Material Workspace (RMW)** is a significant addition to the PLM suite of enterprise solutions. The configuration of the RMW solution begins in PLM Administrator, then is furthered and managed by its own administrative capability within Web Client.

Agile PLM Recipe & Material Workspace Administrator Guide's Chapter 2 provides details of the PLM Administrator settings and configuration of PLM business objects that are used by RMW.

These settings and objects include:

- Administrator privilege mask AppliedTo selection, "Recipe & Material Workspace Admin";
- Privilege mask, "Recipe & Material Workspace UI Access", and privilege type, "Recipe & Material Workspace Access";
- Items subclasses called Material Subclass and Recipe.
- **Event Types for Variant Management added:**
 - Create Variant Instance
 - Derive Variant Model Option BOM
 - Update Variant Configuration
 - Validate Variant Configuration
 - Validate Variant Instance Selections
 - Validate Variant Model Option BOM
- The Web Client Administrator has a **Tab Display Configuration** node available. For more information, see ["Administrator Functions in Web Client"](#) on page 3-1.
- The Account Policy node has an additional field for **Maximum Password Age** and new **Password Rules**.
- Dynamic Lists available based on criteria.
- Item subclasses of Model and Option Class have been added.
- Oracle Access Manager (OAM) support for SSO
- Another certified LDAP server is supported: Oracle Internet Directory (OID) Server.
- The Export privilege is now divided in two: Export and Export Without Attachments.
- The AppliedTo attributes for the Administrator privilege mask have been expanded to include several more attributes.
- A Workflow status property of **Password Required** is available to regulate approvals with or without a password entry.
- A Display No Privilege Fields privilege to regulate who can see attributes on an object according to privilege assignments.
- There is a **Change Password Upon Next Login** option to force a user to change their password the next time the user logs in to Agile.

Features and Enhancements added in Rel. 9.3

- The major feature enhancement in administrator is the Events framework for automated process extensions, script process extensions, and flexible notifications. The **Event Management** node folder has been added to **System Settings**, containing six new nodes. For more information, see ["Event Management"](#) on page 29-1, and ["Notifications"](#) on page 21-1.

- Web Client Administrator has many new features and has undergone a significant User Interface redesign. For more information, see ["Administrator Functions in Web Client"](#) on page 3-1.
- See ["Viewer and Files"](#) on page 20-1, for information regarding **Auto Generating Thumbnails** and thumbnail display options in Agile PLM.
- Several new roles have been added. For a list of available roles, see ["Roles"](#) on page 16-1.
- There are eight new preferences available including **Agile Drive** and **Thumbnail Support**. For more information, see ["Systemwide Preferences"](#) on page 34-1.
- The Programs base class has been changed to Projects to be more consistent with industry standards.
- **API Name:** See ["API Name"](#) on page 4-1.
- Locations now has an **Online Help Manuals URL** field to access Online Help Manuals and User Productivity Kit (UPK) content. For more information, see ["Locations and File Management"](#) on page 31-1.

Portals is no longer supported in Agile PLM 9.3 and the Portals tab has been removed from Locations.

Installation Test Notice

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

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

Getting Started in Administrator

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.

Overview

The primary client for administering Agile PLM is Agile's Java 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.

Web Client is a Web-based application. You can use your browsers, as documented in the *Agile PLM Capacity Planning* guide, 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 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 2-2.

Examine the information in "[Administrator Privilege and the AppliedTo Capability](#)" on page 17-27. 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.

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

1. Double-click the Agile icon on your desktop, or choose **Start > Agile 9.3**, or launch Agile from the URL provided by the system administrator. The Login dialog box appears.
2. Enter the username *admin* and the password *agile*. The username is not case-sensitive, but the password is case-sensitive.
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.

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.
5. 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`
3. Make sure you enter the full domain name for your web server. The Web Client URL is case-sensitive.
The Login page appears.
4. Enter the username *admin* and the password *agile*. The username is not case-sensitive, but the password is.
5. Click the **Log In** button. If you make a mistake, click **Clear** and retype your username and password.
The login process is complete.
6. The first time you log in, the User Profile page appears. Enter the requested information. When you have finished, click **Save**.
7. After you complete this information, the Agile Web Client opens.
8. To open the administrative functions of Web Client, choose **Tools and Settings** in the menu bar and select **Administration** and then select the appropriate administrative actions from the supplied menu options.

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.

In addition, 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.

In this section, and in most of this manual, we are addressing users who have the Administrator or User Administrator Privilege Mask. 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](#)" on page 16-4.

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 the primary administrator is 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 13-1.

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 Administrator-specific privilege masks make significant use of the **AppliedTo** property: Administrator (privilege mask); Admin Access for User Admin (privilege mask); and User Administrator (privilege mask). See ["Administrator Privilege and the AppliedTo Capability"](#) on page 17-27, and ["Options for Building Administrator Assistants"](#) on page 17-29.

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 and Settings > Address Book > Users**. The Users page appears.
3. Click **Add**.
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. The General Information page appears.
7. Under the Profile heading open the **Role(s)** list, click the **Launch the Palette** button to the right of the field.
8. Choose the Administrator role and click **OK**.
9. Fill out other user properties as needed, and then click **Save**.

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:

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 13-8. 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 computer, the **History** tab of this object will indicate that it was created at 8:00 PM, the time it was in New York.

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 User Interfaces

This manual documents most of the Administrator nodes in Java Client. Documentation of the solution-specific nodes—PC, PCM, PPM, ACS, and PG&C—is available in the respective user guides.

Filtering Data in Java Client

You can use a filter bar (sometimes called "table search") to search for objects in the following nodes: **Lists**, **Criteria**, **Users**, **Roles**, **Privileges**, **Notifications**, **Event Management** and **Commodities**. You can also use the filter bar in 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** drop-down 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** drop-down 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**.

Administrator Nodes in Java Client

This section lists Agile PLM Administrator nodes found in Java Client. Administration functions that are available only in Web Client are detailed in [Chapter 3, "Administrator Functions 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.

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
- **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 *Agile PLM Product Cost Management User Guide*.

- **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 *Agile PLM Product Portfolio Management User Guide*.

- **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 Project Summary page and Content tab.

Agile Content Service

ACS nodes are documented in *Agile PLM Content Service User Guide*.

- **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 process.
- **Response Services** – An acknowledgment from the remote recipient of data
- **Format Library** – Define custom file formats

Product Governance and Compliance

PG&C nodes are documented in *Agile PLM Product Governance & Compliance User Guide*.

- **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: The process extensions themselves are not defined in this node folder.

- **Specification Mapping** – Set up a mapping between specifications and Page Two fields that display Result Compliance for the part-spec combination.

Event Management

Event Management nodes are documented in "[Event Management](#)" on page 29-1.

- **Events** – Create and manage Event masks.
- **Event Handlers** – Create and manage Handler masks based on "Java PX" and "Script PX" handler types.
Notifications, the third handler type, are created and managed in Notifications node.
- **Event Subscribers** – Create and manage Subscriber masks.
- **Event Types** – Library of preconfigured event types, upon which event masks are based.
- **Event Handler Types** – Library of event handler types: Java PX, Script PX, and Notification.
- **Event Handler Monitor** – Review event handler transactions, including start and execution of event handlers.

Server Settings

- **Locations** – Define Agile Application Server, File Manager, and Portal locations
- **Database** – Set systemwide preferences for the database
- **Preferences** – Set systemwide preferences for your Agile PLM system
- **LDAP** – Configure a Lightweight Directory Access Protocol system and dedicated LDAP server to create user accounts
- **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
- **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

Administrative Capabilities

The features in Agile Administrator 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, acknowledgers, 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.

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, contact Oracle Consulting – Agile Practice or your Oracle Agile PLM sales representative.

Thorough testing before going live with Agile PLM is strongly recommended. It can take one to several weeks to configure Agile PLM to be production-ready depending on the following:

- 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 processes are (reflected in such nodes as **Classes**, **AutoNumbers**, **Workflows**, **Locations**).

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

Example Nodes in Java Client

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**.
5. 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 4-11.

Administration in Web Client

If a user has been assigned the Administrator or User Administrator privileges, they can perform certain administrator actions in Web Client.

Click **Tools and Settings > Address Book** for user administration tasks under the **Users**, **User Groups**, and **Supplier Groups** tabs. The capabilities are documented as follows:

- **Users** – see "[Users](#)" on page 13-1.
- **User Groups** – see "[User Groups](#)" on page 14-1.
- **Functional Teams** – see "[Creating and Managing Functional Teams](#)" on page 40-8.
- **Supplier Groups** – see "[Supplier Groups](#)" on page 15-1.

Click **Tools and Settings > Administration** and choose from the drop-down list. The capabilities are documented as follows:

- **Dashboard Configuration** – see "[Dashboard Management](#)" on page 17-30.
- **Visual Themes** – see "[Visual Themes](#)" on page 3-3.
- **Report Templates** – see "[Report Templates](#)" on page 3-6.
- **Logging Configuration** – see "[Logging Configuration](#)" on page 3-8.
- **Cache Health Monitor** – see "[Cache Health Monitor](#)" on page 3-9.

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.

Table 2–1 Default Value Variables

Variable	Description
\$TODAY (must be uppercase)	The current date and time \$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. See "Using \$CURRENTREV and \$LATESTREV in Criteria for Items" on page 10-7.
\$CURRENTREV (uppercase)	The current revision of the object. See "\$CURRENTREV Criteria Logic" on page 2-10, "Using \$CURRENTREV and \$LATESTREV in Criteria for Items" on page 10-7, and "Controlling the Ability to Modify Items at Introductory Revision with \$CURRENTREV" on page 17-43.

\$CURRENTREV Criteria Logic

Using \$CURRENTREV in an item criteria permits the administrator to build in privilege control based on the displayed revision. Using combinations of multiple \$CURRENTREV criteria conditions permits 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 ["Using \\$CURRENTREV and \\$LATESTREV in Criteria for Items"](#) on page 10-7.

Privilege Mask Criteria Variables

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

Table 2–2 Privilege Mask Criteria Variables

Variable	Description
\$ACKNOWLEDGER	Inserts the name(s) of the acknowledger(s) of the workflow.
\$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 20-10.
\$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.
\$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 \$LATESTREV Criteria" on page 10-10.
\$LATESTFILEVERSION	The latest file folder version.
\$MAINORG	Supplier users can read and discover all users in the buyer organization in addition to the users in their own organization (which, alone, is handled by \$USERORG variable). Supplier users are prevented from reading and discovering users from other supplier organizations.
\$NOTIFY	A default list of users selected to be receive a notification(s)
\$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:

Table 2–3 Workflow Assignment Variables

Variable	Description
\$ACKNOWLEDGER	The acknowledger(s) of the workflow.
\$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:

Table 2–4 Workflow Status Type Variables

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.

Table 2–5 Routing Manager Variables

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

Table 2–5 (Cont.) Routing Manager Variables

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)

Administrator Functions in Web Client

This chapter documents utilities for the Agile administrator that are unique to Web Client.

Overview to Administrator in Web Client

Agile Web Client contains certain Administrator capabilities, accessible only to users who have been assigned the Administrator or User Administrator role, or more specifically the Administrator or User Administrator privilege.

The "user" and "group" and "functional team" administrator capabilities are accessed through Web Client's **Tools and Settings > Address Book**. Other administrative capabilities are found in Web Client's **Tools and Settings > Administration** flyout menu.

This section offers brief definitions of all Web Client Admin nodes, and cross-references to the applicable documentation.

Users and Groups

Accessed in Web Client through **Tools and Settings > Address Book**.

- **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
- **Functional Teams** – Define functional teams, add job functions to the teams, and associate users with the team job functions. Functional teams are used to assign routable object reviewers by workplace job function. See "[Administering Approval Matrix](#)" on page 40-1.
- **Supplier Groups** – Select suppliers during the RFQ process; the administrator sets up global supplier groups that can be leveraged by users with appropriate roles

Web Client Administration

Accessed in Web Client through **Tools and Settings > Administration**.

- **Dashboard Configuration** – Configure the PLM Dashboard – see "[Configuring the Dashboard](#)" on page 3-2.
- **Tab Display Configuration** – Configure specific display orders and requirements for objects types and then assign them to users – see "[Tab Display Configuration](#)" on page 3-2.

- **Report Templates** – Create and manage report templates – see ["Report Templates"](#) on page 3-6.
- **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 3-3.
- **Logging Configuration** – View and configure the loggers within Application – see ["Logging Configuration"](#) on page 3-8.
- **Cache Health Monitor** – Ensure that all changes to Administrator data is properly replicated across the cluster – see ["Cache Health Monitor"](#) on page 3-9.

Calendar Configuration

Accessed in Web Client through **Tools and Settings > Calendar**, and opens the Calendar Configuration dialog. For information about configuring calendars, see *Agile PLM Product Portfolio Management User Guide*.

Configuring the Dashboard

Each Dashboard tab contains a set of configurable widgets that display information in tables and charts. You can configure which of these widgets should display in each tab and where they should appear.

To configure each Dashboard tab:

1. In Agile Web Client **Tools and Settings > Administration** menu, choose **Dashboard Configuration**.
2. In the **Configure Tab** field, select the tab you want to configure. The widgets available for the selected tab are displayed in the **Available Content** column.
3. Move the widgets you want displayed to the **Row** columns.
4. Use the direction arrows to reorder the widgets as desired.
5. When you finish configuring all the tabs, click **Save**.
6. To exit the configuration window, click **Close**.
7. Refresh the Dashboard to see your changes.

Tab Display Configuration

Tab Displays can be customized for users by the Administrator. You can choose to create a configuration based on an object class type, arrange, order, and hide tabs, and then assign it to a specific user(s).

Sub-tab level configuration is not supported. For example, you can choose to enable or disable the **Collaboration** tab, but not the individual sub-tabs (Discussions, Action Items, News) under it.

To create a tab display configuration in Web Client:

1. Click **Tools and Settings > Administration > Tab Display Configuration**.
2. Click **Create**. The Configure Tab Display dialog appears.
3. Enter the required information for **Name**.
4. From the **Tab Configuration** drop-down list, select the object type this configuration will apply to.

5. Once that is selected, the available tabs will display in the **Displayed Tabs** column and the currently hidden tabs in the **Hidden Tabs** column.
6. If there is a tab you want to mark as a tab that cannot be hidden, select the tab in the **Displayed Tabs** column and then click the **This attribute cannot be hidden** button (M).
7. When finished configuring the order of the tabs click the **Search to add** palette button.
8. Type the name of the user(s) you want to assign this configuration to, search for the user(s) and double-click the entries from your Search results.
9. Click **Add** to finish the tab display configuration.

Visual Themes

Visual Themes lets the administrator define a visual look, or style, that the PLM users will see across the enterprise. This enables the configuration of Web Client to be consistent with other deployed applications or with corporate colors.

Selecting Theme Options

Styles are defined and modified by choosing **Tools and Settings > Administration > Visual Themes**. The Select Theme Options page appears, with three fields.

Branding Logo

There are some default Oracle branding logos in the drop-down list. To use your company's branding logo, a graphic file will have to be added to the web.xml file. For instructions on this procedure, see "[Replacing the Oracle Logo](#)" on page 3-4. Once another logo is added, it appears in this drop-down list.

Icon Motif

These are Agile's "Mechanical", "Electrical", and "High Tech" symbols that appear on this page.

Color Palette

On the Select Theme Options page, the **Color Palette** list box lists all available style schemes. Those with an asterisk (*) are the ready-to-use System Styles, which cannot be modified or deleted.

You can select a visual style theme from the drop-down list and begin modifying it with one of the following actions:

- New themes can be developed using **Save As**. Clicking the **Save As** button brings up the Specify Palette Colors page.

At first, you must enter a new name in the Name field. If you alter the elements of a System Style without assigning a new name, the system does not save your new scheme; as soon as you enter a distinguishing name (regardless of whether you have altered any of the fields), the system can save it.

This is the way you can "create" a new style scheme from the default System Styles (and the only way to create a new scheme at first, while there are no non-default color-palette Styles). For more details, see "[Modifying Style Schemes](#)" on page 3-5.

- Click the **Delete** button to delete a selected style scheme.

This button is disabled when a System Style is in the field. You cannot delete a System Style (denoted by the "*" in the name).

- Click the **Edit** button to modify a selected style scheme.

Clicking the **Edit** button brings up the Specify Palette Colors page.

The button is disabled when a System Style is in the field. As noted, you cannot modify the System Styles, except by working through the Save As feature. For more details, see ["Modifying Style Schemes"](#) on page 3-5.

Replacing the Oracle Logo

If you want your company's logo (or any other co-branding image) to appear in place of Oracle'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 the Oracle home directory.
3. These example that follow this task list give some samples of changing specific parameters in the web.xml file:
 - [Example 3-1, "Enter the file name of your custom logo file"](#)
 - [Example 3-2, "Change the height of the logo"](#)
 - [Example 3-3, "Change the width of the logo"](#)
 - [Example 3-4, "Change the title of the Oracle Agile window or page"](#)
 - [Example 3-5, "Update a tooltip by changing the text"](#)
4. Restart the application server.
5. Log into Web Client to verify or evaluate your change(s).

Example 3-1 Enter the file name of your custom logo file

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

Change the file name (including extension) where "logo.gif" appears.

Example 3-2 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.

Example 3-3 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.

Example 3–4 Change the title of the Oracle 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.

Example 3–5 Update a tooltip by changing the text

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

Insert the new text where "Oracle | Agile" appears in the example.

Modifying Style Schemes

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

- Click **Preview** to preview the modified style scheme. This displays the Web Client interface in the selected scheme on your computer only. (All other users still see the user interface in the currently applied scheme.)

The Preview button displays only when the user creates a new theme.

- To save the current scheme, click **Save**. This does nothing more than simply save the settings under the name in the Name field, and add that scheme to the list in the Color Palette field. (Clicking **Save** does not propagate the scheme to your Web Client users.)

Whether or not you have saved it, to make further modifications to the scheme you are modifying, you may do so. You can save over the scheme you saved, or enter a new name and thereby save a new scheme.

- To cancel the preview of the selected scheme, click **Cancel**. You are returned to the Select Theme Options page.
- With a named color-palette scheme selected, when you click the **Apply** button, the selected scheme becomes current throughout your system. This changed scheme is seen by active users as soon as their screen is refreshed, or when a user next logs in to Web Client.
- 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 fields on the Specify Palette Colors page, with descriptions of what each property modifies in the Web Client user interface (UI).

Table 3–1 Fields on the Specify Palette Colors page

Field	Area or Element in UI
Name	Name of specified style scheme. The name of each scheme that is saved appears in the Color Palette drop-down list.
Gradient	"Gradient" or "Flat" applies a filter to certain areas of the UI, so the chosen color has no shading (Flat) or appears to have a light-to-dark quality (Gradient).

Table 3–1 (Cont.) Fields on the Specify Palette Colors page

Field	Area or Element in UI
[Background column]	"Hex" value that specifies the main color of the field
[Text Color column]	"Light" results in white text lettering, or "Dark" results in black text lettering.
[Sample column]	This color swatch displays how the color you specified in Background and the Text Color value will look together.
Global Toolbar	Toolbar along the top of the Web Client UI
Dialog Bars	Top and bottom color bars in action dialogs
Widget Title Bar	On the Dashboard, background color where the widget's name is displayed
Selected Controls	Areas like tabs (in objects) or the drawers (on the Navigation Pane) when selected
Non-Selected Controls	Same elements named in "Selected Controls," only when they are not selected
Control Highlight	Drawer (in Navigation Pane) & drop-down list item when mouse-over; Table Row when selected
Message Area	Shading in the Information line (near top of an object)
Backgrounds	Various backgrounds not assigned by above fields
Slider Separator	Small band of "outline" to give the slider bars definition

Specifying Colors in Hexadecimal Format

The PLM application has provided a few default style schemes, but it is likely that your company will prefer that Web Client have a corporate "look and feel." You have probably noted that most of the fields in the Specify Palette Colors page are in Hexadecimal format. Web designers use a variety of tools to specify colors for elements of web documents, such as RGB triplets expressed in hexadecimal (a "hex triplet").

While the Specify Palette Colors page can accept any color in hex format, you will need to access such color tools to generate coordinated color schemes and their corresponding "Hex" format values.

Report Templates

Agile PLM integrates existing Standard Reports with Custom Reports, which are modifiable through Oracle BI Publisher.

There is not a separate installation of Oracle BI Publisher required because Agile PLM includes a BI Publisher in order to:

- Run a standard Agile report
- Modify a standard Agile report layout, including adding flex fields
- Create new reports
- Get data through Agile PLM SDK and generate reports using Agile Java PX

The version that is bundled with Oracle Agile PLM is a restricted use version only.

Further information and documentation about the BI Publisher tool is located at the following website:

<http://www.oracle.com/technetwork/middleware/bi-foundation/documentation/bi-pub-096318.html>

End-user documentation 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.

Manage Report Template (AppliedTo Choice)

"Manage Report Templates" is a choice in the Administrator-specific AppliedTo property (that is, found in **Administrator** and **Admin Access for User Admin** privilege masks).

When it is moved to the Selected table, Manage Report Templates enables you or an assistant administrator to upload templates for reports in the PLM Report Template utility. Choose **Web Client > Tools and Settings > Administration > Report Template** to display the Manage Report Template page.

Users see these templates, per assigned privileges, when they use the Reports function in Web Client.

Dynamic and Static Templates

There are two template modes: Static Template or 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 ready-to-use 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 the existing reporting layout. When preference is set to Yes, reports can be generated in multiple output formats using BI Publisher. For information on the system preference **Enable BI Publisher for Reports** see "[Systemwide Preferences](#)" on page 34-1.

1. If the file server is down, templates will not generate reports as they are stored in the file server.
2. In Web Client, navigate to **Tools and Settings > Administration > Report Template**.
3. Click **Create** and the Create Report Template window appears.
4. Choose a name and enter a description for the template.

5. Browse to the location of your template RTF files.
6. 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
- Project Actual vs Budgeted Cost Report
- Baseline Comparison Report
- Portfolio Cost Report
- Resource Pool Consumption Report
- All PCM Reports

Logging Configuration

- For use by Oracle Support ONLY! -

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

Important: Because the Logging Configuration utility is intended for use by Oracle 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.

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

Use of the Logging Configuration node:

1. When you, the PLM customer, encounter a problem and call Oracle Support, you provide a URL for Web Client access to your PLM system. This "window" to your system permits data gathering.
For information about how to contact Oracle Support, see ["Preface"](#) in this manual.
2. If the Oracle 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, Oracle 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 drop-down list for appropriate classes.
 - Click the **Update Logger** button to commit the configuration change without stopping the system's AAS.
3. If Oracle Support does not find a remedy or workaround, the problem can be escalated to Oracle Development.
 - Oracle Development may ask Oracle 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 Oracle Support, and the logs can be turned off without restarting AAS.
4. When Oracle Development has debugged the problem, Oracle Support can:
 - return to the customer's system to put the change into effect; or,
 - communicate the proposed fix to the customer.

Cache Health Monitor

Agile PLM 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**.

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 Cache Health Monitor performs the following actions:

- Lists all modified Administrator nodes and the current synchronization state;
- Commences the synchronization manually or automatically (see ["Automatic Synchronization using Java Client Administrator"](#) on page 3-11.);

- Turns logging of cache synchronization operations on or off;
- Views the log file containing cache synchronization operation messages;
- 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 through 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 will be 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 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 36-2.

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.

Table 3–2 Admin Cache Synchronization Task Properties

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	How many events 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). 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 reset 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.

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.cmsserver.event.CMBatchEvent, content:Batch events:
event class: com.agile.pc.cmsserver.event.CMObjectEvent, content: object: class:
10000 subclass:10141 id:6010147 version:1 action: 4
event class: com.agile.pc.cmsserver.event.CMFTSSyncEvent, content: FTS sync object:
class: 10000 subclass:10141 id:6010147 version:0
event class: com.agile.pc.cmsserver.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 the 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.cmsserver.event.CMBatchEvent, type --> 1,
content --> Batch events:
event class: com.agile.pc.cmsserver.event.CMObjectEvent, content: object: class:
10000 subclass:10141 id:6010147 version:1 action: 4
event class: com.agile.pc.cmsserver.event.CMFTSSyncEvent, content: FTS sync object:
class: 10000 subclass:10141 id:6010147 version:0
event class: com.agile.pc.cmsserver.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
```

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\t\t; %c{1}:%p>\t\t\t\t\t"/>
</layout>
</appender>

```

Table 3–3 Cache Synchronization Properties

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

Deleting Objects in Agile

Java Client and Web Client support "soft" and "hard" deletes. When you soft-delete an object in the database, it is not permanently deleted. A soft-deleted object is marked "Deleted" in the database, and its object number or name is reserved. You cannot create another object with the same type and number or name as a soft-deleted object.

Note: You *can* undelete a soft-deleted object, if you have the appropriate privileges set by the Agile administrator.

When you run a search, soft-deleted objects do not appear in the search results table. To locate soft-deleted objects, you must run the predefined deleted object searches in the **Recycle Bin Searches** folder.

Note: You have access to the **Recycle Bin Searches** folder if **Recycle Bin Searches** is included in the **Searches** field of your user profile. If you have the appropriate privileges, you can edit your user profile and add **Recycle Bin Searches** to the list of searches in the **Searches** field.

A hard-deleted object is permanently removed from the database.

Caution: You *cannot* undelete a hard-deleted object.

To soft-delete, hard-delete, or undelete an Agile object:

- You must have the appropriate Delete or Undelete privileges for that object.
- The object must meet the conditions that allow it to be deleted or undeleted.

In general, if deleting or undeleting an object would cause the compromise of data integrity, the delete or undelete action is disabled.

You cannot delete an object unless all of its relationships and subscriptions are removed.

For detailed information about deleting specific *object* types see the *Deleting Agile Objects* section of *Getting Started with Agile PLM*.

To soft-delete an object in Web Client:

1. Select and open the object you want to delete.
2. Choose **Actions > Delete**, and respond **OK** to the confirmation prompt.

The object is soft-deleted.

To hard-delete a soft-delete object (if you have the appropriate privileges) in Web Client:

1. Run the appropriate Deleted objects search from the **Recycle Bin Searches** folder.
2. Select the one or more object rows in the search results table.
3. Click the **Delete** button.
4. In response to the warning prompt, choose **Continue** and then click **Finish**.
5. Or, you can hard-delete one object at a time:
 - Open the object.
 - Choose **Actions > Delete**, and respond **OK** to the confirmation prompt.
6. You can click the **Navigator** button in the search results table to display the search results object links in the left pane **NAVIGATOR** drawer.

To undelete an object in Web Client:

1. Run the appropriate Deleted *objects* search from the **Recycle Bin Searches** folder.
2. Open the deleted object you want to restore.
3. Choose **Actions > Undelete**.
4. You can click the **Navigator** button in the search results table to display the search result object links in the left pane **NAVIGATOR** drawer.

Administrator Functions in Java Client

This chapter documents utilities for the Agile administrator that are unique to Java Client.

API Name

The **API Name** field is present on many Administrator objects and PLM business objects. When it is present, API Name is a required field. It is a unique systemwide identifier for objects and can be autogenerated. You can specify an API name, but internal consistency is enhanced by accepting the system-generated name. The API Name works as a system-identifying key because it tends not to change, while the Name attribute is much more likely to change.

See the *Accessing PLM Metadata with API Name Field* chapter in *Agile PLM SDK Developer Guide* for more information.

API Name field in Java Client

The following is a list of where you see the **API Name** field for objects in Agile PLM:

- **Classes** > Base Classes > Classes, Subclasses, Tabs, Tables, Attributes
- **Character Sets**
- **Lists** > List Values
- **Criteria**
- **AutoNumbers**
- **Roles**
- **Privileges**
- **Workflows** > Workflow Status
- **Notifications**
- **UOM**
- **Dashboard Management**
- **Agile Content Service** > Subscribers, Destinations, Events, Filters, Package Services, Response Services, Format Library
- **Event Management** > Events, Event Handlers, Event Subscribers, Event Types, Event Handler Types
- **Examples** > All nodes

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.

Table 4-1 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
Attachments Accessed by User Report	Lists attachment actions by user. Lists attachment actions performed by the specified users or user groups during the specified time span. For each user attachment action, this report includes the business object, the associated folder object, the attachment file name, the action (Get, Open, View, Checkout, Checkin, Add or Remove) and the time of the action. In the report parameters, you can specify All Users, or you can search for and select the specific users or user groups you want. See also "Attachment IP Reports" on page 43-1.
Attachment History Report	Lists attachment actions by object. Lists the attachment history actions for the specified object or objects. In the report parameters, specify the objects to include in the report by either a saved search or by defining a search. When a change object or change request object is specified, you are prompted to choose to create the report with the change object attachments or with the affected items attachments. See also "Attachment IP Reports" on page 43-1.
Criteria Library Configuration report	Lists existing reusable criteria and where they are used
Events Configuration Report	Lists existing event-specific objects as follows: Events: list of existing Event Masks; each row in this section begins with chosen Event Type, then Name of the event mask, followed by all other "event"-object attributes. Event Handlers: list of existing Handler Masks; each row in this section begins with chosen Handler Type, then Name of the handler mask, followed by all "handler"-object attributes. ■ Note: Handlers for Notifications are not listed. Event Subscribers: list of existing Subscriber Masks; each row in this section begins with Name of the subscriber mask, followed by all "subscriber"-object attributes.
Inactive Users / User Groups on Active Functional Teams Report	Lists inactive users and inactive user groups that are members of active functional teams. See " Running Approval Matrix Reports " on page 40-11.
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.

Table 4–1 (Cont.) Agile PLM Administrator Reports

Report	Description
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 History Report	Lists all history actions for the specified users or user groups during the specified time span. This report includes all history actions of the specified user on all Agile PLM objects, including object Create or Delete, and the modification of any object attribute. See also "User History Reports" on page 43-1.
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 See also "User History Reports" on page 43-1.
Users Configuration report	Lists all users and their properties, except passwords
Workflow Approval Report	Shows how job functions have been assigned for approvers, observers, acknowledgers, and notified in workflows. Information is displayed by workflow, status, and criteria. See "Running Approval Matrix Reports" on page 40-11.
Workflow Job Functions Without Users Report	Lists routable objects where a job function has been specified for a signoff action, but no user has been added to the workflow tab. See "Running Approval Matrix Reports" on page 40-11.
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 **Analytics and 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 drop-down 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 file name 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.

Utilities on Admin Toolbar

In Java Client when you click the **Admin** tab, there is a toolbar of buttons that either perform a single function or open to a utility or tool.

- **Disable System Access** – this button will close off user calls to the Agile Application Server (AAS). If you need to disable system access, use **Email To Users** button to let users know when and for how long they should not use the system. When you click **Disable System Access**, it changes appearance and becomes **Enable System Access**.
- **Synchronize Admin data across cluster** – this button performs a "synchronize" data routine across multiple AAS servers in a cluster; if your PLM setup uses one AAS server, this button is not enabled. An Oracle Consulting – Agile Solutions representative can provide you with more in-depth information about deploying and maintaining clustered servers.
- **Email To Users** – see ["Sending Email to Users"](#) on page 4-4.
- **Global Replace** – see ["Global Replace"](#) on page 4-5.
- **Admin History** – see ["Administrator History"](#) on page 4-7.
- **Disable Triggering Events** – see ["Control of Event Components"](#) on page 29-27.

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 **Other users** option, open the address book by clicking the button at the end of the field to open the address book, from which you choose the users for your message.

Enter the message in the **Content** field, then click **Send**.

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, acknowledger, 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.

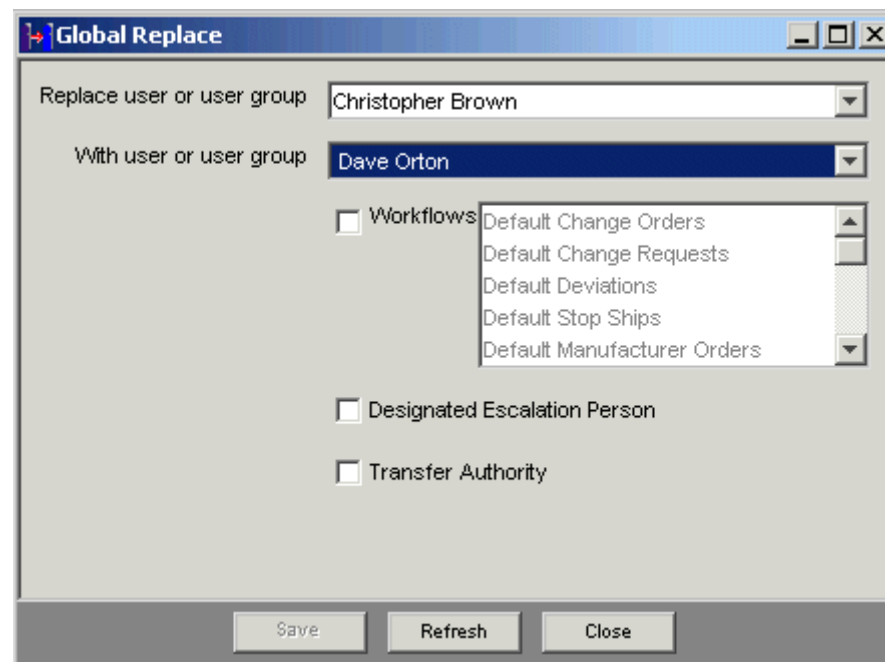
The "users" in the **From** and **Replace With** drop-down lists include all existing user groups. See ["User Groups"](#) on page 14-1.

Global Replace Properties

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

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

Figure 4-1 Global Replace Window



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

Table 4–2 Global Replace Properties

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 drop-down 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 drop-down list.
Workflows	Select a specific workflow from the drop-down list. To change every instance of the "Replace" person to the same "With" person in all workflows, use Ctrl-shift or Shift-click to select all the workflows in the list. With the check box selected, the "Replace" person is replaced with the "With" person in approver, observer, acknowledger, 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.
Transfer Authority	Replaces the "Replace" person with the "With" person as the person who has the authority to approve, reject or acknowledge the "Replace" person's changes. (See "Transfer Authority for Self" on page 17-18.)

If you have selected more than one workflow 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 11-2.

History Tracking

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. This will only have content for customers upgrading from Agile 8.5 or Agile Advantage.

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](#)" on page 4-7.

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.

Table 4–3 History Tab properties

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.
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.

Table 4–4 How History is logged

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

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.

Table 4–5 Fields in the Administrator History window

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.

Table 4–5 (Cont.) Fields in the Administrator History window

Field	Description
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:

1. On the **Admin** tab toolbar, click the **Admin History** button.
2. On the Administrator History window toolbar, click the **Purge** button.
3. 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.
4. 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.

Deleting Objects in Agile

Java Client and Web Client support "soft" and "hard" deletes. When you soft-delete an object in the database, it is not permanently deleted. A soft-deleted object is marked "Deleted" in the database, and its object number or name is reserved. You cannot create another object with the same type and number or name as a soft-deleted object.

Note: You *can* undelete a soft-deleted object, if you have the appropriate privileges set by the Agile administrator.

When you run a search, soft-deleted objects do not appear in the search results table. To locate soft-deleted objects, you must run the predefined deleted object searches in the **Recycle Bin Searches** folder.

Note: You have access to the **Recycle Bin Searches** folder if **Recycle Bin Searches** is included in the **Searches** field of your user profile. If you have the appropriate privileges, you can edit your user profile and add **Recycle Bin Searches** to the list of searches in the **Searches** field.

A hard-deleted object is permanently removed from the database.

Caution: You cannot undelete a hard-deleted object.

To soft-delete, hard-delete, or undelete an Agile object:

- You must have the appropriate Delete or Undelete privileges for that object.
- The object must meet the conditions that allow it to be deleted or undeleted.

In general, if deleting or undeleting an object would cause the compromise of data integrity, the delete or undelete action is disabled.

You cannot delete an object unless all of its relationships and subscriptions are removed.

For detailed information about deleting specific *object* types see the *Deleting Agile Objects* section of *Getting Started with Agile PLM*.

To soft-delete an object in Java Client:

1. Select and open the object you want to delete.
2. Click the **Delete** button, and respond **Yes** to the confirmation prompt.

The object is soft-deleted.

To undelete an object in Java Client:

1. Run the appropriate Deleted *objects* search from the **Recycle Bin Searches** folder.
2. Open the deleted object you want to restore.
3. Click the **Undelete** button.

To hard-delete a soft-deleted object (if you have the appropriate privileges) in Java Client:

1. Run the appropriate Deleted objects search from the **Recycle Bin Searches** folder.

2. Open the object.
3. Click the **Delete Object** button, and respond **Yes** to the confirmation prompt.

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 Import 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.

Table 4–6 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
Korean (MS949)	–
Russian (Cp1251)	–

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.

In windows with a filter bar, to display all the objects in the node, Select Show All in the **Match If** drop-down list, and click **Apply**. See ["Filtering Data in Java Client"](#) on page 2-4.

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 drop-down 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 file name 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

In Java Client, use **Tools > Process Extensions** or the **Process Extensions** button or **Admin** tab > **Data Settings > Process Extensions** to access the library of Custom Process Extensions (that is, those PXs that preceded Events-based PXs).

If there are no Custom PXs 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 custom process extensions, see "[Process Extensions](#)" on page 8-1. For technical information on how to develop custom process extensions for your Agile PLM system, see the *Agile PLM SDK Developer Guide*.

With the introduction of Event Management, it is possible to have more flexibility with PXs, through Java PX handlers and Script PX handlers. The previously existing Process Extensions capabilities remain intact, but Events Management permits PXs to be triggered through normal user and system actions. See [Chapter 29, "Event Management."](#) For technical information on developing the new PX handlers, see the *Agile PLM SDK Developer Guide*.

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 French, German, Italian, Japanese, Korean, Russian, Simplified Chinese, Portuguese, International Spanish, and Traditional Chinese.

Important: This list of supported languages is current as of January, 2015 and is subject to change. See the **Languages** tab found in the **Preferences** node for your current installation supported languages.

For the Product Governance & Compliance solution, there is 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 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 drop-down 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 the drop-down list button for the **Language** field.
The drop-down 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.

Users can switch their own Language preference (again, non-English languages that the company has a license for). In Java Client, the user clicks **Current User...** from the **Settings** drop-down menu of the main toolbar and follows the previous instructions.

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

For more information about Agile PLM Language settings, see ["Default Systemwide Preferences"](#) on page 34-1.

Administrator Data that is Supported for Multi-Language Capability

In this manual the term "multi-language capability" refers 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.

Supported Administrator Nodes

Administrator-editable items can hold names in any enabled 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 Japanese enabled (and, by default, English). 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, Portuguese, International Spanish, Russian, Italian, Korean, and French localized versions

Note: To enable Full Text Search for Japanese, Traditional Chinese, Simplified Chinese, and Korean, then the Agile database lexer preference must be set to WORLD. Refer to *Agile Product Lifecycle Management Database Install Guide* for information about setting the lexer preference.

- Dashboard Management
- Product Portfolio Management:
 - Schedule Status
 - Cost Status
 - Quality Status
 - Resource Status
 - Default Role
- Agile Content Service:
 - Subscribers
 - Destinations
 - Events
 - Filters
 - Package services
 - Response services
 - Format Library
- Product Governance & Compliance:
 - Signoff Message

- Compliance Rollup Scheduling
- Compliance Rollup Rule Setting
- External Rollup
- Supplier Declaration Process Extension
- Specification Mapping
- Event Management

Supported 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 Simplified Chinese enabled (and also English). 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, Portuguese, International Spanish, 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 an example 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 an 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 a localized version of Agile with Japanese enabled (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 a localized version of Agile, with Simplified Chinese enabled. 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 a localized version of Agile, with Simplified Chinese enabled. The administrator has configured the users at the Hong Kong office so their Language user preference is Chinese. Everyone there adds 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 computer with a Japanese operating system. She enters Japanese text into an ECO's **Description** field. Then Jim launches Java Client on an English operating systems computer; when he views this ECO, Japanese text that was entered into the **Description** field may appear corrupted (having "blank squares"): the

English operating system may not support Japanese characters (Windows English version requires installing the Asian Language Pack to support Japanese characters).

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 an Agile PLM user creates is an object. As administrator, you can define new types of business objects, or modify the default classes and subclasses.

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.

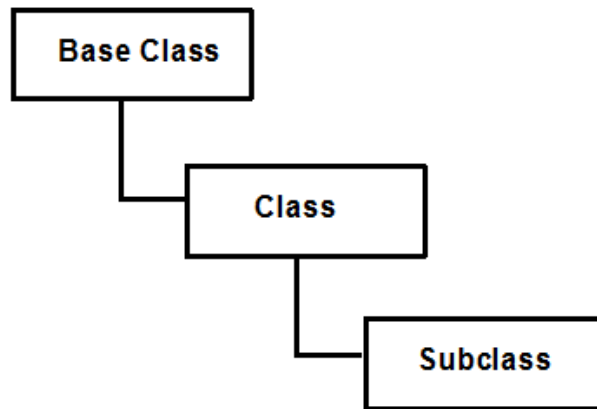
Before you start configuring Agile PLM, you should consider what types of business objects your company requires. You can then tailor Agile PLM to your requirements. For example, you might want to create several new subclasses in the Parts class to organize the kinds of parts that your company manufactures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

The Agile PLM object framework is preconfigured to be ready-to-use, or you can tailor it as follows:

- Create additional subclasses
- Modify classes and subclasses as needed
- Create new attributes for classes (Page Two) and subclasses (Page Three) 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:

Figure 5–1 Agile PLM Class Structure

- **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.

Important: 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 Nonroutable 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 through workflows (see "[Workflows](#)" on page 11-1).
- **Nonroutable 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 by using lifecycle phases, see "[Customizing Lifecycle Phases](#)" on page 5-9. The nonroutable objects—especially parts and documents—can be changed by the process of information-gathering through 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 permits approvers to sign off and comment on a file folder. However, file folder objects also have lifecycle phases and are considered nonroutable.

Object Types in Agile PLM

In PLM, Object Types are each and every one of the rows in the **Classes** node. Object types are organized by the hierarchy of Base Class (a kind of template), Class (more detailed, generally specific to a PLM solution), and Subclass (most specific organizing group).

So, for example, let ECO987 be an individual business object: it is a single instance of the object type *ECO* (a subclass), which is derived from the object type *Change Orders* (a class), which in turn is derived from the object type *Changes* (a base class).

Therefore, each new subclass that you create is also an object type. So, *Items*, *Parts*, and *Part* are each an object type, and if you add subclasses called *Capacitor* and *Resistor*, each of these are also object types.

"Object Type" is a significant field in such areas of PLM administration as **Criteria**, **Privileges**, **Notifications**, and **Event Management**. For these and many other functions, it is a crucial element to inform the PLM system precisely what kind of object is to be accessed and subject to user actions.

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 display 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 drop-down list permits you to switch to any of the other tabs for that object.

Agile PLM's Installed Routable Object Types

Your company may be licensed to a subset of the list of object types in **Classes** node.

Routable objects direct or recommend changes to nonroutable objects. These classes have a default workflow for changes to seek approval from other users. Objects from these classes can be changed without approval.

Nonroutable Objects 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. For information about installed nonroutable objects, see ["Agile PLM's Installed Nonroutable Object Types"](#) on page 5-5.

The following tables list all the possible installed routable object types in Agile PLM.

Routable object base classes are:

- Changes
- Declarations
- Packages
- Product Service Requests
- Projects
- Quality Change Requests
- Transfer Orders

Table 5–1 Changes base class routable objects

Class	Subclass	Description
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

Table 5–2 Declaration base class routable objects

Class	Subclass	Description
Substance Declarations	Substance Declaration	Seeks compliance information for each substance within the specification
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

Table 5–3 Packages base class routable objects

Class	Subclass	Description
packages	Package	Packages of data to share with partners

Table 5–4 Product Service Requests base class routable objects

Class	Subclass	Description
Problem Reports	Problem Report	Quality incidents with items or products
Non-Conformance Reports	NCR	Quality conformance issues with items or products

Table 5–5 Projects base class routable objects

Class	Subclass	Description
Activities	Phase; Program; Project; Task	Components of project planning in Product Portfolio Management; activities are time-based objects to which resources can be assigned
Gates	DG1, DG2, DG3, DG4, DG5, DG6; Gate; Milestone	Project management milestones in Product Portfolio Management; gates identify cross-PLM deliverables of the product development process to enable executive reviews of projects

Table 5–6 Quality Change Requests base class routable objects

Class	Subclass	Description
Corrective and Preventive Actions	CAPA	Requests for corrective actions and preventive actions
Audits	Audit	Proactive reviews of business processes

Table 5–7 Transfer Orders base class routable objects

Class	Subclass	Description
Automated Transfer Orders	ATO	Transfer or publication of a product record that is automatically triggered by a workflow
Content Transfer Orders	CTO	Transfer or publication of a product record that is manually triggered

Agile PLM's Installed Nonroutable Object Types

Your company may be licensed to a subset of the list of object types in **Classes** node.

Nonroutable Objects 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.

Routable objects direct or recommend changes to nonroutable objects. These classes have a default workflow for changes to seek approval from other users. Objects from these classes can be changed without approval. For information about installed routable objects, see ["Agile PLM's Installed Routable Object Types"](#) on page 5-3.

The following tables list all the possible installed nonroutable object types in Agile PLM.

Nonroutable object base classes are:

- Customers
- Discussions
- File Folders
- Items
- Manufacturers
- Manufacturers Parts
- Part Groups
- Prices
- Reports
- Requests for Quote
- RFQ Responses
- Sites
- Sourcing Projects
- Specifications
- Substances
- Suppliers
- Users
- User Groups

Table 5–8 Customers base class nonroutable objects

Class	Subclass	Description
customers	Customer	Clients of the company

Table 5–9 Discussions base class nonroutable objects

Class	Subclass	Description
discussions	Discussion	Informal, threaded dialogue

Table 5–10 File Folders base class nonroutable objects

Class	Subclass	Description
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

Table 5–11 Items base class nonroutable objects

Class	Subclass	Description
Documents	Document	Specifications, blueprints, manufacturing data, and so forth
Parts	Materials Subclass Model Option Class Part Recipe	Parts manufactured within the company, or provided by manufacturers or suppliers and given internal part numbers Note: The Materials Subclass and Recipe subclasses are NOT available until the Recipe & Material Workspace product is installed.

Table 5–12 Manufacturers base class nonroutable objects

Class	Subclass	Description
manufacturers	Manufacturer	Qualified manufacturers

Table 5–13 Manufacturer Parts base class nonroutable objects

Class	Subclass	Description
Manufacturer parts	Manufacturer Part	Parts provided by manufacturers

Table 5–14 Part Groups base class nonroutable objects

Class	Subclass	Description
Part groups	Commodity Part Family Item Group	Containers of other parts (items or manufacturer parts) that share such properties as mass or composition information. Note: This object was named "Commodities" in previous releases of Agile PLM.

Table 5–15 Prices base class nonroutable objects

Class	Subclass	Description
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)

Table 5–16 Reports base class nonroutable objects

Class	Subclass	Description
Standard Reports	Administrator Report; Standard Report	The ready-to-use 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

Table 5–16 (Cont.) Reports base class nonroutable objects

Class	Subclass	Description
External Reports	External Report	Reports created outside Agile PLM

Table 5–17 Request For Quote base class nonroutable objects

Class	Subclass	Description
Requests for quote	RFQ	Requests for quote, which are assembled from sourcing projects and sent to suppliers for formal bids

Table 5–18 RFQ Responses base class nonroutable objects

Class	Subclass	Description
RFQ responses	RFQ Response	Bids, that is, responses from suppliers to your company's RFQs

Table 5–19 Sites base class nonroutable objects

Class	Subclass	Description
Sites	Site	Manufacturing locations within the company, or closely partnered with the company

Table 5–20 Sourcing Projects base class nonroutable objects

Class	Subclass	Description
Sourcing projects	Sourcing Project	Work preparatory to creating RFQs and capability for analysis across multiple RFQs

Table 5–21 Specifications base class nonroutable objects

Class	Subclass	Description
Specifications	Specification	Lists of banned substances (or substances of concern) and their threshold values

Table 5–22 Substances base class nonroutable objects

Class	Subclass	Description
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"

Table 5–23 Suppliers base class nonroutable objects

Class	Subclass	Description
Suppliers	Broker Component Mfr Contract Mfr Distributor Mfr. Representative	Qualified suppliers of manufacturer parts; used by PCM (which uses the ready-to-use subclasses) and PG&C solutions

Table 5–24 Users base class nonroutable objects

Class	Subclass	Description
Users	User	Individuals using the Agile PLM system

Table 5–25 User Groups base class nonroutable objects

Class	Subclass	Description
User groups	User Group	Groups of people using the Agile PLM system, e.g., departments, teams, site-specific groups.
Functional Teams	Functional Team	Groups of people that comprise a functional team; each member is assigned a workplace job function.

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.

Note: Item, Change, User, and File Folder base classes cannot be disabled, nor can their child classes or ready-to-use subclasses.

Customizing Lifecycle Phases

Lifecycle phases describe the valid phases for classes whose objects are nonroutable, 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. The user can set a default value for the Lifecycle phase list only if it is required by the administrator for manufacturer parts, manufacturers, commodities, specifications or substance classes.

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 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 drop-down 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, API 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 drop-down list.
5. For items, there is an additional field, **Add LifeCyclePhase On Bom Rule**. 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**.

To select a different color for the lifecycle phase:

Modify the lifecycle phase on the appropriate lifecycle phases tab.

1. Select the 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. The Define Lifecycle Phase dialog box appears.
3. Select the color you want from the Status Stamp Color drop-down list.
4. When you are done, click **OK**.

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.

Note: You cannot delete the Preliminary lifecycle phase for items.

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.

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 if 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

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

Note: 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," however, 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 ready-to-use classes and subclasses while you develop an overall plan that covers your company's needs.

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. Click the icon next to the **AutoNumber Source** field. 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. To create a new autonumber—more customized than those offered by the automatic sequencing of autonumbers—click the **New AutoNumber** button and follow the instructions in the dialog box. For more information, see ["Creating a New AutoNumber Source"](#) on page 9-6.
7. To prevent users from entering an object number manually, select **No** in the **Autonumber Required** drop-down list. For more information, see ["Preventing Manual Number Assignment"](#) on page 5-13.
8. Select **Yes** or **No** in the **AutoGenerate** drop-down 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** drop-down 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** drop-down list in the New Object dialog box in Java Client, and the new name appears as a selection in the **Type** drop-down list in the Create New Change Order window 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. Review the points in ["Before You Begin"](#) on page 5-24. 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 drop-down list.
4. Fill in the **Name**, **API Name** and **Description** fields, and select **Yes** or **No** in the **Enabled** list. You must use a unique subclass name.
5. Click the icon next to the **AutoNumber Source** field. 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. To create a new autonumber—more customized than those offered by the automatic sequencing of autonumbers—click the **New AutoNumber** button and follow the instructions in the dialog box. (This task is explained in ["Creating a New AutoNumber Source"](#) on page 9-6.)
9. To prevent users from entering an object number manually, select **No** in the **Autonumber Required** drop-down list. (For more information, see ["Preventing Manual Number Assignment"](#) on page 5-13.)
10. Select **Yes** or **No** in the **AutoGenerate** drop-down 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 5-14.)
12. When you have specified all the settings, click **OK**.

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

Note: Number sources are created and configured in the **AutoNumbers** node. For instructions, see ["About AutoNumber Sources"](#) on page 9-2.

Deleting a Subclass

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

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.

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.

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 project
 - **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 projects

To configure the attributes that appear on a tab, you must go to the setup window for that tab. See ["Defining Attributes"](#) on page 5-31.

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**.

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 5-26.

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** drop-down list, select **Yes** to make the tab visible in Agile PLM clients.
4. When you have finished your modifications, click **Save**.

Modifying the Format of Tabs

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

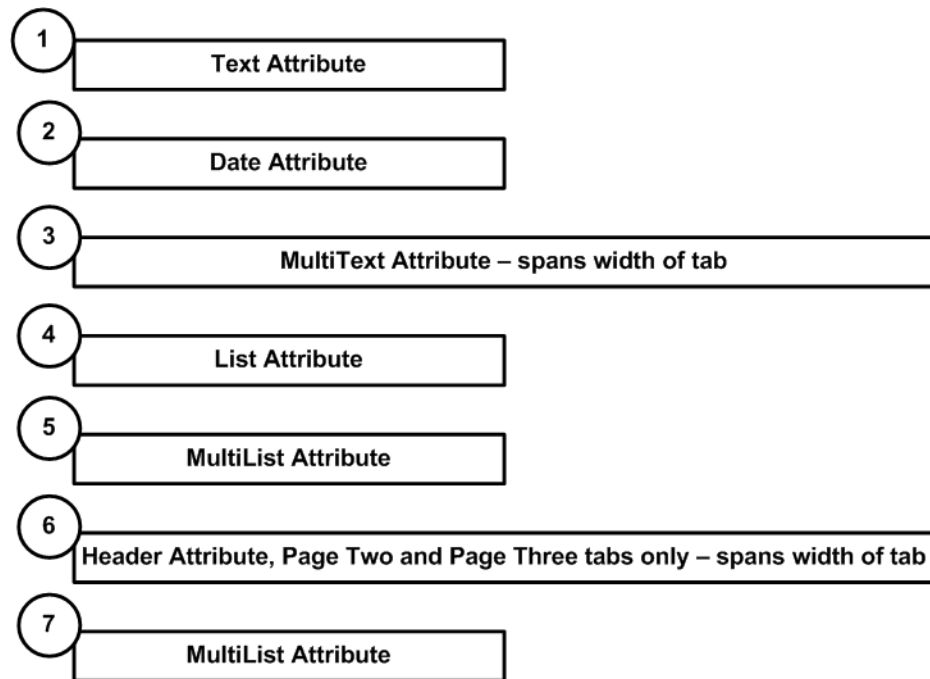
- **Form format** – Attributes appear on the tab in rows and columns, according to the attribute order, lowest number first, left to right, then top to bottom. Each attribute field is labeled. Web Client has two columns. In Java Client, the number of columns varies depending on the size of the object 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, Single Column

In Web Client, on a form type tab, the attributes appear in one column when the server preference **Multicolumn Display** is set to **One Column**. (For information about two-column display, see ["Multi-Column Layout on a Web Client Form Tab"](#) on page 5-19.) You can determine the order in which they appear. Starting with the lowest numbered attribute, the attributes appear from top to bottom. Attributes with Input Width property set to Long 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.

Figure 5–2 *Modifying Attribute Order on a Form Tab (Single Column)*



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.

Multi-Column Layout on a Web Client Form Tab

Note: Java Client form tabs are always displayed in a single column as described in "[Modifying Attribute Order on a Form Tab, Single Column](#)" on page 5-18. The server preference setting Multicolumn Display = Two Columns controls the form tab display in Web Client only.

The way attributes appear on Web Client form tabs when Multicolumn Display is set to Two Columns is determined by the combination of:

- The Input Width setting of each attribute (Short, Medium, Long).
- The attribute order settings for the form tab (lowest number first, from left to right, then top to bottom).
- The height of any multitext attributes.
- The presence of a thumbnail on the first object tab.

After you have configured a two-column form tab, log in to Web Client and view the tab to test and confirm that the appearance is acceptable to you. Click the **Edit** button on the tab and view the tab in edit mode, also. You can modify the attribute order and modify the attribute Input Width settings to adjust and refine the appearance of the form tab.

Attribute Input Width Setting

The Input Width of an attribute determines whether it can be displayed on the same row with another attribute. A row can be any of the following combinations:

- Short, Short

- Short, Medium
- Medium, Short
- Medium, Medium
- Long

Short and Medium attributes are displayed across the width of one column. Long attributes and Headings are displayed across the width of the tab.

Table 5–26 Attribute Input Width Settings

Attribute Type	Input Width property setting options
MultiList	Short Medium Long
List	Short Medium Long
Text	Short Medium Long
MultiText	Medium Long
Date	Short Medium Long
Numeric	Short Medium Long
LargeText	Long LargeText attributes always span both columns.

You cannot modify the Input Width of the following form tab attributes, however, each attribute type uses a consistent display method on the form tab.

Two-Column Attribute Order

To modify the form tab attribute order, follow the instructions in "[Modifying Attribute Order on a Form Tab, Single Column](#)" on page 5-18.

Starting with the lowest number, the attributes display from left to right, then top to bottom. Short and Medium attributes can appear on the same row. Long attributes appear on one row.

The following diagram illustrates how the attributes are displayed on the Web Client form tab. Note that MultiText attribute (order number 7) is taller than other attributes, but it is aligned at the top of the row with attribute number 6. Attribute number 8 appears on a row below MultiText attribute 7.

Also note that long attributes 9 and 11 have been placed in order between medium and small attributes in such a way that the second column is empty in the rows before and

after attributes 9 and 11. When you have configured a form tab, it is important to log in to Web Client and view the tab to check for empty spaces in the second column. You can modify the form tab attribute order to eliminate those spaces.

Figure 5–3 Two-Column Attribute Order

1 Medium	2 Short
3 Short	4 Short
5 Long	
6 Medium	7 Medium MultiText
8 Medium	
9 Long	
10 Medium	
11 Long	
12 Short	

Thumbnails on Two-Column Form Tabs

When a thumbnail appears on a form tab, the attributes appear in order from the lowest order in a single column on the left of the thumbnail. Only short and medium attributes can be displayed in the column to the left of the thumbnail.

When the left column has is filled to below the bottom of the thumbnail, then the attributes will wrap the left column to the right column.

If a long attribute falls into the column to the left of the thumbnail, that long attribute is displayed below the thumbnail and all the attributes following that long attribute are displayed below. If there is additional space in the column to the left of the thumbnail before the long attribute is displayed, then the remainder of that column space is blank.

See also [Chapter 44, "Administering Thumbnails."](#)

Figure 5–4 *Thumbnails on Two-Column Form Tabs*

The diagram illustrates a two-column form tab layout. It consists of nine rectangular boxes, each representing a thumbnail, arranged in two columns. The boxes are numbered 1 through 9. Box 1 is 'Medium' and is the first in the left column. Boxes 3, 2, and 4 follow in the left column. Box 5 is 'Long' and spans the width of both columns. Box 6 is 'Medium' and is the first in the right column. Box 7 is 'Medium' and contains the text 'MultiText'. Box 8 is 'Medium' and is the last in the left column. Box 9 is 'Medium' and is the last in the right column.

1 Medium	Thumbnail
3 Short	
2 Short	
4 Short	
5 Long	
6 Medium	7 Medium MultiText
8 Medium	9 Medium

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. See ["Modifying Attribute Order on a Form Tab, Single Column"](#) on page 5-18.

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 first tab information on the **Cover Page** tab. Users scroll down to see Page Two and Page Three 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 permits 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 17-50.

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.

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 drop-down 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.

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 5-17.
- 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, drop-down list values, default values, the format for text fields, and so on. See ["Defining Attribute Properties"](#) on page 5-33. 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 5-32.

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 or Hiding an Attribute on a Tab"](#) on page 5-44.
2. Locate the attributes you want, and double-click them to open the setup window.
For detailed instructions, see ["Modifying Attributes"](#) on page 5-43. 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** drop-down list.
5. Set the appropriate properties for each attribute type (see ["Defining Attribute Properties"](#) on page 5-33).
 - For List and MultiList attributes, define the list selections (see ["Configuring Lists"](#) on page 7-7.)
 - 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** (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 5-44.)
 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, Single Column"](#) on page 5-18.

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.

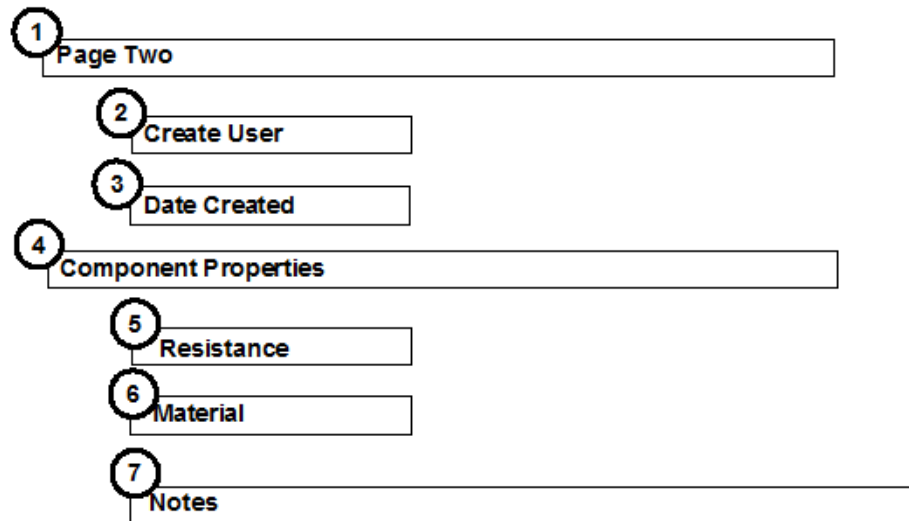
For example, a Page Two attribute order list might be set as follows:

Table 5–27 Example of a Page Two attribute order list

Attribute order list	Type of attribute
Page Two	Heading01
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.

Figure 5–5 Page Two Attribute Order Format



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 and also 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 5-31, 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

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, but you may want to refer to a small tutorial, ["Building and Testing Attributes, Read/Modify Privileges, and Roles"](#) on page 16-16.

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 and API name for the new attribute. Also select an attribute type from the drop-down 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-fined flex field in a subclass:

1. Under **Data Settings**, double-click **Classes**. The Classes window appears.
As an example, double-click the **ECO** subclass, then click the **User Interface Tabs** tab.
2. Double-click Page Three, then click the **Attributes: Page Three** tab.
3. Click the **New** icon. The New Attribute dialog appears.
4. Type in a name and API name for the new attribute. Also select an attribute type from the drop-down list. Click **OK**.

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

5. 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 are fully supported:

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

- **Advanced Search**
 - User-defined flex fields can be used as a query condition
 - User-defined flex fields can be used in display/output of search results
 - User-defined flex fields 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
 - User-defined flex fields can be used as an AppliedTo attribute in Modify privilege
- **Workflow**
 - User-defined flex fields can be used in entry required fields
 - User-defined flex 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
- **Ready-to-Use 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
- User-defined flex fields can be used in display/output of report results
- User-defined flex fields 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 for an ECO can be exported through ATO and CTO
Page Two and Page Three attributes of **CTO** can also be exported along with the data of the Agile objects attached to the **Selected Content** tab of CTO.
- **Export**
 - User-defined flex fields can be exported into supported output formats
- **Criteria**
 - User-defined flex fields can be used as a value in defining Criteria

Where user-defined flex fields are partially supported:

- **SDK**
 - User-defined flex fields support 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:

- **DataLoad**
 - User-defined flex fields cannot be loaded by using 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 exported along with the data of the objects present in the **Selected Content** tab of ATO

Note: ATO is autogenerated due to which enabling Page Two and Page Three attributes is limited and is not allowed in ATO 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-through" 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 Agile 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

Oracle Agile PLM makes it also 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 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-through 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.

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

Table 5–28 *Item object BOM and Manufacturer table fields that can be edited or redlined*

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 Date15	AML Split (%)
BOM Description	Mfr. Name
BOM List01 - BOM List15	Mfr. Part Number
BOM MultiText30 - BOM MultiText44	Mfr. Tab Date01 - Mfr. Tab Date05
BOM Notes	Mfr. Tab List01 - Mfr. Tab List05
BOM Numeric01 - BOM Numeric15	Mfr. Tab MultiList01 - Mfr. Tab MultiList03
BOM Text01 - BOM Text15	Mfr. Tab MultiText30, Mfr. Tab MultiText31
BOM Multilist01 - Multilist10	Mfr. Tab Numeric01 - Mfr. Tab Numeric05
Find Num	Mfr. Tab Text01 - Mfr. Tab Text05
Item Number	Preferred Status
Qty	Reference Notes
Ref Des	

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.

Table 5–29 Guidelines to display tab setup window

Type of attribute or property	Setup activity	Action
Class-specific attribute (all tabs except Page Three)	Define attributes for tabs: 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.
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.

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.

Table 5–30 *Attribute types and values to enter*

Type	What to Enter in the Field
Date	Enter date and time, or select date and time from a pop-up calendar.
Heading	Displays a heading above a group of attributes. Enables 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.
List	Select one item from a list. Select one item from a cascading list.
Money	Enter a monetary amount.
MultiList	Select one or more items from a multiple-selection list. The list can be a cascading list. Note: There is no limit to the number of list entries in a multi-list field and the number of possible multi-list fields on Items P2 is 15.
MultiText	Enter a block of text (up to 4,000 characters) that wraps across multiple lines.
Numeric	Enter a numeric value.
Text	Enter a single line of text; the allowable length varies, but generally it is up to 50 characters.
LargeText	Enter and edit rich text (HTML formatted), to 2,000,000 characters. Default MaxLength property setting is 60,000. For detailed information about how to define LargeText attribute properties, see "Defining LargeText Attributes" on page 5-38..

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 5-44.

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.

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.

Table 5–31 *Defining Attribute Properties*

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
API Name	All	System-generated at object creation	Unique systemwide identifier for objects and can be autogenerated. You can specify an API name, but internal consistency is enhanced by accepting the system-generated name.
* Type	All	N/A	<i>Not configurable by the Agile PLM administrator.</i> Indicates the type of attribute: date, list, multilist, text, multitext, numeric, image, or heading.
Visible	All	Yes/No	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 all Item Title Block fields can be disabled.
List	List MultiList	Supplied by administrator	Selections to appear in the drop-down 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.

Table 5–31 (Cont.) Defining Attribute Properties

Property	Attribute type	Setting	Application in Agile PLM
DefaultValue	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 7-9). 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. For LargeText attributes, the administrator can enter up to 4000 characters as the default value. See "Defining LargeText Attributes" on page 5-38.
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 <i>Getting Started with Agile PLM</i> .)
MaxLength	Text MultiText LargeText	Supplied by administrator	For Text and MultiText attributes: 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 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. When setting MaxLengths, consider field length limitations of other applications used by your company to which Agile PLM data is exported. For LargeText attributes: See "Defining LargeText Attributes" on page 5-38.

Table 5–31 (Cont.) Defining Attribute Properties

Property	Attribute type	Setting	Application in Agile PLM
* Max (System) Length	Text MultiText	N/A	<i>Not configurable by the Agile PLM administrator.</i> 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 6-1.
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.
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	<i>Not configurable by the Agile PLM administrator.</i> 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	<i>Not configurable by the Agile administrator.</i> Lists the original system ID for the attribute before it was modified in any way.

Table 5–31 (Cont.) Defining Attribute Properties

Property	Attribute type	Setting	Application in Agile PLM
Input Width		Short Medium Long	Controls the display width of attributes. Settings are Short, Medium, and Long. MultiText attributes are limited to Medium or Long settings. LargeText attributes are limited to the Long setting. See "Defining LargeText Attributes" on page 5-38. See also: ▪ "Multi-Column Layout on a Web Client Form Tab" on page 5-19, ▪ "Attribute Input Width Setting" on page 5-19.
Input Height	MultiText	3 to 15	Controls the display height of MultiText attributes. Settings are numeric integers ranging from 3 to 15.
Required	All	Yes/No	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 New process (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. See "An Exception Involving Required Fields in Object Modification" on page 5-38. No —The field does not appear to the user in bold font , and it does not stop the Create New or Edit/Save process if it is not populated. LargeText attributes cannot be edited during the Create New process. For LargeText attributes, the Required property is disabled and set to No by default. See "Defining LargeText Attributes" on page 5-38.
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 <i>Getting Started with Agile PLM</i> , Chapter 5, Working with Objects.
Include Journal Entry	LargeText	Yes/No	Determines whether journal entries are enabled. Default is No. Journal entries add text entries to the attribute without overwriting existing text. See "Defining LargeText Attributes" on page 5-38.

Table 5–31 (Cont.) Defining Attribute Properties

Property	Attribute type	Setting	Application in Agile PLM
Journal Order	LargeText	Youngest First / Oldest First	Determines the order in which journal entries are displayed. Default is Youngest First. See "Defining LargeText Attributes" on page 5-38.
HTML Features	LargeText	Select from list	Determines which HTML editing features are available in the LargeText edit pane. See "Defining LargeText Attributes" on page 5-38.
Inline Height (pixels)	LargeText	Number of pixels	The height of the LargeText attribute field on the Web Client Title Block tab. Default – 140 Minimum – 80 Maximum – 1000 See "Defining LargeText Attributes" on page 5-38.

Note: An asterisk * indicates that 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 file names 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, Single Column"](#) on page 5-18.

Defining LargeText Attributes

The following table lists the LargeText attribute properties and describes the settings for each property.

Table 5–32 *LargeText attribute properties*

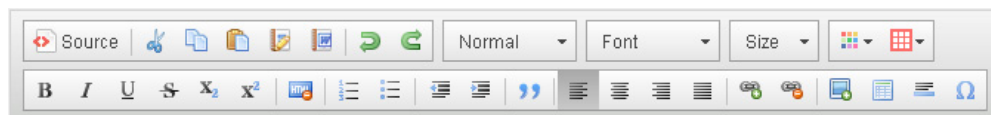
Property	Setting	Description
MaxLength	Number of characters	Default = 60000 Minimum = 4000 Maximum = 2000000 The maximum number of characters that can be entered in the LargeText field. Single-byte or multi-byte characters are counted as one character. HTML markup characters are also counted.
Default Value	Text entered by Agile administrator.	Maximum characters = 4000. The Agile administrator can enter text with simple HTML markup. Note: Java Client does not include an HTML markup tool. HTML must be entered manually or pasted from another source. If invalid values are entered, then the default text is discarded the first time the object is edited.
Required	No	Default = No. This property is disabled and cannot be changed.
Available for Subscribe	No	Default = No. This property is disabled and cannot be changed.
Enable for Search Criteria	Yes/No	Default = No. Permits (Yes) or prevents (No) the LargeText attribute from being added as a criteria for a Parametric search. (Parametric searches are explained in <i>Getting Started with Agile PLM</i>.) The Match If search operators for LargeText are: ■ Contains Phrase ■ Contains All Words ■ Contains Any Word ■ Contains None Of
Input Width	Large	Default = Large. This property is disabled and cannot be changed.
Change Controlled	Yes/No	Default = No. This property applies to Item objects only. When set to Yes, the LargeText attribute can only be modified by using a either a change (ECO) or a manufacturer change order (MCO) and redline editing the attribute on the change object Affected Items tab, Title Block redline tab. For information about configuring change controlled attributes, see <i>Agile PLM Product Collaboration User Guide</i>, appendix "Configuring Product Collaboration in Agile Administrator." Note: If Change Controlled is set to Yes, then Include Journal Entry cannot also be set to Yes. To set Change Controlled to Yes, first set Include Journal Entry to No and then save the attribute.

Table 5–32 (Cont.) LargeText attribute properties

Property	Setting	Description
Include Journal Entry	Yes/No	Default = No. When Include Journal Entry is set to No, then the LargeText attribute is a single text entry. Only the most recent journal entry is displayed. The timestamp determines which is the most recent entry. When set to Yes: Individual entries are added to the field in the order in which they are entered. Each entry includes the date and time, and the user who made the entry. The LargeText field can be edited by users with the appropriate Read and Modify privilege masks. The available edit tools are defined in the HTML Features property.
Journal Order	Youngest First / Oldest First	Default = Youngest First Determines the order in which journal entries are displayed in the LargeText attribute. The journal entries are displayed according the recorded date and time.
HTML Features	(Select from List)	Default = all selected. Select from list to select the desired HTML editing tools. See "HTML Features" on page 5-40.
Inline Height (pixels)	Number of pixels.	The height of the LargeText attribute on the Title Block tab in Web Client. Default = 140 pixels. Minimum = 80 pixels. Maximum = 1000 pixels.

HTML Features

Select the HTML editing features to include for each LargeText attribute by selecting them in the **HTML Features** property of the LargeText attribute. The rich text editor is a WYSIWYG (What You See Is What You Get) editor which displays text as similarly as possible to the results end users will see when the document is published. It provides popular editing features found in desktop word processors such as OpenOffice Writer.

Figure 5–6 HTML editor toolbar

To select HTML features for a LargeText attribute:

1. Select the class you want to work with.

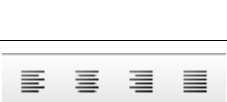
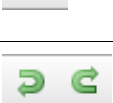
2. Double-click either the **Page Two** or **Page Three** tab. Double-click the LargeText attribute you want to display its attribute properties.
3. Click the **HTML Features** field to open the selection dialog.
4. Move the HTML features you want to include into the **Selected** list. Move any features you want to exclude into the **Choices** list.
5. When you are finished, click **OK**.

You can include or exclude HTML edit features as needed. The available HTML features are described in the following table. How to use the HTML features is described in *Getting Started with Agile PLM*.

Table 5–33 HTML editing features for LargeText attributes

HTML Feature name	Buttons	Description
Blockquote		Formats the paragraph with left and right indentation distinguishing it from the main text.
Cut Copy Paste		Common text editing operations: Cut, Copy, Paste.
Font		Font selection list. Select from a list of popular serif fonts (Times New Roman, Georgia), sans-serif fonts (Arial, Verdana, Tahoma) and monospaced fonts (Courier New).
Font Size		Font size selection list. Included default font sizes are 8px, 9px, 10px, 11px, 12px, 14px, 16px, 18px, 20px, 22px, 24px, 26px, 28px, 36px, 48px, and 72px.
Format Basic		Basic text font formatting: Bold, Italic, Underline.
Format Extended		Additional text font formatting: Strike Through, Subscript, Superscript.
Horizontal Line		Inserts a horizontal line in the document.
Image		Opens the Image Properties dialog. In this dialog, the user can specify an image to include and select image properties that determine how the image is displayed.
Indentation		Decrease Indent, Increase Indent. For the block-level element, indentation defines the spacing from the left margin (languages with left to right text direction) or from the left margin (languages with right to left text direction). The editor supports multiple indentation levels per element.
Lists		Insert/Remove Numbered List, Insert/Remove Bulleted List. To modify list properties, right-click on a list item and select the list properties option.
Paragraph Format		A list of predefined block-level styles, including Normal, Heading 1, Heading 2, and so on.
Paste from Word		Preserves basic Microsoft Word formatting when pasting text copied from Microsoft Word.

Table 5–33 (Cont.) HTML editing features for LargeText attributes

HTML Feature name	Buttons	Description
Paste Text		Paste as plain text. Used to paste formatted text without preserving the formatting.
Remove Formatting		Removes text formatting from the selected text. Does not remove Paragraph Format.
Source		Displays the HTML source code of the document. The Source button toggles between the HTML source code display and the WISYWIG display.
Special Character		Opens the Insert Special Character dialog; click the desired character to insert it into the document.
Table		Opens the Table Properties dialog. To insert a table, define the table properties and click OK . Right-click in the table and select Table Properties in the context menu to modify table properties.
Text Alignment		Align Left, Center, Align Right, Justify. Text alignment can be applied to a block-level element only: paragraph, image, or list item.
Text Background Color		Changes the text background of the selected text. Choose from a basic color palette, or click More Colors to choose a color from an extended palette.
Text Color		Changes the color of the selected text. Choose from a basic color palette, or click More Colors to choose a color from an extended palette.
Undo Redo		Undo, Redo. The Undo feature cancels the most recently introduced change to the document. The Redo feature reverts that last undo operation. The editor supports 20 undo levels.
URL Link Unlink		Link, Unlink. The Link feature opens the Link dialog, which enables the user to insert a URL or email link. Unlink removes the link and leaves plain text.

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.

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 the icon next to the field to open a dialog box.
 - For date attribute default values, click the calendar icon next to the field to select a specific date, or use a variable. See "[Default Value Variables](#)" on page 2-10.
6. When you have finished your modifications, then 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 enables **Page Two** and **Page Three** data to be copied properly when using **Save As** to create a new object (for instance, a project number field on **Page Two** of both ECOs and MCOs), and enables you to display information from an item's **Page Two** on its **BOM** table or an associated change's **Affected Items** tab (for instance, a Unit of Measure field).

Regarding the **Save As** method of object creation: if a subclass has Required fields set up (by the administrator) and the user does a **Save As** but there is a type violation in the source object on one of the required fields, **Save As** will complete with the value still copied over to the source. Previously in this case, the user would encounter an error during **Save As** saying that a violation occurred on certain attributes, and **Save As** 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 5-43.)
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 2-10), enter text, select from a drop-down 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.
(See ["Modifying Attributes"](#) on page 5-43.)
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.
(See "[Modifying Attributes](#)" on page 5-43.)
2. In the **Name** field, highlight the text you want to edit and enter a new name.
3. When you finish all the attribute modifications, then 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

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 file name 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 file name (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.

WebLogic:

- Stop WebLogic.
- For **Web Client**, place the custom graphic in the location `\AGILE_HOME\agileDomain\applications\application.ear\application.war\images\`
- For **Java Client**, place the custom graphic in the location `\AGILE_HOME\agileDomain\applications\application.ear\JavaClient.war\lib\images\custom.jar`
- Delete `\AGILE_HOME\agileDomain\servers\xxxx\`
- Restart WebLogic.

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://docs.oracle.com/javase/tutorial/deployment/jar/update.html>.

You can also use many Zip-compatible utilities, such as WinZip, to update a JAR file.

3. The Agile Application Server must be restarted for the new icons to take effect.

Smart URL Quick Access to Objects, Files, and Searches

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 PLM, that open a specific attachment file, and that open a search page in Agile PLM.

Smart URLs for Agile objects can specify a specific tab, revision, or version to display when the object opens in Agile PLM.

For detailed information about all types of Smart URLs, see *Getting Started with Agile PLM*, chapter "Working with Business Objects in Web Client", section "Smart URL Quick Access to Objects, Files, and Searches."

Character Sets

This chapter provides information about how to customize and configure character sets.

Available 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.

Table 6–1 Available Character Sets

Name	Included characters
All	All valid characters
All Characters with space and Lower Case	Only lowercase characters, and including: Space character
All Characters with space and Mixed Case	All upper- and lowercase characters, and including: Space character
All Characters with space and Upper Case	Only uppercase characters, and including: Space character
All Characters without space and Lower Case	Only lowercase characters and no space character
All Characters without space and Mixed Case	All upper- and lowercase characters and no space character
All Characters without space and Upper Case	Only uppercase characters and no space character
Alpha All	Upper- and lowercase alphabet only
Alpha All & Space	Same as Alpha All plus: Space character
Alpha Lower Case	Lowercase alphabet only

Table 6–1 (Cont.) Available Character Sets

Name	Included characters
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: Numerals 0 through 9 Period (.) Hyphen (-)
AlphaNumeric All& Space	Same as AlphaNumeric All plus: Space character
AlphaNumeric Lower Case	Lowercase alphabet and: Numerals 0 through 9 Period (.) Hyphen (-)
AlphaNumeric Lower Case & Space	Same as AlphaNumeric Lower Case plus: Space character
AlphaNumeric Upper Case	Uppercase alphabet and: Numerals 0 through 9 Period (.) Hyphen (-)
AlphaNumeric Upper Case & Space	Same as AlphaNumeric Upper Case plus: Space character
Numeric	Numerals 0 through 9, and also: Period (.) Hyphen (-)
Numeric & Space	Numerals 0 through 9, and also: Period (.) Hyphen (-) 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)

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 permits 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**, **API 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.

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.

This chapter provides information about how to customize and configure lists.

Overview

The **List** node accesses a collection or library of lists. Use the **List** node 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.

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 a **List** or as a **Search** format. For companies sized so only a few people are on each list, the drop-down list may be fine. Larger companies may have, for example, one or two dozen change analysts, and they will find the Search 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 List.

Creating Custom Lists and Adding to Lists

Figure 7–1 Lists Window

ID	Name	Description	API Name	Criteria	Enabled	Editable	List Type	Display Type
5199	Quality Analysts	Quality Analysts	QualityAna...		Yes	No	Dynamic	List
351	Reason Code	Reason Code	ReasonCode		Yes	Yes	Simple	List
2000...	Reason Codes ...	Reason Codes for Comm...	ReasonCo...		Yes	Yes	Simple	List
2000...	Reference Desi...	Reference Designator Ra...	Reference...		Yes	Yes	Simple	List
2000...	Region List	Region List	RegionList		Yes	Yes	Simple	List
4599	Region/Provinc...	Region/Province/State	RegionPro...		Yes	Yes	Simple	List
2000...	Resource Type ...	Resource Type List	ResourceT...		Yes	Yes	Simple	List
8522	RFQ Responses	All RFQ Response Objects	RFQRespo...		Yes	No	Dynamic	Search
8521	RFQs	All RFQ Objects	RFQs		Yes	No	Dynamic	Search
2000...	RoHS Declaration	RoHS Declaration	RoHSDecla...		Yes	Yes	Simple	List
2000...	RoHS Exemptions	RoHS Exemption	RoHSExem...		Yes	Yes	Simple	List
2000...	Rollup Selection	Rollup Selection	RollupSele...		Yes	Yes	Simple	List
6504	Severity	Severity	Severity		Yes	Yes	Simple	List
10311	Ship From	Ship From	ShipFrom		Yes	Yes	Simple	List
17501	Ship To Locatio...	Ship To Location List	ShipToLoc...		Yes	No	Dynamic	List
11934	Site ERP List	Site ERP List	SiteERPList		Yes	Yes	Simple	List
13166	Sites	All Sites Objects	Sites		Yes	No	Dynamic	List
421	Size	Size	Size		Yes	Yes	Simple	List
10381	Sourcing Progr...	Sourcing Programs	SourcingPr...		Yes	Yes	Simple	List
8520	Sourcing Projects	All Sourcing Project Objects	SourcingPr...		Yes	No	Dynamic	Search
2000...	Spec Validation	Spec Validation	SpecValida...		Yes	No	Simple	List
2000...	Specifications	All Specification Objects	Specifications		Yes	No	Dynamic	List
2000...	Substance Rep...	Substance Reporting	Substance...		Yes	No	Simple	List
2000...	Substances	All Substance Objects	Substances		Yes	No	Dynamic	Search
4522	Supplier Offerin...	Supplier Offering Rating	SupplierOf...		Yes	Yes	Simple	List
17667	Suppliers	All Supplier Objects	Suppliers		Yes	No	Dynamic	Search
8882	Transfer Orders	All Transfer Order Objects	TransferOr...		Yes	No	Dynamic	Search
4587	Transportation ...	Transportation Terms	Transporta...		Yes	Yes	Simple	List
2000...	Unit of Measure	Unit Of Measure	UnitOfMea...		Yes	Yes	Simple	List
13048	User Groups	All User Group Objects	UserGroups		Yes	No	Dynamic	Search
361	Users	All User Objects	Users		Yes	No	Dynamic	Search
2000...	Yes/No Cost List	Yes/No Cost List	YesNoCost...		Yes	No	Simple	List

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. The **API Name** field is automatically populated when you fill in the **Name** field.

It is recommended that you accept the automatically generated API name to enhance internal consistency. If necessary, you can enter a different API name.

An API name may contain only ASCII characters a-z, A-z, 0-9, and _ (underscore), and may be from 1 to 255 characters in length. API names are case sensitive and must be unique within a context.

5. Select Enabled or Disabled in the **Enabled** list.
6. Select the type of list you want from the **List Type** drop-down list.
7. Click **OK**. The new List: <name> window appears. The new list also appears in the list library.
8. The Create a new list value window automatically appears. Fill in the **Name** and **Description** fields.
9. The **API Name** field is automatically populated when you fill in the **Name** field.

It is recommended that you accept the automatically generated API name to enhance internal consistency. If necessary, you can enter a different API name.

10. Select Yes or No in the **Active** list.
11. Click **Add** or **Add Another**.

Note: You can create a list without populating it with list items.

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. On separate lines, separated by a carriage return, enter item names. The API names are generated automatically. For example, you may enter:

Red

Blue

Green

6. Alternately, you can specify API Name and Description with the following format: type the item name, type two colons (::), the API name, type two colons (::), and then type a description of the item. The name and description can each be up to 255 characters. The format will be List Value (name)::API Name::List Description.

If you omit the API name, it will be automatically generated. The following examples are all valid entries:

January:::month 1

Red::RED33::color 33

Monday

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 or from a spreadsheet application, such as Excel.

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.

7. 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. 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".

You can use a spreadsheet application, such as Excel, to organize the items you want to batch add to a list, and then use copy and paste to batch add the list items to a list. Each row of the spreadsheet must be in the format described in Step 6 above.

To batch add list items from a spreadsheet:

1. Enter the list items in the spreadsheet. Each row must follow the format in Step 6 above. The following example shows four different valid rows in a single spreadsheet. (Your spreadsheet will probably use the same format for each row.):

Figure 7-2 Example Rows

	A	B	C	D	E
1	January	::		::	Month 1
2	Monday				
3	Red	::	RED33	::	Color 33
4	Summer	:::	Season 1		

2. Select the cells in the spreadsheet and copy them (CTRL-C).
3. Place your cursor in the Add batch list values dialog and paste (CTRL-V):

Figure 7-3 Add Batch List Values Dialog

January	::		::	Month 1
Monday				
Red	::	RED33	::	Color 33
Summer	:::	Season 1		

4. Click **OK**.
5. The list values are added to the list object:

Figure 7-4 List Tab

General Information			
List			
Where Used			
History			
+ X			
Name	API Name	Description	Active
January	JANUARY	Month 1	Yes
Monday	MONDAY		Yes
Red	RED33	Color 33	Yes
Summer	SUMMER	Season 1	Yes

More Kinds of Lists

There are three types of lists for users in Agile PLM.

- Simple Lists

- Cascade Lists
- Dynamic Lists

While Simple and Cascade lists are maintained manually by editing the list entries, Dynamic lists rely on criteria for generating list entries. Agile PLM permits sorting of lists in Java Client based on **Type** (a new column on lists window).

Simple Lists

Simple lists can be categorized into two types: SingleLists and MultiLists.

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

Figure 7-5 Overhead Rate

Overhead Rate: United States Dollar ▼

United States Dollar
 Euro
 Pound Sterling
 Hong Kong Dollar
 Irish Punt
 Japanese Yen

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.

Figure 7-6 Product Lines

Product Line(s)

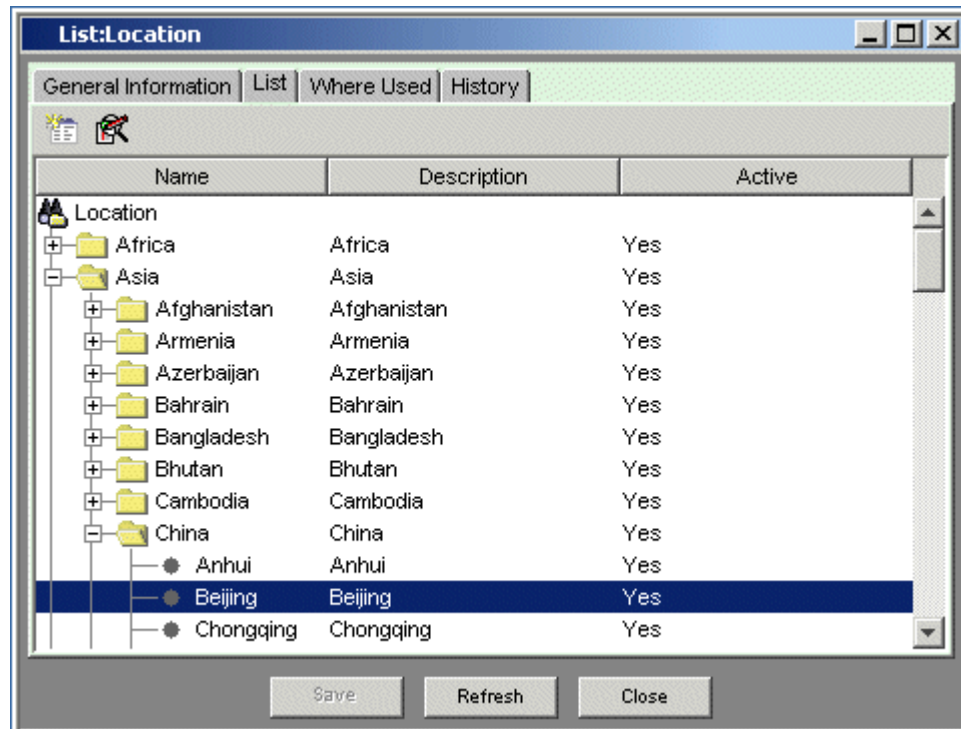
Filter:

↑ Name	Description
Capricorn	
Leo	
Pisces	
Scorpio	
Taurus	
Virgo	

Cascade Lists

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

Figure 7-7 *Cascade Lists*



Note: The Location list is the only ready-to-use cascade list that ships with Agile PLM. However, you can define your own cascade lists.

For more information about cascade lists, see ["Creating Cascade Lists"](#) on page 7-10.

Dynamic Lists

The Simple and Cascade lists are a static type of list that has an unchanging set of values. A Dynamic list contains a list of values that are updated at run time. Dynamic lists are based on a criteria that is available in Agile PLM. The **Criteria** field is only available for Dynamic lists.

To create a Dynamic 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**, **API Name** and **Description** fields.
4. To enable the list, make sure the **Enabled** list is set to **Yes**.
5. In the **List Type** list, select **Dynamic**.

6. In the **Criteria** field, choose a criteria from the list and click **OK**.
7. Then click **OK** in the **Create List** dialog box.
8. The new List:<name> window appears.

The **Type** value of a list cannot be changed once created. There is a result set record limit applicable to searches that is also applicable to Dynamic lists. A pop-up search in Web Client on the list will yield the first 250 entries. These entries display as active links to the object with the Quick View available.

Criteria Association to Dynamic Lists

If a criteria associated to a list or another object is modified, Agile warns the user with a pop-up confirmation. If the criteria is saved ignoring the warning, the list entries that are on the list also change accordingly.

Reusing a criteria available in Agile PLM is inadvisable. Creating new criteria dedicated solely to the purpose of list creation is a recommended best practice to ensure the integrity of the list data. Developing and implementing a naming convention to distinguish the dynamic list criteria from others will help in the criteria selection process because you cannot create a criteria during the list creation process.

Changing a criteria associated with a list that is already in use will not lead to immediate data loss. The existing data is preserved provided that the attribute is not modified again. However, editing the object to modify another attribute erases the list selection. The data in the attribute is preserved until it is overwritten with new content. Therefore, it is possible to revert the criteria and the attribute data will appear automatically because the attribute data is preserved in the database until it is overwritten.

Configuring Lists

This section provides instructions for configuring drop-down lists in Java Client.

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 list entry values can be deleted, but there will be a warning message. It is recommended that you deactivate a list entry 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 5-44. 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.

Only the administrator has the ability to set a multi-value default for a multilist attribute.

Display Type for Lists in Web Client

The Display Type setting available for Routing Manager Lists is also an available setting for Lists and Multilists for Web Client. In Java Client the administrator chooses whether the object list attribute is displayed as a List or Search format in Web Client. If the selection is List mode then the entries display in a drop-down list. If the selection is Search mode then the entries display in a search palette.

For list attributes that contain more than 250 entries, the Web Client automatically displays the entries in Search mode.

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 Cascade Lists

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

Configuring cascade lists is very similar to configuring single-level lists. See ["Configuring Lists"](#) on page 7-7, for more information about modifying lists. Cascade lists have the following additional restrictions:

- Once you create a cascade list, you cannot change it to an ordinary list. After the list is saved, the **List Type** property is read-only.
- Each folder within a cascade list must contain unique values. However, different folders within a cascade list can share the same values.
- Cascade list values must be added one at a time. There is not a batch method for adding cascade list values.
- A cascade list can have any number of levels. However, in practice you should try to limit a cascade list to no more than four levels.
- Ability to choose a branch value of a cascade list; both the nodes and the final list values.

To create a new cascade 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**, **API Name** and **Description** fields.
4. To enable the list, make sure the **Enabled** list is set to Yes.
5. In the **List Type** list, select **Cascade**.
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, the API name, and then type a description of the list item.
10. Click **Add** to add the value and close the dialog box. 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 cascade list.

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

Process Extensions

This chapter provides information about how to customize and configure process extensions.

Overview to 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 (PX) is either a Java class deployed on the Agile Application Server or a link to a URL. The URL can be a simple website or the location of a Web-based application.

There are two types of process extensions available in Agile PLM:

- *Custom process extensions* (Custom PX) is a general name for PXs created in **Data Settings > Process Extensions** node. These PXs have limited initiation capability. This node continues as the site to store and manage your custom PXs.
- *Event-based process extensions* (Event PX) are created in the **System Settings > Event Management > Event Handlers** node. For more information about Event-based process extensions, see "[Handler Types](#)" on page 7 in [Chapter 29, "Event Management."](#)

There are several 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-based 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-based 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 9-1.

What tools do you need to develop process extensions? For URL-based PXs, you do not need any additional tools. You can define any number of URL-based PXs in the Process Extension Library and specify where those URLs can be accessed from in the client.

Note: A server property called `agile.sso.expirationTime` controls the expiration of the cookie used by a URL-based PX. The default value of the property is 86400 (seconds), which means the cookie will expire after one day. The administrator can increase or decrease the expiration time by adding this property to **agile.properties** under `<AgileHome>\agileDomain\config`. Remember the value is in seconds.

To create process extensions that are Java classes deployed on the Agile Application Server, you need to use the Agile SDK, work with Oracle Consulting - Agile Practice, or work with 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 PLM 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.

Table 8–1 Default process extensions

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.

Agile Content Service (ACS) uses these process extensions to automatically send Accept or Reject responses during Agile-to-Agile communication. For more information, see *Agile PLM Content Service User Guide*.

There are several ready-to-use process extensions used by Product Governance & Compliance. For more information, see *Agile PLM Product Governance & Compliance User Guide*.

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 **Create New** icon. The Add Process Extension dialog box appears.
3. Enter the following information:

- **Name:** Enter the name of the custom action.
- **API Name:** autogenerated
- **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:** Enables users to select the custom action from the **Actions** menu of a properly configured class.
 - **External Report:** Enables 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:** Enables 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.
- **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 click the **Delete** icon.

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.

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 cannot be assigned to the Item base class.

However, for 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** icon. The Assign Process Extension dialog box appears.
5. Select custom actions in the **Choice List**, and then click the arrow button 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 the down arrow icon. 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.

AutoNumbers

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 provided that it has not been used to create an object in Agile PLM clients.

There are two types of autonumbers that can be used; a standard and a 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 PLM 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 drop-down list.
4. When you have finished, click **Save**.
5. 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 9-4.

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 and 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 5-12.
- 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.

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 one or more autonumber sources to a subclass.
- Assign one or more 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 5-13.

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.

Table 9–1 AutoNumber sources 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	CTMR	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
Program AutoNumber	Program	PGM	5
Project AutoNumber	Project	PROJECT	7

Table 9–1 (Cont.) AutoNumber sources configured at installation

Name	Where Used	Prefix	Number of Characters
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 the properties listed in the following table.

Table 9–2 AutoNumber source properties

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.
API Name	Unique systemwide identifier for objects and can be autogenerated. You can specify an API name, but internal consistency is enhanced by accepting the system-generated 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 8-1. Also see <i>Agile PLM SDK Developer Guide</i> .
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.

Table 9–2 (Cont.) AutoNumber source properties

Property	Description
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."
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 <i>custom autonumber</i> is only activated (and visible) when Type is Custom. A drop-down 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 ready-to-use 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.

Note: It is not recommended to change any properties other than **Name**, **Description** and **Enabled** for an autonumber already in use.

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 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. To revert to the original settings or start over, click **Cancel**. You are prompted to confirm 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** drop-down 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**, **API 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"](#) on page 9-2 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 5-13.

Deleting an AutoNumber Source

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

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 9-1.

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.

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**, **observers**, or **acknowledgers**, 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 10-5.

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 in Java Client"](#) on page 2-4).

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.

Table 10–1 Reusable criteria management task buttons

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" on page 4-11.
Export	Exports reusable criteria data for the selected reusable criteria. See "Administrator Import and Export" on page 4-10.
Export All	Exports all reusable criteria data. See "Administrator Import and Export" on page 4-10.
New Criteria	Create a new reusable criteria. See "Creating a New Criteria" on page 10-3.

Viewing Reusable Criteria

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

To view 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 in Java Client"](#) on page 2-4).
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 buttons you can use to perform the available actions described in the following table:

Table 10–2 Criteria Setup General Information tab buttons

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 4-10.
Save As	Permits 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

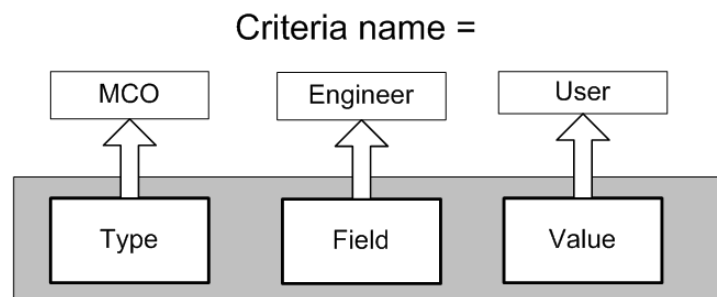
You create reusable criteria according to the needs of your workflow or privilege mask. Because reusable criteria can be widely used in Agile PLM, their purpose and function need to be clear from the start.

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

Note: 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: object type, attribute field, value, for example, MCO Engineer User.

Figure 10–1 Diagram of sample criteria naming scheme



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**, Agile PLM **Criteria**. The Criteria window appears.
2. Click the **New** button. The Create Criteria dialog box appears.
3. Fill in the **Name**, **API 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** check box. 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** enables 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** drop-down 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 9 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

A criteria already in use can be edited. When the user tries to save the changes made, a warning message appears reminding the user that there are objects currently using the criteria, as previously defined. The user can then confirm the changes to the criteria definition or cancel the changes.

You can also use a criteria as a template by removing the reusable criteria from its assigned objects, modifying it, and then reassigning it. 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 "[Filtering Data in Java Client](#)" on page 2-4.)
3. In the Criteria window, double-click the name of the reusable criteria object you want.
4. The criteria definition page with the **General Information**, **Criteria**, **Where Used** and **History** tabs appears. Click the **Criteria** tab.
5. Next, click the button to the right of the criteria definition.
6. In the Edit Criteria window make your desired changes and click **OK**.
7. A warning message appears if the criteria is already in use. Click **Yes** to continue saving your changes.
8. 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 drop-down list, it cannot be used to define the privilege mask. See also the "Configuring Product Collaboration in Agile Administrator" chapter of *Agile PLM Product Collaboration User Guide*.

In the Create Criteria dialog box, the **Attributes** list contains **Affected Items** tab fields, including those from the Items themselves. This enables 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** drop-down 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:

Table 10–3 Naming of Affected Items in Reusable Criteria

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, Acknowledgers, and Observers

Default change analysts (or default component engineers) may want to monitor changes assigned to them to ensure that the list of approvers, observers, and acknowledgers is complete. When workflows assign approvers, acknowledgers, 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 simultaneously. 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, observers, and acknowledgers 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 Reviewers** 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, acknowledgers, 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 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.

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 Getting Started in Administrator, see ["Default Value Variables"](#) on page 2-10; \$CURRENTREV in conjunction with the Modify privilege is detailed in ["Controlling the Ability to Modify Items at Introductory Revision with \\$CURRENTREV"](#) on page 17-43.

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, and also 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 drop-down 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 drop-down 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.

An expression involving any of these three values will always evaluate to False if the selected revision is not the Introductory revision.

- 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 behavior of item Description on the Latest Released revision deserves special mention here. When a user has the privilege to modify the Latest Released revision only (**Title Block.Rev = \$LATEST**) and not Pending revisions, and he modifies the description of the item, he is 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.

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 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 17-42.

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, use the following criteria:

`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: Relationship rules are not revision-specific. See also [Chapter 42, "Administering Revision-Specific Relationships."](#)

Using File Folder Attributes in Reusable Criteria

For file folder objects privilege checking is based on the latest checked in version of the file folder object. Privilege checking is not performed on checked out versions of file folders.

For example, if you create a Discover privilege mask using a criteria that requires the file folder lifecycle phase attribute to equal Pilot, then a checked out version of a file folder with the Pilot lifecycle phase will not be discovered. However, once the user

checks in the file folder, then the checked in file folder will be discovered because the lifecycle phase of Pilot now meets the criteria.

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 the *Agile PLM Getting Started Guide*.)

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 and acknowledgers have signed off for a Review or Released status type, the routable object can be moved automatically—autopromoted—to the next status.
- Approval, rejection, and acknowledgment of the routable object occurs within defined permissions and other checks. You can preassign default approvers, acknowledgers, 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 or acknowledger does not respond within the specified period, the routable object is sent to that user's designated escalation person, who can approve, reject, or acknowledge the routable object.
- By defining a workflow with multiple Review and Released statuses, routable objects can be sequentially routed to different lists of approvers, acknowledgers, and observers.

- A user can transfer authority to approve or acknowledge 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 drop-down 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**.

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 11-32.

Note: Alterations to workflow statuses have implications for process extensions. See "[Process Extensions](#)" on page 8-1. Also see *Agile PLM Content Service User Guide*.

Workflow Basics

This section covers basic information about Agile workflows.

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.

Table 11–1 Default routing managers for each routable object

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
Project: activities and gates	PPM 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, Pending, is required 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, acknowledge, 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.

Note: 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 11-5.
 - Use default workflows at first, which you can use immediately without modification. See ["Default Status-Based Workflows"](#) on page 11-5.
 - 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 11-11.
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 11-30.
 - ["Migrating Workflows to Production"](#) on page 11-31.
 - ["Changing Active Workflows"](#) on page 11-32.

Although you can create as many workflows as your company needs, you are encouraged to explore the capacities of the ready-to-use 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 11-7.)

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, acknowledgers, and observers.

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.

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.

Status Types and Definitions

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, acknowledgers, and observers). When all approvers and acknowledgers 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, acknowledgers, 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 unreleases the routable object and removes approvals that were gathered. A Deviation can be unreleased if it does not have affected items.

Note: Although Agile PLM permits 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)

- **Hold** – The Hold status type 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 unreleases a routable object.

Given appropriate privileges, the user can manually move a routable object to Hold from any other status in the workflow (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.

Cancel unreleases a routable object.

Cancel resets the workflow.

When a routable object is canceled, any redlines associated with the routable object are discarded.

Given appropriate privileges, the user can manually move a routable object to Cancel from any other status in the workflow (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. Canceling a routable object resets the workflow. Because a Canceled routable object that reenters the workflow must, in effect, start over, the fact that it is relatively easy to change a workflow to Cancel must be recognized and allowed for.

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.

- Click the **Save As** button, and enter a descriptive, unique name. Autogenerate the API name

If you are creating an archive copy, use a name that will distinguish it as "off limits," for example, "EXAMPLE Default Chg Orders."

- Click **OK**. The setup window displays the new name in the title bar.
- 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 17-13.

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:

Table 11–2 *Edit Workflow Init Settings dialog*

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**, **Save As**, and **Export** buttons. It has the following fields:

Table 11–3 *General Information Tab fields*

Field	Description
Name	The name of the workflow. Each workflow name must be unique
API Name	Unique systemwide identifier for objects and can be autogenerated. You can specify an API name, but internal consistency is enhanced by accepting the system-generated name.
Enabled	Enables or disables the workflow. An enabled workflow is visible and usable by Agile PLM client users.

Table 11-3 (Cont.) General Information Tab fields

Field	Description
Object Type	The type of routable object for which the workflow applies. Available for the following: changes, CTOs, QCRs, PSRs, projects, packages. Object types are listed in "Agile PLM Class Structure" on page 5-1. 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.
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 11-9.

About Workflow Name

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 11-16. For information about modifying or fixing problems in active workflows, see ["Changing Active Workflows"](#) on page 11-32.

When a workflow is created by the administrator, the **Object Type** field is limited to base class choices. The **Matching Criteria** property in a workflow selects an object type, and that is what the system picks up when a workflow is selected as the object type of an Event mask. For more information regarding Events and how they relate to Workflows, see ["Event Management"](#) on page 29-1.

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** drop-down list on the **Cover Page** tab of the change (Java Client) or the Cover Page page of the change (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** drop-down list on the **Cover Page** tab of the change (Java Client) or the Cover Page of the ECO (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** drop-down list on the **Cover Page** tab of the change (Java Client) or the Cover Page of the Change Order (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** drop-down 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, acknowledgers, 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 do not 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 11-7), 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.
- API 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.

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.

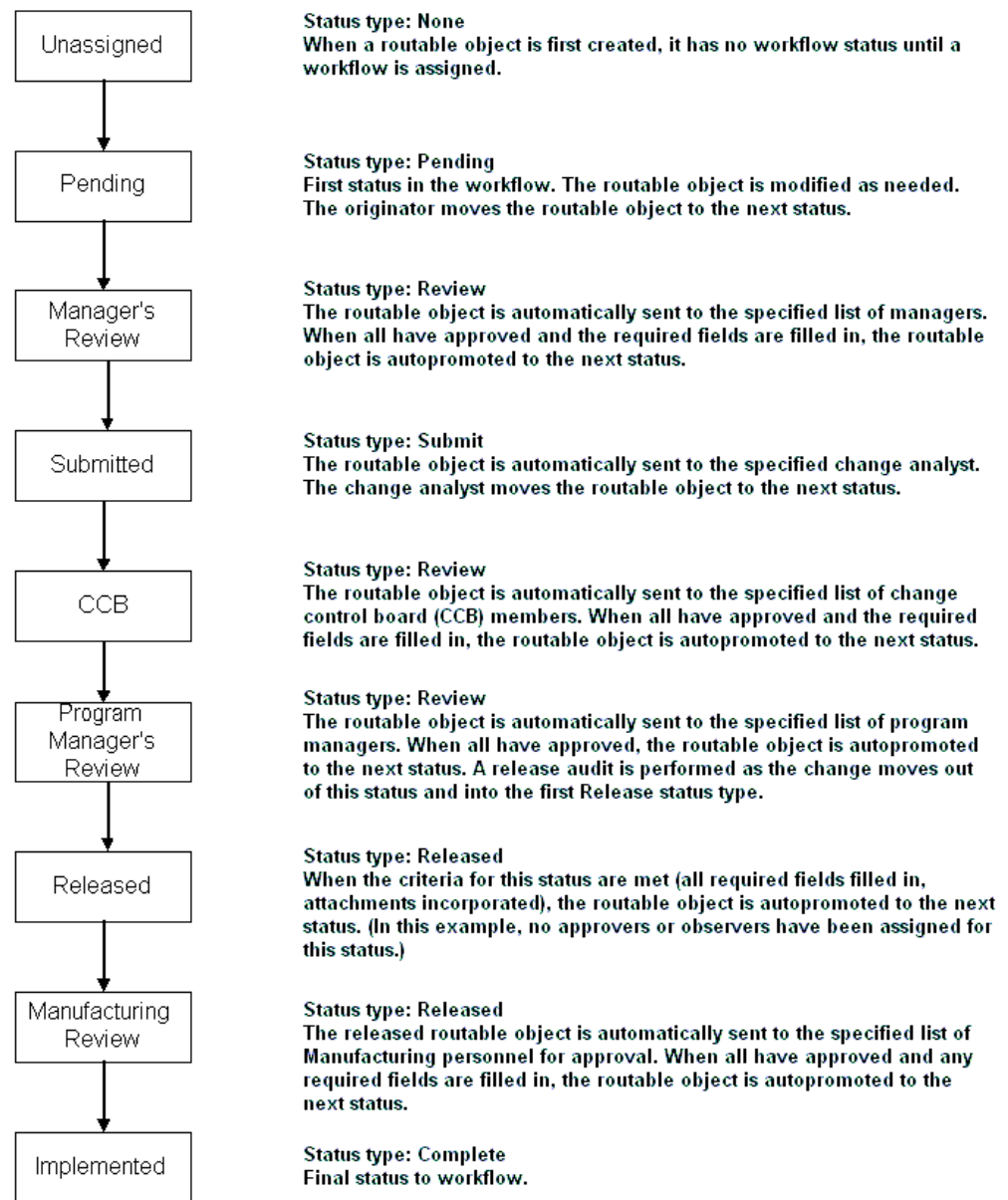
- Enable and use one or more of the default Agile PLM workflows in live situations. See ["Default Status-Based Workflows"](#) on page 11-5.
- Compile specific information and data that define what you need an original workflow to do. This includes a sequence of statuses that differ from those in the default workflows.

Custom Workflow Example

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 status 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 unreleasing the routable object*. If a routable object enters a Review *following* a Released status type, it is *unreleased*, 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 11-28.

Any revisions that were assigned to the affected items are revoked.

Figure 11-1 Custom Workflow Example

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 10-1.
3. Create a new workflow and give it a unique name, but do not enable it. Enabling is the final step. See "[Creating a New Workflow](#)" on page 11-14.
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, acknowledgers, and observers.
8. Assign appropriate privileges that allow users to refine statuses in a new workflow. The privileges most pertinent to workflows are Add Reviewer, Remove Reviewer, Change Status, Override; Transfer Authority for Self, and Transfer Authority for Others.

See "[Privileges and Privilege Masks](#)" on page 17-1. To move a routable object through the new workflow, users must have Change Status privileges for that specific workflow; see "[Change Status](#)" on page 17-13.
9. Set SmartRules for systemwide workflow functionality. See "[SmartRules Defined](#)" on page 19-2.
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

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.

Table 11-4 Example of a new workflow status list and status types

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** and an API name.

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 10-3 and ["Naming Privilege Masks"](#) on page 17-21.

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** drop-down 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 10-5.

5. From the **Object Type** drop-down list, select the appropriate base class.
6. In the **Matching Criteria** drop-down 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 **New** just above the Status table. The Add Workflow Status dialog box appears.
2. Type an appropriate name; in our example, it is **Originate** and API name.
3. In the **Status Type** drop-down list, select an appropriate status type, in this case Pending (the required first status for any workflow).
4. In the **Status Stamp Color** drop-down 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 want the workflow to have.

If you scroll to the right in the Statuses table, you see two status properties that need to be given values: **If No Criteria Apply At Exit** and **Notify and Manual Valid Next Status**.

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 11-30, you need to enable it. In the setup window for the workflow, select Yes in the **Enabled** drop-down list.

Note: A new workflow is disabled as you create it. A common mistake after creating a custom workflow is forgetting to enable it.

To move a routable object through the new workflow, users must have Change Status privileges for that specific workflow. See "[Change Status](#)" on page 17-13.

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, acknowledgers, or observer using valid approvers, acknowledgers, 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. See "[Adding User Groups as Default Reviewers in a Workflow](#)" on page 14-5.

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 Managers"](#) on page 11-2.

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, Originator, Approvers (all approvers for statuses the routable object has already gone through), Observers (all observers for statuses the routable object has already gone through), and Acknowledgers (all acknowledgers 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 21-1.

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.

Caution: 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, acknowledgers, 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 drop-down box (after the "Notify Reviewers for" check box) 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 or acknowledgers 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 acknowledgers (and at a current status, all approvers must approve the routable object, and all acknowledgers must acknowledge 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.

AutoPromote does check the workflow every time an approver either approves or rejects, and autopromote does check the workflow every time an acknowledger acknowledges. If there are more approvers who have not yet approved or rejected, or acknowledgers who have not yet acknowledged, then the status is not advanced. When the final required reviewer (either an approver or an acknowledger) has responded (approves or rejects or acknowledges), then the AutoPromote function evaluates according to the above-named SmartRule and promotes the status or not accordingly.

If any of the required reviewers—approvers or acknowledgers—have not yet approved or acknowledged the routable object, then 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 11-20), which is done automatically, whether the AutoPromote feature is on or off.

The AutoPromote feature must 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 and Exit Required Fields](#)" on page 11-29. 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 Managers](#)" on page 11-2.)

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 and acknowledged by all acknowledgers, 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's 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's 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), Acknowledgers (all acknowledgers 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 required reviewer (approver or acknowledger) designated for that status has approved or acknowledged 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 21-1.

Ad-Hoc Reviewers

Answers the question: Can "ad hoc" approvers, observers and acknowledgers 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, observers, and acknowledgers can be added as a routable object actively progresses. When this property is set to Yes, users with Add Reviewer and Remove Reviewer privileges can add or remove approvers, observers, and acknowledgers on the **Workflow** tab of a routable object in a Review or Released status type. They are also prompted to add reviewers in the Change Status window during the release cycle.

Note: A user with the Remove Reviewer privilege may successfully remove an observer from one status and then not be allowed to remove approvers, observers, or acknowledgers on the next status; this indicates the Ad Hoc Reviewers 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 Managers"](#) on page 11-2).

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), Acknowledgers (all acknowledgers 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 21-1.

Reminder Period

Answers the question: How long after a routable object has been routed for approval should required reviewers (approvers and acknowledgers) be sent email reminders to approve, reject, or acknowledge 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, or an acknowledger has not acknowledged a routable object, a reminder email notice is sent to the approver or acknowledger. The routing manager receives a similar email notice, which also includes a list of the approvers and acknowledgers 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 21-1.

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 a required reviewer has not responded (an approver has not approved or rejected a routable object, or an acknowledger has not acknowledged a routable object), email is sent to the required reviewer'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, reject or acknowledge the routable object in the place of the original approver or acknowledger.

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 21-1.

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"](#) on page 13-1). 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. See ["User Groups"](#) on page 14-1.

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 or acknowledger's designated escalation persons are notified by email that the approver or acknowledger has not responded to the routable object. Now the designated escalation persons may approve, reject, or acknowledge the routable object in the place of the original approver or acknowledger. The designated escalation person's name is recorded 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 21-1.

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 13-8. 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.

Comments for Approval

Answers the question: Should comments be required in the Review status of this workflow when it is rejected?

General default (in default workflows): Allowed.

For each Review status, the Agile PLM administrator can define whether approval comments are allowed, required, or prohibited. The default "Allowed" means that comments are allowed, but not required for the workflow in that status. "Required" means that when an Approver approves the workflow at that status, he must enter a comment for the workflow to proceed. "Prohibited" means that when an Approver approves the workflow at that status, he cannot enter a comment for the workflow to proceed.

Comments for Rejection

Answers the question: Should comments be required in the Review status of this workflow when it is rejected?

General default (in default workflows): Allowed.

For each Review status, the Agile PLM administrator can define whether rejection comments are allowed, required, or prohibited. The default "Allowed" means that comments are allowed for rejection, but not required for the workflow. "Required" means that when an Approver rejects the workflow at that status, he must enter a comment for the workflow. "Prohibited" means that when an Approver rejects the workflow at that status, he cannot enter a comment for the workflow.

Comments for Acknowledgement

Answers the question: Should comments be required in the Review status of this workflow when it is acknowledged?

General default (in default workflows): Allowed.

For each Review status, the Agile PLM administrator can define whether acknowledgment comments are allowed, required, or prohibited. The default "Allowed" means that comments are allowed for acknowledgment, but not required for the workflow. "Required" means that when an Acknowledger acknowledges the workflow at that status, he must enter a comment for the workflow. "Prohibited" means that when an Acknowledger acknowledges the workflow at that status, he cannot enter a comment for the workflow.

Dual Identification Required

Answers the question: Should the approver need to identify himself with more than a password?

General default (in default workflows): No

This property for Released statuses of all default and custom workflows, dictates that users are also required to enter their User ID (also called username) and their Login Password.

Password Required

Answers the question: Should approval passwords be required in the status of this workflow?

General default (in default workflows): Yes

The administrator can decide whether a password is required for approvals or rejections in a workflow of an object. If this property is set to **Yes**, the **Password** field appears as a required field for both approvals and rejections. If this property is set to **Approve Only**, the **Password** field appears only for approval and acknowledgment actions. If this property is set to **No**, the **Password** field does not appear for any approvals, rejections, or acknowledgments. If this property is set to **Reject Only**, the **Password** field appears only for rejection actions.

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, that status appears in the Criteria table; double-click the row in the Criteria table, the Workflow Criteria: [Criteria Name] dialog appears.

Approvers, Observers, and Acknowledgers

Answers the question: Who should approve or reject, who should simply observe, and who should acknowledge the routable object in this status?

General default (in default workflows): (none)

The Agile PLM administrator defines default approvers, observers, and acknowledgers who are selected automatically and then notified by email when the routable object enters the Review or Released status type. The default approvers, observers, and acknowledgers 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. Approvers, observers, and acknowledgers can be automatically selected by their job functions. See "[Administering Approval Matrix](#)" on page 40-1.

Note: If the email notification is disabled, email will not be sent. See "[Notifications](#)" on page 21-1.

Group Signoff Expansion

Answers the question: If a user group is selected as a default approver, observer or acknowledger, should all the users in the user group signoff (All) or should only one user in the user group signoff (Any)?

General default (in default workflows): (All)

The Agile PLM administrator defines default approvers, observers, and acknowledgers who are selected automatically when the routable object enters the Review or Released status type. If a user group is selected, the Group Signoff Expansion property determines how that user group must respond:

- All – The user names of the members user group are added to the Workflow tab as individual signoff users. For each user group member, a row is added to the workflow table.
- Any – The name of the user group is added to the workflow table. For each user group, a single row is added to the workflow table. Only one member of the group needs to sign off.

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 10-1.
- ["Privileges and Privilege Masks"](#) on page 17-1.
- In *Getting Started with Agile PLM*, see the chapter "Finding Agile Data with Searches" for information about how to use the Advanced Search process, which is similar to the Create Criteria process.

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 2-12.)

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.

Note: While promoting workflows of any kind of routable object to the Next Status, if no Change Analyst (or Routing Manager type) is assigned, a default Change Analyst is automatically populated to the field. The system assigns the default Change Analyst even if the user does not have the Modify privilege.

For information about adding approvers, acknowledgers, and observers, see ["More about Affected Items: Adding Approvers, Acknowledgers, and Observers"](#) on page 10-6.

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), Acknowledgers (all acknowledgers 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 21-1.

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, acknowledgers, 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 audit *automatically* 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 11-28.

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 11-28.

Note: If entry required fields defined for the Pending status are not completed, then Agile PLM displays warning messages (instead of errors) when the routable object moves into the Pending status. This exception applies only to entry required fields for the Pending status.

This exception for Pending status entry required fields applies regardless of whether the user has Override privilege. See also ["Override"](#) on page 17-17.

- **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.

See the warning about this property in ["Use Caution when Assigning Users the Override Privilege"](#) on page 17-17.

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 required reviewers have responded – approvers have approved and acknowledgers have acknowledged.
- 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 item's 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 the *Agile PLM Product Collaboration User Guide*.

Entry Required and 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)

Entry required field are attributes or fields that must be completed for each Pending, Submit, Review, Released, and Complete status type before a routable object can move forward in the workflow to enter that status.

Exit required field are attributes or fields that must be completed for each Pending, Submit, Review, Released, and Complete status type before a routable object can move forward in the workflow to exit that status.

You can specify entry required fields and exit required fields for each status, as necessary.

In the **Entry Required Fields** list or in the **Exit Required Fields** list, click the icon next to the field to display the selection dialog that permits you to specify required fields for each object type.

Some required fields are uneditable, or defaults.

Caution: Required fields are primary targets for status and release audits (see ["Pass Release Audit"](#) on page 11-26). In the default workflows, required fields are concentrated in the Review status type. In your custom workflows, however, you may want 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.

See the warning about this property in ["Use Caution when Assigning Users the Override Privilege"](#) on page 17-17.

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.

Note: Entry Required Fields

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 11-16.
- 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 17-13). 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 its configuration, see ["Modifying Properties in an Enabled Workflow"](#) on page 11-32.
- To make more extensive modifications, you must disable the workflow, see ["Disabling, Changing, and Reactivating Workflows"](#) on page 11-34.
- 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 Can Modify If a Workflow Has Any Routable Objects Applied"](#) on page 11-32). 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

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 4-10).

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. 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.

The workflow properties that you can modify in an active workflow are:

- Workflow name — you can modify the name of the workflow.
- Status name — you can modify the names of the statuses.
- Criteria-specific properties — you can add new criteria-specific properties to any status.
- Properties of statuses — you can modify the following status properties and criteria-specific properties of each workflow status:
 - Status properties of each status that can be modified:
 - * Ad Hoc Reviewers
 - * 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
 - Criteria-specific properties of each status that can be modified:
 - * Approvers
 - * Acknowledgers
 - * Default Change Analyst/ Default Component Engineer
 - * Notify Upon Entry
 - * Observers
 - * Pass Release Audit
 - * Required Fields

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 11-34.

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 must 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 *Agile PLM Content Service User Guide*) and process extensions (see ["Process Extensions"](#) on page 8-1).

To fix an active workflow:

1. Move each active routable object using that workflow to the Pending status type.
2. 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 11-32). This precaution is helpful when the change may take some time and many objects and people may be affected.
3. Disable the workflow.
4. Rename the workflow, using the Save As procedure (described in ["Creating New Workflows with Save As"](#) on page 11-7).
5. You may now want to rename the old workflow, especially if you decide it can still be useful but has a different purpose.
6. Modify or fix the new workflow.
7. When you are confident that the existing problem has been remedied, enable the workflow.
8. Apply the routable objects from the old to the new workflow.

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 13-5.
- 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?

Default Account Policy

Figure 12–1 Account Policy Window

The screenshot shows the 'Account Policy' window with the following settings:

Account Lockout	
Account Lockout	Disabled
Logon Attempts	3
Reset Count Time (in minutes)	30
Lockout Duration (in minutes)	0
Account Lockout Notify User	

Password Age, Length and Uniqueness	
Password Never Expires	Enabled
Password Expiry (in days)	0
Minimum Password Length	1
Password Uniqueness	0

Password Rules	
At Least One Numeric Character	No
At Least One Special (Punctuation) Character	No
At Least One Lowercase Character	No
At Least One Uppercase Character	No
Must Not Contain User ID	No
Minimum Number of Rules Matched	0

Buttons at the bottom: Save, Refresh, Close

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 tables below: [Account Policy](#), [Account Lockout properties](#), [Account Policy, Password Age, Length and Uniqueness properties](#), and [Account Policy, Password Rules properties](#).

Note: The account lockout rules apply to all Agile PLM clients, including Java Client, Web Client, ChangeCAST, AIS, ACP, Agile Drive, and SDK.

Table 12–1 Account Policy, Account Lockout properties

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. Note: The Account Lockout policy does not apply for the WebLogic Server
Logon Attempts	Enabled when Account Lockout is set to Enabled. Enter a value between 1 and 999,999,999 . The default is 3 failed attempts, in which case the lockout of that user account 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 user account reverts to allowing the number of attempts set in Logon Attempts. Note: A user who is locked out, and whose Lockout 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 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.
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.

Table 12–2 Account Policy, Password Age, Length and Uniqueness properties

Property	Description
Password Never Expires	This value permits a user to have a password that is never required to be re-set.
Password Expiry (in days)	If the password is able to expire, this setting is enabled and the administrator can choose a number of days that password is valid.
Minimum Password Length	This value sets the minimum number of <i>characters</i> that any user's password can be. Default is 1.

Table 12–2 (Cont.) Account Policy, Password Age, Length and Uniqueness properties

Property	Description
Password Uniqueness	The value 0 (default) permits users to reuse 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 reused. For example, with a value of 3, users will not be able to reuse 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 reuse their first password, because the system remembers their second, third, and fourth passwords, but not their first.

Table 12–3 Account Policy, Password Rules properties

Property	Description
At Least One Numeric Character	Set this value to Yes or No to provide a specific requirement of the password construction process for users.
At Least One Special (Punctuation) Character	Set this value to Yes or No to provide a specific requirement of the password construction process for users.
At Least One Lowercase Character	Set this value to Yes or No to provide a specific requirement of the password construction process for users.
At Least One Uppercase Character	Set this value to Yes or No to provide a specific requirement of the password construction process for users.
Must Not Contain User ID	Set this value to Yes or No to provide a specific requirement of the password construction process for users.
Minimum Number of Rules Matched	The setting for this value can be an integer equal to or less than the number of rules enabled, which is then the number of rules that need to be met with the user password construction. If the rules are not matched, an error message alerts the user.

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** permits, 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.

An additional setting concerning passwords (for Web Client users) is under **Preferences** node. See "[Allow Password Reset](#)" on page 34-12.

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.

Important: Also available is 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, "Configuring Single Sign-On"](#).

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 certain Manager roles. You may 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 through their (Restricted) role. For more information, see *Agile PLM Product Cost Management User Guide* and *Agile PLM Product Governance & Compliance User Guide*.

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 13-5.

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. Enter values for **User ID**, **First Name**, **Last Name**, and **Email**.
4. Type the **Username** and **Password**. Repeat the password in the **Retype Login Password** field.

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.
5. 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.
6. Decide whether to select the **Change Password Upon Next Login** check box, which forces the user to change the temporarily assigned password from the administrator to a new password the next time they log into Agile.
7. Click **OK**. The setup window for the new user appears.
8. Under **Profile**, 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.
9. In the **Profile** section, enter other values as needed. These fields are not required and may be filled in later.
10. On the **Preferences** tab, enter values for the properties. You can accept the default values.
11. Click **Save**.

To create a new user in Web Client:

1. From the left navigation pane choose **Tools and Settings > Address Book > Users**.
2. Click **Add**. The Create New User window opens.

Figure 13-1 Create New User Dialog

Create New
users

Select the type of users to create and complete all required fields. [Help Link](#)

* Username:

* Login Password:

* Confirm Login Password:

Use Login Password for Approval: ☒

* Approval Password:

* Confirm Approval Password:

* First Name:

* Last Name:

* Email:

* Default Site:

* Sites:

Change password upon next login: ☐

3. Type the **Username** and **Login Password**. Repeat the password in the **Confirm 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. Enter values for **First Name**, **Last Name**, and **Email**.
6. From the **Sites** field, click the **Launch the Palette** button to select the sites you want available for this user.
7. From the drop-down **Default Site** list, click the site you want as the default site for this user.
8. Decide whether to select the **Change Password Upon Next Login** check box, which forces the user to change the temporarily assigned password from the administrator to a new password the next time they log in to Agile.

9. Click **Save**. The **General Info** tab of the newly created user appears ready to edit.
10. To open the **Role(s)** list, click the **Launch the Palette** button. Assign roles to the user. Remember, the user cannot do anything in Agile PLM until a role is assigned.
11. In the **Profile** section, enter other values as needed. These fields are not required and may be filled in later. Click **Save**.
12. To confirm the addition and review the new user's properties, click **Tools and Settings > Address Book > Users**. Double-click the new user ID in the table of users. The new user's page appears.

About Usernames

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.

For security reasons, Agile PLM usernames must be unique. You can create multiple users with the same name (first and last), provided that 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.

Important: To prevent frequent user inconvenience, it is important to periodically evaluate your license requirements with your Agile Account Executive, and upgrade as needed.

Note: If you change a user's User ID (username) you must also reset the user's login password. If you change the User ID, and you do *not* reset the login password, the user will not be able to login to Agile PLM.

- You must notify the user about the changes to his User ID and login password; no automatic notification will be sent.
 - For additional security, you can force the user to change his password the next time he logs in. See ["Changing a User's Password"](#) on page 13-6.
-

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 from LDAP.

For additional security, users can have different passwords for login and approval. For more information, see ["Changing a User's Password"](#) on page 13-6.

For more information, see ["Account Policy"](#) on page 12-1.

Change Internal User Password

There are four "special users" in Agile PLM, which are used for internal purposes.

Table 13–1 Special PLM users and their purpose

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

The difficulty with these users is that these users are not exposed through the UI, that is, they exist in the PLM database table but are not visible in Java Client. However, anyone who knows the password can 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.

Important: 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** drop-down list.
3. Click **Change Password of "ifsuser"**. The Change Password of "ifsuser" dialog opens.
4. Fill with appropriate values for 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\encryptPwdUtil.cmd` to encrypt the new password.
 - Paste the new password to agile.properties under `<AgileHome>\agileDomain\config` and server.conf under `<AgileHome>\agileDomain\config` and `<AgileHome>\apache-tomcat-6.0.18\webapps\webdav\WEB-INF\classes`.

If the **ifsuser** password is changed during installation, only this second step must be performed.

The File Manager must 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. See "LDAP" on page 33-1.

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.

For information about the filter bar at the top of the Users window, see ["Filtering Data in Java Client"](#) on page 2-4.

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. Open the User object, either from a search result or from the **Users** tab of **Address Book**.
2. 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.
3. 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.

Note: If you change a user's User ID (username) you must also reset the user's login password. If you change the User ID, and you do *not* reset the login password, the user will not be able to login to Agile PLM.

- You must notify the user about the changes to his User ID and login password; no automatic notification will be sent.
 - For additional security, you can force the user to change his password the next time he logs in. See ["Changing a User's Password"](#) on page 13-6.
-

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.

Administrators can assign temporary passwords and force users to change them the next time the user logs in to Agile. The **Change Password Upon NextLogin** check box during the user creation process is the first available place to apply this rule. In Web Client, the administrator can also apply this rule to an already created user object. From that user go to the **Actions** menu and click **Change password upon next login**, or go to **Tools and Settings > Address Book > Users** and then from the **More** menu click **Change password upon next login**.

In Java Client, the same user creation process provides the **Change Password Upon NextLogin** check box. To apply this rule in Java Client, the administrator can open an existing user, click the **Reset Password** button from the top menu, and in the **Reset Password** window select the **Change Password Upon Next Login** check box. The administrator can also go to the **Users** node, select multiple user objects, click the

Change Internal Password User drop-down list and select the **Change Password Upon Next Login** option to be applied to all the selected users.

Note: If a user is an LDAP user, his password cannot be reset in the Agile PLM database, neither by the user himself nor by the Agile administrator. LDAP user passwords must be reset through LDAP.

Each user can have both a login password and an approval password, although a single password can be used for both purposes.

Important: If the Signoff User Dual Identification Type preference is set to Login Password then the Login and Approval password may not be identical.

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 **Reset Password** button to change the login password.
4. The Reset Password (or Reset Approval Password) dialog box appears. Select the Reset Login Password check box. 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 in the Retype New Password field.
6. Decide whether to select the **Change Password Upon Next Login** check box, which forces the user to change the temporarily assigned password from the administrator to a new password the next time they log in to Agile. Then click **OK**.
7. Click the **OK** button in the confirmation message that appears.

To change a user's login or approval password in Web Client:

1. Open the User object, either from a search result or from the **Users** tab of **Address Book**.
2. Click the **Reset Passwords** button to change the login password.
3. The Reset Passwords 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.
4. Confirm the password by retyping it. Click **Save**.

Changing a User's Role Assignments

You can modify a user's role assignments from the **Users** node, the **Roles** node, or the user object.

- From the **Users** node, you can change an individual user's role assignments by selecting a user and clicking the **Assign Roles** button.
- From the **Roles** node, you can see and change the users assigned to a particular role from the **Users** tab of a particular role.
- From the user object, you can see or change an individual user's role assignments by editing the roles under the **Profile** heading of the **General Information** page.

User Properties Defined

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."

The tables 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 in the following sections:

- ["General Info Tab User Properties"](#) on page 13-8
- ["Preferences Tab User Properties"](#) on page 13-12
- ["Escalations Tab User Properties"](#) on page 13-13
- ["User Groups Tab User Properties"](#) on page 13-14

Share, **Subscription**, **Attachments**, and **History** tabs are all automatically populated, and do not have fields or properties.

General Info Tab User Properties

Table 13–2 General Info tab, Required Fields

Property	Description (default is underlined)
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 13-4.
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. "About Usernames" on page 13-4.
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.

Table 13–3 General Info tab, Optional User Information

Property	Description (default is underlined)
Status	Active or Inactive. (This is the same thing as Enabled or Disabled, respectively.)
Title	The user's title, for example, Senior Engineer.

Table 13–3 (Cont.) General Info tab, Optional User Information

Property	Description (default is underlined)
Address fields	There are four address fields that are used for informational purposes only: <u>Address</u> (street), <u>Geography</u> , <u>City</u> , and <u>Postal/Zip Code</u> . The Geography field is a series of drop-down 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.

Table 13–4 General Info tab, Profile fields, required fields

Property	Description (default is underlined)
Default Site and Site(s)	Sites are used for distributed manufacturing, and indicate all of the company's locations where the user is involved; selecting from the drop-down list for this property populates the drop-down list for Default Site. Default Site is the user's main base of work.

Table 13–5 General Info tab, Profile fields

Property	Description (default is underlined)
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 Read And Discover By Creator. For more information, see " Roles " on page 16-1. Also see " Read and Discover Object I Created Role " on page 16-11.
Job Function(s)	The user's assigned job functions. A user may be assigned multiple job functions. This property determines which job functions can be selected for the user in a functional team. A job function is a workplace job function, for example, Developer, Product Manager, or QA Lead. For more information, see " Administering Approval Matrix " on page 40-1.

Table 13–5 (Cont.) General Info tab, Profile fields

Property	Description (default is underlined)
Lists	Note that 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. - 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, Compliance, Price, Project, Supplier RFQ, Sourcing, Supplier RFQ, and Recycle Bin Searches.
User Category	Named, Concurrent, or Restricted. See " Licenses " on page 35-1.
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.

Table 13–5 (Cont.) General Info tab, Profile fields

Property	Description (default is underlined)
Allow Escalation Designation Approval	If the user has identified one or more designated escalation persons (DEPs), then this setting determines when the DEPs can approve, reject, or acknowledge a routable object. <i>Settings:</i> After Escalation – The user's DEP can approve, reject, or acknowledge a routable object only after it has been escalated. A notification is sent to the DEP when the escalation period has elapsed. Always – The user's DEP can always approve, reject, or acknowledge a routable object. A notification is sent to the DEP immediately when the routable object enters a review-type or a released-type workflow status. For more information about designated escalation person status, see "Assigning Escalation Persons to User Groups" on page 14-5.
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.
Ship-To address fields	Home Ship-To is the primary location where the user is responsible for sourcing activities. 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 drop-down list for this property populates the drop-down list for Home Ship-To.
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 14-7.
Rate fields	There are three Rates fields: Bill Rate, Labor Rate, and Overhead Rate. The drop-down 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 .
Project Type	Types of projects the user can participate in. Available values depend on the Project Type List.
Region	Regions the user belongs to. Available values depend on 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.

Table 13–5 (Cont.) General Info tab, Profile fields

Property	Description (default is underlined)
Preferred Calendar	Agile PPM preferred work calendar. Select a calendar from the list of available calendars. See <i>Agile PLM Product Portfolio Management User Guide</i> .

Table 13–6 Preferences tab: System Preferences

Property	Description (default is underlined)
Preferred Client	This field controls the type of link provided in system notifications to the user. Select Web Client or Java Client to determine which client is automatically opened to the object to which the notification's link points. Note that 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 Manager	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 31-2.)
Receive Email Notification	Controls whether the user can receive automatically generated email notifications from the system. Settings = Yes or No
Download Structure Files	This property controls the default setting for the Structured "Get" capability for Design objects in Agile PLM and permits a user to use the Get operation for structured design files. Note that this user preference will not appear if the GetFile privilege is not applied to the user.
BOM Variant Configuration Preference	Enabling this property presents the user with the ability to perform BOM Variant configurations within Agile PLM. For more information about BOM Variant Configuration, see the <i>Agile PLM Product Collaboration User Guide</i> .

Preferences Tab User Properties

Table 13–7 Preferences tab, Format Preferences

Property	Description (default is underlined>)
Language	English is available with all Agile PLM licenses. Agile PLM includes Japanese, Traditional Chinese, Simplified Chinese, French, International Spanish, Italian, Russian, Korean, Portuguese or German, per your license.
Workweek Settings	This setting is for future use only, and is not referenced in any Agile PLM module. Note that 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).

Table 13–7 (Cont.) Preferences tab, Format Preferences

Property	Description (default is underlined)
Preferred Currency	The currency in which prices/costs are displayed to the user. The default is U.S. Dollar. The drop-down list in this property shows all currencies entered from the Currency Exchange Rates node.
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 drop-down list.

Table 13–8 Preferences tab: Display Preferences

Property	Description (default is underlined>)
Preferred Start Page	Select between Home, Dashboard, Dashboard Financial, Dashboard My Activities, Dashboard Projects, and Dashboard Resources.
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 <i>Agile PLM PCM Supplier Guide</i> and <i>Agile PLM PG&C Supplier Guide</i> .
Static Table Headers	Set to Yes to carry table headers to additional pages.
Encode Type	Select from: Western European (ISO), Japanese (Shift JIS), Traditional Chinese (Big 5), Japanese (EUC), Simplified Chinese (GB2312), Unicode (UTF-8), Korean (MS949), and Russian (Cp1251).
Thumbnails	Off or On. Off is default.
Table Display Mode	Standard or With Thumbnails
Search Display Mode	Only Thumbnails, Standard, or Standard with Thumbnails
Show Timesheet	Set to Yes to display the Timesheet tab. Default setting is No.
Include Inactive List Values	When set to Yes, inactive lists values are populated and displayed for attributes and fields on objects for this user.

Escalations Tab User Properties

Table 13–9 Escalations tab

Property	Description (default is underlined)
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 14-5.

User Groups Tab User Properties

Table 13–10 *User Groups / Functional Teams tab*

Property	Description (default is underlined)
User Groups table Group Name and Status	This table lists the user groups that the selected user is a member of. From here the administrator can add a user group membership for the user or remove the user from membership of a user group. A user can belong to multiple groups. These fields can be set in this tab or on the Users tab of the user group setup window. For more information, see "User Groups" on page 14-1. Note that this does not display the Personal User Groups created by the user.
Functional Teams table Name, Job Function(s), Status	This table lists the functional teams that the selected user is a member of, and the user's assigned job functions in each functional team. A user can belong to multiple functional teams. The user profile property Job Function(s) determines which job functions can be selected for the user in a functional team. Adding or removing a member is performed in the functional team object. Click the functional team link in the Name column of the Functional Teams table to open the functional team object. For more information, see "Administering Approval Matrix" on page 40-1.

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 13-5.

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 4-2.)

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** drop-down list, select the type of user group.
 User Groups is the only subclass available if you have not created another one in that class. 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 drop-down list.
4. Fill in a value in the **Name** field.
5. Select if the user group will be Global or Personal.
6. Click the icon 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.
7. 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. From the left navigation pane, click **Tools and Settings > Address Book > User Groups**. The User Groups page appears.
2. Click **Add**. The Create New User Group window opens.
3. From the **Type** drop-down list, select the subclass type of user group.
 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 drop-down list.
4. Fill in a value in the **Name** field.
5. Select if the user group will be Global or Personal.
6. Click **Save**. The User Group General Information page appears and is ready to edit.
7. Enter user group properties as needed. For more information, see "[User Group Properties](#)" on page 14-3.
8. When you are finished, click **Save**. Then click the Users tab.
9. 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.
10. To assign a user to the user group, click **Add**. You may type a name to find the user, or search a list of existing users.
11. Select one or more names and drag and drop them onto the table of users for the user group or double-click.

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.

Table 14–1 *User Group properties*

Property	Description
Name	Permits you to enter a user group name of up to 29 characters.
Type	Select a subclass. The ready-to-use subclass is User Group. The administrator can create other subclasses in the User Groups class; these will appear in this drop-down 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.
Job Function(s)	The user group's assigned job functions. A user group may be assigned multiple job functions. This property determines which job functions can be selected for the user group in a functional team. A job function is a workplace job function, for example, Developer, Product Manager, or QA. For more information, see "Administering Approval Matrix" on page 40-1.
Resource Pool	Permits 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 14-7.
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, reject, or acknowledge a routable object. <i>Settings:</i> After Escalation – the user group's DEP can approve a routable object only after it has been escalated. A notification is sent to the DEP when the escalation period has elapsed. Always – the user group's DEP can always approve or reject a routable object. A notification is sent to the DEP immediately when the routable object enters a review-type or a released-type workflow status. (For more information about designated escalation person status, see "Assigning Escalation Persons to User Groups" on page 14-5.)
Owner	Names the creator of the user group; for information purposes. The owner is the creator by default, but can be modified by a user.

Table 14–1 (Cont.) User Group properties

Property	Description
Max Number of Named Users	Maximum number of users the user group can have. <i>Settings:</i> 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, Project Type, Region, Division, Product Line, Customer, Launch Year, Labor Rate, Overhead Rate, and Bill Rate	See "User Properties Defined" on page 13-8.

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 drop-down list.
4. When you have finished, click **Save**.
5. 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 through LDAP). See ["Synchronizing Users and User Groups"](#) on page 33-19.

To modify the User Groups settings in Web Client:

1. Click **Tools and Settings > Address Book > 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**, **Functional Teams**, **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 drop-down list.
5. When you have finished, click **Save**.

6. 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.

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, reject, or acknowledge 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 drop-down 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**.
6. Click **Save**. The escalations are added to the **Escalations** tab.

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 and Settings > Address Book > 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 **Add**. In the Add Escalations page select the Criteria from the drop-down list to select the reusable criteria for this escalation, such as All Change Orders.
5. Click the Address Book button next to the **Notify Users** field. Use the selection window to search for users or groups and drag and drop them onto the table of users for the escalation or double-click.
6. Click **Add More** or **Add** (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 Default Reviewers in a Workflow

In an Agile PLM workflow, three criteria-specific properties—Approvers, Acknowledgers, and Observers—can be filled out for each Review and Released

status. These properties define the default users and user groups to be the default reviewers to signoff (approve, reject, acknowledge) when a routable object moves through the workflow. You can select users, user groups, or functional teams in these criteria-specific properties.

To select user groups from the Java Client Address Book on the Workflow Criteria window:

1. Select and open the desired workflow.
2. Click the **Status** tab.
3. In the Status table, click the desired review-type or released-type status.
4. In the Criteria table, double-click a row to display the Workflow Criteria:<criteria name> window. The criteria-specific properties for that criteria are displayed.
5. In a reviewer field (Approvers, Acknowledgers, or Observers), double-click the row to display the address book.
6. In the Address Book, click the **User Groups** tab.
7. On the **User Groups** tab, double-click the Global folder to display the global user groups.

Note: Personal user groups cannot be selected for workflow criteria-specific properties.

8. Select one or more names and then click the **Add** button to move your selection into the **Recipients** list.
 - To select multiple user names, use the Shift-click or Ctrl-click, and then the **Add** button.
 - To remove a name or multiple names, select using the same techniques and click the **Remove** button.
9. If you select a user group and you want only the group name to appear in the **Recipients** list, use the **Add** button. If you do this when selecting approvers, acknowledgers, or observers, only the group as a whole becomes a reviewer, and any single member of the group can approve, reject or acknowledge. All members of the group receive email notifications.

When a user group is assigned as a reviewer (approver, acknowledgers, or observer), any member of the user group may sign off a routable object (passing through the status in which the user group was named), and the individual's signoff is, in effect, for the entire user group; no one else needs to or can approve, reject, or acknowledge the routable object. Once one member of the user group has approved, rejected, or acknowledged the routable object, it no longer appears in the Workflow Routings tab or Inbox of the other users in the group.

However, other members can approve or reject (approver and observers) the routable object after the first user has responded. If a member rejects the routable object that was previously approved by another group member, the user is warned that his signoff will overwrite the previous signoff for the group.

10. If you select a user group, and you want to see **every name** in that group in the **Recipients** list, then use the **Add all the users in the selected group** button (this button only appears on the **User Groups** tab). If you do this when defining the **Approvers, Acknowledgers** or **Observers** workflow criteria-specific properties, each individual becomes a separate default approver, acknowledged, or observer.

11. When you are finished, click **Save** in the Address Book.

Important: When the **Group Signoff Expansion** criteria-specific property is set to All, any user group selected in the Approvers, Acknowledgers, and Observers criteria-specific property is expanded (all users in the user group are added to the routable object as individual reviewers) at the time the routable object enters the review-type or released-type status of the workflow. If a job function is filled by a user group, then that user group is expanded at the time the routable object enters the review-type or released-type workflow status.

To add or remove users or user groups on the Workflow tab of a routable object:

- In Web Client, use the **Add Reviewers** and **Remove Reviewers** button on the routable object **Workflow** tab to add or remove approvers, acknowledgers or observers.
- In Java Client, use the **Add Approver/Observer** button and **Remove Approver/Observer** button on the routable object **Workflow** tab to add or remove approvers and observers.

For more information, see the "Working with Routable Objects" chapter of *Getting Started with Agile PLM*.

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.

Overview

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 as 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.

Properties

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.

Table 15–1 *Supplier Group 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

Available actions

- **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 the icon 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 and Settings > Address Book > Supplier Groups**. The Supplier Groups page appears.
2. Click **Add**. The Add Supplier Group window 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 the icon next to the **Suppliers** field. Select suppliers from the list.

Note: The supplier group must have at least one supplier selected.

6. Click **Add**.

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 drop-down lists. Add or remove supplier users by moving them into or out of the **Selected** list.
4. When you are finished, click **Save**.

This chapter explains how to use Agile PLM's preconfigured roles and how to create new ones.

Overview of Roles and Privileges in Agile PLM

Roles and privileges govern a user's access to Agile PLM business objects and functionality.

For a PLM user to be able to perform tasks, 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 wide-ranging set of preconfigured roles and base privileges. While you can always modify roles and tailor privileges as needed, you are encouraged to become familiar with the default roles in Agile PLM before constructing your own; the default roles are listed in a few pages.

What is a Privilege Mask?

This chapter examines PLM roles—both default and customized—and the next chapter takes up privileges and privilege masks. However, it is important to understand from the start what these elements are. ("Getting Familiar with Roles" on page 16-2 describes the process to view the default roles in the **Roles** node; the **Privileges** node can be expanded in the "node tree" to see a list of the default privileges.)

The following table defines *privilege*, *privilege mask*, and *role*.

Table 16–1 Definitions of Privilege, Privilege Mask, and Role

Term	Definition	Examples
Privilege	The action users are allowed to take. A privilege is only a "building block": to be assigned to users, it must be combined with other components, like Criteria and a target object.	Administrator (privilege) Create Read Modify
Privilege mask	A set of <i>criteria</i> statements that define under what specific conditions an action can be taken on a named business object. Each role requires at least one privilege mask.	Administrator (privilege mask) Create Designs; Create Items Read Designs; Read Items Modify Designs; Modify Items

Table 16–1 (Cont.) Definitions of Privilege, Privilege Mask, and Role

Term	Definition	Examples
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 role is a tailored assembly of privilege masks. A user can be assigned to more than one role. The default roles are set up for immediate use.	Administrator (role) Change Analyst Compliance Manager Component Engineer Each role comprises several-to-many privilege masks.

From the definitions in this table, these summary statements apply:

- The actions that users can perform in Agile PLM—such as creating, sending, or canceling—are based on *privileges*. But privileges do not function "by themselves".
- *Privilege masks* are combinations of: privileges, reusable criteria (introduced in earlier chapter), and target object (which can be as granular as required). A privilege mask is a functional unit that acts as a filter to manage user actions. Privilege masks can be added to roles (default or custom) or can be assigned to users without being part of a role.
- *Roles* are groupings or assemblies of several-to-many privilege masks. (A role like "Enforce Field-Level Read" has but 2 or 3 privilege masks, while "Change Analysts" has dozens.)

Roles provide a way to allocate a common set of privileges to a group of users who have common functions in the change control process.

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.

This introduction to "roles *and* privileges" in Agile PLM now turns to Roles; the following chapter goes into detail about privileges.

Getting Familiar with Roles

You can modify the default PLM Roles in the following ways:

- 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.
- Exceptions are the **(Restricted)** roles, and the Administrator, My User Profile, and View Historical Report roles, which cannot be disabled.
Enable or disable a role on its **General Information** tab.
- 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 do not 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 do not 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 of the Example Roles (or its privilege masks) or the Example Privileges. These are found in **Examples > Example Roles** and **Example Privileges**.

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, set **Filter By** to Description, **Match If** to Contains, and **Value** to Change, then click **Apply** to find all the roles pertaining to "change" objects. (See ["Filtering Data in Java Client"](#) on page 2-4.)

To see all roles currently in PLM, set **Match If** to Show All and click **Apply**.

The list of roles is displayed in the table. The Roles table shows the name, description and enabled status for each role.

The buttons on the Roles window allow you to perform various role management tasks.

Table 16-2 Role Management Tasks

Button	Action
New	Create a new role. See "Creating a New Role" on page 16-17.
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 and Administrative Object History" on page 4-7.
Export	Exports role data for the selected role. See "Object History and Administrative Object History" on page 4-7.
Refresh	Refreshes the table with the latest information about the list of roles.

Viewing a Role

To view a specific role:

1. In the Roles window, double-click the role you want.

The tabbed window for that role appears. The buttons that appear at the top of the window of each role are **Save As**, **Delete**, and **Export**.

2. The role's basic properties are displayed on the **General Information** tab. These include Name, API Name, Description, and Enabled.
3. The *privilege masks* that are assembled in the role are displayed on the **Privileges** tab.

You can double-click any row to open that privilege-mask object; on its **General Information** tab, the field Privilege (which is grayed-out because it cannot be changed) shows the basic privilege that drives that privilege mask.

4. The **Users** tab lists users who have been assigned to this role. The **User Groups** tab lists user groups that have been assigned to this role.

On both these tabs, you can add or remove users or user groups, respectively. Note that when you "delete" a user or user group from one of these tabs, you are only removing the role assignment (the role you are "in") from that "user object."

5. The **History** tab displays the history of actions taken on this role object.

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 4-2.

Note: The Privilege Mask Detail report can be extremely long. You may want 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 16-11.
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 16-15.

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 ready-to-use roles and briefly describes what each role permits 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.

Administrator roles

These roles apply only to users who work in the Administrator modules in Java Client (**Admin** tab) and in Web Client (**Tools and Settings** > **Administration**).

An important part of tailoring the Administrator roles is the AppliedTo property in the Administrator privilege; see "[Administrator Privilege and the AppliedTo Capability](#)" on page 17-27.

Table 16–3 Administrator Roles

Role	Applies to these base classes (or other PLM utility)	Description
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	Users, User Groups	Perform administrative tasks (create, modify, delete) as defined by the Agile administrator

General-function Agile PLM roles

These roles apply to users who work across all Agile PLM solutions.

Table 16–4 General-function Agile PLM roles

Role	Applies to these base classes (or other PLM utility)	Description
Acknowledge	Changes, MCOs	Acknowledge routable objects through workflows.
Approval Matrix Manager	Functional Teams	Manage functional team objects. Approval Matrix Manager would add and delete members of functional teams, and edit functional team job functions to keep the functional teams current.
Approve/Reject	Changes, Packages, QCRs, PSRs, ATOs, and Projects	Approve or reject routable objects through workflows, and read items and changes
Creator can read and discover object he or she created	All objects	The creator of a business object can always read and discover that object. This role is enabled and part of every new user's profile, by default. There is no change in behavior with existing users (that is, "legacy" users for upgrading customers). Removing this role from a user Read or Discovery of objects they create.
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	(Works in conjunction with other roles)	This role (contains only Enforce Field-level Read privilege mask) 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.
Export	(Allows access to Export utility.)	Allows user to export objects for which they have Discover and Read privileges. (Contains only Export privilege mask.)

Table 16–4 (Cont.) General-function Agile PLM roles

Role	Applies to these base classes (or other PLM utility)	Description
Folder Administrator	File Folders	Create and manage file folders. For additional information, see "Attachment Privileges" on page 37-7.
Folder Manager	File Folders	Create and manage file folders. For additional information, see "Attachment Privileges" on page 37-7.
Java Client Access	(Allows access to Java Client)	Allows the user to log in to Agile PLM Java Client. A user who does not have this role cannot log in to Java Client. For more information, see "Client Access" on page 17-14. Any user assigned an Administrator privilege mask always has access to Java Client by default.
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 37-13.
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 37-13.
My File Folder	File Folders	Permits reading file folders created by the assignee.
My User Profile (Restricted) My User Profile	Users	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.
(Restricted) Grant	All objects	Grant roles to users in a controlled, finite way, using Access Control List (ACL) capability.

Engineering Collaboration role

This role applies to users who work in the Agile EC solution.

Table 16–5 Engineering Collaboration role

Role	Applies to these base classes (or other PLM utility)	Description
Design Engineer	File Folders (Designs class objects)	Create and manage Designs class objects and Design Model structures.

Product Collaboration roles

These roles apply to users who work in the Agile PC solution.

Table 16–6 Product Collaboration roles

Role	Applies to these base classes (or other PLM utility)	Description
Change Analyst	Changes, Items, Manufacturers, Mfr. 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, Mfr. Orders (MCOs)	Create manufacturer change objects and manage the routing and release process of MCOs
Incorporator	Changes, Items, Mfr. Parts, Manufacturers, Prices,	Incorporate items and numerous functions with the listed base classes (this role is similar to Change Analyst, but with fewer capabilities).
Item Content Manager	Changes, Items	Create items, and create and submit changes
Manufacturer Content Manager	Items, Manufacturers, Mfr. Parts, Mfr. Orders (MCOs)	Create items, manufacturers, and manufacturer parts, and create and submit MCOs
Modify Item Released	Items	Change the Description of an item that has been released (contains only one privilege mask for this).
Partner	Packages	Create and submit package objects
Product Content Read Only	Changes, Items, Manufacturers, Manufacturer Parts	Discover, read, comment, get, print, send, and view items, changes, manufacturers, and manufacturer parts

Product Quality Management roles

These roles apply to users who work in the Agile PQM solution.

Table 16–7 Product Quality Management roles

Role	Applies to these base classes (or other PLM utility)	Description
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 Analyst	Product Service Requests	Submit quality incidents and manage their resolution
Quality Analytics User	(Quality Analytics application)	Permits PQM user to access (Run, Discover, Read) the Quality Analytics application.

Product Cost Management roles

These roles apply to users who work in the Agile PCM solution.

Table 16–8 Product Cost Management roles

Role	Applies to these base classes (or other PLM utility)	Description
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
RFQ Manager	RFQs, RFQ Responses	Create RFQs and manage the RFQ process
(Restricted) RFQ Responder	RFQ Responses	Respond to RFQs; this role is generally 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
(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

These roles apply to users who work in the Agile PPM solution. (Note: The base class Programs is changed to Projects as of Rel. 9.3.0; the PPM roles and privilege masks may still use the term "Program".)

Table 16–9 Product Portfolio Management roles

Role	Applies to these base classes (or other PLM utility)	Description
Executive	Projects	Global read access to all projects that have matching categories; for example, if a project is associated with the North American region, and a user has an Executive privilege for all North American, then he can read them
Portfolio Analytics User	(Portfolio Analytics applications)	Permits PPM user to access (Run, Discover, Read) the Portfolio Analytics application.
Program Administrator	Projects	Create and manage complete projects
Program Manager	Projects	Create and manage routing and release process for projects
Program Team Member	Projects	Manage portions of projects
Resource Pool Administrator	Projects	Create and manage resource pools

Table 16–9 (Cont.) Product Portfolio Management roles

Role	Applies to these base classes (or other PLM utility)	Description
Resource Pool Owner	Projects	Manage resource pools
Timesheet Administrator	Projects	Perform administrative tasks on all timesheets that are created in the system

Reports roles

These roles apply to users who work with Reports.

Table 16–10 Reports roles

Role	Applies to these base classes (or other PLM utility)	Description
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

This role applies to users who work in the ACS solution.

Table 16–11 Agile Content Services role

Role	Applies to these base classes (or other PLM utility)	Description
Content Manager	Transfer Orders, Packages	Create, modify, route, release and implement CTO and ATO objects, and package objects

Product Governance & Compliance roles

These roles apply to users who work in the Agile PG&C solution.

Table 16–12 Product Governance & Compliance roles

Role	Applies to these base classes (or other PLM utility)	Description
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; this role is generally provided to supplier users

Agile Configuration Propagation roles

These roles apply to users who work in the ACP solution. For more information see the current *Agile PLM Configuration Propagation Guide*.

Table 16–13 Agile Configuration Propagation roles

Role	Applies to these base classes (or other PLM utility)	Description
(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 do not 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 16-19.

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

User Administrator Enhancement

The PLM role User Administrator has a privilege mask called "Admin Access for User Admin"; its AppliedTo property dictates which User-related Administrator *nodes* can be accessed (Users, User Groups, and so forth). The User Administrator can also access

the User-specific functions in Web Client (accessed through **Tools and Settings > Address Book**).

The User Administrator role also has a privilege (and privilege mask) called "User Administrator". The AppliedTo property of the User Administrator privilege mask is populated with PLM Roles. This means that a user administrator can be configured so that he can only assign specified roles to PLM users.

This is more fully described in ["Options for Building Administrator Assistants"](#) on page 17-29, which is part of the important topic ["AppliedTo Property in Select Privileges"](#) on page 17-26.

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 drop-down list of classes) only those classes for which he has been assigned the Discovery privilege.

Similarly, "Field" criteria condition (drop-down list) will not display fields if user does not have a Read privilege (or Enforce Field-level Read privilege) to them. To ensure restricted field-level read, the user's Read privilege mask must include in its AppliedTo property only the fields you want 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.

Read and Discover Object 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.

Securing and Maintaining Roles and Privilege Masks

Important: This section is intended to both warn you of potential risks if you do not have a "security and maintenance plan" and provide some steps for simple troubleshooting if you do encounter a problem in PLM. Discuss this matter with your Oracle Consulting - Agile Practice representative, or call Agile Support.

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; also, 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.

Using Agile Configuration Propagation to Restore Admin Settings

You have access to Agile Configuration Propagation (ACP), which lets you propagate the configuration of one Agile instance to another instance of the same version. ("The configuration" is a general term that refers to "all settings content of all Java Client Administrator nodes in one Agile instance".) Any single propagation may consist of the complete Administrator data for an instance, or it may consist of a selected subset of Administration data for an instance.

The subsections that follow, regarding Admin Export and running Administrator Reports, offer some steps to troubleshoot or to diagnose a problem you may suspect exists. By these means, if you detect a problem with a role or some roles or privileges in your production instance of PLM, you may be able to resolve it from within the Administrator module itself.

However, if you determine that your production instance has a serious and widespread problem in Roles and Privileges (or, indeed, with other parts of the PLM application), you may need to do a propagation using ACP to restore correct (and validated) settings. In this case, see *Agile PLM Configuration Propagation Guide* for this release.

Recommended Security and Maintenance Plan

You should take great care when making changes to the powerful Agile PLM roles. 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 and Administrative Object History"](#) on page 4-7. For more information about reports see ["Administrator Reports"](#) on page 4-2.

- 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 17-1) 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 and Administrative Object History](#)" on page 4-7. 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 file name, 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 drop-down 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 file name 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 drop-down 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 file name 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's enabled or disabled, its list of privilege masks, and the users assigned to it. You cannot modify the properties for the Example-Read-Only 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 5-27.)
2. Create test privilege masks called Read Parts and Modify Parts. Apply them to the Test01 attribute. (See ["AppliedTo Property in Select Privileges"](#) on page 17-26. You may want to examine ["Discovery and Read Privileges"](#) on page 17-36.)
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 17-4.)
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 16-13.)

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 16-17. You can also create a new role from scratch; see ["Creating a New Role from Scratch"](#) on page 16-18.

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.

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 16-19.

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 and API 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 16-15.

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. For details, see ["Using the Example Roles"](#) on page 16-19.

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.
8. To assign the new role to specific users, see ["Modifying a Role"](#) on page 16-15.

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, API name and description of the new role.
4. To enable or disable the role, select Yes or No in the **Enabled** drop-down 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 the icon 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 17-32. (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:
 - To finish creating the role without assigning users, click **Finish**. You might want to do this while developing the role and its privilege masks.
 - 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 in Java Client"](#) on page 2-4.)
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 and API 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 16-15.

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 and how you assign the new role to specific users, see ["Modifying a Role"](#) on page 16-15. 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 Masks"](#) on page 17-26.
 - Modify the privilege mask applied to property. See ["Modifying the AppliedTo Property"](#) on page 17-28.
- 8. For information about how to assign the new role to specific users, see ["Modifying a Role"](#) on page 16-15.

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.

Privileges and Privilege Masks

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.

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.

Getting Familiar with Privileges and Privilege Masks

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.

Note: The page in this example reads "Privileges for Administrator" but makes more sense as follows: "**Privilege Masks that use Administrator privilege**".

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 in Java Client"](#) on page 2-4.)

You can click a column header in the privilege mask table to sort the table by that column.

Viewing Privilege Masks

The privilege masks that form 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 form 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.

Table 17–1 Privilege Mask properties

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, permits 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.

Table 17-1 (Cont.) Privilege Mask properties

Property	Description
AppliedTo	A small subset of privileges use the AppliedTo property, for example: Modify, Read, Administrator, User Administrator, and Client Access. For a full list, see "AppliedTo Property in Select Privileges" on page 17-26. For Modify and Read privileges, the AppliedTo property 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 17-36 and "Modify Privilege" on page 17-41. For Administrator and User Administrator privileges, the AppliedTo property specifies which administrator node the Administrator or User Administrator privilege mask is applied to, such as Users. See "AppliedTo Property in Select Privileges" on page 17-26. Refer to "AppliedTo Property in Select Privileges" on page 17-26 for a full list of privileges that use the AppliedTo property and for more information about those privileges
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 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.

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 in Java Client"](#) on page 2-4.)
3. To modify a property, enter text in text fields or use the drop-down 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.

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.

Table 17–2 Privilege mask management tasks

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 17-32.
Assign Roles	Permits 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 and Administrative Object History" on page 4-7.
Export All	Exports all privilege masks to a text file. See "Object History and Administrative Object History" on page 4-7.
Import	Imports a text file to create one or more new privilege masks. See "Object History and Administrative Object History" on page 4-7.
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're 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're 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 appears.
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.

You may want to review the simple tutorial ["Building and Testing Attributes, Read/Modify Privileges, and Roles"](#) on page 16-16.

Default 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 17-38.

Table 17-3 Default Privileges

Privilege	Allows the user to...	Requires basic Read privilege
Acknowledge	Acknowledge a routable object that the user has been named as a Acknowledger.	Yes
Add Reviewer	Add approvers, acknowledgers, and observers to the Workflow tab of a routable object. For more information, see "Add Reviewer and Remove Reviewer" on page 17-11.	Yes
Add to Table	Add rows to the Attachments table or to Relationships table. The AppliedTo property specifies either Attachments, Relationships, or both. A separate privilege, Deleted from Table, controls the ability to remove rows from the Attachments or from the Relationships table. For more information, see "Add to Table and Delete from Table Privileges" on page 17-12.	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 values selected in the AppliedTo property. For more information, see "Administrator Privilege and the AppliedTo Capability" on page 17-27.	No

Table 17-3 (Cont.) Default Privileges

Privilege	Allows the user to...	Requires basic Read privilege
Approve/Reject	Approve or reject a routable object that the user has been named as an Approver.	Yes
Attachment Redlines for Others	This privilege is disabled by default. They should be enabled if the administrator wants to create Criteria specific to Workflow Statuses that, for example, prevents users from redlining once the workflow has reached Review or Released statuses. Note: The general 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 about redlining in PLM, see "Redline Markup Default Roles and Privileges" on page 37-13.	—
Calendar Administrator	Configure work calendars for Agile PPM. The calendar configuration capabilities are determined by the privilege mask Applied To property: ■ Create – create and import calendars. ■ Read – read all calendars. ■ Modify – modify and export all calendars. ■ Delete – delete all unused calendars. Access the Calendar configuration dialog in Web Client through Tools and Settings > Calendar. A preconfigured Calendar Administrator privilege mask with Create, Read, Modify, and Delete selected in the Applied To property is included in the Administrator role by default. NOTE: In order to read and use the Agile PPM work calendars, all Agile PPM users must have a Calendar Administrator privilege mask with at least Read selected in the Applied to property. Agile PLM does not provide such a preconfigured privilege mask for Agile PPM end users; therefore, you must create a Calendar Administrator-Read privilege mask, selecting only Read in the Applied To property. Then add that privilege mask to an appropriate Agile PPM role or roles to ensure that all Agile PPM users have a Calendar Administrator-Read privilege mask. For information about configuring calendars, see <i>Agile PLM Product Portfolio Management User Guide</i>.	—

Table 17-3 (Cont.) Default Privileges

Privilege	Allows the user to...	Requires basic Read privilege
Attachment Redlines for Self	This privilege is disabled by default. They should be enabled if the administrator wants to create Criteria specific to Workflow Statuses that, for example, prevents users from redlining once the workflow has reached Review or Released statuses. Note: The general 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 about redlining in PLM, see "Redline Markup Default Roles and Privileges" on page 37-13.	—
Cancel Checkout	Cancel a checkout of an attachment (file or URL). For more information, see "Attachment Privileges" on page 37-7.	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 17-13.	Yes
Checkin	Check in an attachment (file or URL).	Yes
Checkout	Check out an attachment file (file or URL).	Yes
Client Access	Allows a user to log in to the Java Client. Choose Java Client in the AppliedTo property. For more information, see "Client Access" on page 17-14. Client Access applied to RMW Client – If RMW is installed, then RMW Client also appears in the AppliedTo property list. If RMW is not installed, then Java Client is the only selection in the AppliedTo property list. Note: Client Access for RMW Client is needed only for RMW users. Client Access for RMW Client permits the user to open the RMW user interface in Web Client, and to work in Agile RMW. The administrator adds "Recipe & Material Workspace UI Access" privilege mask to appropriate users. See <i>Agile PLM Recipe Management for Pharmaceuticals Administrator Guide</i>.	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
Configure Instance	Note: Only needed for Variant Management! Launches the Instance Manager.	Yes

Table 17-3 (Cont.) Default Privileges

Privilege	Allows the user to...	Requires basic Read privilege
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 Create User attribute for an Agile PLM class by making it visible on the Page Two tab, the user can open and create objects that have a Read privilege. See "Applying Create User Criteria" on page 17-50. 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 5-33.	Yes
Create From Template	Used in Create Program From Template privilege mask, which is enabled by default for Program Manager and Program Administrator roles.	Yes
Dashboard Tab View	Used in Read Dashboard Tabs privilege mask, which is enabled by default for Executive, Project Manager, and Project 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" on page 26-1.	Yes
Delete	Delete an object. Note: A routable object must be Pending or Unassigned.	Yes
Delete from Table	Remove (delete) rows from the Attachments table or from the Relationships table. The AppliedTo property specifies either Attachments, Relationships, or both. A separate privilege, Add to Table, controls the ability to Add rows to the Attachments table or to the Relationships table. For more information, see "Add to Table and Delete from Table Privileges" on page 17-12.	
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 17-36.	No
Display No Privilege Fields	Allows or prevents users to view certain Cover Page, P2 and P3 attribute fields that they lack the privilege to view existing content. Note: Only applicable in Web Client	Yes

Table 17-3 (Cont.) Default Privileges

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 17-40, 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 17-15.	Yes
FileLoad	Run the FileLoad utility. See the <i>Agile PLM Import and Export Guide</i> 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 17-16.	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 computer. The GetFile privilege (without Checkout) enables 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 37-7.	Yes
GlobalSearches	Create, modify, or delete a search that appears 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 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 process. See the <i>Agile PLM Import and Export Guide</i> for more information about the Import 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
Manage Tab Display	Modify and adjust the display order and presence of tabs available on objects.	Yes
Microsoft Project	Access, use, or modify Microsoft Project, and part of Project Manager and Project Administrator roles.	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 17-41, "AppliedTo Property in Select Privileges" on page 17-26, and "Modify Privilege and Attachments" on page 37-9.	Yes

Table 17–3 (Cont.) Default Privileges

Privilege	Allows the user to...	Requires basic Read privilege
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 17-17.	Yes
PrintFile	Print from the AutoVue for Agile window. The user must also have ViewFile privilege.	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 17-18.	—
Read	Open an object to read all tabs. For more information, see "Discovery and Read Privileges" on page 17-36. The Read privilege is based on the AppliedTo property for specific attributes. See "Field-Level Read Privilege" on page 17-39. 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 17-40. Note: If Discovery Privilege is enabled in the Database node, a corresponding Discovery privilege mask is required.	Yes
Remove Reviewer	Remove approvers, acknowledgers, and observers from a routable object. For more information, see "Add Reviewer and Remove Reviewer" on page 17-11.	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 ready-to-use Agile role. See "Handle File Checksum" on page 31-4.	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
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 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 17-18.	No

Table 17-3 (Cont.) Default Privileges

Privilege	Allows the user to...	Requires basic Read privilege
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 17-18.	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 AutoVue for Agile window. For more information, see "Attachment Privileges" on page 37-7.	Yes

Further Discussion of Specific Privileges

The following section gives more information about selected privileges:

- ["More Information about Selected Privileges"](#) on page 17-11.

Later this chapter explores how privilege masks are constructed, beginning with ["Privilege Mask Component 1: Privileges"](#) on page 17-22. Subsequent sections provide detailed information about the Discover, Read, and Modify privileges, and also the important AppliedTo property (which is found in Administrator and just a few other PLM Privileges).

- ["Discovery and Read Privileges"](#) on page 17-36.
- ["Modify Privilege"](#) on page 17-41.
- ["AppliedTo Property in Select Privileges"](#) on page 17-26.

More Information about Selected Privileges

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.

Information about privileges that are involved in working with attachments is provided in ["Attachment Privileges"](#) on page 37-7.

Add Reviewer and Remove Reviewer

The Add Reviewer 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 that can see the routable object, is not required to approve or reject the routable object, but still can approve or

reject if necessary. This privilege also allows the designation of any of these categories to be an acknowledger, who can acknowledge a routable object. The acknowledge action differs from approve or reject, and acknowledge is a required signoff action.

The Remove Reviewer 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, acknowledger, or observer, see ["More about Affected Items: Adding Approvers, Acknowledgers, and Observers"](#) on page 10-6.

Note: To successfully add or remove approvers, acknowledgers, or observers from a Review or Released status of a workflow, the Ad Hoc Reviewers property for that status must be set to Yes.

Add to Table and Delete from Table Privileges

The Add to Table and Delete from Table privileges are used to define separate add and delete capabilities for the Attachments table and the Relationships table. The AppliedTo property of an Add to Table privilege mask or a Delete from Table privilege mask specifies which tables the privilege mask applies to: the Attachments table, the Relationships table or both. For File Folder objects, the privilege masks applied to Attachments control the ability to add to or delete from the File Folder object Files table.

Important: A Modify privilege mask that includes Attachments.Name and Relationships.Name in the AppliedTo property grants the abilities to add, delete, and update attachments and relationships. Such a Modify privilege mask will override any Add to Table and Delete from Table privilege masks assigned to the user. See also ["Modify Privilege and Attachments"](#) on page 37-9.

Add to Table and Delete from Table privilege masks do not provide modify table field capabilities. A Modify privilege mask, with the appropriate AppliedTo properties, is required. See ["Modify Privilege"](#) on page 17-41.

When Agile PLM is installed or upgraded to release 9.3.3 or later, the following pre-defined privilege masks are available, but they are not used in any pre-defined roles.

- Add to Table All Changes
- Add to Table All Items
- Delete from Table All Changes
- Delete from Table All Items

You can use these predefined privilege masks, or create your own custom Add to Table and Delete from Table privilege masks with the reusable criteria that meet your needs. In the privilege mask AppliedTo property, select one or both:

- *object_name*.Attachments
- *object_name*.Relationships.

The following conditions apply when using Add to Table and Delete from Table privilege masks:

- Add to Table and Deleted from Table privileges for a specified object (for example, Parts) require a Modify privilege mask for that business object. A Modify privilege mask with no AppliedTo properties is sufficient to enable the Add to Table and Delete from Table privilege masks.

- Any Modify privilege masks for the specified object must *not* include Attachments.Name or Relationships.Name in the AppliedTo property.

Add to Table and Delete from Table privileges do not control the ability to modify Attachment table attribute fields. The appropriate Modify privilege mask is required to modify Attachment table attribute fields. For example, to edit the File Description field on the Attachment table, the user must be assigned a Modify privilege mask with File Description included in the AppliedTo property.

See "[Modify Privilege and Attachments](#)" on page 37-9.

- Checkout, Checkin, and Cancel Checkout privileges require an Add to Table and Deleted from Table privilege mask applied to Attachments. If the user does not have Add to Table and Delete from Table privileges, then the buttons for CheckOut, Cancel CheckOut, and Checkin buttons are disabled on the **Attachments** tab.

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, that is, 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 Save As (that is, a workflow that is given another name by using Save As, 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 drop-down 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 10-3.)
7. In the **Workflow** field, select a workflow from the drop-down 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**.

Client Access

The Client Access privilege is used to limit user access to the Java Client or to the RMW user interface. There are two selections available in the Applied To property of this privilege:

- Java Client
- RMW UI (appears in Applied To property list only if RMW is installed).

For your convenience, two predefined privilege masks are provided:

- Java Client Access
- Recipe & Material Workspace UI Access

Java Client Access:

This privilege mask allows you to limit which users are allowed to log in to the Agile Java Client. When a user attempts to log into Java Client, Agile PLM verifies whether the user has the Client Access privilege for Java Client. If the user has the correct privilege, then the user is granted access beyond the login screen. If the user does not have the correct privilege, then he is not allowed to log in and an error message is displayed: "You do not have logon access to this client. Please contact your administrator for assistance."

Because a user can access Java Client only if he has the Java Client Access privilege mask, this allows you, in your organization, to limit access to Java Client to administrator users only.

- The predefined Java Client Access privilege mask is included in the predefined Administrator role.
- Any user assigned an Administrator privilege mask has access to Java Client by default. If you are not using the predefined Administrator role, this feature prevents an administrator user from being locked out of Java Client.
- A predefined role named **Java Client Access** is provided. If necessary, you can assign this role to specific users who may require access to the Java Client, for example, Change Analyst users.

This role appears in the User Administrator privilege AppliedTo property list. See ["Options for Building Administrator Assistants"](#) on page 17-29.

Recipe & Material Workspace UI Access:

Note: Only RMW users need this privilege mask.

Permits the user to open the RMW user interface in Web Client, and to work in Agile RMW. The administrator assigns **Recipe & Material Workspace UI Access** privilege mask to appropriate users

A predefined role **Recipe & Material Workspace** is provided. This role appears in the User Administrator privilege AppliedTo property list. See also *Agile PLM Recipe Management for Pharmaceuticals Administrator Guide*.

Export

The Export privilege allows Agile PLM 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.

In addition, the Export privilege mask includes three AppliedTo property options (Attachments, Search Results, and Wizard), which refine Export privilege capabilities.

- Attachments

If the user has Export privilege applied to Wizard, then the Attachments AppliedTo property allows the user to export object attachments to PDX or aXML file formats. Any user who can export object attachments to these formats can also view the attachment contents. To prevent users accessing information they do not need or should not view, use an Export privilege mask that does not include Attachments in the AppliedTo property, for example, the default predefined Export without Attachments privilege mask.

- Search Results

In Web Client and in Java Client, allows the user to export the search results table to a .csv file or to an Excel file

A custom Export privilege mask that includes only Search Results in the AppliedTo property allows users to export search results tables, but does not provide the capability to export object data.

- Wizard

Allows the user access to the Export Wizard from various entry points in the Web Client and Java Client user interface, thus allowing the user to export Agile objects. If Wizard is omitted from the Export privilege mask AppliedTo property, then the Export wizard entry points are disabled (grayed) or omitted. When Wizard is included in the Export privilege mask AppliedTo property, then the user can access the Export wizard from the following places in the user interface:

Web Client:

- Tools menu, Export

- Object Actions menu, Export
- Object Actions menu, under Microsoft Excel, Export to Excel
- Where Used tab, More menu, Export
- Where Used tab, More menu, Export
- Report output window (Standard Report output format), Export button
- Search Results tables, More menu, Export Objects

Java Client:

- Tools menu, Export
- Object window, actions menu, Export

The default predefined Export privilege masks are:

- Export and (Restricted) Export
These privilege masks give users all available export capabilities: Attachments, Search Results, and Wizard (export objects).
- Export without Attachments and (Restricted) Export without Attachments
These privilege masks give the user export capabilities applied to Search Results and Wizard (export objects) only. Because Attachments is not included in the AppliedTo property, when the user exports objects to aXML format or to PDX format, the object attachments are not exported with the object data.

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. This and other factors make this privilege a "dangerous" one to assign to many users in that it can add to the risk of server crashes. You should consider disabling this privilege or keeping its assignment to a minimum.

Note: Full Search Display privilege cannot be used to retrieve BOM related reports.

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 through 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 if 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.

Use Caution when Assigning Users the Override Privilege

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** drop-down list. You can create PFV 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 **PFV** 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 must 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.

Table 17–4 Example of transferring authority to multiple users

From User	To User	Start Date	End Date
Brian Henson	David Goelz	14-July-2007	30-July-2007
Brian Henson	Kevin Clash	31-July-2001	12-Aug-2007

Note: 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 18-2.

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

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. You cannot initiate Save As from a non-Site Change Order change object to create an SCO object, nor can you initiate Save As from an SCO object to create a non-Site Change Order change object. 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 17-33.

All Privilege Masks have a Privilege, an Object Type, and a 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 17-22.
2. The **object type** to be acted upon – See ["Privilege Mask Component 2: Object Type"](#) on page 17-22.
3. The **criteria** or conditions under which to apply the action – See ["Privilege Mask Component 3: Criteria"](#) on page 17-24.
4. The **attributes** to which the action will be applied to – See ["Privilege Mask Components"](#) on page 17-19.

A Few Privileges are the Basis to Privilege Masks with AppliedTo

The final item in the above list refers to attributes in privilege masks; but this element is not found in all privilege masks. A small subset of the PLM privileges (Administrator, User Administrator, Read, Modify, Microsoft Project, and Dashboard Tab View) are the basis of privilege masks that require a fourth component, that is, named attributes found in the AppliedTo property of the privilege. This important property is detailed in ["AppliedTo Property in Select Privileges"](#) on page 17-26.

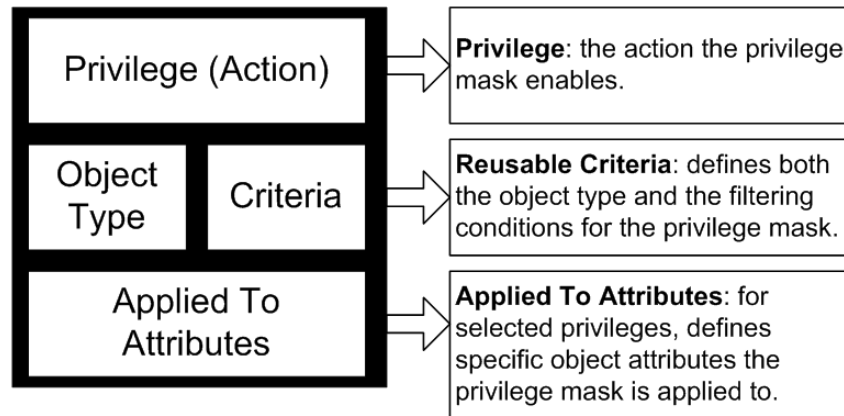
Diagramming Privilege Masks

Privilege masks employ a reusable criteria to define the object type and filtering conditions. A privilege mask includes:

- Privilege action – the action the privilege mask enables. See ["Default Agile PLM Privileges"](#) on page 17-5.
- Reusable Criteria – the reusable criteria defines both the object type and the filtering conditions of the privilege mask. See [Chapter 10, "Criteria."](#)
- Applied To attributes – for some selected privileges, the Applied To attributes define specific object attributes or options the privilege mask is applied to. See ["AppliedTo Property in Select Privileges"](#) on page 17-26.

When you create a privilege mask, you select a reusable criteria from the list of criteria objects, as seen in the schematic diagram.

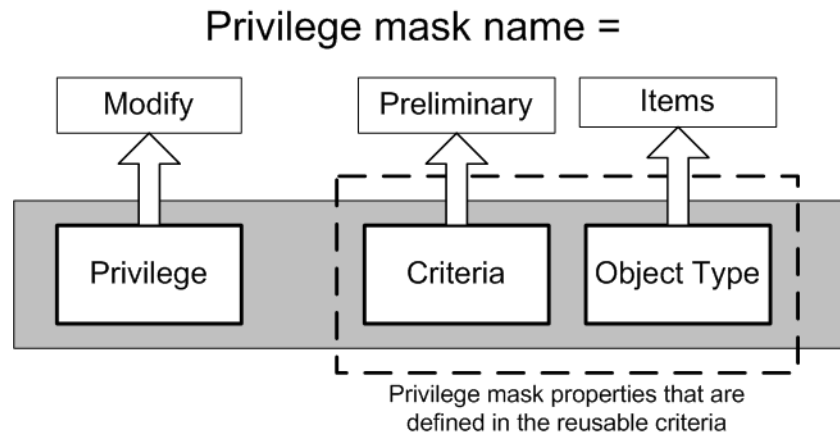
Figure 17-1 *Diagramming privilege masks*



Naming Privilege Masks

The following convention for naming privilege masks has been used so their purpose and function is as clear as possible. Use the name of the privilege (the action), the name or description of the criteria (the filter), and the name of the object type. For example, Modify Preliminary Items, Checkout for Unreleased Items, or Modify My User Groups.

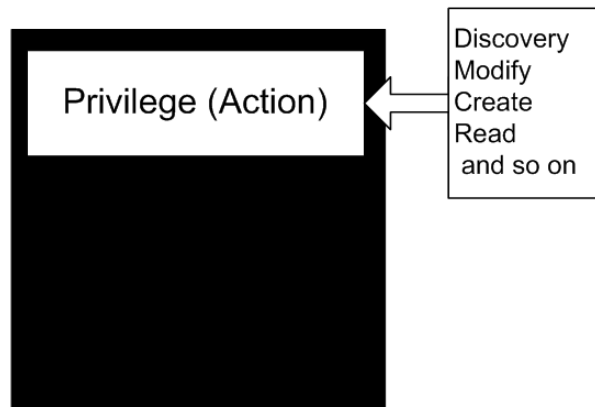
Figure 17-2 *Naming privilege masks*



Some privilege masks consist of only the privilege and the object type, for example, Send Changes.

Privilege Mask Component 1: Privileges

Figure 17-3 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. The basic Agile PLM privileges are described in ["Default Agile PLM Privileges"](#) on page 17-5.

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.

Filter privilege records by Privilege Contains Modify to find the all the Modify privilege masks on the list. See ["Filtering Data in Java Client"](#) on page 2-4.

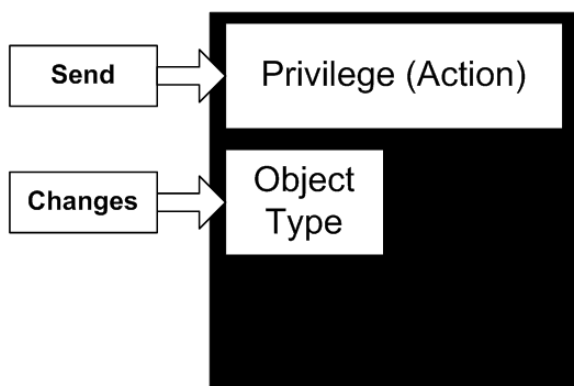
3. You can now modify the editable fields of the **General Information** tab.

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 base class, Change Orders class, or ECO subclass. 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 ["Classes"](#) on page 5-1.

Figure 17–4 Privilege mask Component 2: Object Type

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 ["Agile PLM's Installed Routable Object Types"](#) on page 5-3, and ["Agile PLM's Installed Nonroutable Object Types"](#) on page 5-5 for a complete list of Agile PLM object types.

Table 17–5 Configuring Modify Changes privilege mask

Select this object type	To allow user to modify these classes...	... and 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)

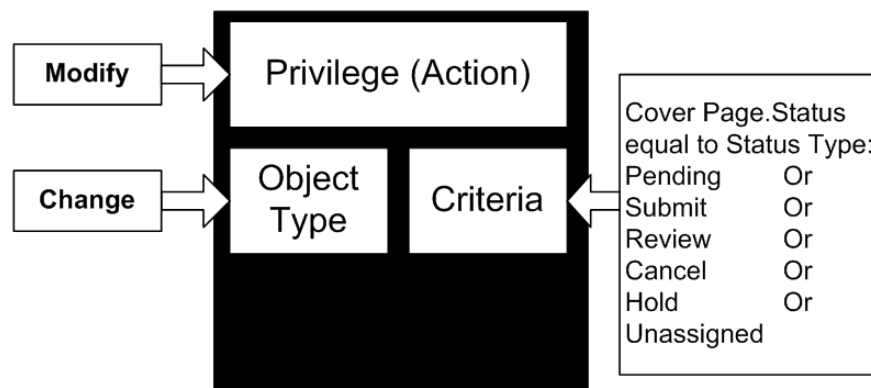
Note: If you remember to use the Action-Criteria-Object Type naming convention, the object type is part of the privilege mask name. (See ["Naming Privilege Masks"](#) on page 17-21.)

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.

In the example in the diagram below, the privilege (action) is Modify, the object type is Change, and the reusable criteria specifies that the Cover Page.Status attribute must be equal to the status type Pending or Submit or Review or Cancel or Hold or Unassigned. (Note that the status type Released is not included in this reusable criteria.)

Figure 17–5 Privilege mask Component 3: Criteria



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).

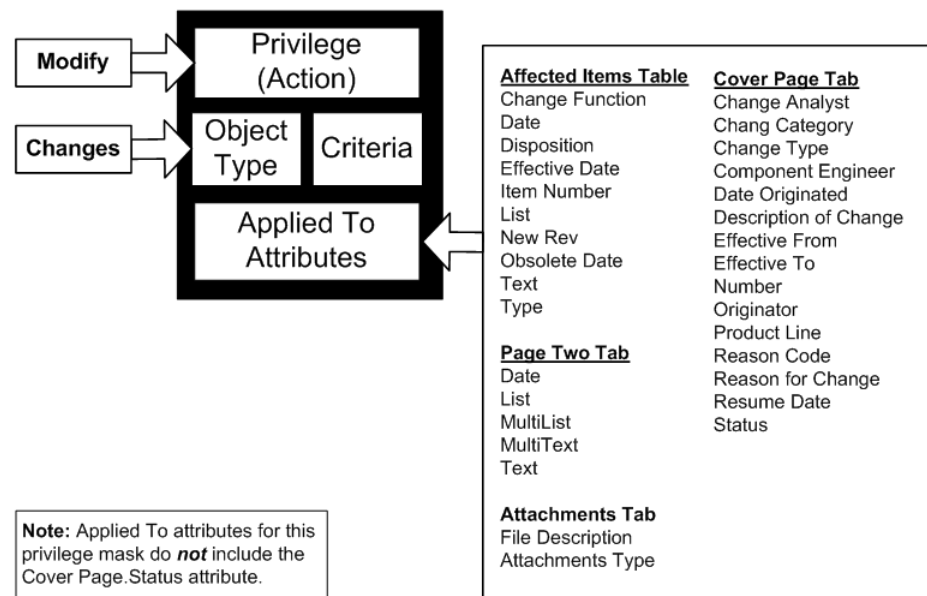
Privilege Mask Component 4: Attributes

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. The attributes in the Applied To property for this privilege mask include attributes on the **Attachments** tab, the Affected Items table, and the **Cover Page** tab. The **Status** attribute on the **Cover Page** tab is *not* included in the Applied To property.

Figure 17–6 Privilege mask Component 4: Attributes



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.

Filter privilege records by Privilege Contains **Modify** to find all the **Modify** privilege masks on the list. (See "[Filtering Data in Java Client](#)" on page 2-4).

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.

Enabling a Privilege Mask

To enable a privilege mask that is currently disabled:

1. Under **User Settings**, double-click **Privileges**. The Privileges list expands.
2. Double-click the **Privileges** subnode you want. The **Privileges for <selected privilege>** window opens.
3. Click **Refresh** to display all privilege masks.
4. Click the privilege mask you want to enable.

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. Or you can click the **Enabled** column header to sort by **Yes** (enabled) or **No** (disabled).

5. 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.

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**. The Privileges list expands.
2. Double-click the **Privileges** subnode you want. The **Privileges for <selected privilege>** window opens.
3. Click **Refresh** to display all privilege masks.
 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.
 The privilege mask properties are displayed on the **General Information** tab.
4. To modify a property, enter text in text fields or use the drop-down lists.
5. In the **Privilege Criteria** field, select a different reusable criteria from the drop-down list.
 Or click **Create** to define a new reusable criteria. See ["Creating a New Criteria"](#) on page 10-3.
6. When you are finished, click **Save**. To cancel the changes, click **Close**.

AppliedTo Property in Select Privileges

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 and "Admin Access for User Admin"; see ["Administrator Privilege and the AppliedTo Capability"](#) on page 17-27.
- **User Administrator** privilege: User Administrator privilege mask sets roles that user can assign to other users; ["Specialized Administrator Privilege Masks"](#) on page 17-29.
- **Read** privilege: see ["Field-Level Read Privilege"](#) on page 17-39.
- **Modify** privilege: see ["Modify Privilege"](#) on page 17-41.
- **Microsoft Project** privilege, a PPM-specific privilege: see ["Project Summary Page Configuration"](#) on page 17-31. See also *Agile PLM Product Portfolio Management User Guide*, "Configuring Product Portfolio Management."
- **Dashboard Tab View** privilege, a PPM-specific privilege: see ["Dashboard Management"](#) on page 26-1.
- **Client Access** privilege: Client Access privilege masks allow user to log in to either Java Client or RMW client; ["Client Access"](#) on page 17-14.

- **Export:** See ["Export"](#) on page 17-15.
- **Manage Report:** See ["Report Templates"](#) on page 3-6.
- **Specification Management:** See *Agile PLM Product Governance & Compliance User Guide*, "Configuring Product Governance & Compliance."

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 is built on the "Administrator" privilege mask, which provides access to Administrator nodes in Java Client, and the "Admin Access for User Admin" privilege mask, which provides access to Administrator nodes in Web Client.

The User Administrator role includes the "Admin Access for User Admin" privilege mask and the "User Administrator" privilege mask, which defines roles that can be assigned to other users (more on this in ["Options for Building Administrator Assistants"](#) on page 17-29.)

If an Agile administrator or assisting "user administrator" does not have a particular node properly selected in the `AppliedTo` property of their "Administrator" privilege mask or "Admin Access for User Admin" privilege mask, that node will *not* be a *live link* in that user's view of the Administrator nodes, so that user will not be able to access the capability.

Show Visible Attributes Only Check Box

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** check box is displayed. It is selected by default: deselect it to view attributes whose Visible property is set to No; all non-visible attributes are then displayed in the Choices list.

Viewing the `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 **User Settings** node folder, expand **Privileges** node.
2. Double-click **Administrator** privilege. The Privileges for Administrator filter dialog appears.
3. In Match If field drop-down 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** check box will be selected; it does not really affect matters in the Administrator privileges.)

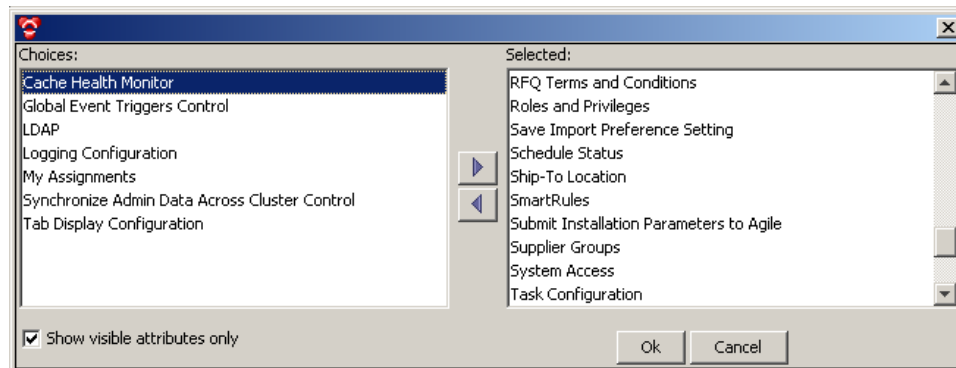
Note: The **Choices** list reflects the nature of the privilege mask. "Admin nodes and utilities" are selected in Administrator-, Read-, and Modify-based privilege masks. Microsoft Project and Dashboard Tab View-based privilege masks offer a different array of choices.

Modifying the AppliedTo Property

To select the **AppliedTo** attributes for a qualified privilege mask:

1. Under **User Settings**, double-click **Privileges**. The Privileges list expands.
2. Double-click the **Privileges** subnode you want. The **Privileges for <selected privilege>** window opens.
3. Click **Refresh** to display all privilege masks.
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 in Java Client"](#) on page 2-4.
4. Double-click the qualified privilege mask you want to modify. The privilege mask window appears.
5. On the **General Information** tab, click the down-arrow next to the **AppliedTo** field. The selection dialog box opens.

Figure 17–7 AppliedTo Attribute Selection



6. Use right arrow to move selected values from the **Choices** list to the **Selected** list.
7. When you are finished, click **OK**.
8. 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 you 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.

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 ready-to-use 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 enables 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 17-29.

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

The User Administrator role operates with a "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 through Web Client > **Tools and Settings** > **Address Book** and **Tools and Settings** > **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 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 choice in the Administrator-specific **AppliedTo** property (that is, found in **Administrator** and **Admin Access for User Admin** privilege masks).

When it is moved to the **Selected** table, Manage Report Templates enables you or an assistant administrator to upload templates for reports in the PLM Report Template utility. Choose **Web Client** > **Tools and Settings** > **Administration** > **Report Template** to display the Manage Report Template page.

Users see these templates, per assigned privileges, when they use the Reports function in Web Client.

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 website.

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

Project Summary Page Configuration

The Administrator privilege mask with Project Summary Page Configuration specified as the AppliedTo property allows you to configure the widgets for the Summary page of a project. To begin configuring the Project Summary widget and page configuration, click the **Configure** button on the Summary page. For more information, refer to *Agile PLM Product Portfolio User Guide*, chapter "Configuring Product Portfolio Management."

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 4-2.

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 by using the Save As process as in the following procedure. You can also create a new privilege mask from scratch.

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 list expands.
2. Double-click the **Privileges** subnode you want. The **Privileges for <selected privilege>** window opens.
3. Click **Refresh** to display all privilege masks.
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 in Java Client"](#) on page 2-4.
4. Double-click the privilege mask you want to copy. The privilege mask window appears.
5. Click the **Save As** button.
6. Enter a name and API name for the new privilege mask.
7. Click **Save** when you are finished. The new privilege mask appears.

Creating a New Privilege Mask from Scratch

To create a new privilege mask:

1. Under **User Settings**, double-click **Privileges**. The Privileges list expands.
2. Double-click the **Privileges** subnode you want. The **Privileges for <selected privilege>** window opens.

3. Click **New** on the toolbar. The Create Privilege dialog box appears.
4. Enter a name and an API name. Remember to use the Action-Criteria-Object Type naming convention. (See ["Naming Privilege Masks"](#) on page 17-21 and ["API Name"](#) on page 4-1.)
5. Enter a description.
6. 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.
7. Select a privilege from the **Privilege** drop-down list.
Depending on which privilege you select, more fields may appear for you to complete.
8. Do one of the following:
 - To finish creating a privilege mask that does not require a privilege criteria (reusable criteria), click **Finish**.
 - For all other privileges, in the **Privilege Criteria** field, select a reusable criteria from the drop-down 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 10-3.

See ["Privilege Mask Component 2: Object Type"](#) on page 17-22 for more information about selecting an object type for your privilege mask. See ["Criteria"](#) on page 10-1.
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 17-24.
 - Click the down arrow icon 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 selected the Change Status privilege, see ["Change Status"](#) on page 17-13 for detailed information about completing a Change Status privilege mask.
11. When you have completed the fields on the Create Privilege dialog box, Click **OK**.

Note: If you disabled the privilege mask while you were creating it, remember to enable it so it can be used.

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 doesn't 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.

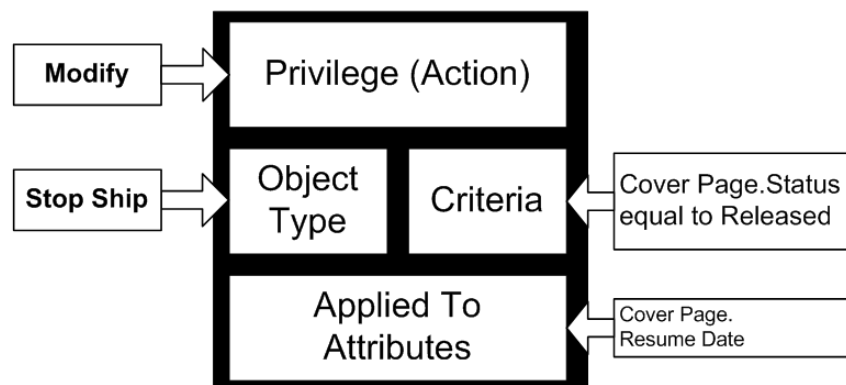
Privilege Mask Example 1: Modify Stop Ships

In this example of a Modify privilege mask, if the Status attribute on the **Cover Page** tab of a Stop Ship object contains a Released status type, then the user is able to modify the Resume Date attribute on the **Cover Page** tab.

Table 17–6 Example of Modify for Stop Ship privilege mask and its properties

Privilege mask property	Description
Privilege (action)	Modify
Reusable Criteria	Object Type: Stop Ship Filter: Cover page.Status equal to Status Type Released
Applied To Attributes	Cover Page.Resume Date

Figure 17–8 Diagram of Modify for Stop Ship privilege masks and its properties



Privilege Mask Example 2: Change Status

The Change Status privilege does not include AppliedTo properties, like the Modify privilege mask in the example above. However, the Change Status privilege includes properties for Workflow, From Status, and To Status, as seen in the figure below.

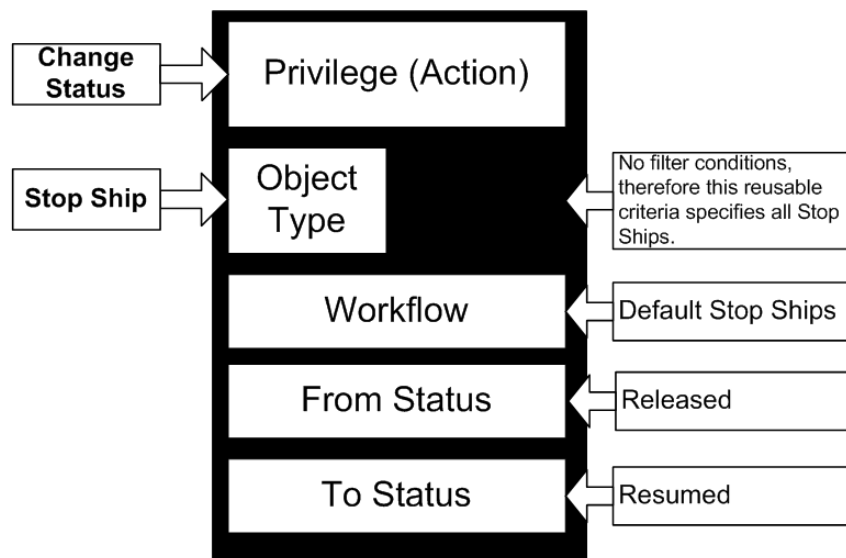
In this example of a Change Status privilege mask, if the Stop Ship object selected workflow is Default Stop Ships and the current status of the Stop Ship is Released, then the user is able to change the status to Resumed.

Table 17–7 Example of Change Status for Stop Ship privilege mask and its properties

Privilege mask property	Description
Privilege (action)	Change Status

Table 17–7 (Cont.) Example of Change Status for Stop Ship privilege mask and its

Privilege mask property	Description
Reusable Criteria	Object Type: Stop Ships Filter: (no filter) The All Stop Ships reusable criteria specifies Stop Ship objects and does not include any filter criteria conditions. Therefore, this reusable criteria specifies all Stop Ship objects.
Workflow	Default Stop Ships
From Status	Released
To Status	Resumed

Figure 17–9 Diagram of Change Status for Stop Ship privilege mask and its properties

Privilege Mask Example 3: Modify Items

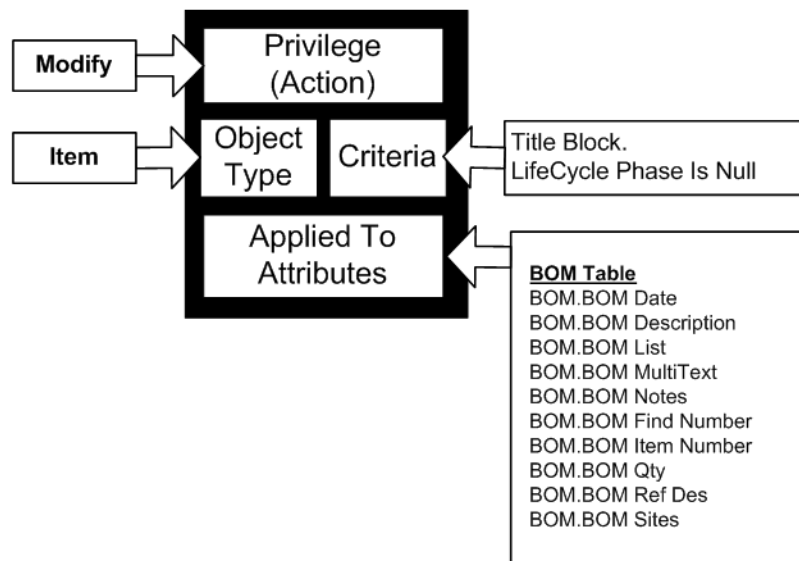
In this Modify privilege mask example, if the Item object **Title Block** tab attribute Lifecycle is null (the item does not have a Lifecycle, therefore it is a Preliminary Item), then the user can modify the BOM tab attributes included in the Applied To property.

Table 17–8 Example of Modify for Item privilege mask and its properties

Privilege mask property	Description
Privilege (action)	Modify
Reusable Criteria	Object Type: Items Filter: Title Block.Lifecycle is Null

Table 17–8 (Cont.) Example of Modify for Item privilege mask and its properties

Privilege mask property	Description
Applied To Attributes	BOM.BOM Date BOM.BOM Description BOM.BOM List BOM.BOM MultiText BOM.BOM Notes BOM.BOM Text BOM.BOM Find Number BOM.BOM Item Number BOM.BOM Qty BOM.BOM Ref Des BOM.BOM Sites

Figure 17–10 Example of Modify for Items privilege mask and its properties

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, 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 17-38.

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 32-1.

For more information about the Discover privilege masks assigned to each role supplied with Agile PLM, see ["Viewing a Role"](#) on page 16-3.

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 do not allow them to discover:

- Display BOM Tables
- Discovery Object Tables
- Discovery Results Table

For more information about these SmartRules and their default settings, see ["SmartRules Defined"](#) on page 19-2.

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.

Table 17–9 Access levels to Agile PLM data

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.

Table 17-10 *Discovery and Read privilege mask details*

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 the down-arrow icon 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 wanted 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 a property of a few other privileges also – for more information, see ["AppliedTo Property in Select Privileges"](#) on page 17-26.

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.
2. 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.

3. 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.
4. On the **General Info** tab, click the down arrow icon next to the **AppliedTo** field. The selection dialog box opens.
5. Use the right and left arrows to move selected values from one list to the other list.
6. When you are finished, click **OK**.
7. To finish editing the privilege mask, click **Save**.

Display No Privilege Fields

When a user does not have the privilege granted to read certain attributes of objects the entire attribute name is hidden, along with the field attribute's content. If you require users, who do not have the Read privilege granted, to view the attribute without the content the Display No Privilege Field privilege allows that in Web Client for Cover Page, P2 and P3 attributes. This is not specific to an object type, but is enforced across all objects throughout PLM.

If the administrator creates a privilege based on this new privilege type and assigns the new privilege to any role, then the users who have that role are able to see the field names even though they do not have privileges to see the value of those fields.

If you are the administrator of a system that is newly upgraded, be aware that the Display No Privilege Fields privilege is added to any role containing an Enforce Field Level Read privilege.

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 17-39). 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 SmartRules 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 want 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"](#) on page 17-42 and in an important specific context in ["Controlling the Ability to Modify Items at Introductory Revision with \\$CURRENTREV"](#) on page 17-43. 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 5-33.

- 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 *Agile PLM Getting Started*), 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.
- If you are using the Add to Table and Delete from Table privileges to define the creation of relationships, then the **Relationship** tab "Name" attribute must be removed from the Modify privilege mask for that object in order for the Add to Table and Delete from Table privilege masks to control the ability to create and delete relationships. However, in order to create and modify rules, the Modify privilege mask must include the "Rule" attribute in its AppliedTo property. See ["Add to Table and Delete from Table Privileges"](#) on page 17-12.
- To create revision-specific relationships, the **Relationship** tab attributes associated with revision-specific relationships must be enabled: Revision, Track Impact, Impacted (Image), and, optionally, Change. These attributes must be enabled for both object (source and target) in the relationship. (These attributes are disabled by default.)

In addition, you must have the appropriate Modify privilege mask that includes in its AppliedTo property the **Relationship** tab Revision attribute "Revision" (in order to select the desired revision) and "Track Impact" (in order to change the Track Impact setting). The revision-controlled objects that support revision-specific relationships are Parts, Documents, and Published Prices. For more information, see [Chapter 42, "Administering Revision-Specific Relationships."](#) and ["Item Relationship Creation Using \\$CURRENTREV and \\$LATESTREV Criteria"](#) on page 10-10.

- 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 37-9.

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** drop-down list to display information for a specific revision. The user's assigned Modify privilege masks determine whether he can modify those attributes.

- **Revision** drop-down list is available for the item **Sites** tab in both Web Client and Java Client.
- **Revision** drop-down 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** drop-down list on Web Client Title Block tab also controls display of Page Two and Page Three data.

\$CURRENTREV Criteria Logic

Agile has a special variable that can be used in Criteria against items, \$CURRENTREV, that enables 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** drop-down 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 17-43.

Using \$CURRENTREV in an item criteria enables the administrator to build in privilege control based on the displayed revision. Using combinations of multiple \$CURRENTREV criteria conditions enables 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 ["Using \\$CURRENTREV and \\$LATESTREV in Criteria for Items"](#) on page 10-7.

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.

A change object in Canceled status is not applicable because it will not appear in the Revision drop-down 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

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 drop-down 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.

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 drop-down list, he will be able to modify the specified fields of the selected pending item revision.

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 of AppliedTo fields. When the user selects a Released revision in the Rev drop-down 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 tables show five example items (EX-1 - EX-5) and the revision history for each of these items. These tables illustrate how each of the example criteria (Criteria #1 - #10) will evaluate when a specific revision is selected from the Rev drop-down list of the example items.

Example Item EX-1

Example item EX-1 has the following pending revision that can be selected in the Rev drop-down list.

Table 17-11 Example Item EX-1 Revision List

Revision	Change Status	Status Type
Introductory	n/a	n/a

The following table illustrates how each of the ten example criteria are evaluated when the revision of item EX-1 is selected in the Rev drop-down list. A dash (–) indicates that the criteria evaluates as false. The word True indicates that the criteria evaluates as True.

Table 17–12 Evaluation of Item EX-1 Revisions per \$CURRENTREV Criteria Examples

#	Description	Rev: Introductory
1	\$CURRENTREV Equal To \$INTRODUCTORY_NOCHANGE	True
2	\$CURRENTREV Equal To \$INTRODUCTORY_PENDINGCHANGE	–
3	\$CURRENTREV Equal To \$INTRODUCTORY_RELEASEDCHANGE	*–
4	\$CURRENTREV Equal To \$LATEST	True
5	\$LATESTREV Is Introductory	True
6	\$LATESTREV Is Introductory	–
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))	True

Example Item EX-2

Example item EX-2 has the following released and pending revisions that can be selected in the Rev drop-down list.

Table 17–13 Example Item EX-2 Revision List

Revision	Change Status	Status Type
Introductory	n/a	n/a
(?)	Unassigned	n/a

The following table illustrates how each of the ten example criteria are evaluated when each revision of item EX-2 is selected in the Rev drop-down list. A dash (–) indicates that the criteria evaluates as false. The word True indicates that the criteria evaluates as True.

Table 17–14 Evaluation of Item EX-2 Revisions per \$CURRENTREV Criteria Examples

#	Description	Rev: Introductory	Rev: (?) Unassigned
1	\$CURRENTREV Equal To \$INTRODUCTORY_NOCHANGE	–	–
2	\$CURRENTREV Equal To \$INTRODUCTORY_PENDINGCHANGE	True	–
3	\$CURRENTREV Equal To \$INTRODUCTORY_RELEASEDCHANGE	–	–
4	\$CURRENTREV Equal To \$LATEST	True	–
5	\$LATESTREV Is Introductory	True	True

Table 17–14 (Cont.) Evaluation of Item EX-2 Revisions per \$CURRENTREV Criteria

#	Description	Rev: Introductory	Rev: (?) Unassigned
6	\$LATESTREV Is Introductory	–	–
7	\$CURRENTREV Equal To \$UNASSIGNED or \$CURRENTREV Equal To \$STATUSTYPE.PENDING	–	True
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))	True	True

Example Item EX-3

Example item EX-3 has the following released and pending revisions that can be selected in the Rev drop-down list.

Table 17–15 Example Item EX-3 Revision List

Revision	Change Status	Status Type
Introductory	n/a	n/a
A	ECO.Implemented	Complete

The following table illustrates how each of the ten example criteria are evaluated when each revision of item EX-3 is selected in the Rev drop-down list. A dash (–) indicates that the criteria evaluates as false. The word True indicates that the criteria evaluates as True.

Table 17–16 Evaluation of Item EX-3 Revisions per \$CURRENTREV Criteria Examples

#	Description	Rev: Introductory	Rev: A ECO.Implemented Complete
1	\$CURRENTREV Equal To \$INTRODUCTORY_ NOCHANGE	–	–
2	\$CURRENTREV Equal To \$INTRODUCTORY_ PENDINGCHANGE	–	–
3	\$CURRENTREV Equal To \$INTRODUCTORY_ RELEASEDCHANGE	True	–
4	\$CURRENTREV Equal To \$LATEST	–	True
5	\$LATESTREV Is Introductory	–	–

Table 17–16 (Cont.) Evaluation of Item EX-3 Revisions per \$CURRENTREV Criteria

#	Description	Rev: Introductory	Rev: A ECO.Implemented Complete
6	\$LATESTREV Is Introductory	True	True
7	\$CURRENTREV Equal To \$UNASSIGNED or \$CURRENTREV Equal To \$STATUSTYPE.PENDING	–	–
8	\$CURRENTREV Equal To ECO.Released or \$CURRENTREV Equal To ECO.Implemented	–	True
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))	–	–

Example Item EX-4

Example item EX-4 has the following released and pending revisions that can be selected in the Rev drop-down list.

Table 17–17 Example Item EX-4 Revision List

Revision	Change Status	Status Type
Introductory	n/a	n/a
A	ECO.Implemented	Complete
(?)	Unassigned	n/a

The following table illustrates how each of the ten example criteria are evaluated when each revision of item EX-4 is selected in the Rev drop-down list. A dash (–) indicates that the criteria evaluates as false. The word True indicates that the criteria evaluates as True.

Table 17–18 Evaluation of Item EX-4 Revisions per \$CURRENTREV Criteria Examples

#	Description	Rev: Introductory	Rev: A ECO.Implemented Complete	Rev: (?) Unassigned
1	\$CURRENTREV Equal To \$INTRODUCTORY_NOCHANGE	–	–	–
2	\$CURRENTREV Equal To \$INTRODUCTORY_ PENDINGCHANGE	–	–	–

Table 17–18 (Cont.) Evaluation of Item EX-4 Revisions per \$CURRENTREV Criteria

#	Description	Rev: Introductory	Rev: A ECO.Implemented Complete	Rev: (?) Unassigned
3	\$CURRENTREV Equal To \$INTRODUCTORY_RELEASEDCHANGE	True	–	–
4	\$CURRENTREV Equal To \$LATEST	–	True	–
5	\$LATESTREV Is Introductory	–	–	–
6	\$LATESTREV Is Introductory	True	True	True
7	\$CURRENTREV Equal To \$UNASSIGNED or \$CURRENTREV Equal To \$STATUSTYPE.PENDING	–	–	True
8	\$CURRENTREV Equal To ECO.Released or \$CURRENTREV Equal To ECO.Implemented	–	True	–
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))	–	–	–

Example Item EX-5

Example item EX-5 has the following released and pending revisions that can be selected in the Rev drop-down list.

Table 17–19 Example Item EX-5 Revision List

Revision	Change Status	Status Type
Introductory	n/a	n/a
A	ECO.Released	Released
(B)	ECO.CCB	Review
(C)	ECO.Submitted	Submit
(D)	ECO.Pending	Pending

The following table illustrates how each of the ten example criteria are evaluated when each revision of item EX-5 is selected in the Rev drop-down list. A dash (–) indicates

that the criteria evaluates as false. The word True indicates that the criteria evaluates as True.

Table 17–20 Evaluation of Item EX-5 Revisions per \$CURRENTREV Criteria Examples

#	Description	Rev: Introductory	Rev: A ECO.Released Released	Rev: (B) ECO.CCB Review	Rev: (C) ECO.Submitted Submit	Rev: (D) ECO.Pending Pending
1	\$CURRENTREV Equal To \$INTRODUCTORY_NOCHANGE	–	–	–	–	–
2	\$CURRENTREV Equal To \$INTRODUCTORY_PENDINGCHANGE	–	–	–	–	–
3	\$CURRENTREV Equal To \$INTRODUCTORY_RELEASEDCHANGE	True	–	–	–	–
4	\$CURRENTREV Equal To \$LATEST	–	True	–	–	–
5	\$LATESTREV Is Introductory	–	–	–	–	–
6	\$LATESTREV Is Introductory	True	True	True	True	True
7	\$CURRENTREV Equal To \$UNASSIGNED or \$CURRENTREV Equal To \$STATUSTYPE.PENDING	–	–	–	–	True
8	\$CURRENTREV Equal To ECO.Released or \$CURRENTREV Equal To ECO.Implemented	–	True	–	–	–
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))	–	–	–	–	–

Applying Create User Criteria

Create User criteria statements restrict users to reading only those objects they have created. The Create User feature permits 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.
- The **Create User** attribute field on the **Page Two** tab of an Agile PLM class. See ["Showing, Hiding, or Renaming a Tab"](#) on page 5-17.

Once you've 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 do not need to have a basic Read privilege to create objects. However, this privilege limits users to reading only pending or preliminary objects they've created.

For users who have the Create privilege, you can expand the Read privilege to include all objects they've 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.

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. For a complete list of variables, see ["Agile PLM Variables"](#) on page 2-9.

Table 17–21 Privilege Mask Criteria 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.
\$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 17-50.

Table 17–21 (Cont.) Privilege Mask Criteria Variables

Variable	Description
\$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.

Other User Settings

This chapter explains other user management settings available in Agile PLM.

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 18–1 *User Monitor window details*

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 **Refresh** 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 users 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.

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 4-5.

Deleting a User Group

You can delete a user group or functional team 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"](#) on page 4-5, tool to determine all the places in the system that user is used.

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 and Settings > Address Book > 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.

Deleting a Functional Team

To temporarily delete a functional team in Web Client:

1. Click **Tools and Settings > Address Book > Functional Teams**. The Functional Teams page appears.
2. Click a functional team name in the list. That functional team page appears.
3. From the **Actions** menu, choose **Delete**. You are prompted to confirm the deletion.
4. Click **Yes**. The functional team no longer appears on the Functional Teams 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.

Hard-Deleting a Functional Team

When you delete a functional team, 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" functional team. To permanently remove a functional team, you can delete it from the **Deleted User Groups** node. This is referred to as a "hard-deleted" functional team.

1. A hard-deleted functional team is permanently removed from the database and cannot be restored or undeleted.

To hard-delete a deleted functional team in Java Client:

1. Under **User Settings**, double-click **Deleted User Groups**. The Deleted User Groups window appears.
2. Click to select the functional team you want to hard-delete, and click the **Delete** button.

The functional team no longer appears in the Deleted User Groups window.

Undeleting a User Group

From the **Deleted User Groups** node, you can view user groups and functional teams that have been deleted from the Agile PLM system. It is useful to know which user groups and functional teams have been deleted because the user group or functional team may have been assigned as an approver, acknowledger or observer for routable

objects. This permits you to maintain a complete "audit trail" of a product's entire history.

A user group or functional team may be "undeleted." By undeleting a deleted user group or functional team, 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.

Undeleting a Functional Team

To undelete a functional team in Java Client:

1. Under **User Settings**, double-click **Deleted User Groups**. The Deleted User Groups window appears.
2. Click to select the functional team you want to undelete.
3. Click the **Undelete** button.

The functional team's name is added to the **User Groups** window in Java Client. You might have to click the **Refresh** button to see the functional team listed in the window.

The functional team's name also appears in the Web Client address book. In Web Client, **Tools and Settings > Address Book > Functional Teams**.

The Agile PLM SmartRules are documented in SmartRules.

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 drop-down list. The list of possible settings can include the following values:
 - **Allow** – The system permits 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. 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

This section explains the SmartRule settings you can configure.

Allow Deletion of Attachments

Settings: Yes, No (default)

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.

Auto-Installs from PPM

Settings: Allow (default), Disallow, Warning

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.

Auto Publish Quote History

Settings: Allow (default), Disallow, Warning

Allows or disallows RFQ or response-line data to be published to objects in the Quote History subclass.

BOM Multi-Level Recursion

Settings: Allow (default for non-Oracle DB systems, and for upgrading customers), Disallow (default for Oracle DB systems)

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).

Note: 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.

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

Settings: Allow, Disallow, Warning (default)

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 can advance the routable object in the workflow. See the warning about this property in ["Use Caution when Assigning Users the Override Privilege"](#) on page 17-17..

Note: To ensure 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.

Change Status No Response From Acknowledger

Settings: Allow, Disallow, Warning (default)

Determines whether to allow movement of the routable object to the next status when an acknowledger has not responded with either an acknowledgment. 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 acknowledger acknowledge the routable object.

Change Status No Response From Approver

Settings: Allow, Disallow, Warning (default)

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.

Change Status Observer Rejected Change

Settings: Allow, Disallow, Warning (default)

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 can promote the routable object. See the warning about this property in ["Use Caution when Assigning Users the Override Privilege"](#) on page 17-17.

Check In Attachment With Different File Extension

Settings: Allow, Disallow (default), Warning

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.

Copy Files to Rev - Designs

Settings: Disallow, Reference (default), Reference with Warning

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:

- Disallow – The new item pending revision is created with no design attachments.
- Reference – Agile uses the existing file folder and creates a new reference to it on the item's new pending revision **Attachments** tab.
- Reference with Warning – The same as the Reference setting, with the option of choosing no design attachments for the new pending revision.

Copy Files to Rev - File Folders

Settings: Copy, Copy with Warning, Disallow, Reference (default), Reference with Warning

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, select both the Add check box and the Attachments check box.

To add the item with no attachments, select only the Add check box.

- 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, select both the Add check box and the Attachments check box.

To add the item with no attachments, select only the Add check box.

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 Relationships to Rev

Settings: Copy, Do Not Copy (Default)

If set to Copy, then all relationship rows will be carried over to the new revision of revision-controlled objects.

If set to Do Not Copy, the relationships are not copied to the new revision of the revision-controlled objects.

Delete Instance With BOM

Settings: Allow, Disallow, Warning (default)

Should prevent accidental deletion of Instances, which already have a BOM, from the Instance tab. Deleting the Instance would lead to the loss of the Model relationship, including the Configuration Draft.

Demotion Approvers Removal

Settings: Retain (default), Remove

Defines whether ad hoc (not the default) approvers, acknowledgers, 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 reviewers 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 reviewers are removed; they will not see the change again unless the originator or change analyst adds them back.

Demotion Signoff Removal

Settings: Retain (default), Remove

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.

Detailed TimeSheet Entry

Settings: Disallow (default), Allow

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.

Discovery Object Tables

Settings: Warning (default), No Display

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 doesn't 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.

Discovery Results Table

Settings: Warning (default), No Display

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 the Agile Java Client and log in again before the change takes effect.

Display BOM Tables

Settings: No Display with Warning (default), Display, Display with Just Description, Display with Just Part Num and Rev, No Display

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 the Agile Java Client and log in again before the change takes effect.

Display Structure Tables

Settings: Display (default), No Display

Controls the display of model structures that are created by objects of the Designs class.

Duplicate Find Numbers

Settings: Allow, Disallow, Warning (default)

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.

Duplicate Item Numbers

Settings: Allow, Disallow, Warning (default)

Controls the use of duplicate item numbers when a user adds items to a BOM.

Duplicate Ref Des

Settings: Allow, Disallow, Warning (default)

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 the same reference designator as another item regardless of what site section of the BOM they are on.

Effectivity Date Order

Settings: Allow, Disallow, Warning (default)

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.

Effectivity Gap

Settings: Allow, Disallow, Warning (default)

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.

Effectivity Overlap

Settings: Allow, Disallow, Warning (default)

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.

Enable Addition of Activities and Gates to Completed Activities

Settings: Allow, Disallow (default)

Controls ability to add new data from PPM Activities or Gates to completed (Released) Activities.

Enable Comments for Deleting, Archiving & Delegating

Settings: Disallow (default), Allow

Controls whether comments can be recorded while performing Delete, Archive, or Delegate actions in Product Portfolio Management.

Force Commodity and Part Family to be Identical

Settings: Yes (default), No

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.

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" in Appendix A of *Agile PLM Product Governance & Compliance User Guide*.

Items Released First

Settings: Allow, Disallow, Warning (default)

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.

Many Items per PSR

Settings: Allow, Disallow (default), Warning

Allows or limits the association of items (parts or documents) with PSRs (problem reports or NCRs).

Many QCR per PSR

Settings: Allow, Disallow (default), Warning

Allows or limits the association of QCRs (CAPAs or audits) with PSRs (problem reports or NCRs).

Multiple Items Per Manuf Part

Settings: Allow, Disallow, Warning (default)

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 11-28.

Negative Value For Material Price Adder Fields

Settings: Allow, Disallow (default), Warning

Controls the entering of "negative prices" in the Material Price Adder attribute.

Negative Value For Material Price Fields

Settings: Allow, Disallow (default), Warning

Controls the entering of "negative prices" in the Material Price fields.

Negative Value For Non-Material Price Fields

Settings: Allow, Disallow (default), Warning

Controls the entering of "negative prices" in Non-Material Price fields.

Notify Resource Pool Owner for Proposed Programs

Settings: Allow (default), Disallow

Controls the sending of notifications to resource pool owners for programs in Proposed state.

Object Edit Conflicts

Settings: Allow (Default), Disallow, Warning

Object Edit Conflicts SmartRule controls what happens when more than one person is editing an object at the same time. When the first user saves his edits, the object is updated. This smartrule answers the question: What happens when the second user attempts to save his updates?

Editing fields on the Title Block (Page 1, Page Two, or Page Three), and to editing cells in tables:

Allow: The second object save overwrites and previous conflicting changes without any error message.

- History for the object records the changes made by the second user as well the changes made by the first user.
- Preliminary items without a revision do not record Title Block modifications in the history records.
- Routable objects that are Pending or Unassigned do not record Cover Page modifications in history. Routable objects in Submitted, Review, or Released statuses record Cover Page modifications in history.

Disallow: The second user's Save button is disabled and an error message within the page tells the user what he must do to recover his edits: "This object has been modified by another user. Copy and save your edits so you can reapply them. Select 'Cancel' to cancel your changes and refresh the object."

- For the second user, the **Save** button is disabled and the page is no longer in edit mode.
- Agile PLM displays an error message to the second user stating that the object has been modified by another user. The second user is instructed to save his edits so he can reapply.
- On the object, the second user has only a **Cancel** button active. Clicking **Cancel** refreshes the page and the second user must reapply his edits.

Warning: Allows the second user to save his changes, but warns him that he will overwrite the previous changes made by another user: "This object has been modified by another user. Saving your changes will overwrite previous changes. Select 'OK' to save your changes or select 'Cancel' to cancel your changes."

- Agile PLM displays a warning that saving edits may overwrite edits made by another user. The user is prompted to respond:

OK – The second user's edits overwrite any previous changes. History records both the first user's edits and the second user's edits.

Cancel – The focus returns to the object page. Clicking **Cancel** on the object page refreshes the page and the second user must reapply his edits.

For tables, this SmartRule applies to editing attributes within a table, but does not apply when adding or removing table rows.

The Object Edit Conflicts SmartRule does not apply to Agile PPM.

Overlap Price Line Effectivity Periods

Settings: Allow, Disallow (default), Warning

Controls overlapping effectivity periods of price lines on price objects and PCOs.

PSR Contains Items and Related PSRs

Settings: Allow, Disallow (default), Warning

Controls whether a PSR can be associated with both affected items and related PSRs (Allow), or only affected items or related PSRs (Disallow).

Note: 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).

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.

Redline Attributes

Settings: Allow, Disallow (default)

Controls the display in Web Client of Redline Title Block tab for Change Orders and Manufacturer Orders.

Redline Manufacturers On Change Order

Settings: Allow (default), Disallow

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.

Release QCR With Unresolved Items

Settings: No Display (default), Warning

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 permits 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.

Released Rev Required

Settings: Allow, Disallow, Warning (default)

Controls whether a routable object can be unreleased if has an affected item that is on the BOM of a released assembly.

Unrelease Change Order

Settings: Allow, Disallow, Warning (default)

Controls whether change orders can be unreleased.

Unrelease Change Request

Settings: Allow, Disallow, Warning (default)

Controls whether change requests can be unreleased.

Unrelease Deviation

Settings: Allow, Disallow, Warning (default)

Controls whether deviations can be unreleased.

Unrelease Manufacturing Order

Settings: Allow, Disallow, Warning (default)

Controls whether manufacturer orders can be unreleased.

Unrelease QCR

Settings: Allow, Disallow, Warning (default)

Controls whether QCRs can be unreleased.

Unrelease Stop Ship

Settings: Allow, Disallow, Warning (default)

Controls whether stop ships can be unreleased.

Workflow Matching Criteria Attribute Modification

Settings: Allow, Disallow (default), Warning

Note: None of the choices result in the workflow being altered.

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.

When modifying an Item, the server validates the workflow entry matching criteria of those Changes, PSRs or QCRs that have a workflow associated with them, and the workflow is not in the Completed or the Canceled status type.

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. This workflow entry check is bypassed for changes which have reached their Canceled or Completed status types.

Zero Value For Material Price Adder Fields

Settings: Allow, Disallow, Warning (default)

Controls the use of "0" as a value for the Material Price Adder field.

Zero Value For Material Price Fields

Settings: Allow, Disallow, Warning (default)

Controls the use of "0" as a value for the Material Price field.

Zero Value For Non-Material Price Fields

Settings: Allow, Disallow, Warning (default)

Controls the use of "0" as a value for the Non-Material Price field.

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.

Viewer & Files Properties

The following table lists the properties on the **General Information** tab of the Viewer & Files window; elaborations about some of the properties follow.

Table 20–1 *Viewer & Files window, General Information tab*

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 Redlined Files	Determines whether files with redlines are deleted, depending on the setting of AutoPurge Enabled. Overrides the File Version Keep preference.	No
Purge Historical Reports Unaccessed (in days)	Dictates the number of days that a Historical Report is not accessed before it is automatically purged.	30
Directly Use These Thumbnail Image Types	This setting provides a list of file types (listed as the extension names) that will be directly converted to thumbnails. See " Directly Use These Thumbnail Image Types " on page 4.	bmp, gif, jfif, jpe, jpeg, jpg, and png These are the default image types and the user should not remove or add to these.
CAD Revision BOM Attribute	This field lets the administrator enable a text field in the Documents class, which permits assigning Revision letters (A, B, C, and so on) to CAD modeling BOMs (structured BOMs). The process to set up this field is described in " CAD Revision BOM Attribute " on page 20-5.	—

Table 20–1 (Cont.) Viewer & Files window, General Information tab

Property	Description	Default
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)
Valid URL Prefixes	Defines the list of valid URL prefixes that can be added as URL attachments If the user enters a URL prefix that is not in this list, then that URL is excluded from the URLs added to the Attachment table and an error message is displayed. The list of Valid URL Prefixes applies to the Web Client user interface, Java Client user interface, SDK, and Web Services. You can add and remove URL prefixes from the Valid URL Prefix list as needed.	http:// https:// file: \\\\\\ sftp:// ftp:// ftps:// feed: afp:// gopher:// mailto: news:// nnntp:// telnet:// wais:// mid: cid: www
Control Upload File Types	Allows you to control the file types that can be added as attachments in Agile PLM. Yes – Only file types that are in the File Type list can be added to Agile PLM. No – Any file type can be added to Agile PLM. See "Specifying Supported File Types for AutoVue for Agile" on page 20-5.	No

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 attachment files can be automatically deleted from the Agile File Manager. When files are checked in or checked out, the older versions of the File Folder object or Design object are automatically deleted after the checkout or checkin

routine. The files in those deleted folder versions remain in file vault temporarily, and then they are moved to the purge folder when the AutoPurge task runs. Files are moved to the purge folder only if they are not referenced by another Agile object. See also ["Purging Older Versions of Files"](#) on page 31-11 and ["Purge Folder Version Privilege"](#) on page 17-18.

If **AutoPurge Enabled** is set to Yes, old file 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 20-3 and ["Purge Redlined Files"](#) on page 20-3.

If **AutoPurge Enabled** is set to No, old file versions of attachments are kept on the Agile PLM system.

Important: 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** drop-down 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 want 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 20-2 and ["Purge Redlined Files"](#) on page 20-3.

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 20-2.

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** drop-down list, select No (disabled) or Yes (enabled).
3. When you are finished, click **Save**.

Directly Use These Thumbnail Image Types

This setting provides a list of file types (listed as the extension names) that will be directly converted to thumbnails in Web Client without requiring the use of the view server because the conversion is done directly by the browser and occurs immediately when the file is attached. This setting also is a list of file types that can be used for the Replace function of manually specifying an image file to use for the thumbnail. The administrator can add supported image file types to this list. Be sure to have only one file type (entered in as an extension name) per line.

The default list of file types included in this field are:

- bmp
- gif
- jfif
- jpe
- jpeg
- jpg
- png

Important: When Thumbnail settings are enabled, extra metafiles (cmf) are generated in the vault for assembly file types when viewed for the first time.

For more information regarding Thumbnails, see:

- [Chapter 44, "Administering Thumbnails"](#)
- *Getting Started with Agile PLM*, chapter "Working with Thumbnails"
- ["Configuring a File Manager"](#) on page 31-5
- ["Default Systemwide Preferences"](#) on page 34-1
- ["User Properties Defined"](#) on page 13-8

Note: Thumbnail images display in Web Client only.

Thumbnail generation options

The file types listed in **Directly Use These Thumbnail Image Types** need to also be checked in the **Auto Generate Thumbnail** column of the **File Association** tab in order to be successfully rendered in the browser. It is possible to have no file types listed in **Directly Use These Thumbnail Image Types** and have the file types checked only in the **Auto Generate Thumbnail** column and successfully have those types rendered in the browser, but it takes much longer because it is using the view server.

It is necessary to restart the file server to successfully render these images once the settings have been changed.

See ["Specifying Supported File Types for AutoVue for Agile"](#) on page 20-5.

CAD Revision BOM Attribute

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 drop-down 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**.

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.

File Association tab

This section discusses the properties you can specify in the File Association tab.

Specifying Supported File Types for AutoVue for Agile

In the **File Type** list on the **File Association** tab, you can select the types of files that users can view with AutoVue for Agile. The **File Type** list is also used to determine which file types can be added to Agile PLM as attachments when the **Viewer & Files** property **Control Upload File Types** is set to Yes. See "[Viewer & Files Properties](#)" on page 20-1.

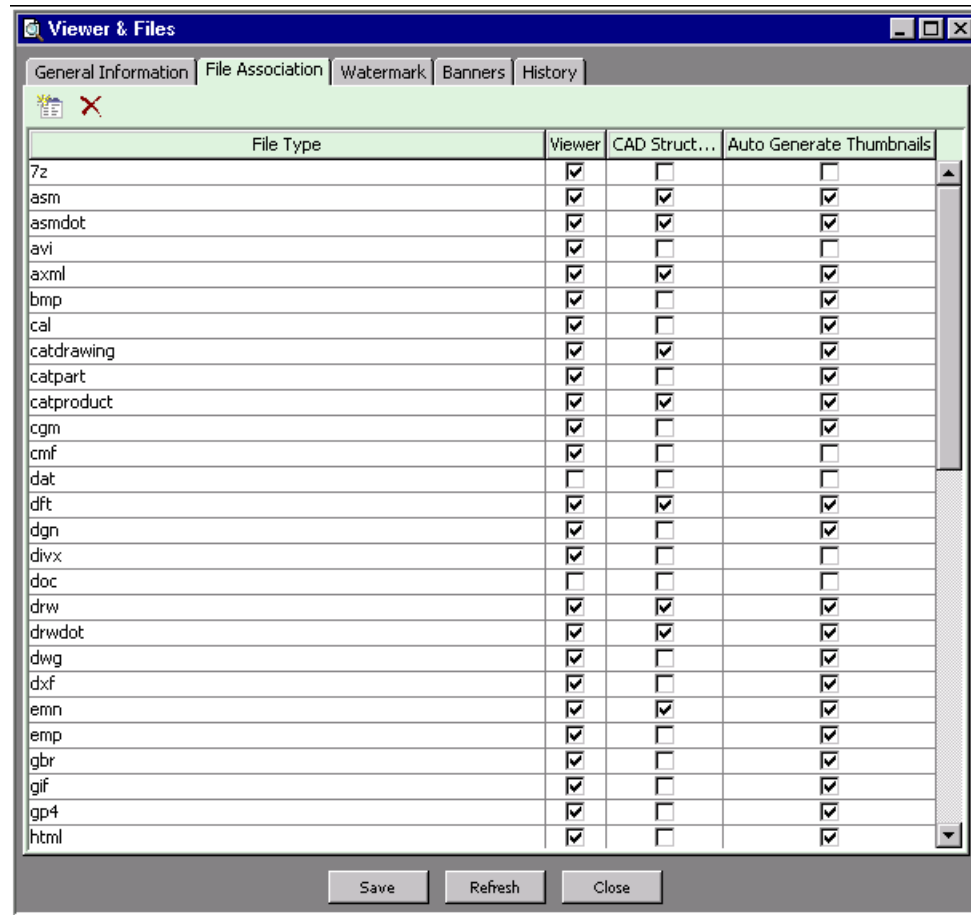
Note: The user must be assigned the ViewFile privilege to view attachments.

For each file type, you can select the following file association settings by selecting the check box in the appropriate column:

- **Viewer**
 - When Viewer is selected, then a view action on any file of this file type causes the file to be displayed in the AutoVue for Agile viewer. If Viewer is not selected, then a view action opens the file in its native application.
 - When Viewer is selected, then AutoVue pre-generates and stores a streaming file for files of this file type when the file attachment is added to Agile PLM.
- **CAD Structure support** – When CAD Structure supported is selected, then that particular file type will have the Viewer render the structure
- **Auto Generate Thumbnails** – When Auto Generate Thumbnails is selected, then AutoVue generates and stores a thumbnail image for that particular file type when the file attachment is added to Agile PLM.

If you do not want to use AutoVue-generated thumbnails, but you do want to pre-generate streaming files, then deselect the check box in the Auto Generate Thumbnails column and select the Viewer column check box for that file type.

Figure 20–1 File Association Tab



For more information regarding Thumbnails, see:

- [Chapter 44, "Administering Thumbnails"](#)
- *Getting Started with Agile PLM*, chapter "Working with Thumbnails"
- ["Configuring a File Manager"](#) on page 31-5
- ["Directly Use These Thumbnail Image Types"](#) on page 20-4
- ["Default Systemwide Preferences"](#) on page 34-1
- ["User Properties Defined"](#) on page 13-8

The "2D" file formats in the following table are automatically listed in the **File Type** list in Administrator. Current customers may also have additional file types listed after upgrading.

Table 20–2 File Types

File extension	File type
BMP	Microsoft bitmap

Table 20–2 (Cont.) File Types

File extension	File type
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
EMN	ECAD
EMP	ECAD
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

AutoVue for Agile is the integration of Oracle's AutoVue visualization tool with Agile PLM. For an updated list of file formats supported by AutoVue, see <http://www.oracle.com/technetwork/documentation/autovue-091442.html>.

File types are listed by extension. The **View** button is enabled by default, but if a user selects an attached file that has an unsupported file name extension, the system will throw an error.

Note: 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 AutoVue for Agile is not supported on those operating systems. For detailed information about using Agile PLM with international operating systems, contact the My Oracle Support website.

To add or delete a file to the Supported File Types list:

1. Go to **System Settings > Viewer & Files > File Association** tab.
2. To delete a file type from the **File Type** list, select that line and click **Delete**.

3. To add a file type to the **File Type** list, click the **New** button, and then enter its name on the 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**.

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 AutoVue for Agile.

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.

Table 20–3 Watermarks tab properties

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 drop-down 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.

Table 20–4 Banner tab properties

Property	Description	Default Text or Setting
Name	Lists all the Agile PLM business classes for selection	[one for each business class]

Table 20–4 (Cont.) Banner tab properties

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.	<i>Item:</i> "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.	<i>Item:</i> "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 drop-down list of variables and attributes (fields that appear in Agile PLM clients). The following table lists and describes the choices.

Table 20–5 Banner and Watermark properties

Variable in drop-down list for property	Default printed value and restriction
Effective Date - Obsolete Date	<i>Effective from: [effective date] to: [obsolete date]</i> 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 <i>[page number]</i> Also specifies the region of an image when a specific region is printed.
Page Number and Page Count	Page <i>[page number]</i> of <i>[total pages]</i> Also specifies the region of an image when a specific region is printed.
Print Date	<i>[print date]</i>
Print User	<i>[user]</i>
Rev of Latest Released Revision	<i>[rev letter of latest released revision]</i> 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	<i>[attribute name].[attribute value]</i> Many selections: <i>Attachments.[value], Change History.[value], Page Two.[value], Title Block.[value], Cover Page.[value], General Info.[value]</i>

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** drop-down list to enable watermark printing.
5. To select watermark text, in the **Attribute Watermark** the drop-down 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 drop-down list. The value of this attribute or variable will appear in the banner.
4. 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 has the capability to send notifications to users, either when the user is required to take action, or to notify the user that various actions have taken place.

Overview of Notifications

With the introduction of the **Event Management** framework, there are now two types of notifications in PLM. The **Notifications** node stores both types:

- *Default notifications* can be modified but only in a limited way; for this reason they are sometimes referred to as *notification templates*.
- *Event-based notifications* are admin-user-created and permit much more flexibility and creativity in how and when notifications are sent by the system.

The default notifications are triggered by the system based on system- or end-user-generated actions that have been captured in the notification templates. Default notifications have an uneditable Object Type property. They cannot be used by Event Subscriptions, that is, unless you perform Save As on the default notification and proceed to configure a Notification mask.

Event-based notifications can be distinguished by their configurable Object Type property. They can be triggered by Event Subscriptions that are configured in the **Event Subscribers** node.

Preliminary Admin Settings for Notifications

It is necessary for the administrator to enable a database setting before *any* notifications are sent. In **Server Settings > Database**, ensure that the setting of the **Notification Enabled** property is Yes. If this property is set to No, PLM does not send notification emails or messages to the users in the system.

An *individual* notification is sent only if it has been enabled by setting its **Enabled** attribute to Yes. Depending on the **Notification Type** property setting for the notification, the notification appears in the user's Inbox, is sent by email, or both. The **Enabled** and **Notification Type** attributes can be set as needed for each notification.

A user can receive notifications with links back to Java Client or Web Client; more explicitly, the User preference Preferred Client (under **User Settings > Users > <any user> > Preferences** tab) determines which client is automatically opened to the object to which the notification's link points. Since Agile users working in the PPM, PCM, and PG&C solutions operate only in Web Client, it is recommended that the Preferred Client be set to Web Client for those users.

To fully configure email notification in Agile PLM Clients, see "[Configuring Web Client Notification](#)" on page 31-1, "[Configuring Java Client Notification](#)" on page 31-2.

Default Notifications

Default notifications are listed in the **System Settings > Notifications** node. Default notifications are not and cannot be associated with any events configured by the administrator in the **Event Management** node; however, a Default notification can be saved to create a new notification that can be associated with an Event Subscription. See ["Creating a Notification using Save As"](#) on page 21-7 for more information.

Attributes of Default Notifications

Table 21–1 *Attributes of Default Notifications*

Default notification attribute	Description
Name	Name of notification; not editable
API Name	API Name is non-editable in Default notifications
Object Type	Object Type is non-editable in Default notifications
Enabled	Yes = the notification is enabled, so it can be sent (by the system). No = the notification is disabled, it cannot be sent.
Priority	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 notification. Only one user can be selected for the From attribute. The defaults are variables: \$AGILE is always present on the drop-down list; \$ORIGINATOR and \$SENDER are often present; on routable objects, the appropriate routing manager variable is present (for example, \$CHANGE ANALYST).
To	To: is always empty on Default notifications.
Notification Type	Select Email, Email and Inbox, or Inbox from the drop-down list.
Subject (and Data)	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 21-7.
Body (and Data)	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 21-7.

\$NOTIFY picks up only the default Notify users from manual routing. In this case, when Change Status is brought about by autopromotion (for example, when a Relationship is triggered), the default Notify users are not picked up. This is a difference between how Default notifications and Event-based notifications process change status.

Event-based Notifications

Event-based (or "admin-created" or "user-defined") notifications are created in the **Notifications** node. A notification created by the administrator has much more

flexibility than the default notifications. Event-based notifications support **Page Three** attributes (if any) for subclass notification.

Event-based notifications are the Handler in those Event Subscriptions that are dedicated to notifications. See ["Event Management"](#) on page 29-1 and ["Handler Types"](#) on page 29-7. For an example of a Notification mask configured into an Event Subscription, see ["Notify when Affected Items Table is Updated"](#) on page 30-10.

Notifications can also be called by the Agile SDK and a Script PX handler. (See ["Invoking Notifications Programmatically"](#) on page 21-6). For an example of generating a notification through the SDK, see ["Notify Create User when Item is Incorporated"](#) on page 30-6.

When a notification is triggered in the application, a Scheduled Notification is tracked in the **History** tab of the object. It shows the triggered Event and Notification and the \$NOTIFY users that may receive the notification.

In an admin-created notification, \$NOTIFY picks up the "Notify" users entered by end-user in the Notify field in routing slips, Signoff dialog box, and Comment dialog box; it also picks up the "check box" users in Signoff dialog box and Comment dialog box.

In addition, if the Default notification is used for Reminders, it picks up the Approvers or Acknowledgers to be reminded; if the Default notification is used for Escalations, it picks up the Escalation persons of the Approvers or Acknowledgers.

To find a list of only Event-based notifications that are created by the administrator go to **System Settings > Event Management > Event Handler Type > Notifications > Where Used** tab.

Note: Unlike Default notifications, admin-created notifications can be deleted. See ["Deleting a Notification"](#) on page 21-6.

Important: For notification-specific Event Subscriptions, the object type of the Event mask must be appropriate for the object type of the Notification mask. Either the notification applies to all objects of the Object Type (subclass), or, the notification is derived from the Object Type (base class and class). For example, if the Notification mask specifies Change Orders (a class), the Event mask must specify the class or ECO (subclass) or any other subclass derived from the Change Order class.

Attributes of Event-based Notifications

General Information Tab Attributes

Table 21–2 *Attributes of Event-based Notifications, General Information tab*

Event-based notification attribute	Description
Name	Name of Notification mask

Table 21–2 (Cont.) Attributes of Event-based Notifications, General Information tab

Event-based notification attribute	Description
API Name	Name of the object that is used by external processes to identify the object. You can specify an API name, but internal consistency is enhanced by accepting the system-generated name once you have specified the Name of the Notification mask. See "API Name" on page 4-1.
Object Type	The object type attribute limits the notification to actions on objects of the type specified. This required field is selected from a drop-down list of Base Class, Class, and Subclass options. The object type selected also dictates the available From options and available attributes (Cover Page, Page One, Page Two, or Page Three) to be added as tags for the Subject and Body fields in the notification. It also dictates some of the variables available in the "To" options (for example, \$CHANGEANALYST). Object Type can be changed in the Create Notification (Mask) dialog for user-defined notifications. Object Type is non-editable once the Notification mask has been created. (See "Important" note just above this table.)
Enabled	Yes = the notification is enabled, so it can be sent (by Event Subscription or even programmatically, i.e., by SDK). No = this notification is disabled, it cannot be sent.
Priority	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 notification. Only one user can be selected for the From attribute. The defaults are variables: \$AGILE is always present on the drop-down list; \$ORIGINATOR and \$SENDER are often present; on routable objects, the appropriate routing manager variable is present (for example, \$CHANGE ANALYST).
To	Select a user from the list who will be listed in the "To:" field and receive the notification. The variable \$NOTIFY is available, in addition to specific recipient users from the Address Book. Note If the object type is a routable object then the available list of recipients will also include workflow users. The list of users may include users that will not receive notifications because of lack of privileges.
Notification Type	Select Email, Email and Inbox, or Inbox from the drop-down 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 21-7.
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 21-7.

Where Used Tab Attributes

Table 21-3 Event-based Notification Attributes, Where Used tab

Event-based notification attribute	Description
Name	Names of Event Subscribers (masks) that point to the notification
Description	Description of Subscriber masks that point to the notification
Enabled	The setting of Enabled for the Subscriber masks
Event	The Event mask that is associated with the Subscriber masks
Event Handler	The current notification's name. This is always the Notification currently opened because the Notification functions as the Handler for the associated Subscriber masks.
Trigger Type	The trigger type for a notification is always Post. See "Trigger Type: Pre and Post" on page 29-22.
Execution Mode	The execution mode for a notification is always Asynchronous. See "Execution Mode: Synchronous or Asynchronous" on page 29-23.
Order	Disabled; the column does not display data because the property does not apply to notifications.
Error Handling Rule	Disabled; the column does not display data because the property does not apply to notifications.

Working with Events-based Notifications

The following tasks apply to Events-based notifications, not Default notifications.

Creating a Notification

This is the procedure to create a Notification mask. It can then be named by a Subscriber mask that binds it to an Event mask to become a complete Events-based notification.

To create a Notification mask:

1. Under **System Settings**, double-click **Notifications**. The Notifications window appears.
2. Click **New**.
3. Enter a name in the **Name** field.
4. Enter a name or click the **AutoNumber** button to generate the required API name.
5. For the required **Object Type** field, choose a Base Class, Class, or Subclass type of object.
6. Click **Next**.
7. Set the **Enabled** field to Yes or No.
8. Set **Priority** to High, Low, or Regular.
9. In the **From** field select from the drop-down list of the available values for the object type selected, such as \$AGILE or \$CHANGEANALYST, depending on Base Class, Class, or Subclass.
10. In the required **To** field select from the Address Book of Users and User Groups who the notification will be sent to.

11. Set the **Notification Type** as Email, Email and Inbox, or Inbox only.
12. To insert a data tag (or data variable) into the **Subject** or **Body** field, click **Add Data Tag**. For more information, see ["Entering Subject and Body Text"](#) on page 21-7.
13. Click **Finish**.

Deleting a Notification

Notification masks can be deleted only if they are not used by Subscribers. Default notifications cannot be deleted; they can be enabled and disabled.

To delete a user-defined notification:

1. Under **System Settings**, double-click **Notifications**. The Notifications window appears.
2. Use the filter to find the specific notification you want to delete.
3. Select the notification and click **Delete**.

You can also double-click the notification and then click **Delete**. By doing so, you can look through the settings and properties to be sure you want to delete the notification.

Note: If you delete a Notification mask that has already sent notifications to users, then the subject of the notifications in the users' inboxes will change to appear as null, reflecting that the notification is deleted.

Invoking Notifications Programmatically

SDK and Scripting enables notifications to be sent out programmatically. A notification invocation uses the following parameters, whose use is explained:

- **SendNotification** – the program module or method used to send out a notification.
- **Notification Name** – the name of the notification.
- **Urgent** – whether the notification is to be flagged as Urgent or not; the value can be True or False.
- **Addressee List** – list of users who may be notified; this set of values is appended to the list of people listed in the "To" field of the notification. This list of Addressees is only picked up if \$NOTIFY is assigned in the "To" field.
- **Comment** – refers to the comment passed to the Comment data tag, if assigned in the notification template.
- **Object** – an object of the type corresponding to that associated with the notification in its definition. For example, an ECO object must be passed to a notification tied to a notification associated with the ECO subclass (it can also be passed to a notification tied to the Change Orders class or Changes base class). This object is used to derive the values of variables used in the notification Subject, Body, and To fields.

For more information about sending notifications using Agile SDK, see Chapter 9, "Subscribing to Agile PLM Objects" in the *Oracle Agile PLM SDK Developer's Guide*.

Working with Default and Event-based Notifications

The following tasks apply to both Default notifications and Events-based notifications.

Editing a Notification

To edit a notification:

1. Under **System Settings**, double-click **Notifications**. The Notifications window appears.
2. Filter the notifications by Name or Object Type.
3. Double-click the name of the notification you want to edit. Its window appears.
4. Edit the attributes in the appropriate manner: select from a drop-down list or enter text. Refer to the table found above.
5. To insert a data tag (or data variable) into the **Subject** or **Body** field, click the **Add Data Tag** button. See "Entering Subject and Body Text" on page 21-7.
6. Click **Save**.

Entering Subject and Body Text

Subject and Body fields are required to be populated. Each Default 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.

During the editing or creation 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.

The available tags are dictated by the object type associated with the 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 drop-down 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.

Creating a Notification using Save As

From existing notifications you can perform a Save As function to create a new notification with a new name and configure the values according to your needs.

Note: All Default notification templates that are not bound to an object type (for example, Transfer Authority, Create, or Modify) and those for Product Cost Management cannot use the Save As feature.

When you create a notification using **Save As**, the object type of the original notification cannot be changed for the new one. The new notification is automatically associated with the object type of the original notification.

This is the only way a Default notification can be recast as a Notification mask and be used as an Event-based notification.

Also, if the source notification is a Default notification, then the **To** field in the new notification is unpopulated and can now be selected.

To create a new notification using Save As:

1. From an open notification click **Save As**.
2. Enter a new name and autogenerate the API Name.
3. On the **General Information** tab enter a To recipient.
4. Click **Save**.

Use the instructions in ["Editing a Notification"](#) on page 21-7 to tailor the new notification as desired.

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, International Spanish, French, Russian, Korean, and Italian 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 (AutoVue) 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.

Table 22–1 Full Text Search Property settings

Property	Editable?	Default	Notes
Stem Searching	Yes	Disabled	Finds variations of a word. From "run" it could find <i>ran</i> , <i>runs</i> , <i>running</i> .
Concept Searching	Yes	Disabled	Finds words that fit the same general concept. From "sports" it could find <i>running</i> , <i>track</i> , <i>basketball</i> , and the like. Important: Concept searching is not supported on Microsoft SQL Server.
Indexing	Yes	Manual	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 22-3.
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:

Table 22–2 Recurrence attributes

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

Table 22–2 (Cont.) Recurrence attributes

Property	Editable?	Default	Notes
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.

Update Content URLs Now Button

Note: For Agile 9.3.2.0, install hotfix 44 to enable **Update Content URLs Now** button on the Java Client Full Text Search window. Update Content URLs Now is a task that must be performed after updating the database to 9.3.2.0.

To update the content URLs:

1. Under **System Settings**, double-click **Full Text Search**. The Full Text Search window appears.
2. Click the **Update Content URLs Now** button.
3. Click **Yes** to confirm that you want to update content URLs now.
4. When the update process is completed a message dialog appears that tells you how many rows have been updated. Click **OK** in the message dialog to close it.

"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 do not 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 chapter explains how to configure the columns in the My Assignments node.

Overview

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 Start Page 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.

Columns

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 **New**. 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 drop-down 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.

Note: Default Columns cannot be removed, they can only be made non-visible by deselecting the check box in the Visible column.

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 the Applied To list includes **UOM**.

The **UOM** node enables 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**, **API 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**.

Table 24–1 Unit of Measure attributes

Unit of Measure Attribute	Description
Name	Name of the unit of measure.
API Name	Unique systemwide identifier for objects and can be autogenerated. You can specify an API name, but internal consistency is enhanced by accepting the system-generated name.
Abbreviation	Standard abbreviation for the unit of measure.
Conversion Factor	Factor used to convert values to the standard unit. (See "Is Standard" 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. Note: Once a unit of measure is set as a standard and compliance related data is created in Agile, it is recommended to not change the standard UOM. Changing the UOM will affect searches and compliance calculations.
Enabled	Whether the unit of measure is enabled. Only enabled units of measure appear to the end-users of Agile PLM clients.

Other System Settings

This chapter explains how to configure other system settings such as company profile and currency exchange rates.

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, corporate currency, and the display name.
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.

Currency exchange rates affect costs in two solutions: Product Portfolio Management and Product Cost Management.

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 25-1.

Currency conversion is not an automatic process. 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

The Dashboard Tab View privilege allows you to configure 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 **Order visible tabs** icon, to change the order in which the tabs display in Web Client. To navigate to a tab, click 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 **New Dashboard Tabs** icon in the Dashboard Management window. In the **Create Dashboard Tab** dialog, enter a Name, API 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 Property in Select Privileges](#)" on page 17-26.

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 the Dashboard Management window, select the tab and click the **Delete Selected Dashboard Tab(s)** icon.

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.

Table 26–1 *Create Dashboard Table, Table Type properties*

Property	Description	Possible Settings
Name	Enter the name of the table	None
API Name	You can specify an API name, but internal consistency is enhanced by accepting the system-generated name.	None
Description	Enter the description of the table	None
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.	None
Visible	To enable in Web Client	Yes/ No

Adding Data to Tables

Double-click the new table, click the **Attributes** tab and click 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 must 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:

Table 26–2 *Optional tab - table fields and attributes*

Property	Description	Possible Settings
Name	Enter a name for the table.	None

Table 26–2 (Cont.) Optional tab - table fields and attributes

Property	Description	Possible Settings
API Name	You can specify an API name, but internal consistency is enhanced by accepting the system-generated name.	None
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.	None
Visible	Select Yes to enable display in Web Client	Yes/ No
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 must 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.

- Specify table fields and attributes as described in the table below.

Table 26–3 Adding Advanced Search to Optional Tabs

Property	Description	Possible Settings
Name	Enter a name for the table.	None
API Name	You can specify an API name, but internal consistency is enhanced by accepting the system-generated name.	None
Description	Enter a description for the table.	(optional)
View List Type	Select Advanced Search.	Chart, Table, Custom, Advanced Search
Dashboard Extension	(Not applicable for Advanced Search.)	Disabled (not applicable for Advanced Search)
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 enables 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 enables 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 > [Optional Tab 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.

Solution-specific Administration

This chapter explains where you can find information on the administration of specific solutions within the Agile PLM suite.

Documentation

User guides for the PLM solutions contain a chapter for the administrator that deals with specific settings and configurations for each solution, and are mandatory reading for each solution purchased by your company.

For instance, every installation of PLM includes the solution called Product Collaboration. In the *Agile PLM Product Collaboration User Guide*, there is a chapter dedicated to the Agile administrator, not the end-user.

The Agile administrator should also become familiar with the end-user documentation as the manuals for end-users contain valuable information that assist the Agile administrator in grasping what the solution is all about and what the user experience incorporates.

Configurable Solutions for Administrator

The solution-specific nodes and sub-nodes are the following:

- **Product Cost Management** node folder
 - Ship To Locations
 - RFQ Terms and Conditions
- **Product Portfolio Management** node folder
 - Schedule Status
 - Cost Status
 - Quality Status
 - Cost Status
 - Quality Status
 - Resource Status
 - Default Role
 - UI Configuration Data
- **Agile Content Service** node folder
 - Subscribers

- Destinations
- Events
- Filters
- Package Services
- Format Library
- **Product Governance & Compliance** node folder
 - Signoff Message
 - Compliance Rollup Scheduling
 - Compliance Rollup Role Setting
 - External Rollup
 - Supplier Declaration Process Extension
 - Specification Mapping

Note: Product Collaboration is not seen as a solution folder, but is also a solution that requires configuration by the Agile administrator.

Reference Objects Management

The Reference Objects Management node includes two subnodes: Applications and Mappings.

- Applications

On this node, you define the external applications that users can search to select Reference Objects to add to the Relationships tabs of Agile PLM business objects.

- Mappings

On this node, you map reference object attributes (Name, Description, Current Status) to the external application object attributes for each reference object subclass. You can also map up to 15 Quickview attributes.

See [Chapter 41, "Administering Reference Objects."](#)

Event Management

Event Management enables Agile PLM customers to automate their business processes across the PLM suite of solutions. The Event Management framework provides the administrator with a flexible alternative to Process Extensions for extending Agile PLM.

Introduction to Event Management

This chapter describes the components of Event Subscriptions and how the administrator creates those components in the **Event Management** nodes. Two other chapters in this manual pertain to this robust new feature of Agile PLM:

- ["Event-based Notifications"](#) on page 21-2 are created in the **Notifications** node.
- ["Scripting and Sample Event Subscriptions"](#) on page 30-1 gives a brief introduction to the scripting capability and sample configured Event Subscriptions.

Also, *Agile PLM SDK Developer's Guide* provides technical documentation of the Event framework for the Agile administrator or assisting programmer. Event Management leverages the Agile SDK just as Process Extensions do, only with much greater flexibility and specificity to PLM business objects and user actions.

Preliminary Configuration

The preliminary configuration required to set up event management is described here.

Access to the Event Management nodes

Ensure that your own User Profile has proper access to all six **Event Management** nodes through the *AppliedTo* property in the Administrator privilege mask.

Global Event control

Once you can access the **Event Management** node folder, still, the Event functions are initially disabled on all 9.3 PLM installations. When the administrator has configured Event Subscriptions and wants to commence their use by the system, Event triggers are enabled by the **Enable Triggering Events** button on the Admin toolbar. Only users with the Administrator privilege mask with the *AppliedTo* of *Global Event Triggers Control* can see and use this button.

Important: It is highly recommended that Event Subscriptions and their various masks are first created and tested on a PLM Test system before introducing them into the Production system. With Agile Configuration Propagation (ACP, see separate manual), fully tested Event Management configurations can easily be transferred from Test to Production systems.

There is extensive control of the layers of Event Management; for more information, see "[Control of Event Components](#)" on page 29-27.

Once initially enabled, Event Management will start automatically when the Agile Application Server is restarted; this step does not need to occur again.

Systemwide Preferences that pertain to Events

Several systemwide Preferences must be set to govern some aspects of Event Management: *Agile Script Log Level*, *Event Maximum Nested Levels Allowed*, and *Event Monitor Log Level*. These are detailed in "[Default Systemwide Preferences](#)" on page 34-1.

Event Management Node Folder

These are the nodes in the **Event Management** node folder and a brief description of the purpose of each node.

Figure 29–1 Event Management Nodes



Events node -

Create and manage Event masks.

Event Handlers node -

Create and manage Handler masks based on "Java PX" and "Script PX" handler types. Notifications, the third handler type, are created and managed in **Notifications** node.

Event Subscribers node -

Create and manage Subscriber masks.

Event Types node -

Library of default Event Types – see, "[Event Types](#)" on page 29-8.

Event Handler Types node -

Library of default Handler Types – see "[Handler Types](#)" on page 29-7.

Event Handler Monitor node -

Review the status of transactions and results, such as messages or errors, from Handler transactions that have been invoked – see "[Event Handler Monitor](#)" on page 29-26.

About Process Extensions and Notifications Nodes

With the incorporation of the Events framework, PLM has two types of Notifications and multiple types of Process Extensions. Note the distinctions and naming conventions below.

Default Notifications and Event-based Notifications

- *Default Notifications* are the "ready-to-use" notification templates in the **Notifications** node. These Notifications are still useful, particularly before you have deployed Event-based notifications.
- *Event-based Notifications* are created in the **Notifications** node. A notification created in PLM 9.3.x has much more flexibility than a default notification. Most Event Subscriptions that are dedicated to notifications have a configured Notification mask for the Handler. See "[Handler Types](#)" on page 29-7.

Custom Process Extensions and Event-based Process Extensions

- *Custom process extensions* (Custom PX) is a general name for PXs created in **Data Settings > Process Extensions** node. These PXs have limited initiation capability, for instance, they can be added to objects' **Actions** menu. It may be preferable to maintain your Custom process extensions until you have developed and tested Java PX Event Subscriptions (outside your Production system).
- *Event-based process extensions* (Event PX) are created in the **Event Management** nodes. "Event PX" is a general term to contrast with "Custom PX", but we will be referring more to the specific kinds of Event-based PXs, namely, *Java PXs* and *Script PXs*.

Anatomy of Event Subscriptions

An *Event Subscription* is a single instance of an "administrator-configured event".

The Event Subscription provides complete instructions for an automation, including what kind of object is to be acted on, what actions will be taken, and what result or outcome will be accomplished by the system.

An Event Subscription, configured and ready to be invoked, consists of...

an **Event mask** – *specifies the conditions under which an automation will be invoked*, includes an Event Type, an Object Type (often but not always), and additional attributes;

and a **Handler mask** or a **Notification mask** – *describes the intended automated result*, a Handler mask is a configured Java PX or a configured Script PX; a Notification mask is a configured Notification;

and a **Subscriber mask** – *binds a Handler to an Event*, a Subscriber names Event and Handler/Notification masks to work in tandem with additional attributes that refine the Event Subscription's behavior;

... and when the Event Subscription is invoked, the configured result is completed by the system.

As end-users perform normal actions in PLM, the default Event Types may be triggered dozens of times a day. However, nothing happens unless one (or more) Event Subscription gives the information to the system about what to do when an event type is triggered.

Note: Be careful how you think of "Events" and "triggered Events". It is the Event Types that are triggered by user actions; but nothing happens unless a proper combination of the three masks are in place.

You cannot create "duplicate" Event masks, that is, there can be only one Event mask that names an Event Type-Object Type combination. However, Event and Handler masks are reusable, that is, they can be named by any number of Subscriber masks to create highly specific Event Subscriptions.

For every Event Subscription that you configure, you must be clear about the object type you want to affect—whether it is a subclass, or a class (and all of its subclasses), or a base class (and all of its "descendant" classes and subclasses).

Note: There are several Event Types that are not specific to object types; this is the first category in the table in ["Event Types"](#) on page 29-8.

So a "Create Object" Event mask for Items base class is triggered for the Parts and Documents classes and, in turn, their children subclasses. A "Create Object" Event mask for Parts class trigger for all subclasses of the Parts class. A "Create Object" Event mask for Part subclass triggers for that subclass only, not for other subclasses in the Parts class.

Mask Names in an Example Event Subscription

When you create the masks, an automatic naming capability provides a name that you can accept or modify; or, you can create your own name. For example, you may prefix mask names with a business process or subclass.

Note: System-provided names follow internal conventions, but the provided name may not be unique and you may need to modify the provided name.

A naming system will be a benefit when you have stored many masks in your Event-node libraries. In any case, choose names that help you see at a glance what their use is.

Here is an example of names for three masks in a possible Event Subscription.

Let's say the administrator builds on the "Create Object" event type to specify "objects from the Capacitor subclass". The name of the Event mask is:

[Create Object Capacitor]

Every Event mask names an Event Type, in this case the Create Object event type. This event type takes an object type (most of them do), so this Event mask specifies Capacitor, a subclass of the Parts class.

Now a Handler mask is created:

[New Part on ECO]

This handler's name gives the idea that a change order will be created with the new part associated with it. Also, you can see that this Handler mask will work with any Event mask that names a subclass of the Parts class, or the Parts class itself.

Finally, a Subscriber mask that names the Event mask and Handler mask is:

[Create Object Capacitor New Part on ECO]

When the system recognizes that a Capacitor was just created, and this Event Subscription is invoked, the Subscriber provides the specific instructions and the system runs the Handler that produces the desired outcome:

"Since a Capacitor was just created, now (automatically) create a new Change Order and add that new object on the ECO."

With this automation, the user does not have to create an ECO and associate it with the part; the user simply creates a part and soon after sees the system-generated ECO containing the part.

The names of the ["Default Event Types"](#) on page 29-9 gives an idea of the range of automated Event Subscriptions in PLM that the administrator can create in the Event Management framework.

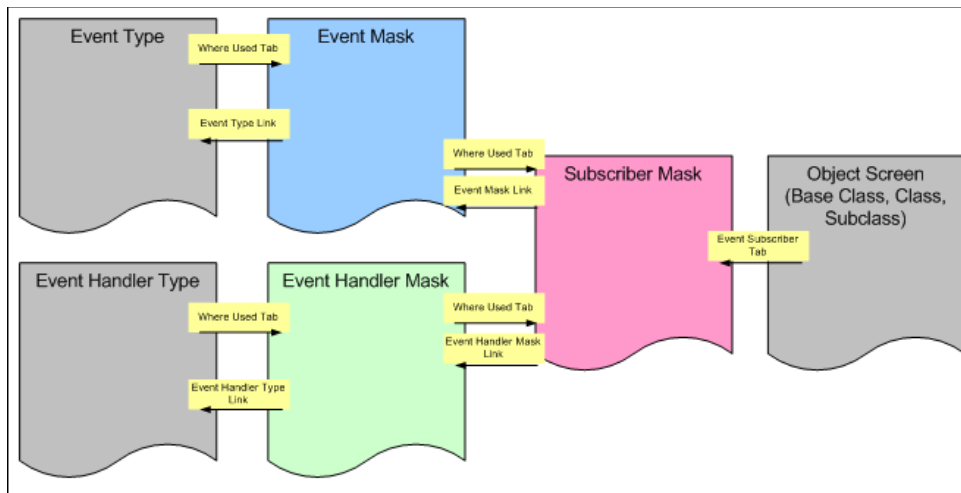
Event Subscription Components are Interconnected

This schematic depicts the connections between individual objects that are created in **Event Management** nodes.

For example, when you open an event type from the **Event Types** node, it has a **Where Used** tab that lists all event masks that use that event type. In the other direction, when you open an event mask from **Events** node, the field "Event Type" is a live link to the named event type object.

The right-most element "Object Screen" represents any object type—each row in **Classes** node—and each and every object type has an **Event Subscribers** tab that lists all event subscribers that are associated to this object type (because a given subscriber names an event mask that names the object type).

Note: For Event-based Notifications, a Notification mask is the Handler. The distinction between Handler mask and Notification mask is simply because they are created in different nodes in Administrator, namely, **Events Handlers** node and **Notifications** node.

Figure 29–2 Connections between individual objects in Event Management nodes

Event Subscribers Tab on All Object Types

The **Event Subscribers** tab has been added to every base class, class, and subclass (default and administrator-created). When you create an Event Subscription that points to an object type, you can open the object type in **Classes** and see all its associated Subscribers under this tab.

This is also the best way to see which Subscribers are active or inactive, by using a drop-down filter with these values:

- **All** – displays both Active and Inactive subscribers, per the other criteria in the filtering process.
- **Active** – a subscriber can be Active if each of the three masks are enabled: the Subscriber mask itself is enabled, the Event mask it names is enabled, and the Handler mask or Notification mask it names is enabled.

In addition, the entire **Event Management** framework must be enabled (through **Admin** toolbar > **Enable Triggering Events** button), and also the associated Event Type, Handler Type (all three), or Notifications (through **Server Settings** > **Database** > **Notification Enabled**).

- **Inactive** – a Subscriber mask may be enabled, but if either the Event mask or Handler mask that it names is disabled (or if base Event Type, Handler Type, or Event Management itself are disabled), the subscriber is considered Inactive; any disabled Subscriber is also Inactive.

The Inactive Reason field is automatically populated in every subscriber displayed by filtering for Inactive. The Inactive Reason field displays these various reasons:

- [Blank, no value] if the Subscriber is active;
- "Event triggering disabled" if the global **Event Management** control is disabled;
- "Event is disabled" if the Event mask is disabled;
- "Event type disabled" if the Event Type is disabled;
- "Handler type disabled" if the Handler Type (Java PX, Script PX, or Notification) is disabled;
- "Event handler disabled" if the Notification itself is disabled, or

- "Notifications are disabled" if global notifications are disabled.

Remember for any filtering of subscribers on a given object type, the hierarchy of base class, class, and subclass is in effect, as follows:

- If you open a base class, you see those handlers available to that base class (through subscribers).
- If you open a class, you see those handlers available to that class and its parent base class (through subscribers).
- If you open a subclass, you see those handlers available to that subclass, its parent class, and its parent base class (through subscribers).

Handler Types

The **Event Handler Types** node contains a library of the available Handler Types. Currently there are three handler types, which are described below; first, this table clarifies some terms used with regard to Event Handler Types.

Table 29–1 Event Handler Types

Category of Handler Type	Handler Type	Kind of Mask	Where created & managed	Comment
PX-based Handler Types	Java PX Script PX	Handler mask	Event Handlers node	When you create a Handler mask, only Java PX and Script PX are in drop-down menu for selection.
Notification-based Handler Type	Notification	Notification mask	Notifications node	"Create" in Notifications node creates a Notification mask. These can be associated with Event and Subscriber masks, or they can be triggered by Java PX or Script PX handler.

The Handler Type dictates the form that the Handler's instructions will take. The Handler mask or Notification mask identify what to invoke when the related Event mask has been invoked.

Process Extension-based Handler Types

There are two types of process extension-based handler types: Java Process Extensions and Script process Extensions.

Java Process Extensions

A Java Process Extension (**Java PX** or **jPX**) is a Java class deployed on the Agile Application Server. The Java PX handler type permits you to trigger compiled Java code. Compared with Custom PXs (created and stored at **Process Extensions** node), the Events framework gives Java PXs much greater potential for your targeted automations.

Java PXs are stored on the Agile Application Server directory structure. Refer to *Agile PLM SDK Developer's Guide* for information about writing Java PX code and deploying PXs.

Script Process Extensions

The Script PX handler type (**Script PX** or **sPX**)—a new form of process extension in Agile PLM—permits you to store code directly in the system database. The script is always visible and can be edited right in the Handler mask.

Note: Groovy is the only scripting language that is supported in Agile PLM 9.3.x.

Scripting is introduced to the administrator in ["Overview to Scripting in Agile PLM"](#) on page 30-1, and there is substantial information for the developer about scripting in *Agile PLM SDK Developer's Guide*.

Notification-based Handler Type

Use the **Notifications** node to create Notification masks, and to manage the Default notifications.

Notification Masks

Admin-created Notification masks work in conjunction with the Event framework.

In an Event Subscription whose outcome is a notification, the Subscriber mask names the Notification mask, rather than a Handler mask (example: ["Notify when Affected Items Table is Updated"](#) on page 30-10). Notification masks also can be triggered by Java PX or Script PX handler (example: ["Notify Create User when Item is Incorporated"](#) on page 30-6).

Details about Handler masks, their attributes, and related business rules are taken up in ["Working in Event Handlers Node"](#) on page 29-17. Notification masks are detailed in ["Notifications"](#) on page 21-1.

Notes on Event Handler Types Node

When you double-click to open a handler type, the **General Information** tab contains just a few attributes: Name, API Name, and Description are all uneditable.

All handler types are enabled by default, and they can be enabled and disabled – see ["When a Handler Type is Disabled"](#) on page 29-28.

On the **Where Used** tab of the handler types:

- Java PX – lists all Handler masks that are based on the Java PX handler type.
- Script PX – lists all Handler masks that are based on the Script PX handler type.
- Notifications – lists all Event-based Notification masks.

The rows in these **Where Used** tables are active links so you can "click" directly to a specific Handler mask.

Event Types

The **Event Types** node lists all of the supported Event Types. The event types are enabled out of the box, and you can disable and re-enable them at any time. See ["Control of Event Components"](#) on page 29-27.

Use the list in **Event Types** node to see what user actions can be the starting point for automated Event Subscriptions. Because the event types name what the system is

"triggering," it may also help to think of the event types as the points in PLM where Handler masks are invoked.

The Name of each event type begins with the action (or verb, for example, Approve) and a target (or noun, for example, Workflow, so, **Approve for Workflow**). If you click the Description column header, the event types sort by the *targets*, alphabetically (so, **Workflow, Approve for**), ascending or descending.

The **Where Used** tab lists all Event masks that are associated with that event type. These rows are active links so you can go directly to a specific Event mask.

Default Event Types

The following table lists all of the event types that are available to create Event masks. The default event types can be categorized in five groups to help understand their scope:

- **Global event types** – do not apply directly to PLM object types
- **Generic Object-based event types** – apply to all PLM object types
- **Specific Object-based event types** – apply to specific PLM object types
- **Workflow-based event types** – apply to all Workflow objects
- **Variant Management specific event types** – apply to Items with part subtype Model

The purpose of each event type is described by what user action will trigger the event type (right column) and by the PLM base class it applies to (center column).

Information about selected event types beyond the scope of this table is presented in ["More about Selected Event Types"](#) on page 29-29.

Global Event Types

Table 29–2 Global Event Types

Event Type	Applies to these PLM base classes	Event type is triggered by this end-user Action (or system action or through SDK)
Scheduled Event	(Global event types do not apply directly to PLM base classes.)	There is a Schedule Event Task that controls the execution of this event type. See "Task Configuration" on page 36-2, Schedule Event Task .
Export Object	(Global event types do not apply directly to PLM base classes.)	Action > Export , or whenever the Export utility is opened.
Extend Tools Menu	(Global event types do not apply directly to PLM base classes.)	Event triggered from the Tools Menu.
Transfer Authority	(Global event types do not apply directly to PLM base classes.)	Transfer Authority is added, removed, or changed.

Generic Object-based Event Types

Table 29–3 Generic Object-based Event Types

Event Type	Applies to these PLM base classes	Event type is triggered by this end-user Action (or system action or through SDK)
Extend Actions Menu	All base classes	Creates link or action, or something that can be activated from a business object's Actions menu.
Create Object	All base classes	An object is created; this does not include objects that are created by the "Save As" method of object creation (see Save As Object).
Delete Object	All base classes	An object is Deleted.
Save As Object	All base classes	An object is created by Actions > Save As , which creates a copy of the current object.
Check In Files	All base classes except Reports; also excludes Automated Transfer Orders class	A File Folder is checked in, either from direct action on the file folder or through an object's Attachments tab. The Replace File action is part of checkin and will not generate an Update Table event on the file folder.
Check Out Files	All base classes except Reports; also excludes Automated Transfer Orders class	A File Folder is checked out, either from direct action on the file folder or through an object's Attachments tab. From Web Client, the Checkout action creates a separate Get File action and event.
Cancel Check Out Files	All base classes except Reports; also excludes Automated Transfer Orders class	A File Folder checkout is canceled, either from direct action on the file folder or through an object's Attachments tab.
Get File	All base classes except Reports; also excludes Automated Transfer Orders class	A user requests to Get a file; this can occur through use of the Get button or if selecting the file name causes a Get action.
Update Relationship	All base classes	A user adds, removes, or directly edits a Relationship on an object's Relationships tab; editing includes either updating the Relationship Rule or editing a field on the row.
Update Table	All base classes; however, certain tables are not supported.	A user modifies a table on a business object, for example, on Items' BOM tab, or Changes' Affected Items tab. See details and exceptions in " Update Table " on page 29-31.
Update Title Block	All base classes	A user directly edits any fields on an object's Page1 , Page2 , or Page3 .

Specific Object-based Event Types

Table 29–4 Specific Object-based Event Types

Event Type	Applies to these PLM base classes	Event type is triggered by this end-user Action (or system action or through SDK)
Change Status for Sourcing Object	Requests For Quote, Sourcing Projects	A user performs Action > Change Status on a PCM-solution object, also from the RFQ tab of Sourcing Projects.

Table 29–4 (Cont.) Specific Object-based Event Types

Event Type	Applies to these PLM base classes	Event type is triggered by this end-user Action (or system action or through SDK)
Compliance Rollup on Object	Items, Mfr.Parts, Part Groups, Declarations	A manual or scheduled rollup commences, e.g., when user performs Action > Calculate Compliance on the object, or when the declaration's workflow changes status (manually or automatically).
Incorporate Item	Items: Parts and Documents	A user selects Action > Item Incorporate .
Unincorporate Item	Items: Parts and Documents	A user selects Action > Item Unincorporate .
Purge Version Files	File Folders	A user selects Action > File Folder Purge .

Workflow Object-based Event Types**Table 29–5 Workflow Object-based Event Types**

Event Type	Applies to these PLM base classes	Event type is triggered by this end-user Action (or system action or through SDK)
Approve for Workflow	Changes, Declarations, Programs, PSRs, QCRs, Transfer Orders, Packages, File Folders	A user approves a workflow
Audit for Workflow	Changes, Declarations, Programs, PSRs, QCRs, Transfer Orders, Packages, File Folders	A user initiates a Status Audit or a Release Audit on a workflow using Actions > Audit Status or Actions > Audit Release . (System audit does not trigger it.)
Change Approvers or Observers for Workflow	Changes, Declarations, Programs, PSRs, QCRs, Transfer Orders, Packages, File Folders	A user adds an Approver/Observer to, or removes Approver/Observer from, the Workflow tab. This event type is not triggered when Approver/Observer is added or removed by using the Routing Slip.
Change Status for Workflow	Changes, Declarations, Programs, PSRs, QCRs, Transfer Orders, Packages, File Folders	A workflow moves from one status to another, either by user action, or by autopromotion, or by forced change due to Relationship rule.
Comment for Workflow	Changes, Declarations, Programs, PSRs, QCRs, Transfer Orders, Packages, File Folders	A user comments on a workflow.
Escalation for Workflow	Changes, Declarations, Programs, PSRs, QCRs, Transfer Orders, Packages, File Folders	A workflow has been in a status awaiting signoff longer than the period defined by Review Escalation Period on the status.

Table 29–5 (Cont.) Workflow Object-based Event Types

Event Type	Applies to these PLM base classes	Event type is triggered by this end-user Action (or system action or through SDK)
Promotion Failure for Workflow	Changes, Declarations, Programs, PSRs, QCRs, Transfer Orders, Packages, File Folders	A system-initiated workflow status promotion fails; promotion failures can occur due to autopromotions or Relationship triggers.
Reject for Workflow	Changes, Declarations, Programs, PSRs, QCRs, Transfer Orders, Packages, File Folders	A user rejects a workflow.
Reminder for Workflow	Changes, Declarations, Programs, PSRs, QCRs, Transfer Orders, Packages, File Folders	A workflow has been in a status awaiting signoff longer than the period defined by Reminder Period on the status.

Variant Management-specific Event Types**Table 29–6 Variant Management-specific Event Types**

Event Type	Applies to these PLM base classes	Event type is triggered by this end-user Action (or system action or through SDK)
Create Variant Instance	Items: part subtype Model	■ User clicks the Create Instance button in the Instance Manager. ■ As a prerequisite, the Derive Variant Model Option BOM event type has to be completed successfully.
Derive Variant Model Option BOM	Items: part subtype Model	■ User clicks the Create Instance button in the Instance Manager.
Update Variant Configuration	Items: part subtype Model	■ User makes modifications (e.g. select, deselect, edit quantities) in the Instance Manager. ■ User clicks the Launch Configurator button on the Instances tab. ■ User clicks the Reset Configuration button in the Instance Manager. ■ User clicks the Copy Configuration button in the Instance Manager.
Validate Variant Configuration	Items: part subtype Model	■ User clicks the Launch Configurator button on the Instances tab. Note This event is only triggered if the Configuration Graph exists. As a prerequisite, the Validate Variant Model Option BOM event type has to be completed successfully. ■ User clicks the Copy Configuration button in the Instance Manager.

Table 29–6 (Cont.) Variant Management-specific Event Types

Event Type	Applies to these PLM base classes	Event type is triggered by this end-user Action (or system action or through SDK)
Validate Variant Instance Selections	Items: part subtype Model	■ User clicks the Launch Configurator button on the Instances tab. ■ User makes modifications (e.g. select, deselect, edit quantity) in the Instance Manager. ■ The Update Variant Configuration event type has to be completed successfully. This applies to all cases, except when clicking the Validate or Create Instance button. ■ User clicks the Validate button in the Instance Manager. ■ User clicks the Create Instance button in the Instance Manager. ■ User clicks the Reset Configuration button in the Instance Manager. ■ User clicks the Copy Configuration in the Instance Manager.
Validate Variant Model Option BOM	Items: part subtype Model	■ User selects the Check Model-Option BOM option from the More drop-down list on the BOM tab of the Model. ■ User clicks the Launch Configurator button on the Instances tab. Note: On startup of the Instance Manager, this event type is triggered once, independent of how many Instances are selected.

Additional information about selected event types is presented in "[More about Selected Event Types](#)" on page 29-29.

Multiple Triggers from Single Action

Generally one user action in a PLM client will trigger one event type; however, there are many actions in PLM that trigger secondary actions, and this fact accounts for how a single user action may trigger more than one event type.

For example, on an item's Actions menu is **Create Change**. When a user selects this action, the Create Object event type is triggered. Meanwhile, when PLM creates the change order associated with the original item, it automatically adds the item to the change's **Affected Items** table, and so the Update Table event type is also triggered.

Here are some additional examples of this:

- **Item > Actions > Create Declaration:** triggers Create Object and Update Table (the **Parts** table on the new Declaration) event types;
- **QCR > Actions > Create Change:** triggers Create Object and Update Relationship (the **Relationships** tab on the new change order) event types;
- **Change object > Actions > Bulk Change:** triggers Update Table (the **Affected Items** table on each new Change, one for each item that is "affected") and Update Table (for each **BOM** or **Manufacturers** table that is redlined on each affected item);
- Checking out a file triggers Checkout File and Get File event types;

- Checking in a file on Agile object (except File Folder) triggers Checkin File and Update Table (Attachments) event types; Modify action if the folder version of the attachment is not the latest; Update Table event type is not triggered if the folder version is set to the latest;
- Action > Create File Folder triggers Create Object and Checkout File event types;
- In Java Client, adding two URLs to a File Folder triggers two events (adding two URLs to any other business object, only one event is triggered; note also that the user can add two URLs to a File Folder in Web Client, only one event is triggered).

Applies to these PLM base classes

Most of the Variant Management actions trigger multiple events.

Table 29–7 Variant Management actions and triggered events

Action	Triggered Events
Check Model Option BOM menu on BOM tab	Validate Variant Model Option BOM
Launch Configurator button on Instances tab	Validate Variant Model Option BOM Validate Variant Configuration Update Variant Configuration Validate Variant Instance Selections ■ Note: Only the Validate Variant Model Option BOM event is triggered when clicking the Launch Configurator button for an Instance with an already derived Instance BOM. When launching the Instance Manager for multiple Instances, the Validate Variant Model Option BOM is triggered only once.
Modifications (e.g. select, deselect, edit quantities) in Instance Manager	Update Variant Configuration Validate Variant Instance Selections
Validate button in Instance Manager	Validate Variant Instance Selections
Create Instance button in Instance Manager	Validate Variant Instance Selections Derive Variant Model Option BOM Create Variant Instance
Save As Draft button in Instance Manager	No event is triggered
Reset Configuration button in Instance Manager	Update Variant Configuration Validate Variant Instance Selections
Copy Configuration button in Instance Manager	Validate Variant Configuration Update Variant Configuration Validate Variant Instance Selections

Global Event Types

The following three event types, when used in an Event mask, work in the background:

- Scheduled Event

- Escalation for Workflow
- Reminder for Workflow

For them, the Handler will be invoked as \$AGILEUSER. By default, this user is a PLM-system user with many roles assigned, *even though it is not available in the Administrator user interface* (for example, ACS uses it). As a result, if the Handler does not have a role assigned, these "invisible" roles that are assigned to \$AGILEUSER are used when running the Handler.

Working in Events Node

The **Events** node is where you create and manage Event masks.

Attributes of Event Masks

The table below lists attributes found on the **General Information** tab in Event masks.

All Event masks must name an Event Type. Most Event masks must name an Object Type (excepting those that name one of the "Global" event types).

Note: System-generated names are a helpful feature when creating Event masks and Subscriber masks. The **Name Helper** button can be used: it concatenates Event Type and Object Type (if you select them before you manually enter a Name) to generate a Name and API Name.

Additional attributes may appear in the Create dialog as certain event types and object types are selected; these are given general mention in this table. "Additional attributes" are also noted by event type in ["More about Selected Event Types"](#) on page 29-29.

The **Where Used** tab lists all Subscriber masks that use the Event mask.

Table 29–8 Attributes of Events Masks

Attribute	Description
Event Type	Event type categorizes what user action will trigger the event. In a configured Event mask, this field becomes uneditable. "Event Type" itself is a live link: click it to go to the event type.
Name	Name of the Event mask. You can specify the name, but it is best if the name includes the event type and object type. If you populate Event Type and Object Type fields first, the Name Helper button produces a system-generated name (see Note above this table).
API Name	Name of the object that is used by external processes use to identify the object. You can specify an API name, but internal consistency is enhanced by accepting the system-generated name once you have specified the Name of the Event mask.
Description	Enter a useful description of the Event mask. Descriptions are searchable.
Enabled	Value is Yes or No.

Table 29–8 (Cont.) Attributes of Events Masks

Attribute	Description
Object Type	Object Type specifies what kind of business object is being acted on (by the user's task) for the event to be triggered. (Exception: when a workflow is selected as the object type of an Event mask, the system uses the object type of the first Matching Criteria property of the workflow. Only object types that support the Event Type may be selected. ■ Note: The Global event types take no object type: Scheduled Event, Export Object, Extend Tools Menu, Transfer Authority. Do not change the Object Type for Variant Management. When creating a new event for Variant Management, the entry for Object Type has to remain with its default entry (= Items).
Workflow	Appears only if a workflow-specific event type is selected. Specify a workflow in the system, or <All> workflows. (<All> is not available for the Change Status for Workflow event type.) If <All> is chosen, Object Type attribute becomes uneditable.
Status - from	Appears if Change Status for Workflow event type is selected; choose one or multiple statuses, or <Any> status.
Status - to	Appears if Change Status for Workflow event type is selected; choose one or multiple statuses, or <Any> status.
Action	Appears and lists appropriate actions for some event types; the list of actions may also be modified by selected object type.
Source Object	Appears only for the Update Relationship event type; names one or multiple object types as source of the relationship ("relating to").
Target Object	Appears only for the Update Relationship event type; names one or multiple object types as target of the relationship ("related from").
Frequency	Appears only for the event type Scheduled Event; the drop-down is a scheduling utility (similar to Frequency property for Scheduled Event under Events of ACS).
Table Name	Appears only for Update Table event type; list of tabs/tables pertains to selected object type.

Checklist for Creating an Event Mask

This is a checklist of questions to ask (of, perhaps, a company Change Analyst or Product Analyst) and have answered when you begin to create Event Subscriptions and, more specifically, when you create any Event mask.

- For my company's installed PLM solutions—and routine tasks performed by Agile users—what are all the PLM Actions that I want to automate the system? Are there any automations needed to supplement actions such as Create, Save As, Update Title Block, Update Table, or by other object behaviors (that are represented by the event types)?
- From a given event type being triggered, what is the result that we want to automatically happen?
- What is the proper object type that this Event mask will apply to? You may need to ask: will the Handler or Notification (the outcome of this automation) apply to a specific subclass or subclasses? Can the handler apply to all the subclasses for a class and/or base class?

- If the event involves a Change, which Workflow(s) does it apply to? Does it apply to all workflows or a specific workflow?
- Are there any Event Type-specific parameters to consider? For example, for the event type Delete Object Action, is the Handler mask going to handle soft deletes or hard deletes?

Creating an Event Mask

To create an Event mask:

1. Open the **Events** node and click the **New** button. The new Event mask object appears.
2. In the Event Type field, use the drop-down arrow to select an event type.
3. In the Object Type field, use the drop-down arrow to select an object type.

It is possible to select a disabled object type, so you must be clear about the status of all object types in your PLM system (the **Classes** node).

If the event type you selected applies to workflows, the Workflow field appears: select the appropriate workflow and then, if Object Type is enabled, an appropriate object type.

Selection of object type may have also caused the Action field to appear, in which case it is required.

Note: If you intend to create an Event mask whose Handler is a notification (sent by email to selected users), the object type of the Event mask must be appropriate for the object type of the Notification mask. For example, if the Notification mask specifies Change Orders (a class), the Event mask must specify the class or ECO (subclass) or any other subclass derived from the Change Order class. For Update Relationship event type, the Notification object type must match the Source object type (or the common object type if there is more than one Source object type) of the Event mask.

4. At the Name field, click the **Name Helper** button to the right; the system uses the event type and object type names to generate a standard name for the Event mask.
5. Accept the auto-generated API Name. You can enter your own API name, but it is recommended to let the system's name stand for naming consistency.
6. Fill in a description.
7. In the Enabled field, accept Yes or select No.

Note: A disabled Event mask cannot be invoked; any Subscriber mask that names an Event mask that is disabled will itself be Inactive.

8. Click **OK** to save the configured Event mask.

Working in Event Handlers Node

The **Event Handlers** node is where you create and manage Handler masks that are based on the Java PX or Script PX handler types.

Here are a couple of tips for quick sorting in the Filter (which becomes more useful as you accumulate Handler and Notification masks).

- In Event Handlers node: if you set **Filter By** to Handler Type and **Match If** to Starts With, in the field you can simply type "j" or "s" for all Handler masks based on Java PX or Script PX handler types, respectively.
- However, in **Event Handlers** node, typing "n" for Notifications does not return the Notification masks; instead, open **Event Handler Types** node, open Notifications handler type, and look under the **Where Used** tab for that list; or, open **Notifications** node itself.

Attributes of Handler Masks

The table below lists attributes found on the **General Information** tab in Handler masks.

The **Where Used** tab on a Handler mask lists all Subscriber masks that point to the Handler mask.

Table 29–9 Attributes of Handler Masks

Attribute	Description
Handler Type	Java PX or Script PX. In a configured Handler mask, this field becomes uneditable; however, "Handler Type" has become a live link: click it to go to the handler type.
Name	Name of the Handler mask: you specify the name (there is no Name Helper as in other parts of these masks). It is recommended that the name describes what the purpose or result of the Handler is.
API Name	Name of the object that is used by external processes to identify the object. You can specify an API name, but internal consistency is enhanced by accepting the system-generated name once you have specified the Name of the Handler mask. See " API Name " on page 4-1.
Description	Enter a description that is useful; descriptions are searchable.
Enabled	Value is Yes or No. See " Control of Event Components " on page 29-27.
Role	Select one or more roles to override the user's default roles when the system executes the Handler. See " Roles in Handler Masks " on page 29-18.
Event Action	Appears if handler type is Java PX. The drop-down list enables the user to pick from a list of Java PXs that have been deployed and are available in the system. Note that the completed Events-based process extension itself is deployed in the same manner that you deploy Custom PXs.
Script	Appears if handler type is Script PX; the script code is pasted into this field; for more information, see " Editing Scripts in the Handler Mask " on page 30-3.

Roles in Handler Masks

The PLM Roles that are specified in Handler masks determine what roles are taken into account by the system when running the Handler.

If no role is specified in the Roles attribute, the Handler is run with the system observing the assigned role(s) of the user who performed the original action (that triggered the Event Type that is named by the Event mask that has been invoked in the current Subscription).

Whereas, If the Roles attribute is populated, the Handler is run with the system observing only the roles specified in that field, which essentially overrides the user's roles for the actions dictated by the Handler.

With no overriding role specified in the Handler mask, an error condition will occur if that user does not have sufficient privileges to perform the action (or some partial action) dictated by the Handler.

In this way, the administrator uses the Roles attribute to guarantee that the Handler can complete all of its specified actions.

Checklist for Creating a Handler Mask

This is a checklist of questions to ask and have answered when you create a Handler mask. These items can also serve as a communication vehicle between yourself and a programmer who is tasked to create Java-based PXs and Groovy script-based process extensions.

- Do I already have configured Event masks? What Event mask am I trying to handle?
- Is this a notification or a process extension? That is, what broad result does the Handler need to accomplish? What kind of instructions must the system have to complete a successful automation?
- If the Handler is to be a notification, has the Notification mask already been created (in **System Settings > Notifications**)?
- If the Handler is to be a process extension, what is the proper handler type for this Handler mask?
- Who is providing the Java code, SDK or Groovy script that will drive this Handler mask?
- Has the Java process extension been developed and tested? Is it properly deployed so the Java PX Handler mask will be able to find it?
- What Roles are needed to run the handler mask? Will the user performing the PLM action always have the right Roles?

Creating a Handler Mask

To create a Handler mask:

1. Open the **Event Handlers** node and click the **New** button. The new Handler mask object appears.
2. In the Event Handler Type field, choose Java PX or Script PX.

Remember that while Notifications are categorically a handler type, Notification masks are created in **Notifications** node and thus are not offered as a choice when creating a Handler mask.

If you select Script PX, the Script field appears with this default Groovy script:

```
import com.agile.agileDSL.ScriptObj.IBaseScriptObj
// add other import statements here
void invokeScript(IBaseScriptObj obj) {
//script body starts here.
}
```

3. In the Name field, enter a name.

4. Accept the auto-generated API Name.
5. In the Role field, enter the roles that will permit the Handler to be run as. If a role is specified here, it overrides the original user's roles when the Handler is executed. See ["Roles in Handler Masks"](#) on page 29-18.
6. Enabled should be set to Yes if you want this Handler mask to be available for Event Subscriptions.
7. Script field: paste in the script for this handler. (You can create the Handler mask without providing a script yet; in this case it is better to set Enabled to No.)
8. Click **Validate Script** to make sure the script will run properly.
9. Click **OK** to save the configured Handler mask.

Working in Event Subscribers Node

The **Event Subscribers** node is where you create and manage Subscriber masks.

The Subscriber binds (by naming) an Event mask and a Handler mask, and provides concrete "How" and "When" information about the automated outcome with such fields as Trigger Type (Pre- or Post), Execution Mode (Synchronous or Asynchronous), Order and Error Handling Rule; all of these are defined later in this section.

You can create more than one Subscriber mask that names a given Event mask. A second Subscriber mask naming the same Event mask would name a different Handler mask. In this case, when this Event fires, more than one Handler will be executed. The Subscriber can specify the order for the system to run the Handlers (Order), and how to handle error cases (Error Handler Rule).

Here are a couple of tips for quick sorting in the Filter (which becomes more useful as you accumulate Handler and Notification masks).

- In **Event Subscribers** node, if you set **Filter By** to Handler Type and **Match If** to Starts With, in the **Value** field you can simply type "j" or "s" to return all Subscribers with a Handler mask based on, respectively, Java PX or Script PX handler types.
- In this node, you also can enter "n" and Subscribers with a Notification mask are returned (unlike in the **Event Handlers** node).

Filtering in Dialogs during Create Subscriber

When you create a subscriber mask, two dialogs offer similar filtering attributes, which are mentioned here for comparison.

- **Event [Mask]** field drop-down arrow brings up the **Select Event [Mask]** dialog, in which you can **Filter By**:
 - Name [of Event masks]
 - Event Type
 - Object Type
- **Event Handler [Mask]** field drop-down arrow brings up the **Select Event Handler [Mask]** dialog, in which you can **Filter By**:
 - Name [of Handler masks or Notification masks]
 - Handler Type
 - Object Type

In this second dialog, if **Filter By** is Handler Type, and **Match If** is Starts With, in the **Value** field this dialog returns the appropriate Handler or Notification masks when you type "j" (Java PX Handler masks), "s" (Script PX Handler masks), or "n" (Notification masks).

It may be said explicitly (as these filters imply) that the selectable Event mask and selectable Handler mask must be compatible. This point may help explain why some Event masks or Handler masks do not appear as you construct the Subscriber mask. Other compatibility concerns come up with Subscriber attributes such as Trigger Type and Execution Mode; they are suggested in the definitions of Subscriber attributes below and in sections after the table.

Attributes of Subscriber Masks

The table below lists attributes found on the **General Information** tab in Subscriber masks.

Subscriber masks also have a **Monitor** tab, which provides a view of the row for the current Subscriber mask from the **"Event Handler Monitor"** on page 29-26.

Table 29–10 Attributes of Subscriber Masks

Attribute	Description
Name	Name of the Subscriber mask: it can be system-generated the Event (mask) and Event Handler (mask) fields are given values
API Name	Name of the object that is used by external processes to identify the object. You can specify an API name, but internal consistency is enhanced by accepting the system-generated name once you have specified the Name of the Subscriber mask. See "API Name" on page 4-1.
Description	Enter a description that is useful; descriptions are searchable
Enabled	Value is Yes or No. See "Control of Event Components" on page 29-27.
Event	Name of Event mask bound by this Subscriber mask: use drop-down arrow to display the Select Event dialog to filter and choose Event mask. In a configured Subscriber mask, although this field remains editable (because you can modify the Subscriber to point to another Event mask), "Event" has become a live link: click it to go to the designated Event mask itself.
Event Type	Appears (uneditable) in the saved Subscriber mask from the selected Event mask
Object Type	Appears (uneditable) in the saved Subscriber mask from the selected Event mask
Event Handler	Name of Handler mask bound by this Subscriber mask: use drop-down arrow to display the Select Event Handler dialog to filter and choose Handler mask. In a configured Subscriber mask, although this field remains editable (because you can modify the Subscriber to point to another Handler mask), "Event Handler" has become a live link: click it to go to the designated Handler mask itself.
Handler Type	Appears (uneditable) in the saved Subscriber mask from the selected Handler mask

Table 29–10 (Cont.) Attributes of Subscriber Masks

Attribute	Description
Trigger Type	Pre – invokes the Handler before the action (described by the event type named in the Event mask) occurs. Post – invokes the Handler after the action (described by the event type named in the Event mask) occurs. "Post" is generally the more applicable setting. See "Trigger Type: Pre and Post" on page 29-22 and "Trigger Types and Execution Mode" on page 29-23. ■ Note: For Variant Management, the Trigger Type for the event Create Variant Instance has to be set to Post. For all other Variant Management events it has to be set to Pre.
Execution Mode	Asynchronous – the transaction completes and the interface control is returned to the user while the Handler is executed in a different thread in the background. Synchronous – the user waits for interface control to return until after the handler completes and then handler is executed in the same thread. If Trigger Type is Pre, Execution Mode can only be Synchronous. See "Execution Mode: Synchronous or Asynchronous" on page 29-23. ■ Note: For Variant Management, the Execution Mode has to be set to 'Synchronous'.
Order	A number (integer) that sets the sequence of synchronous events. Applies to synchronous Subscribers only. See "Order and Execution Mode" on page 29-23.
Error Handling Rule	<i>The basic definitions of Continue and Stop are elaborated below.</i> Continue – If there is an error during the execution of a Handler with synchronous execution mode, the error is ignored. Stop – If there is an error during the execution of a Handler with synchronous execution mode, the original action and the Event Subscription is ceased. <i>When Execution Mode is Synchronous:</i> ■ When the Handler is Pre and Synchronous – Continue permits remaining Handlers and the transaction to continue; Stop ceases remaining handlers and the transaction. ■ When the Handler is Post and Synchronous – Continue permits remaining Handlers to continue; Stop ceases remaining synchronous Handlers. <i>When Execution Mode is Asynchronous:</i> ■ When Execution Mode is Asynchronous, the Error Handling Rule is disabled; the Event Subscription runs, the PLM transaction has already occurred, so the user sees a successful result. Note: For Variant Management, the Error Handling Rule has to be set to 'Stop'.

Trigger Type: Pre and Post

Pre and Post are settings for the Subscriber mask attribute Trigger Type. The familiar prefixes "pre" and "post" are used to mean, respectively, before and after. In

configuring Event Subscriptions, you must choose whether you want the Event Subscription to be run before or after the transaction.

- **Pre(-event)** trigger types signal a point just **before** the system starts the transaction for the PLM action that the user requested. A Subscriber with a Pre trigger type can be used to prepare objects or data for a subsequent, upcoming action; or to validate objects or data.
- **Post(-event)** trigger types signal a point just **after** the system completes transaction for the PLM action that the user requested. A Subscriber with a Post trigger type can be used for notifications, reminders, escalations, or to perform some auditing tasks based on an earlier action (such as tasks accomplished by Pre-event Subscribers); or external-system integration tasks.

Notification masks are handled only by Post-type Event Subscriptions.

This discussion only defines these terms; you may consult the schematic called "Triggering and Processing an Agile PLM Event" in Chapter 24 of *Agile PLM SDK Developer's Guide*.

Execution Mode: Synchronous or Asynchronous

Event handlers can be run either asynchronously or synchronously.

Generally, *asynchronous* means "not occurring at the same time" and *synchronous* means "occurring at the same time".

In Event Management, an asynchronous Handler means the Handler is executed in a separate thread, and the original thread does not wait for the Handler to finish (that is, it is not blocked). A synchronous Handler is executed in the same thread as the initiator, and it waits for the Handler to finish.

Trigger Types and Execution Mode

The choice of the handler's Execution Mode varies based on the choice of Trigger Type:

- Pre-event triggers support only those handlers that can be run synchronously.
- Post-event triggers support handlers that can be run both asynchronously and synchronously.

Notifications are always Post trigger type and Asynchronous execution mode.

Note: Be sure to read the nuances about Pre, Post, and Synchronous in "Error Handling Rule" in the above table.

Order and Execution Mode

For synchronous Subscribers, either pre or post, the Order value determines the sequence of calling handlers.

For example, if there are three Subscriber masks that trigger based on a user creating a part. These could have been triggered because of Event masks that name the object types Items (base class), Parts (class), or Part (subclass).

The system evaluates all three Subscribers together: it sorts first by values for Order, so if you entered 1, 2, and 3, respectively, in these three Subscribers, the system knows which one to act on first, and so on.

If Order has no values or the same value, the system resorts to selecting Subscriber names in alphabetical order to determine the sequence of calling Handlers.

Again, you may consult the schematic called "Triggering and Processing an Agile PLM Event" in Chapter 24 of *Agile PLM SDK Developer's Guide*.

Checklist for Creating a Subscriber Mask

Here are some questions to be answered when you set up a Subscriber mask. The attributes in the Subscriber mask may have been already considered when you set up the Event and Handler masks.

- Do I have all the relevant Subscribers to support my Event masks and Handler masks?
- What Event mask is being named in this Subscriber mask? What is the event type that you are interested in?
- What Handler mask or Notification mask is being named in this Subscriber mask? What Handler do you want invoked when the event type of interest is triggered?
- Which Trigger Type should be used, Pre or Post? Why do you want the Handler to invoke Pre or Post?
- Which Execution Mode should be used, Asynchronous or Synchronous?
- What is the Order in which the Handler mask should be invoked?
- What Error Handling Rule should be used?
- Am I certain that all elements of this Event Subscription are enabled? Can I verify that this Subscriber mask is Active? (See ["Event Subscribers Tab on All Object Types"](#) on page 29-6.)

Creating a Subscriber Mask

System-generated names are a helpful feature when creating Event masks and Subscriber masks. The **Name Helper** button can be used: when you create a Subscriber mask, the system concatenates selected Event mask name and Handler mask name (if you select them before you manually enter a Description, in which case the system uses the Description to generate the name, with a limit of 150 characters).

To create a Subscriber mask:

1. Open the **Event Subscribers** node and click the **New** button. The new Subscriber mask object appears.
2. At the Event field, use the drop-down arrow to display the Select Event dialog.

Use **Filter By** and **Match If** criteria (see ["Filtering in Dialogs during Create Subscriber"](#) on page 29-20) to return Event masks, and select one.

3. At the Event Handler field, use the drop-down arrow to display the Select Event Handler dialog.

Use **Filter By** and **Match If** criteria to return Handler masks or Notification masks, and select one.

Note: If you are creating an Event Subscription whose outcome is a notification (sent by email to selected users), the object type of the Event mask must be the same as the object type of the Notification mask. This is a good time to verify that this condition is met by the Event mask (designated in step 2) and the Notification mask (designated in this step).

4. At Name field, click the **Name Helper** button to the right; the system uses the Event mask and Handler mask names to generate a standard name, and the API Name. If the system-generated name is not sufficient, you may change it.
5. A new Subscriber mask is enabled by default; you can set Enabled field to No, but of course it will not run the Subscription until it is enabled.
6. At Trigger Type field, select Pre or Post.
7. At Execution Mode field, select Asynchronous or Synchronous.
If Trigger Type is Post, Execution Mode field is automatically set to Asynchronous.
Post and Asynchronous are the correct settings for notification-specific Event Subscriptions.
8. If appropriate, at Order field, give an order number.
9. Similarly, if an Error Handling Rule is required, select one.
10. Click **OK** to save the configured Subscriber mask.

Sample Event Subscriptions

The chapter "[Scripting and Sample Event Subscriptions](#)" on page 30-1 introduces scripting for the administrator and presents five sample Event Subscriptions, including the script, as appropriate.

- "[Update Item Description](#)" on page 30-5.
This Event Subscription updates an item's Description when a user updates the **Title Block** of any business object from one of all the Parts-class subclasses.
- "[Notify Create User when Item is Incorporated](#)" on page 30-6.
This Event Subscription creates a notification and sends it to the user who created that part or document when an item—an instance of any subclass in the Parts or Documents subclass, and therefore of the Items base class—is incorporated. Note that this notification is generated by instructions from a script (a Script PX handler), rather than a Notification mask created by the administrator (as in last example below).
- "[Set Change Analyst](#)" on page 30-7 when ECO changes status
This Event Subscription automatically sets the Change Analyst when an ECO changes status to Submitted.
- "[Add Document to New Part](#)" on page 30-8.
This Event Subscription automatically creates a Document and adds it to the Assembly BOM any time a part is created.
- "[Notify when Affected Items Table is Updated](#)" on page 30-10.
This Event Subscription automatically sends a notification (created in **Notifications** node) any time the **Affected Items** table of a Change is updated.

Monitoring Events

The **Event Management** framework provides several means to monitoring handlers and subscribers, or troubleshooting problems with triggered events:

- **Event Handler Monitor** node is a monitor of event activities; it is detailed below;
- An Event-specific log file; see "[Event Log File](#)" on page 29-27.

- Runtime error messages are presented in an error dialog; and,
- Execution of Java PX, Script, or Notification is logged on the object's **History** tab.

Event Handler Monitor

The **Event Handler Monitor** keeps track of which Handlers have been run as a result of events being triggered. The administrator can see how many handlers have been invoked and how many are still running. For each Handler, the administrator can see when it was invoked, what Event mask was involved, the Handler's current status, when it finished, explicit return messages from the Handler, or exceptions if something is wrong.

The systemwide Preference **Event Handler Logging** can be set to log all invoked Handlers (*All*), to log only errors (*Error*), or turned off (*Off*).

When you open **Event Handler Monitor** node, use the filter bar (table search) to return existing event masks. The **Filter By** attributes in the **Event Handler Monitor** node are:

- Event [that is, name of Event mask]
- Event Handler [that is, name of Handler mask or Notification mask]
- Event Subscriber [that is, name of Subscriber mask]
- Status
- Object

Attributes of Event Handler Monitor

This table defines the Event Handler Monitor attributes. Note that each Subscriber mask has a monitor view that shows essentially the same information, only for Handlers named by that Subscriber.

Table 29–11 Attributes of Event Handler Monitor

Attribute	Definition
Event Type	The event type of the triggered Event mask
Event	Name of the Event mask
Handler Type	The handler type of the designated Handler mask
Event Handler	Name of the Handler mask
Event Subscriber	Name of the Subscriber mask
Trigger Type	Whether the Event Subscription is to be run before or after the transaction
Execution Mode	Whether the Handler is to be run synchronously or asynchronously
Object	The specific business object on which the Event was triggered
Start Time	When the Handler begins to run, displayed in the user's Time Zone
Stop Time	When the Handler has finished running, displayed in the user's Time Zone
Owner	The end-user whose action triggered the Event

Table 29–11 (Cont.) Attributes of Event Handler Monitor

Attribute	Definition
Status	These are the values for Status and what they mean: Running – handler is in progress Completed – handler has finished Failed – handler did not finish Queued – waiting to be run, only applies to asynchronous handlers Unknown – handler failed but the reason is unknown Submit for Notification – status for Notification handler
Message	The result message that is returned by the handler mask
Thread ID	ID of thread for which the Handler runs
Event Count	Tracks the level of "nested" events, that is, events triggered by an event (not a user's action). The allowed maximum of nested events is defined in the systemwide preference "Event Maximum Nested Levels Allowed".

Event Log File

In addition to the Event Handler Monitor, Agile PLM also provides an Event Log file, **SOAEvent.log**. It records all event-related activities occurring in the application.

This log file is configured in **Log.xml**, which is established at Install time. The "log level" can be configured from log.xml. Like other Agile log files, SOAEvent.log resides on the File Server.

Log.xml is found in <AgileInstallFolder> \ AgileDomain \ config

Object History Tab

A business object's **History** tab will indicate such information as: in the Action column, what user-defined action called the process extension; in the Details column, what the Handler name is and any returned message (if an event was triggered on the object). Scheduled Notification is also tracked in an object's **History** tab.

Control of Event Components

The following subsections specify the "stop controls" in **Event Management** nodes.

In any given Event Management node, multiple rows can be selected and disabled or enabled with one click. The details that follow all come with an implicit warning to be careful about what you are disabling or, for that matter, enabling.

Note: It is highly recommended that Event Subscriptions and their various masks are first created and tested on a PLM Test system before introducing them into the Production system. With Agile Configuration Propagation (ACP, see separate manual), fully tested Event Management configurations can easily be transferred from Test to Production systems.

Global Event Control

The Admin toolbar has a button called **Disable Triggering Events**. When it is clicked (and you respond to the prompt), no Events are triggered from that point on, until the same button—which changed to **Enable Triggering Events**—is clicked. At that point, event triggering resumes.

The **Disable Triggering Events** button is, like the other buttons on the Admin toolbar, enabled only for those users who have been assigned the Administrator privilege mask with the AppliedTo of *Global Event Triggers Control*.

When Triggering is disabled, all currently running transactions will be completed, but no new events are triggered. The button only disables triggering, that is, it does not impact administrator configuration of events.

Note: The **Disable/Enable Triggering Events** button creates a persistent setting: on startup, the system begins with this setting in the mode used when the server was stopped.

Any indirect changes in the setting of this button—which includes changes caused by switching database, or being enabled/disabled by another administrator—does not take effect until logout and log back in to Java Client.

When an Event Type is Disabled

If you disable an Event Type, the system does not change the Enabled property of the Event masks that use that event type; however, as a result, each and every Event mask of the disabled event type is effectively inactive—which renders inactive any Subscriber that names it.

So with one click you could effectively "shut down" all *Get File*-based events, for example.

You can still create Event masks of that event type while it is disabled.

If you re-enable that event type (by selecting its row and clicking the **Enable** button), the system resumes triggering for that event type. Subscribers that name such Event masks may be active again.

When a Handler Type is Disabled

If you disable a handler type, the system does not change the Enabled property of any Handler masks that use that handler type; however, each and every Handler mask of the disabled handler type is effectively inactive—which will render inactive any Subscriber that names that Handler.

By disabling any handler type, you are therefore effectively preventing the execution of the Handler with that handler type. So you could effectively "shut down" all *Java PX*-based events, or all *Script PX*-based events, or all *Notification*-based events with one click.

You can still create Handler masks of that handler type while it is disabled; they simply will not be executed.

If you re-enable that handler type (by selecting the row and clicking the **Enable** button), the system resumes responding to all Handler masks based on the handler type. Subscribers that name such Handlers may be active again.

When an Event Mask is Disabled

If you disable an Event mask, Subscribers that name such Event masks are then inactive.

You can still modify a disabled Event mask; it simply will not respond when invoked.

If you re-enable that Event mask, the system resumes responding to it. Subscribers that name such Event masks may be active again.

When a Handler Mask is Disabled

If you disable a Handler mask, all Subscribers that name that Handler are then inactive.

You can still modify a disabled Handler mask.

If you re-enable that Handler mask, the system resumes responding to it. Subscribers that name that Handler may be active again.

When a Subscriber Mask is Disabled

If you disable a Subscriber mask, that Subscriber mask is immediately inactive and cannot be executed.

You can still modify a disabled Subscriber mask.

If you re-enable that Subscriber mask, the system resumes responding to it; and the Subscriber mask is active.

More about Selected Event Types

This section adds information about selected event types that is not captured in the table in "[Default Event Types](#)" on page 29-9.

More about Selected Global Event Types

Extend Tools Menu

Extend Tools Menu event type is a direct parallel to the existing capability for legacy PXs to appear in the client's **Tools** menu. Use of this event type will place the Event mask in the **Tools** menu.

There is no relevance to Pre and Post conditions, so this event type only triggers on Post.

The event mask's Name is what appears in the **Tools** menu. Note that the listing of PXs in the **Tools** menu is alphabetical, with legacy PXs and new event mask Names sorted together.

Scheduled Event

Scheduled Event enables the execution of any Event Subscription at a time you select.

All standard fields in event masks are available. Selecting Scheduled Event adds the **Frequency** field, similar to Scheduled Event in ACS with the same settings. Object Type is Not Applicable.

Only Post event is possible for this event type.

The timestamp (Time that is displayed) is in GMT time zone.

More about Selected Generic Object-based Event Types

Extend Actions Menu

Extend Actions Menu event type is a direct parallel to the existing capability for legacy PXs to appear in an object's **Actions** menu. Use of this event type will place the Event mask in the correct object's **Actions** menu.

There is no relevance to Pre and Post conditions, so this event type only triggers on Post.

The event mask's Name is what appears in the **Actions** menu.

Create Object

Besides the **Create** menu in Web Client, there are several other ways to initiate object creation: through the Actions shortcuts (as in an Item > **Actions** > **Create Change**); through a Table action; through the Agile SDK; or through Agile Web Services.

Use of Save As to create objects is covered by a separate event type.

Note: When a user creates a Project by means of Create Program from Template action, the Save As Object event type is triggered, not Create Object event type.

Entering Required Fields during the "Create" process is not considered an "Update" action, and so does not trigger the Update Title Block event type.

Delete Object

The "Delete" action occurs in Java Client through the **Delete** button or, in Web Client, by **Actions** > **Delete**. This action can also be called by SDK or Web Services.

When an object is first deleted, it is recognized as an Initial, or "soft", delete. The object is not yet removed from the database and can be retrieved through Recycle Bin searches. After opening the object from a Recycle Bin search, the user can select Delete again to trigger a final delete ("hard" delete).

Additional Attributes

- **Delete Type** – Soft, Hard

For an Agile business object that does not support hard delete, there is no risk in selecting Hard since the event itself will never trigger.

RFQs class supports only Hard delete. RFQ Responses class does not support either type of delete.

Get File

The Get File event type is triggered in the following cases:

- on a business object's **Attachments** table, user hits **Get** button
- on a business object's **Attachments** table, user clicks a file name link:
 - if the file is a viewable file, Agile Viewer is launched; no event type is triggered.
 - If the file is not a viewable file, the system performs the Get File action and the Get File event type is triggered; in general, from Java Client the Get File event

type is triggered on File Folder objects, while from Web Client it is triggered on business objects.

Also, in Java Client, the number of Get File triggers depends on whether the "Download the files in one ZIP file" option is selected or not: if selected, one Get File trigger fires; if this option is not selected, multiple Get File triggers are fired.

Update Relationship

The Update Relationship event type is triggered whenever a Relationship is added, removed, or directly edited on a business object's **Relationships** tab. Editing can include editing any field on the row, including the Relationship Rule.

The "Relationship" use case is treated as a discrete event type (compared to Update Table) because the target object is significant, that is, any PLM object can be in Relationship to any other PLM object.

This event type is not triggered due simply to the Relationship Rule being met. For example, let the rule for an ECO be: set an ECR to Closed status when the ECO moves to its Implemented status; so, when the ECO moves to Implemented, the condition of the rule is met, and Agile PLM attempts to move the ECR to Closed. If the ECR is moved to Closed, then the Change Status event type is triggered; whereas, if the move to Closed fails, then the Promotion Failure for Workflow event type is triggered.

Additional Attributes

- **Source Object Type** – select from list of object types that can trigger this event type when a user modifies the Relationships tab.
- **Target Object Type** – select from list of object types that can be updated as a result of the Relationships tab update.

Note: To set up a Subscriber mask for a Notification handler when the Event mask is based on Update Relationship event type, the object type of Source Object Type and the object type of the Notification mask must match. If multiple Source object types under the same class hierarchy are selected, the Update Relationship-based Event mask can be bound to a Notification mask whose object type is common among all selected Source object types.

Update Table

Not all tabs of all objects support the Update Table event type.

- **Inclusions**
 - Update Table event type captures user-initiated object table edits. In general, this includes Items > **BOM** table, Changes > **Affected Items** table, **Attachments** table, and so forth.
 - Mass Update from a file folder object causes Update Table to be called for the relevant actions. Different events are triggered for each object's **Attachments** tab.
 - A Changes > **Redline** table for **BOM**, **Manufacturers**, or **Attachments** triggers an event on the Item, not on any Changes table.
 - For PCM-specific, PPM-specific, or "Common Services" objects.
 - * Supported in **Attachments** only.
- **Exclusions**

- The **Relationships** table warrants its own event type, as noted above.
- In general, Update Table event type excludes those kinds of tables that are Read Only, for example, all **Where Used** and all **History** tables.
- Secondary table updates are also excluded, for instance, **Changes** and **Quality** tables, because the primary action is taking place elsewhere.
- Modifications to the **BOM** and **Manufacturers** tables do not trigger an update when an ECO is released – the trigger is used on the Changes > **Redline** tables or on **Change Status**.

Additional Attribute

- **Table** – This multilist field contains all relevant Tables that are valid for the object and that are enabled for Events; tables are listed once they are implemented for Events. All implemented tables display for the object, even if they are not made Visible for users within Administrator.

There is no <All> table action. As a multilist field, customers can select multiple values.

Update Title Block

The Update Title Block event type is triggered when a user directly edits any fields on an object's **Page One** (that is, **Cover Page**, **General Information**, or **Title Block**), **Page Two**, or **Page Three**. It does not trigger based on system-written values, for example, releasing a Change Order to update Lifecycle Phase.

The new Attribute Change Management feature of Change Orders and Manufacturing Orders are treated consistently with a **BOM** or **AML** update. Update Title Block event type is invoked only because of direct data entry, not because the Change was released with Attribute Change Management.

Redlining the **Title Block** on a Change Order or Manufacturer Order will trigger the Update Title Block event on the Item, not on the Change. A property of the Event Context Object indicates whether the update is occurring as a Redline; see *Agile PLM SDK Developer's Guide*.

LDAP updates do not invoke the Update Title Block event type.

More about Selected Specific Object-based Event Types

Change Status for Sourcing Object

The PCM solution does not use the standard Agile workflow. Change Status for Sourcing Object event type captures various changes to the statuses of PCM objects.

Additional Attributes

- **Action** – In general, this is the list of Lifecycle Phases for PCM Objects.
 - List for Requests for Quote
 - List for Sourcing Projects

More about Workflow-based Event Types

When a workflow is created by the administrator, the only object type that can be chosen is a base class. Events are designed to be more definable than that; the system therefore uses the workflow's *Matching Criteria* property.

For all of the Workflow-based event types, the *Workflow* property is added to the Event mask. This property follows these rules:

- For all but Change Status for Workflow event type, the *Workflow* value can be <All>; when <All> is selected, *Object Type* property is disabled.
- When, however, a class-based workflow is chosen, if that workflow's *Matching Criteria* property has one value, the system uses that value as the *Object Type* of the Event mask.
- If the workflow's *Matching Criteria* property has multiple values, the system uses them to provide a drop-down list from which the administrator selects the *Object Type* for the Event mask.

Approve for Workflow

Additional Attribute

Workflow – populating this property and *Object Type* property observes the rules stated at start of this section.

Audit for Workflow

Besides a user starting a Status Audit or a Release Audit, the Audit for Workflow event type can be initiated through SDK or Web Services. (For more information, see *Agile PLM SDK Developer's Guide*.) System-generated audits that occur during status changes do not trigger this event. Any failure information is included in the Event Context Object; see *Agile PLM SDK Developer's Guide*.

Additional Attributes

- **Type** – Status (audit), Release (audit)
- **Workflow** – populating this property and *Object Type* property observes the rules stated at start of this section.

Change Reviewers for Workflow

There is no "affected status" for this event type.

Additional Attributes

- **Workflow** – populating this property and *Object Type* property observes the rules stated at start of this section
- **Action** – Add Approver or Observer, or, Remove Approver or Observer

Change Status for Workflow

Besides a Change Status in a workflow taking place because of user action, this event type recognizes Change Status in these cases: autopromotion within the server; when a Relationship Rule is matched which forces a Change Status; when "If Rejected, Set Status To" status property causes a status change. This event type triggers whenever a workflow moves from one status to another.

The Pre-event is before the object exits the "From" status. The Post-event is after the object arrives in the "To" status. This event type is structured in this way because there is no valid condition between statuses – the Change Status transaction is a "black box" to the programmer.

Additional Attributes

- **Workflow** – value cannot be <All> or blank; there is a single list of valid workflows for the selected object. Once a workflow is chosen, populating *Object Type* property observes the rules stated at start of this section.
- **Status – From** – list of statuses from the selected workflow; <Any> is valid and indicates any status
- **Status – To** – list of statuses from the selected workflow; <Any> is valid and indicates any status

Comment for Workflow

Additional Attribute

Workflow – populating this property and *Object Type* property observes the rules stated at start of this section.

Escalation for Workflow

Since this event type is predicated on a system action that must complete (regarding the status property Review Escalation Period), the Pre-event is not available, so Trigger Type is Post only.

Additional Attribute

- **Workflow** – populating this property and *Object Type* property observes the rules stated at start of this section.

Promotion Failure for Workflow

Since this is a system action which must complete, the Pre-event is not available, so Trigger Type is Post only.

Additional Attribute

- **Workflow** – populating this property and *Object Type* property observes the rules stated at start of this section.

Reject for Workflow

Additional Attribute

- **Workflow** – populating this property and *Object Type* property observes the rules stated at start of this section.

Reminder for Workflow

Since this event type is predicated on a system action that must complete (regarding the status property Reminder Period), the Pre-event is not available, so Trigger Type is Post only.

Additional Attribute

- **Workflow** – populating this property and *Object Type* property observes the rules stated at start of this section.

More about Variant Management Event Types

There are no "Pre" or "Post" trigger types for Variant Management event types. Once enabled, Variant Management event types replace the system behavior instead of extending it.

Variant Management events are different than other events in the system. They act differently to allow customers to replace the default system logic with their own logic in managing Model Option BOMs.

Create Variant Instance

The Create Variant Instance is triggered upon clicking the **Create Instance** button and after successfully completing the Validate Variant Instance Selection and the Derive Variant Model Option BOM event types.

The event handler creates the derived Instance BOM.

Derive Variant Model Option BOM

The Derive Variant Model Option BOM is triggered when the user clicks the **Create Instance** button in the Instance Manager and after the successful processing of the Validate Variant Instance Selection event type.

The event handler creates the logical structure of the Instance BOM without actually creating new items or changing the BOM tab of an item.

Update Variant Configuration

The Update Variant Configuration event type is triggered for every user modification of a line item, for modifications of quantities or selecting/deselecting check boxes in the Instance Manager, and for preselections (e.g. mandatory items) when starting the Instance Manager. It is also triggered when pressing the **Copy Configuration** button.

The event handler adds or removes configuration options and runs propagations and pre-selections.

Validate Variant Configuration

The Validate Variant Configuration event type is triggered once when opening the Instance Manager for an Instance with Configuration Graph, and after the successful processing of the Validate Variant Model Option BOM event type. This event type is not triggered for preselections (e.g. mandatory items) or if no Configuration Graph is available.

This event type is also triggered when clicking the **Copy Configuration** or **Reset Configuration** button in the Instance Manager.

The event handler checks the consistency of the Configuration Graph and the Model Option BOM.

Validate Variant Instance Selection

The Validate Variant Instance Selections event type is triggered once:

- During the launch of the Instance Manager.
- Modifying a line item after the successful processing of the Update Variant Configuration event type.
- Clicking the **Validate** button in the Instance Manager.
- Clicking the **Create Instance** button in the Instance Manager.
- Clicking the **Reset Configuration** button in the Instance Manager.
- Clicking the **Copy Configuration** button in the Instance Manager.

The event handler checks validation rules for the configuration, e.g. minimum/maximum violations, or if an Option class has valid child options.

Validate Variant Model Option BOM

The Validate Variant Model Option BOM event type is triggered once when selecting the **Check Model Option BOM** menu of the BOM tab of a Model, or when starting the Instance Manager.

The event handler checks validation rules on the Model Option BOM, e.g. if the minimum quantity value is smaller/equal to the maximum quantity value, or if an Option Class has valid child options.

This chapter provides an introduction to the Scripting capability, which permits scripted instructions of any length and complexity in Event Handlers.

Overview to Scripting in Agile PLM

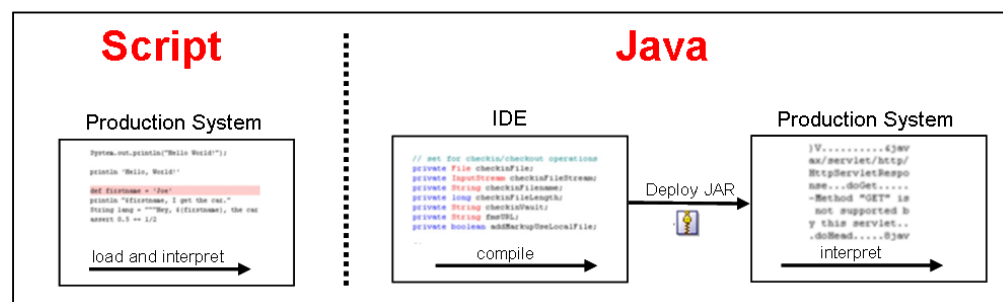
The scripting capability is fully embedded in the **Event Management** framework, with a server-side scripting engine that runs inside the PLM server (Agile Application Server). The script code is stored in a Large Character field in the database. You have access to the Script APIs and the Agile SDK, so you can write SDK programs.

The use of the Agile SDK is a key aspect to exploiting the potential of automated Events. The SDK programmer will find technical information about PLM Events in the *Agile PLM SDK Developer's Guide*.

The sample Event Subscriptions later in this chapter are models for the administrator's understanding of configured Event Subscriptions; they can help a non-programming administrator become familiar with scripting in Groovy (however, the samples are not specific "tutorials" in script-writing). While it is not necessary that the Agile-system administrator be able to write scripts for Handlers, if you do have the assistance of a programmer, you must be able to describe to that person what you want to achieve with the Event Management framework in Agile PLM.

The source code should be available in the production system at runtime, so script code is delivered in plain text, not in object code.

Figure 30–1 Scripting in Agile PLM



Using Groovy Scripting Language

To contribute to Script PX Handler masks, the script-writer must know how to write scripts in Groovy, how to use the Script API, and how to use Agile Java SDK.

Ideally, the contributing programmer must understand the basics of Event Subscriptions and Handler masks. (A programmer who has not read the previous chapter, "Event Management", should start with ["Handler Types"](#) on page 29-7. and ["Working in Event Handlers Node"](#) on page 29-17).

A scripting language is an excellent means to write user-readable and user-modifiable programs that perform simple operations and control the execution of other programs.

Groovy is a dynamic language for the Java platform. Its many features are inspired by languages such as Python, Ruby, and Smalltalk, making them available to Java developers using a Java-like syntax. With Groovy's simplified syntax, your code becomes easy to read and maintain.

These and other factors led to the selection of Groovy as the supported scripting language for the Agile PLM Event Management framework. Groovy is the only scripting language that is supported in Agile PLM 9.3.x.

There are many resources for learning Groovy, both in print and electronic media.

Choosing Script-based Handlers

Scripts are normally dynamically typed (type checked at runtime) instead of statically typed (type checked while compiling). You should use or specify Script-based Handlers over Java-based Handlers in these cases:

- whenever there is a premium on user- (that is, administrator)-readable programs,
- cases where the business logic will need to be updated without explicit compiling or deploying,
- and especially for rapid prototyping of business logic; once validated, you may want to convert a Script PX to Java PX for better performance.

Steps to Develop or Update Handler Masks

The steps that are needed to develop or update Handler masks is another factor to consider.

To develop a Script PX Handler Mask:

1. Define requirements (see Checklists below).
2. Write Groovy script.
3. Associate completed Script PX Handler mask into an Event Subscription.
4. Test the Handler.

To develop a Java PX Handler Mask:

1. Define requirements (see Checklists below).
2. Write Java code.
3. Compile code and test PX.
4. Deploy PX on Agile Application Server.
5. Associate completed Java PX Handler mask into an Event Subscription.

To update a Script PX Handler Mask:

1. Revise the Groovy script.

To update a Java PX Handler Mask:

1. Update the Java process extension.
2. Compile code and test PX.
3. Deploy revised PX on Agile Application Server.

Editing Scripts in the Handler Mask

A Handler mask based on the Script PX handler type is an effective script editor.

On the **General Information** tab of a Handler mask, you can copy-and-paste your script for direct editing in Administrator.

Some editing features are available, particularly the **Validate Script** button, which performs a syntax check of script code, such as proper syntax with parentheses, "Equal" signs, and simple text errors.

The **Where Used** tab shows all Subscriber masks that use this script-based Handler mask.

The **History** tab displays the editing history of the script, such as its creation and instances of modification.

Logging of Scripts

There are several different types of logging of scripts, which are activated and logged differently.

- **Systems Logging**
 - The systemwide Preference "Agile Script Log Level" controls the amount of information that is written to the Script PX log.
- **Object-related Scripts**
 - Explicit logs are written into server-side LOG4J trace files.
 - There is one log file for each PLM user. The log file name resembles: `<userID>_agileScript.Log`.
 - Runtime error messages give information to the administrator.
 - Object-related script execution is logged in the object's **History** tab.
- **Event Handler Monitor**
 - The **Event Handler Monitor** provides information about handlers being run. See "[Event Handler Monitor](#)" on page 29-26.
 - The systemwide Preference "Event Monitor Log Level" controls the level of script logs to the Handler Monitor.

Checklist for Specifying Script-based Event Subscriptions

In the "Event Management" chapter, checklist questions were listed in the sections about creating Event masks, Handler masks, and Subscriber masks. Some of these questions are collected below for your use in describing desired Script PX handlers.

- **Event Mask:**
 - From a given Event being triggered, what is the result that you want to automatically happen?

- Will the Handler mask apply to a single subclass? Will the Handler apply to multiple subclasses from a single class, but not all of its subclasses?
- If the event involves a Change, which Workflow(s) does it apply to? Does it apply to all workflows or a specific workflow?
- Are there any Event Type-specific parameters to consider? For example, for the event type Delete Object Action, is the Handler mask going to handle soft deletes or hard deletes?
- **Handler Mask:**
 - What broad outcome does the Handler need to accomplish? What kind of instructions must the system have to complete a successful automation?
 - If the Handler is to be a process extension, what is the proper handler type for this Handler mask?
 - Who is providing the Java code, SDK or Groovy script that will drive this Handler mask?
 - What Roles are needed to run the handler mask? Will the user performing the PLM action always have the right Roles?
- **Subscriber Mask:**
 - What Handler mask is being named in this Subscriber mask? What Handler do you want invoked when the Event of interest is triggered?
 - Which Trigger Type should be used, Pre or Post? Why do you want the Handler to invoke Pre or Post?
 - Which Execution Mode should be used, Asynchronous or Synchronous?
 - What is the Order in which the Handler mask should be invoked?
 - What Error Handling Rule should be used?

Sample Event Subscriptions with Scripts

The following sample Event Subscriptions provide models of the various masks in several use cases. They demonstrate how a Groovy script drives certain Subscription outcomes.

Event Management has been deployed as a working "ready-to-use" feature, but It is not assumed that the PLM administrator knows or must learn how to write scripts in Groovy. There is more technical documentation, including samples, about Agile Events and Scripting in *Agile PLM SDK Developer's Guide*. The full potential of Events can be realized with the assistance of a programmer working with that manual.

Note: The solution-based PLM user guides may contain information about how the solution can be enhanced by the Event framework. This would be in the administrator configuration chapter or appendix (for example, in the PG&C and PCM user guides).

These sample events and Groovy scripts have been tested, but they are not guaranteed to work "verbatim" in any customer system without scrutiny and modifications.

Update Item Description

In this case, when a user updates the Title Block of any business object from one of all the Items base-class (grandchild) subclasses, the item's Description field is updated. This can be done with the primary business objects of any of the PLM solutions, for instance, auto-updating the Content objects of a Project in PPM.

In this sample, the action that triggers this Event Subscription is when a user updates the Title Block of a part. If Description is set with, say, "Testing", and the user modifies Text07 to "SOA" and Text08 to "Project" and Saves, this Event Subscription replaces the existing Description value with "Testing SOA Project". The Handler's execution status can be verified from the Handler Monitor.

Event mask: [Update Title Block Items]

- **Event Type:** Update Title Block
- **Object Type:** Items

Handler mask: [Update Item Description]

- **Handler Type:** Script PX
- **Script:**

```
import com.agile.agileDSL.ScriptObj.IBaseScriptObj
// add other import statements here
import com.agile.api.ItemConstants

void invokeScript(IBaseScriptObj obj) {
    //script body starts here.

    // get old item description value
    oldItemDescription = obj.getValueByAttId(ItemConstants.ATT_TITLE_BLOCK_
DESCRIPTION);

    // get the first field from pageTwo field1 =
obj.getValueByAttId(ItemConstants.ATT_PAGE_TWO_TEXT07);

    // get the second field from pageTwo field2 =
obj.getValueByAttId(ItemConstants.ATT_PAGE_TWO_TEXT08);

    // set the new description
    obj.setValueByAttId(ItemConstants.ATT_TITLE_BLOCK_DESCRIPTION,
oldItemDescription + " " + field1 + " " + field2);

    // get the new description
    newItemDescription = obj.getValueByAttId(ItemConstants.ATT_TITLE_BLOCK_
DESCRIPTION);

    // log to Event Handler Monitor
    obj.logMonitor( "Old description: " + oldItemDescription + " | " + "New
description: " + newItemDescription);
}
```

Subscriber mask: [Update Title Block Items Update Item Description]

- **Event:** [Update Title Block Items]
- **Event Handler:** [Update Item Description]

- **Trigger Type:** Post
- **Execution Mode:** Synchronous
- **Order:** 0
- **Error Handling Rule:** Continue

Notify Create User when Item is Incorporated

In this case, when an item—an instance of any subclass in the Parts or Documents classes, and therefore of the Items base class—is incorporated, a notification is created and sent to the user who created that part or document.

More specifically, the action that triggers this Event Subscription is a user creates a part, and from the **Actions** menu selects **Incorporate**.

The item changes to Incorporated, and a notification is sent to the part's creator. The Handler's execution status can be verified from the Handler Monitor.

Note that this notification is generated by instructions from a script (a Script PX handler), rather than a Notification mask created by the administrator (as in last example in this set).

Event mask: [Incorporate Item]

- **Event Type:** Incorporate Item
- **Object Type:** Items

Handler mask: [Incorporated Item]

- **Handler Type:** Script PX
- **Script:**

```
import com.agile.agileDSL.ScriptObj.IBaseScriptObj
// add other import statements here
import com.agile.api.ItemConstants

void invokeScript(IBaseScriptObj obj) {
    //script body starts here.

    // get create user
    createUser = obj.getValueByAttId(ItemConstants.ATT_PAGE_TWO_CREATE_USER)

    // send notification
    sendToList = [createUser];
    obj.sendNotification("Notify On Incorporate", false, sendToList, "Comments:
send from Script handler");

    // log to Event Handler Monitor
    obj.logMonitor( "Notify On Incorporate sent to: " + sendToList);
}
```

Subscriber mask: [Incorporate Item Incorporated Item]

- **Event:** [Incorporate Item]
- **Event Handler:** [Incorporated Item]
- **Trigger Type:** Post

- **Execution Mode:** Synchronous
- **Order:** 0
- **Error Handling Rule:** Continue

Set Change Analyst

This Event Subscription is a model for automatically setting the Change Analyst when a workflow changes status.

More specifically, the action that triggers this Event Subscription is a user creates an ECO and sets the product lines to one from this list: Capricorn, Leo, Pisces, Scorpio, Taurus, Test, Virgo. The field for Change Analyst is left unfilled.

When the system (or a user manually) changes the status to Submitted, the Change Analyst for the ECO is set according to the product lines. The Handler's execution status can be verified from the Handler Monitor.

Event mask: [Change Analyst for Workflow]

- **Event Type:** Change Status for Workflow
- **Workflow:** Default Change Orders
- **Object Type:** Change Orders
- **Status - From:** Pending
- **Status - To:** Submitted

Handler mask: [Set Change Analyst]

- **Handler Type:** Script PX
- **Script:**

```
import com.agile.agileDSL.ScriptObj.BaseScriptObj;
import com.agile.agileDSL.ScriptObj.AgileDSLException;
import com.agile.api.ChangeConstants;

/**
 * Sets the change analyst upon setting an ECO to submitted.
 */
BaseScriptObj invokeScript(BaseScriptObj obj) {

    def PRODUCTLINES_ATTID = ChangeConstants.ATT_COVER_PAGE_PRODUCT_LINES;
    def CHANGEANALYST_ATTID = ChangeConstants.ATT_COVER_PAGE_CHANGE_ANALYST;
    def CMap = [
        'Capricorn':'user1',
        'Leo':'user2',
        'Pisces':'user3',
        'Scorpio':'user4',
        'Taurus':'user5',
        'Test':'user6',
        'Virgo':'user7'
    ]

    def toStatus = obj.getToStatus();
    def workflow = obj.getWorkflow();
    def changeAnalyst = obj.getValueByAttId(CHANGEANALYST_ATTID);

    // update change analyst based on the product lines if the next status is CCB
```

```
and CA list is not filled yet
    if(workflow == "Default Change Orders" && toStatus == "Submitted" &&
        (changeAnalyst == null || changeAnalyst == "")) {

        def productLines = obj.getValueByAttId(PRODUCTLINES_ATTID);

        if(productLines == null || productLines == "") throw new
        AgileDSLException("Product Line cannot be null, please fill in!");
        else
            obj.logMonitor("Current productlines are " + productLines);
            def productLinesList = productLines.tokenize(";")
            // Set change analyst based on the product lines

            changeAnalyst = CMap.subMap(productLinesList).values().min();
            obj.setValueByAttId(CHANGEANALYST_ATTID, changeAnalyst);
            obj.logMonitor("||Set change analyst to " + changeAnalyst);
        }
    }
```

Subscriber mask: [Change Analyst for Workflow Set Change Analyst]

- **Event:** [Change Analyst for Workflow]
- **Event Handler:** [Set Change Analyst]
- **Trigger Type:** Post
- **Execution Mode:** Synchronous
- **Order:** 0
- **Error Handling Rule:** Continue

Add Document to New Part

This Event Subscription is a model for automatically creating a Document and adding it to the Assembly BOM any time a part is created. It could be set up for any single subclass from the Parts class, as it is here, or for any object in all the Parts-class subclasses (by populating Object Type field with Parts Class).

More specifically, the action that triggers this Event Subscription is a user creates a part in Web or Java client.

When you click the part's **BOM** tab, you see a document has been added to the part and the part has been changed to an assembly. The Handler's execution status can be verified from the Handler Monitor.

Event mask: [Create Parts]

- **Event Type:** Create Object
- **Object Type:** Parts

Handler mask: [Add Doc to New Part]

- **Handler Type:** Script PX
- **Script:**

```
import com.agile.agileDSL.ScriptObj.IBaseScriptObj;
import com.agile.agileDSL.ScriptObj.AgileDSLException;
```

```

import com.agile.api.IAdmin;
import com.agile.api.IAgileClass
import com.agile.api.IAgileSession;
import com.agile.api.IAutoNumber;
import com.agile.api.IItem;
import com.agile.api.INode;
import com.agile.api.ITable;
import com.agile.api.ItemConstants;
import com.agile.px.EventActionResult;
import com.agile.px.IEventAction;
import com.agile.px.IEventInfo;
import com.agile.px.ICreateEventInfo;
import com.agile.px.EventConstants;
import com.agile.px.ActionResult;

import java.text.SimpleDateFormat;
import java.util.*;

/**
 *Post event of create item action, create document and add the document into BOM
table of assembly.
 * It's mainly using SDK
 *
 */

void invokeScript(IBaseScriptObj obj) {
    IAgileSession session = obj.getAgileSDKSession();
    IEventInfo req = obj.getPXEventInfo();

    try {
        int eventType=req.getEventType();
        int triggerType=req.getEventTriggerType();
        if(eventType!=EventConstants.EVENT_CREATE_OBJECT &&
triggerType!=EventConstants.EVENT_TRIGGER_POST)
            throw new AgileDSLEException("The PX is only applicable for post create
event");
        ICreateEventInfo info=(ICreateEventInfo)req;
        Integer newSubClassId=info.getNewSubclassId();

        IAdmin admin=session.getAdminInstance();
        IAgileClass partclass=admin.getAgileClass(newSubClassId);
        IAgileClass docclass=admin.getAgileClass(ItemConstants.CLASS_DOCUMENT);

        // get the part object
        IItem part = (IItem) session.getObject(partclass, info.getNewNumber());
        if(part==null)
            throw new AgileDSLEException("The part is not
created:"+info.getNewNumber());

        if(partclass.getSuperClass().getId().equals(ItemConstants.CLASS_PARTS_
CLASS)){
            IAutoNumber docNumber = docclass.getAutoNumberSources()[0];

            //create a new document
            IItem doc = (IItem) session.createObject(docclass, docNumber);

            //add the document into BOM table of the new part. ITable tab =
part.getTable(ItemConstants.TABLE_BOM); tab.createRow(doc);
            obj.logMonitor("Succeed to add document '"+ doc.getName() +' to assemby
'+part.getName()+"");

```

```
    }  
    else  
    obj.logMonitor("The PX is only applicable for creating part object.");  
    } catch (Exception e) {  
    e.printStackTrace();  
    throw new AgileDSLException(e);  
    }  
}
```

Subscriber mask:

- **Event:** [Create Parts]
- **Event Handler:** [Add Doc to New Part]
- **Trigger Type:** Post
- **Execution Mode:** Synchronous
- **Order:** 0
- **Error Handling Rule:** Continue

Notify when Affected Items Table is Updated

This event is a model for automatically creating and sending a notification (the Notification mask has been created in the **Notifications** node) any time the **Affected Items** table of a Change is updated.

It could be set up for any single subclass from the Change Orders class, or for any object in all the Change Orders-class subclasses (by populating Object Type field with Change Orders Class), or for any object in all the Changes base class (by populating Object Type field with Changes Base Class).

In this case, when the system modifies the **Affected Items** table (this is always an automatic process) of an instance of the subclass (and object type) ECO, a notification is created and sent to the users named on it. The Notification's execution status can be verified from the Handler Monitor.

Event mask: [Update Table ECO]

- **Event Type:** Update Table
- **Object Type:** ECO
- **Table Name:** Affected Items

Notification mask: [Notify ECO AffItem Change]

- **Object Type:** Change Orders
- Here is a screenshot of the Notification mask:

Figure 30–2 Notification mask

General Information | Where Used | History

Name: NotifyEcoAffItemChange

API Name: NotifyEcoAffItemChange

Enabled: Yes

Object Type: Change Orders

Priority: Regular

From: \$AGILE

To: \$APPROVER;\$CHANGEANALYST;\$ORIGINATOR;\$OBSERVER

Notification Type: Inbox

Subject: Affected Items changed on [Cover Page.Number] by [User Name]

Body: Affected Items changed on [Cover Page.Number] by [User Name]
Current Affected Items: [Change.Affected Items (Number, Description)]

Data: Access URL

<< Add Data Tag

Subscriber mask: [Update Table ECO Notify Item ECO AffItem Change]

- Event: [Update Table ECO]
- Event Handler: [NotifyItemECOAffItemChange]
- Trigger Type: Post
- Execution Mode: Asynchronous
- Order: -
- Error Handling Rule: -

Locations and File Management

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 specify the following properties with appropriate URLs:

- Web Server URL
- Java Client URL.
- Online Help Manuals URL

Note: These properties should only be changed by you, the administrator, with previous confirmation from your IT people.

Properties that are also seen on the **General Information** tab but are not editable were populated when the Agile PLM system was installed:

- Application Server URL
- DB Server Hostname
- DB Server Username
- Name (an informal name of the database server)

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 (PCM), Product Governance & Compliance (PG&C), and Product Portfolio Management (PPM) 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://WebServer:<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.

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

The Java Client URL is case-sensitive.

3. When you are finished, click **Save**.

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 31-2.

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 31-4.

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 file name: mapping information is maintained in the Agile PLM database, and the file name 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 enables 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 supports a large number of DFM servers.

Optimized Replication Systemwide Preference

When there are more than two File Managers, this systemwide preference (**Preferences** node) enables 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 AutoVue for Agile Server in a Distributed Environment

If AutoVue for Agile is used, an AutoVue for Agile Server should be installed locally with each DFM server. The local viewer server can be installed on the same system 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 31-5. 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 she 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 ready-to-use 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 file name, 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 red exclamation mark 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.
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 file name in the vault remain unchanged.

Configuring a File Manager

On the **Server Settings > Locations > File Manager** tab, you can define multiple file managers.

Figure 31–1 File Manager

File Manager

Name: IFS

API Name: IFS

File Manager URL: http://SLC01FDT.us.oracle.com:8080/Filemgr/AttachmentServlet

Enabled: Yes

Primary file server: Yes

[Advanced >>](#)

Vault Configuration

+ -

Vault Type	Description	Base Storage Di...	Purge Directory	Category
Standard	Primary Vault	C:\AgileVault	C:\AgileVault\purge	Read-Write

OK Cancel

When you click the **File Manager** tab and either click the **New** button or double-click one of the property fields, you see the 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.

Note: You must restart all the File Servers that have been added when you make changes on the File Manager tab, or change Direct Image File type for Thumbnail, or create a new one, for changes to take effect.

If a URL is specified in the documentation or release notes, copy the uppercase and lowercase characters exactly, including the full domain name specified.

Fields in Create a File Manager Dialog and File Manager Standard View

Table 31–1 *Fields in Create a File Manager dialog and File Manager, standard view*

Field	Description
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 drop-down list on each user's Preferences tab.
API Name	Unique systemwide identifier for objects and can be autogenerated. You can specify an API name, but internal consistency is enhanced by accepting the system-generated name.
File Manager URL	The file server URL that Agile Web Client will connect to. The format is: <i>http://<proxy/loadbalancer>:<port>/<fileserver_virtual_path>/AttachmentServlet</i>
Enabled	Enables or disables the file management server. To create the file manager now and enable it later, select No.
Primary File Server	Select Yes or No from the drop-down 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 reset this field in the previous primary file server to No.

Advanced File Manager Fields

Click the **Advanced** button to view and edit the following advanced fields:

Table 31–2 *Advanced Fields, File Manager*

Field	Description
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: <i>http://<File Manager host>:<port>/<fileserver_virtual_path>/services/FileServer</i>

Table 31–2 (Cont.) Advanced Fields, File Manager

Field	Description
Viewer Server URL	The viewer server (jVue server) URL that Agile Web Client will connect to. The format is: <i>http://<proxy/loadbalancer>:<port>/<fileserver_virtual_path>/VueServlet</i>
Viewer Proxy URL	The viewer proxy URL that the Viewer Server uses to communicate with the File Manager. If local users are accessing Web Client from outside the firewall, a proxy is recommended in the DFM configuration. The format is: <i>http://<File Manager host>:<port>/<fileserver_virtual_path>/VueLink</i>
Viewer Content URL	The location from where the Viewer Applet is downloaded. The format is: <i>http://<proxy/loadbalancer>:<port>/<appserver_virtual_path>/jVue</i>
Thumbnail and Streaming File Generation	This area of the File Manager Advanced dialog contains the following settings: ■ Enable Pre-Generation by Vue Server check box: check to pre-generate Thumbnails and streaming files. ■ Vue Server Host: <Vue Server host> ■ Vue Server Port: <Vue Server port> Note: Enabling Thumbnail generation with these settings also enables metafile generation. See also Chapter 44, "Administering Thumbnails."

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**, **API Name**, **File Manager URL**, and **Primary File Server**, which are described in the table above.

Note: If your company is using AutoVue for Agile, an AutoVue for Agile 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.
8. In the Purge Directory field, enter the primary location where the purged files are moved to.
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).

Note: Do not specify a mapped location. Instead, specify the actual computer 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).

Note: Do not specify a mapped location. Instead, specify the actual computer name and directory, like this:

\\fileserver\files\purge

Configuring Custom Vaults for Multiple Distributed File Managers

If the Agile PLM system has multiple Distributed File Managers (DFMs) configured and you are using custom file vaults, then you must configure corresponding custom file vaults for each DFM for each custom file vault in a different DFM, and you must ensure that the custom file vault read-only files from the originating server custom file vault are available in the local custom file vault by one of the following two options:

- Copy the IFS server custom file vault read-only files to the local custom file vault.
- Configure the base directory of the DFM to have remote access to the corresponding IFS base directory.

See also: ["Distributed File Management"](#) on page 31-3, ["Configuring a File Manager"](#) on page 31-5, ["Creating a Custom File Vault"](#) on page 31-7, and ["Base Storage Directory and Purge Directory Fields"](#) on page 31-8.

The following example illustrates how to configure custom file vaults for multiple DFMs. The Agile system in our example has three DFMs:

- **IFS server in the United States**

IFS server in the United States has two custom file vaults, configured in Java Client as follows:

- **IFS_customVault1**

Base Storage Directory path is \\ifs\customVault1.

- **IFS_customVault2**

Base Storage Directory path is \\ifs\customVault2

- **Sydney server in Australia**

- **Tokyo server in Japan**

To configure Sydney server:

1. Under **Server Settings**, double-click **Locations**, and then click the **File Manager** tab. The file managers **IFS**, **Sydney**, and **Tokyo** appear on the File Manager tab.
2. Double-click the **Sydney** file manager row to display the Sydney file manager dialog.
3. Configure two custom file vaults for the Sydney server to correspond with the IFS custom file vaults. See "[Creating a Custom File Vault](#)" on page 31-7. Use meaningful names. In our example:
 - Create **Sydney_customVault1** to correspond with **IFS_customVault1**.
 - Create **Sydney_customVault2** to correspond with **IFS_customVault2**.
4. Use one of the following methods to define the Base Storage Directory field for each Sydney custom vault:
 - Define a base storage directory in the Sydney local file system, and then:
 - Copy all files and subfolders from the base storage directory of **IFS_customVault1** to the base storage directory of **Sydney_customVault1**.
 - Copy all files and subfolders from the base storage directory of **IFS_customVault2** to the base storage directory of **Sydney_customVault2**.
 - Configure the Sydney custom vault base directories to have remote access to the corresponding base directory of the **IFS** server custom vaults:
 - Set **Sydney_customVault1** Base Storage Directory to \\ifs\customVault1.
 - Set **Sydney_customVault2** Base Storage Directory to \\ifs\customVault2.

Copying files from base storage directories is not required if you use this method.

5. Repeat these steps for each DFM in the Agile system, and for each custom vault. In our example, repeat these steps for **Tokyo** DFM, creating custom file vaults **Tokyo_customVault1** and **Tokyo_customVault2**, and then configure the **Tokyo** custom vaults as described in step 4.

6. Each DFM must be configured for the custom vaults in the other DFMs.

In our example, let us assume that the **Tokyo** server has three custom vaults (**Toyko_cv1**, **Tokyo_cv2**, **Tokyo_cv3**). Then, in both the **IFS** server and the **Sydney** server, you must create corresponding custom vaults and configure those custom vaults as described in step 4 to ensure that the **Tokyo** server custom file vault read-only files are available in the **IFS** local server and in the **Sydney** local server.

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 and Settings > 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 20-1, the Agile File Manager automatically purges old versions of files. Once every day, a background thread starts that determines what files should be purged. (For information about when the task starts, see Attachment Purging Task in "[Task Configuration](#)" on page 36-2.) 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. The default interval between purges is 24-hours (1440 minutes), but you can change the length of the interval. This interval is set in Attachment Purging Task; see "[Task Monitor and Task Configuration](#)" on page 36-1.

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 ensure that no event is skipped.

This chapter explains the database settings you can configure in Agile PLM.

Configuration of Database Settings

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 drop-down 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.

Database Properties

The following table lists Database properties.

Table 32-1 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

Table 32–1 (Cont.) Database Properties

Property	Description	Default
Notification Enabled	Whether email notifications are sent to users. If this property is disabled (= No), all other email notification settings are ignored. This setting is especially important with regard to Event Management : all "event-based" notifications will <i>not</i> be active if Notification Enabled is set to No.	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)

Many enterprises use the Lightweight Directory Access Protocol (LDAP) system, and 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 restart the server.

The LDAP node may not be visible in your ready-to-use 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 17-27.

Note: 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:

- Oracle Internet Directory Server
- Microsoft Active Directory Server
- Sun Java System Directory Server
- Microsoft Active Directory Lightweight Directory Services Server
- Oracle Virtual Directory Server

If you chose to manage your user accounts through a directory server (instead of the database) during installation, then all new users are added, and certain user attributes are configured, only through the directory server.

Agile Administrator has the capability 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, "Configuring Single Sign-On"](#)).

Configuring WebLogic Server for LDAP with Agile PLM

Oracle WebLogic Server requires WebLogic console configuration to support Authentication to Agile PLM by LDAP users, as detailed in the tasks below.

Configuring WebLogic with Oracle Internet Directory

To configure WebLogic with an Oracle Internet Directory Server:

1. Open the Administration console page by typing the following URL:
`http://localhost:<port_number>/console`
2. In the left pane, choose **Lock & Edit**.
3. In the left pane, choose **agileDomain > Security Realms > AgileRealm > Providers > Authentication**.
4. Click **New** and enter a name, such as "OracleInternetDirectory" for the OID authenticator and select **OracleInternetDirectoryAuthenticator** and click **OK**.
5. Click the newly created OracleInternetDirectory authenticator and change the value of the Control Flag to **SUFFICIENT** and then click **Save**.

Important: The following is a sample of the values and settings needed for your own configuration. Be sure to use the applicable settings for your specific company's needs.

6. Select provider specifics from the current page and fill in the following entries with your relevant values:
 - User Name Attribute: cn
 - Propagate Cause for Login Exception: Check the Box
 - Principal: cn=orcladmin
 - Host: <Machine Name where the OID running>
 - User Object Class: person
 - All Users Filter: (Specify the User Filter Name or leave blank
objectclass=person)
 - User Search Scope: Subtree
 - All Groups Filter: <Specify the Group Filter Name or leave blank>
 - Static Member DN Attribute: uniquemember
 - Group from Name Filter: (& (cn=%g)(objectclass=groupofuniquenames))
 - Static Group DN's from Member DN Filter:
(&(uniquemember=%M)(objectclass=groupofuniquenames))
 - Use Retrieved User Name as Principal: (check the box)
 - Results Time Limit: 0
 - Cache TTL: 60
 - Dynamic Group Name Attribute: uniquemember
 - Credential: <Password given for OID login>
 - Confirm Credential: <Password given for OID login>
 - Group Search Scope: subtree
 - Group Base DN: cn=Groups,dc=agile,dc=agilesoft,dc=com
 - Dynamic Group Object class: (empty)

- User from Name Filter: (&(cn=%u)(objectclass=person))
 - Cache Size: 32
 - Dynamic Member URL Attribute: (labeledurl)
 - SSLEnabled: (empty)
 - Cache Enabled: (check the box)
 - Connection Retry Limit: 1
 - Connect Timeout: 0
 - Parallel Connect Delay: 0
 - User Dynamic Group DN Attribute: cn
 - Static Group Name Attribute: cn
 - User Base DN: cn=Users,dc=agile,dc=agilesoft,dc=com
 - Follow Referrals: (check the box)
 - Port: 389
 - Ignore Duplicate Membership: (uncheck the box)
 - Static Group Object Class: groupofuniquenames
 - Group Membership Searching: unlimited
 - Max Group Membership Search Level: 0
7. Click **Save**.
 8. On the left pane click the button **Activate Changes** to activate all the changes made.
 9. Log out from the console, and restart the WebLogic server and, if installed in a cluster, all managed servers to successfully have all the changes activated.

Configuring WebLogic with Sun Java System Directory Server

To configure WebLogic with a Sun Java System Directory Server:

1. Open the WLS Administration console page by typing the following URL:
`http://localhost:<port_number>/console`
2. In the left pane, choose **Lock & Edit**.
3. In the left pane, choose **agileDomain > Security Realms > AgileRealm > Providers > Authentication**.
4. Click **New** and enter a name, such as "SunJavaDirectory" for the authenticator and select **iPlanet Authenticator** and click **OK**.
5. Click the newly created authenticator and change the value of the Control Flag to **SUFFICIENT** and then click **Save**.
6. The following is a sample of the values and settings needed for your own configuration. Be sure to use the applicable settings for your specific company's needs.

Select provider specific from the current page and fill in the following entries with the following values:

- Host: <Machine Name where the LDAP running>

- Port: <LDAP Port>
- Principal: cn=Directory Manager
- Credential: <Password given for LDAP login>
- Confirm Credential: <Password given for LDAP login>
- User Base DN: ou=Agile,dc=example,dc=com
- All Users Filter: (objectclass=person) <Specify the users filter or leave it blank>
- User from Name Filter: blank
- User Object Class: person
- User Name Attribute: uid
- User Search Scope: Subtree
- Us Retrieved User Name as Principal: (uncheck the box)
- All Groups Filter: <specify the group filter or leave it blank>
- Group from Name Filter: (& (cn=%g)(objectclass=groupofuniquenames))
- Group Search Scope: subtree
- Group Base DN: ou=Groups,dc=example,dc=com
- Max Group Membership Search Level: 0
- Group Membership Searching: unlimited
- Ignore Duplicate Membership: (uncheck the box)
- Static Member DN Attribute: uniquemember
- Static Group DN's from Member DN Filter:
(&(uniquemember=%M)(objectclass=groupofuniquenames))
- Static Group Name Attribute: cn
- Static Group Object Class: groupofuniquenames
- Dynamic Group Name Attribute: cn
- Dynamic Group Object class: groupofURLs
- Dynamic Member URL Attribute: memberURL
- User Dynamic Group DN Attribute:
- Connect Timeout: 0
- Connection Retry Limit: 1
- Parallel Connect Delay: 0
- Results Time Limit: 0
- Follow Referrals: (check the box)
- Propagate Cause for Login Exception: (check the box)
- Cache Enabled: (check the box)
- Cache Size: 32
- Cache TTL: 60
- SSLEnabled: (empty)

7. Click **Save**.
8. On the left pane click the button **Activate Changes** to activate all the changes made.
9. Log out from the console, and restart the WebLogic server and, if installed in a cluster, all managed servers to successfully have all the changes activated.

Configuring WebLogic with Microsoft Active Directory Server

To configure WebLogic with Microsoft Active Directory Server:

1. Open the Administration console page by typing the following URL:
`http://localhost:<port_number>/console`
2. In the left pane, choose **Lock & Edit**.
3. In the left pane, choose **agileDomain > Security Realms > AgileRealm > Providers > Authentication**.
4. Click **New** and enter a name, such as "ActiveDirectoryServer" for the ADS authenticator and select **ActiveDirectoryAuthenticator** and click **OK**.
5. Click the newly created ActiveDirectoryServer authenticator and change the value of the Control Flag to **SUFFICIENT** and then click **Save**.
6. The following is a sample of the values and settings needed for your own configuration. Be sure to use the applicable settings for your specific company's needs.

Select provider specific from the current page and fill in the following entries with the following values:

- User Name Attribute: sAMAccountName
- Principal:Administrator@enterprise.uab.edu
- Host: 10.176.138.35
- All Users Filter: (objectclass=person)
- User Search Scope: subtree
- All Groups Filter: (Keep it Empty)
- Static Member DN Attribute: member
- Group from Name Filter: (Keep it Empty)
- Bind Anonymously On Referrals (Uncheck this Box)
- Static Group DN's from Member DN Filter:
(&(member=%M)(objectclass=group))
- Results Time Limit: 0
- Credential: < password given for the ADS to authenticate>
- Confirm Credential: < password given for the ADS to authenticate>
- Group Search Scope: subtree
- Cache Size: 32
- User from Name Filter: (keep it empty)
- Dynamic Member URL Attribute: (keep it empty)

- Connection Retry Limit: 1
 - Connect Timeout: 0
 - User Dynamic Group DN Attribute: (keep it empty)
 - Static Group Name Attribute: cn
 - User Base DN: OU=agile,DC=enterprise,DC=uab,DC=edu
This is operating with the assumption that all Agile users are found under this path.
 - Use Token Groups for Group Membership Lookup (Uncheck this Box)
 - Port: 389
 - Follow Referrals (check this Box)
 - Propagate Cause for Login Exception (Uncheck this box)
 - User Object Class: user
 - Cache TTL: 60
 - Use Retrieved User Name as Principal (uncheck the box)
 - Dynamic Group Name Attribute: (keep the field empty)
 - Group Base DN: OU=agile,DC=enterprise,DC=uab,DC=edu
This is operating with the assumption that all Agile user groups are found under this path.
 - Dynamic Group Object Class: (keep the field empty)
 - SSLEnabled: (uncheck the box)
 - Cache Enabled (check this box)
 - Parallel Connect Delay: 0
 - Ignore Duplicate Membership: (uncheck this box)
 - Static Group Object Class: group
 - Group Membership Searching: unlimited
 - Max Group Membership Search Level: 0
7. Click **Save**.
 8. On the left pane click the button **Activate Changes** to activate all the changes made.
 9. Log out from the console, and restart the WebLogic server and, if installed in a cluster, all managed servers to successfully have all the changes activated.

Configuring WebLogic with Microsoft Active Directory Lightweight Services Server

To configure WebLogic with Microsoft Active Directory Lightweight Services Server:

1. Open the Administration console page by typing the following URL:
`http://localhost:<port_number>/console`
2. In the left pane, choose **Lock & Edit**.

3. In the left pane, choose **agileDomain > Security Realms**.
4. In the right pane, select **AgileRealm > Providers**.
5. In the Authentication Provider list, click **New** and enter a name, such as "ActiveDirectory-LDSServer" for the authenticator and select LDAPAuthenticator and click **OK**.
6. Click the newly created ActiveDirectory-LDSServer authenticator and change the value of the Control Flag to **SUFFICIENT** and then click **Save**.
7. The following is a sample of the values and settings needed for your own configuration. Be sure to use the applicable settings for your specific company's needs.

Select provider specific from the current page and fill in the following entries with the following values:

- User Name Attribute: uid
- Principal: CN=Administrator,OU=Agile,O=Microsoft,C=US
- Host: <AD-LDS Server>
- All Users Filter: (objectclass=person)
- User Search Scope: subtree
- All Groups Filter: (keep it empty)
- Static Member DN Attribute: member
- Group from Name Filter: (keep it empty)
- Bind Anonymously On Referrals (uncheck this box)
- Static Group DN's from Member DN Filter:
(&(member=%M)(objectclass=group))
- Results Time Limit: 0
- Credential: < password given for the ADS-LDS to authenticate>
- Confirm Credential: < password given for the ADS to authenticate>
- Group Search Scope: subtree
- Cache Size: 32
- User from Name Filter: (keep it empty)
- Dynamic Member URL Attribute: (keep it empty)
- Connection Retry Limit: 1
- Connect Timeout: 0
- User Dynamic Group DN Attribute: (keep it empty)
- Static Group Name Attribute: cn
- User Base DN: OU=Users,OU=Agile,O=Microsoft,C=US
- Use Token Groups for Group Membership Lookup (uncheck this box)
- Port: 389
- Follow Referrals (check this box)
- Propagate Cause for Login Exception (uncheck this box)

- User Object Class: user
 - Cache TTL: 60
 - Use Retrieved User Name as Principal (uncheck the box)
 - Dynamic Group Name Attribute: (keep the field empty)
 - Group Base DN: Agile,O=Microsoft,C=US
 - Dynamic Group Object Class: (keep the field empty)
 - SSLEnabled: (uncheck the box)
 - Cache Enabled (check this box)
 - Parallel Connect Delay: 0
 - Ignore Duplicate Membership: (uncheck this box)
 - Static Group Object Class: group
 - Group Membership Searching: unlimited
 - Max Group Membership Search Level: 0
8. Click **Save**.
 9. On the left pane click the button **Activate Changes** to activate all the changes made.
 10. Log out from the console, and restart the WebLogic server and, if installed in a cluster, all managed servers to successfully have all the changes activated.

Configuring WebLogic with Oracle Virtual Directory Server

To configure WebLogic with Oracle Virtual Directory Server:

1. Open the WLS Administration console page by typing the following URL:
http://localhost:<port_number>/console
2. In the left pane, choose **Lock & Edit**.
3. In the left pane, choose **agileDomain > Security Realms > AgileRealm > Providers > Authentication**.
4. Click **New** and enter a name, such as "OracleVirtualDirectory" for the authenticator and select OracleVirtualDirectory Authenticator and click **OK**.
5. Click the newly created authenticator and change the value of the Control Flag to **SUFFICIENT** and then click **Save**.
6. The following is a sample of the values and settings needed for your own configuration. Be sure to use the applicable settings for your specific company's needs.

Select provider specific from the current page and fill in the following entries with the following values:

Note: The values below should be specified as per the LDAP Server used to fetch the data into OVD Server. (The sample values below are specified as per OID.)

- Host: <OVD Server>

- Port: <OVD Port>
- Principal: <LDAP Server Principal>
- Credential: < password given for the LDAP to authenticate>
- Confirm Credential: < password given for the LDAP to authenticate>
- User Base DN: cn=Users,dc=idc,dc=oracle,dc=com
- All Users Filter: (objectclass=person)
- User from Name Filter: (&(cn=%u)(objectclass=person))
- User Object Class: person
- User Name Attribute: cn
- User Search Scope: Subtree
- Us Retrieved User Name as Principal: (check the box)
- All Groups Filter:
&(cn=*)(|(objectclass=groupofUniqueNames)(objectclass=groupofurls)))
- Group from Name Filter: (& (cn=%g)(objectclass=groupofuniquenames))
- Group Search Scope: subtree
- Group Base DN: cn=Groups, dc=idc,dc=oracle,dc=com
- Max Group Membership Search Level: 0
- Group Membership Searching: unlimited
- Ignore Duplicate Membership: (uncheck the box)
- Static Member DN Attribute: uniquemember
- Static Group DN's from Member DN Filter:
(&(uniquemember=%M)(objectclass=groupofuniquenames))
- Static Group Name Attribute: cn
- Static Group Object Class: groupofuniquenames
- Dynamic Group Name Attribute: uniquemember
- Dynamic Group Object class: (empty)
- Dynamic Member URL Attribute: (empty) or labeledurl(cannot be empty if using dynamics group)
- User Dynamic Group DN Attribute: cn
- Connect Timeout: 0
- Connection Retry Limit: 1
- Parallel Connect Delay: 0
- Results Time Limit: 0
- Follow Referrals: (check the box)
- Propagate Cause for Login Exception: Check the Box
- Cache Enabled: (check the box)
- Cache Size: 32
- Cache TTL: 60

- SSLEnabled: (empty)
- 7. Click **Save**.
- 8. On the left pane click the button **Activate Changes** to activate all the changes made.
- 9. Log out from the console, and restart the WebLogic server and, if installed in a cluster, all managed servers to successfully have all the changes activated.

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 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.

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.

Important: Users created in Agile PLM with the Supplier user roles can also be authenticated through LDAP.

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, Oracle Internet Directory, 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 the More button menu options (under **Tools and Settings > Address Book > Users**) 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.

Note: Be sure to restart the application server after executing the script.

LDAP-controlled User Properties

If your company is using LDAP for user accounts, the following properties will always be managed by LDAP. By default, these values cannot be edited in Agile PLM.

However, in the agile.properties file you can set the configuration to make first name, last name, and email editable.

- UserID
- First Name
- Last Name
- Password
- Email Address
- Title
- Work Phone
- Mobile Phone
- Fax Number

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 display 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.

Note: Verify all settings in LDAP Configuration Editor with your LDAP administrator.

Directory Service Connection Parameters

Connection parameters include the host name, 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.

LDAP Configuration Properties

The properties in the LDAP configuration page are described in the table below:

Table 33–1 LDAP Configuration Properties

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.

Table 33–1 (Cont.) LDAP Configuration Properties

Field Name	Description
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; 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's 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
Disable Agile User If Not Found In LDAP	Valid values: TRUE or FALSE When set to TRUE and the administrator runs the "migrateUsersToDB -p" command, the Agile active users (migrated from LDAP and made active) who are either removed from LDAP or not in the current LDAP search path are disabled.

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 drop-down 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".

Generic LDAP Agent

In order to integrate with other LDAP-compliant directory servers which are not supported by a directory-server-specific agent, Generic LDAP agent with its customizable script is provided. Support for OVD and any other desirable LDAP directory servers (including those such as Active Directory and Sun Java System Directory Server that are already supported via directory-server-specific agent) is accomplished through Generic LDAP agent.

The only difference between Generic LDAP agent and directory-server-specific agents is the customizable Groovy script, which provides LDAP server metadata and LDAP server specific logic.

Four functions should be defined in the Groovy script. See details in comments in Script for Active Directory Server.

`getServerSettings` – returns a map contains LDAP server specific configuration values, which will be used when connecting a LDAP server. This function is not required if there is no LDAP server specific settings.

`getSchemaInfo` – returns a map contains LDAP server schema information. For example, the object classes of users, user groups, or the attributes of distinguished name, common name. This function is required.

`isAccountDisabled` – returns true or false to indicate if a user account is disabled or enabled based on the parameter passed in. This function is required.

`getEntryDN` – returns the distinguished name(DN) of the parameter passed in. This function is required.

The following are script examples for all LDAP servers supported by directory-server-specific agents, which demonstrate the use of customizable script. All examples are based on the default schemas of these LDAP servers. There is no example for Oracle Virtual Directory Server (OVD) because the script should be prepared for OVD's target LDAP server.

Script for Active Directory Server

```
import javax.naming.directory.*
/**
 * @return a HashMap whose values will be added to the Hashtable
 * used to create InitialContext
 */
def getServerSettings() {
    ["java.naming.ldap.attributes.binary": "objectGUID"]
}

/**
```

```

* @return a HashMap contains information of LDAP schema, which includes:
* (1) object class of user, user group and dynamic group if used.
* (2) attribute of distinguished name, common name, GUID, userID, first name,
*     last name, title, email, workphone, fax, mobile, create timestamp,
*     modify timestamp, user account control, group member, dynamic group member.
* (3) date format used in LDAP server
* (4) the size limit of LDAP server, which is used as page size for pagination
*     operation if a LDAP server supports controls: simple paged results,
*     virtual list view, or server side sorting.
*
*/
def getSchemaInfo() {
    [
        classUser: "person",
        classGroup: "group",
        classDynamicGroup: "groupOfURLs",

        entryDN: "distinguishedName",
        entryCN: "cn",
        entryGUID: "objectGUID",

        userID: "sAMAccountName",
        firstName: "givenName",
        lastName: "sn",
        title: "title",
        email: "mail",
        workphone: "telephoneNumber",
        fax: "facsimileTelephoneNumber",
        mobile: "mobile",
        createTimestamp: "createTimestamp",
        modifyTimestamp: "modifyTimestamp",
        userAccountControl: "userAccountControl",

        groupMember: "member",
        dynamicGroupMemberURL: "memberURL",

        dateFormat: "yyyyMMddHHmmss.0'Z'",
        sizeLimit: 1000
    ]
}

/**
* @param attributes contain all attributes of an entry
* @return true if user account is disabled, otherwise false
*/
def isAccountDisabled(Attributes attributes) {
    Attribute attr = attributes.get("userAccountControl");
    String accountControlInfo = (String) attr.get();
    if (accountControlInfo == null || accountControlInfo.trim().length() <= 0)
        return false;
    int value = Integer.parseInt(accountControlInfo);
    //why is 2? please refer to url:

    //http://msdn.microsoft.com/library/default.asp?url=/library/en-us/adschema/adsche
    ma/a_useraccountcontrol.asp
    return Integer.toHexString(value).endsWith("2");
}

/**
* @param entry is an entry of LDAP search result

```

```
* @return the distinguished name(DN) of the entry
*/
def getEntryDN(SearchResult entry) {
    Attributes attrs = entry.getAttributes()
    Attribute dnAttr = attrs.get("distinguishedName")
    return (String) dnAttr.get()
}
```

Script for Active Directory Lightweight Directory Services

```
import javax.naming.directory.*

def getServerSettings() {
    ["java.naming.ldap.attributes.binary": "objectGUID"]
}

def getSchemaInfo() {
    [
        classUser: "person",
        classGroup: "group",
        classDynamicGroup: "groupOfURLs",

        entryDN: "distinguishedName",
        entryCN: "cn",
        entryGUID: "objectGUID",

        userID: "uid",
        firstName: "givenName",
        lastName: "sn",
        title: "title",
        email: "mail",
        workphone: "telephoneNumber",
        fax: "facsimileTelephoneNumber",
        mobile: "mobile",
        createTimestamp: "createTimestamp",
        modifyTimestamp: "modifyTimestamp",
        userAccountControl: "msDS-UserAccountDisabled",

        groupMember: "member",
        dynamicGroupMemberURL: "memberURL",

        dateFormat: "yyyyMMddHHmmss.0'Z'",
        sizeLimit: 1000
    ]
}

def isAccountDisabled(Attributes attributes) {
    attr = attributes.get("msDS-UserAccountDisabled")
    if (attr == null) {
        return false
    }
    accountControlInfo = attr.get()
    if (accountControlInfo == null || accountControlInfo.trim().length() <= 0) {
        return false
    }
    return accountControlInfo.trim().equalsIgnoreCase("true")
}
```

```

}

def getEntryDN(SearchResult entry) {
    Attributes attrs = entry.getAttributes()
    Attribute dnAttr = attrs.get("distinguishedName")
    return dnAttr.get()
}

```

Script for Oracle Internet Directory Server

```

import javax.naming.directory.*

def getServerSettings() {
    [:]
}

def getSchemaInfo() {
    [
        classUser: "person",
        classGroup: "groupOfUniqueNames",
        classDynamicGroup: "orclDynamicGroup",

        entryDN: "dn",
        entryCN: "cn",
        entryGUID: "orclGUID",

        userID: "cn",
        firstName: "givenName",
        lastName: "sn",
        title: "title",
        email: "mail",
        workphone: "telephoneNumber",
        fax: "facsimileTelephoneNumber",
        mobile: "mobile",
        createTimestamp: "createTimestamp",
        modifyTimestamp: "modifyTimestamp",
        userAccountControl: "orclisEnabled",

        groupMember: "uniqueMember",
        dynamicGroupMemberURL: "labeledURI",

        dateFormat: "yyyyMMddHHmmss'z'",
        sizeLimit: 1000
    ]
}

def isAccountDisabled(Attributes attributes) {
    attr = attributes.get("orclisEnabled")
    if (attr == null) {
        return false
    }
    accountControlInfo = attr.get()
    if (accountControlInfo == null || accountControlInfo.trim().length() <= 0) {
        return false
    }
    return accountControlInfo.trim().equalsIgnoreCase("disabled")
}

```

```
}

def getEntryDN(SearchResult entry) {
    return entry.getNameInNamespace()
}
```

Script for Sun Java System Directory Server

```
import javax.naming.directory.*

def getSchemaInfo() {
    [
        classUser: "person",
        classGroup: "groupOfUniqueNames",
        classDynamicGroup: "groupOfURLs",

        entryDN: "entrydn",
        entryCN: "cn",
        entryGUID: "nsUniqueId",

        userID: "uid",
        firstName: "givenName",
        lastName: "sn",
        title: "title",
        email: "mail",
        workPhone: "telephoneNumber",
        fax: "facsimileTelephoneNumber",
        mobile: "mobile",
        createTimestamp: "createTimestamp",
        modifyTimestamp: "modifyTimestamp",
        userAccountControl: "nsAccountLock",

        groupMember: "uniqueMember",
        dynamicGroupMemberURL: "memberURL",

        dateFormat: "yyyyMMddHHmmss'Z'",
        sizeLimit: 1000
    ]
}

def isAccountDisabled(Attributes attributes) {
    attr = attributes.get("nsAccountLock")
    if (attr == null) {
        return false
    }
    accountControlInfo = attr.get()
    if (accountControlInfo == null || accountControlInfo.trim().length() <= 0) {
        return false
    }
    return accountControlInfo.trim().equalsIgnoreCase("true")
}

def getEntryDN(SearchResult entry) {
    Attributes attrs = entry.getAttributes()
    Attribute dnAttr = attrs.get("entrydn")
    return dnAttr.get()
}
```



```
}
```

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, create one or more nodes depending on how many directories need to be supported; click the **Preview Result** tab: it will display all the users on the first node or 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 permits you to update existing users and to create new users in the database.
- `loadLDAPConfig` – an upgrade tool for migrating the old file(xml)-based LDAP configuration to the database. It will load the LDAP configuration into the Agile Database, however, it won't migrate any LDAP users.

Synchronizing Users and User Groups

This feature applies to the Sun Java System Directory Server, Oracle Virtual Directory Server, Oracle Internet Directory, Microsoft Active Directory Lightweight Directory Services Server, and Microsoft Active Directory servers.

- 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, ensure that **auth.ldap.group** is enabled (set to True) in **agile.properties** file.

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 through LDAP).

Systemwide Preferences

This chapter discusses how you can modify systemwide preferences in Agile PLM.

Modifying Preferences

The **Preferences** node lets you view and configure Agile PLM's systemwide preferences and Languages.

Note: There is no connection between the Preferences node, which are systemwide server settings, and User Preferences, which are found on every user object (User Settings > Users node > [any user] > Preferences tab). However, a subset of the User Preferences are "system-related"; again, these do not pertain to settings in 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 drop-down list.
3. When you have finished, click **Save**.

Default Systemwide Preferences

The following table lists and describes the Agile PLM Preferences. They are listed in alphabetical order.

Table 34–1 *Default Systemwide Preferences*

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
Agile Drive	Controls the user created Agile Drive access to Agile objects and documents outside of Agile. See " Agile Drive " on page 34-11.	Disabled

Table 34–1 (Cont.) Default Systemwide Preferences

Preference Name	Description	Default
Agile Script Log Level	Sets "level" of logging on an Agile system. A production system might be set to a lower level, such as Off, Error, or Warn. A development system would likely be set to a higher level, such as All, Debug, or Fatal. Settings are All, Debug, Error, Fatal, Info, Off, or Warn.	Off
Allow Download of Productivity Components	Controls whether your users will have access to the Java applets that permit the use of an Open File plugin in Web Client and the use of a Microsoft Excel-based Client that is integrated with Agile PG&C. Settings are No and Yes. For details, see " Allow Download of Productivity Components " on page 34-12.	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 34-12.	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 31-4.	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 34-13.	5
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 restarting the server for the change to take effect.	FirstName LastName
Display PPM Content in Navigator	Determines whether or not to display PPM Content Objects in the Navigator pane.	Yes
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

Table 34–1 (Cont.) Default Systemwide Preferences

Preference Name	Description	Default
Display User ID	Determines whether or not User IDs (usernames) appear. Changing Display User ID setting requires restarting the server for the change to take effect.	No
Download Max Chunk Size (bytes)	Maximum size, in bytes, of each chunk or portion of files that are downloaded during the file download process. If the file download is stopped or paused, when the file download is resumed, Agile PLM resumes downloading with the last chunk that had not been completely downloaded when the file upload process was paused. Valid settings 1 - unlimited (0). Maximum specified setting: 9999999999 (9,999,999,999) See also "Download Max Chunk Size" on page 37-6.	1048576
Download Max Concurrent Transfers	Number of concurrent download transfers that one user is allowed. This limit is applied per user, regardless of how many browser sessions the user has pen. Valid settings 1 - 20. See also "Download Max Concurrent Transfers" on page 37-6.	5
Download Max Resumes Allowed	Maximum number of times a user may resume a download transfer. Valid settings from 0 - no upper limit. See also "Download Token Max Resumes Allowed" on page 37-6.	10
Download Token Use Durations (minutes)	Duration of the time period (in minutes) during which the user may resume a download transfer. Valid settings from 0 - no upper limit. See also "Download Token Use Duration" on page 37-6.	1440
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
Event Maximum Nested Levels Allowed	Determines how many times any script will run. If you intend that scripts run multiple times to complete their designed operation, adjust this setting to the desired maximum times allowed. But other scripts will also run multiple times, with possible unintended effects.	10

Table 34–1 (Cont.) Default Systemwide Preferences

Preference Name	Description	Default
Event Monitor Log Level	Sets the level of logging in Event Handler Monitor (System Settings > Event Management) . Settings are All (logs all invoked Subscribers), Error (logs only errors), or Off (does not display log information).	All
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
Keystore Password	In Agile PLM 9.3.2 a keystore has been introduced into the Agile PLM system to improve system security and support new encryption algorithms. The keystore password is the password used to access keystore and retrieve keys in the keystore. The keystore password is randomly generated by the Agile PLM installer when the Agile PLM server is installed.	(Randomly generated)
Load to CAD	Pertains to Engineering Collaboration solution. When set to Enabled, a Load to CAD button appears and is functional in Web Client. Design objects can then be uploaded to your designers' CAD system.	Disabled
Max File Upload Histories Displayed	Maximum number of historical file transfers displayed in the in the file upload manager. Valid range is 0 - 500Valid range is 0 - 500. See also " Max File Upload Histories Displayed " on page 37-6.	250
Maximum BOM Compare Limit	Maximum number of nodes that can be processed in the BOM Comparison report. Valid range is 1 - 5000000.	5000000

Table 34–1 (Cont.) Default Systemwide Preferences

Preference Name	Description	Default
Maximum BOM Reports Results	Determines maximum number of objects displayed in Agile PLM BOM reports: ■ Assembly Cost (Item Master) ■ BOM Comparison Report ■ BOM Explosion Report ■ Effective BOM Explosion Report ■ Manufacturer BOM Report ■ BOM Compliance Report 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). 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 Database Records to Process for Searches	Determines the maximum number of records for Agile to process to reach the Maximum Query Results Displayed value. When the value is set to 0, users who have very restricted Discover privileges can run a search, which checks every object in the system in order to reach the Maximum Query Results Displayed limit. This Maximum Database Records to Process for Searches limit is used to cap how many objects are checked in order to limit the impact to the server and reduce risk of performance problems. If there are performance problems with restricted user searches, a reasonable number like 50,000 should be used to improve performance. The range for this preference is 0 or 1000-99999999. 0 signifies that the entire database is searched. (1-999 is not a valid setting.)	0
Maximum List Values Displayed	Determines the maximum number of list values that can be displayed in a list widget. ■ This value cannot be higher than 2500. ■ 0 and negative numbers are not valid. When the list widget is displayed, if the number of rows exceeds this setting, a message is displayed indicating that the number of results rows is limited to this setting.	250

Table 34–1 (Cont.) Default Systemwide Preferences

Preference Name	Description	Default
Maximum Non-BOM Reports Results	Determines maximum number of objects displayed in Agile PLM Standard Reports and in Agile PLM Custom 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). Note that the "Export to Excel" feature of search results (in Java Client, from page of Search Results: Export Search Result menu icon > Excel or CSV) regards this Preference: the number in this field limits the maximum number of results exported to Excel or CSV files. (This is not to be confused with this sequence accessed from Business Object: Actions > Microsoft Excel > Export to Excel, which does not use this setting.) 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. (For BOM reports limits, see "Maximum Non-BOM Report Results Limit" on page 34-13.	50,000
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 Reports Executed Simultaneously	Defines maximum number of reports that the application server will run simultaneously. Note: This setting is enforced per node in a cluster environment. A cluster of 4 nodes would allow 40 simultaneous reports run.	10 (in a single-node PLM system or per-node in a clustered system)
Maximum Rows for PGC BOM Rollup	This setting is used during Calculate Compliance for an item. Valid range for this setting is 0 - 1000000. When the item's BOM exceeds this preference setting, a message is displayed that informs the user that the BOM exceeds the limit for PG&C rollup, and to try again with a smaller sample size.	500000

Table 34–1 (Cont.) Default Systemwide Preferences

Preference Name	Description	Default
Maximum Rows for Table Expansion	Determines the maximum number of BOM rows allowed to be displayed in the Web Client. This setting prevents very large BOMs overloading the system.	0
Maximum Search / Custom Reports Columns	The maximum number of columns that can be displayed in the search results table or the custom report results table. Valid range for this setting is 1 - 100.	40
Maximum number of objects to Export	Represents the maximum number of objects that should be allowed on an export. A zero value means there is no limit. If you are exporting from ACS or the SDK, the value in this field is ignored.	0
Multicolumn Display	Defines the layout display for Web Client form tabs. Web Client form tab display can be set to One Column or Two Columns. See "Multi-Column Layout on a Web Client Form Tab" on page 5-19.	One Column
Multiple Report Restriction	Restricts a single user from running the same report again until the first request has been completed. No = user can run any report multiple times. Same Only = user can only run one of the same report at a time, or run different reports at the same time. Yes = user can run only one report at a time, of any type. When user is running the same report, error message "You are already running an instance of this report. Please wait for that report to complete before running the report again" is displayed. When user is already running a report, error message "You are already running a report. Please wait for that report to complete before running another report" is displayed.	Same Only
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
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.	60
Number of Archived External Compositions	Upon the creation of a new external composition, the oldest archived composition is deleted if the number of archived compositions exceeds the number of this preference setting. You cannot choose a number less than 0 (zero).	5

Table 34–1 (Cont.) Default Systemwide Preferences

Preference Name	Description	Default
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 regarding performance is offered for this setting.	Medium Table
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
Password Hash Algorithm	To improve the system security, the Agile PLM system switches to SHA-2 cryptographic hash functions (SHA-256, SHA-384, SHA-512) when generating an Agile PLM user's password hash.	SHA-256
Pending Where Used Table Cache Time (in minutes)	The default value of 0 means the system behaves with the error message: "This object has been modified, please refresh and try again." If the value is set to an integer other than 0, a warning message displays: "This will introduce a XX minute delay in synching the pending Where Used table."	0
Price Scale	The number of decimal values (decimal places) used in Agile PCM (Product Cost Management) Money attributes. Valid values range from the minimum of 0 to the maximum of 9. Default value is 6. The Price Scale preference value is copied to the Scale property of all PCM Money attributes. The Scale attribute property cannot be changed on the Money attribute itself. Restart the server for the new Price Scale value to take effect. See also " Price Scale " on page 34-14.	6
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
Record Recently Visited History	When enabled, Agile PLM logs, in the database, the user's complete Recently Visited history for each login session. For more information, see " Recording User Actions in the Database " on page 43-2.	No

Table 34–1 (Cont.) Default Systemwide Preferences

Preference Name	Description	Default
Record Simple Search	Enables the tracking of simple searches. Agile PLM records, in the database, basic information about the simple searches that have been run. For more information see " Recording User Actions in the Database " on page 43-2.	Disabled
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 (-)
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 34-15.	Collapse
Reminder/Escalation Weekend Setting	In escalation and reminder periods of changes, determines how the system will count weekend days (Skip Saturday <i>or</i> Sunday, Skip Saturday <i>and</i> Sunday, or Don't Skip [= <i>count both weekend days</i>]). 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 37-3.	Reference existing file(s)
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 34-12.	Values Copied
Save As Mfr 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

Table 34–1 (Cont.) Default Systemwide Preferences

Preference Name	Description	Default
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
Search All Records for Duplicates	When set to No, Agile PLM checks for duplicates in the search results only in adjacent rows. When set to Yes, Agile PLM retrieves the search results and then checks for duplicates regardless of row order.	No
Search Based On	Settings are Row (default) or Table. If set to Table, Search Based On Table applies to the following 5 tables only: all Attachment tables, Item.BOM table, Item.Manufacturer table, Item.Compliance table, and MPN.Compliance table. Search Based On Table allows the user to use the And search operator for table attributes. For example: Item.Manufacturer Name is equal to ABC And DEF returns items with <i>both</i> ABC and DEF manufacturers on the Manufacturers table. In contrast, when Search Based On is set to Row, the above search returns no results because a row cannot have a manufacturer name that is <i>both</i> ABC and DEF.	Row
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 34-15.	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
Thumbnail Display	Enables the system to present thumbnail representations (small bitmap icons) for Agile object attachment files in Web Client. See Chapter 44, "Administering Thumbnails." For more information about how thumbnails are displayed in Web Client, see <i>Getting Started with Agile PLM</i> , chapter "Working with Thumbnails."	Disabled

Table 34–1 (Cont.) Default Systemwide Preferences

Preference Name	Description	Default
Thumbnail and Streaming File Pre-Generation	Determines whether thumbnails and streaming files are pre-generated by AutoVue by each file manager. See Chapter 44, "Administering Thumbnails."	Disabled
Upload Max Chunk Size (bytes)	Maximum size, in bytes, of each chunk or portion of files that are uploaded during the file upload process. If the file upload is stopped or paused, when the file upload is resumed, Agile PLM resumes uploading with the last chunk that had not been completely uploaded when the file upload process was paused. Valid settings 1 - unlimited (0). Maximum specified setting: 9999999999 (9,999,999,999) See also "Upload Max Chunk Size" on page 37-5.	10485760
Upload Max Concurrent Transfers	Determines the maximum number of parallel concurrent file transfers of multiple files to one client. This limit is applied per user, regardless of how many browser sessions the user has open. Valid settings 1 - 20. See also "Upload Max Concurrent Transfers" on page 37-5.	5
Web Client Timeout for Corporate Users	This setting dictates the number of minutes corporate users can be idle in Web Client before Agile terminates the session.	25
Web Client Timeout for Supplier Users	This setting dictates the number of minutes supplier users can be idle in Web Client before Agile terminates the session.	25

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 Selected Preferences

This section contains details about selected systemwide Preferences.

Agile Drive

Enabling the Agile Drive preference permits the administrator to access the Agile Drive system of managing the file attachments of Agile objects in the form of files and folders from your computer system, without requiring you to invoke the Agile application. It connects Agile's Distributed File Manager as a Network Place on your system, thus enabling Explorer-like operations, such as copy or delete, on file attachments of Agile objects. See ["Administering Agile Drive"](#) on page 39-1 and *Agile PLM Agile Drive User Guide* for more information.

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.

When this preference is set to Yes:

- 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.
- In Web Client, allows the use of an Open Plugin that opens an attached file in its native application. This plugin is used when:
 - The user selects one or more file rows and then clicks the **Open** button.
 - The user clicks the filename link in the attachment table, and the file extension has not been defined as a viewable file. See ["Specifying Supported File Types for AutoVue for Agile"](#) on page 20-5.

When this preference is set to No, the Web Client file **Open** action is the same as the file **Get** action.

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 *systemwide* settings, every Web Client user sees the link. If a user clicks the **Forgot 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.

Maximum Non-BOM Report Results Limit

The **Maximum Non-BOM Report Results** preference determines the maximum number of objects displayed in Agile PLM Custom Reports and in Agile PLM Standard Reports. The upper limit to this field is 500,000 (a comma is not needed in the field). The "Export to Excel" feature of search results (in Java Client, from page of Search Results: Export Search Result menu icon > Excel or CSV) regards this Preference: the number in this field limits the maximum number of results exported to Excel or CSV files. (This is not to be confused with this sequence accessed from Business Object: Actions > Microsoft Excel > Export to Excel, which does not use this setting.)

Note: *Maximum Non-BOM Report Results* cannot be used to retrieve BOM-related reports. See also "[Maximum Non-BOM Report Results Limit](#)" on page 34-13.

This preference is overridden by the **Full Search Display** (FSD) privilege. 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.

Maximum BOM Report Results Limit

The default **Maximum BOM Report Results** limit is set to 50,000 rows. The upper limit to this field is 500,000 (a comma is not needed in the field).

The value of this preference setting is applied to the following Standard Reports:

- BOM Explosion Report
- Effective BOM Explosion Report
- Manufacturer BOM Report
- BOM Comparison Report
- BOM Compliance Report
- Assembly Cost Report (Item Master)

Note: This setting does not apply to the Product Where Used Report, Sourcing Project Assembly Cost Report, or Supplier Response Assembly Cost Report from the PCM standard reports.

If the limit is reached when a report is requested, then the report will not execute and the user is notified with an error message.

This preference is overridden by the **Full Search Display** (FSD) privilege. 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.

Price Scale

Default = 6

Valid entry = 0 – 9

The Agile PCM (Product Cost Management) Money attributes that are affected by the **Price Scale** preference are listed in the following table. In Web Client, these Money attributes use the number of decimal values specified in the **Price Scale** preference.

When **Price Scale** is modified, then you must restart the server for the new **Price Scale** value to take effect.

In Java Client, PCM Money attributes use 6 decimal values, the default, regardless of the **Price Scale** value.

Non-PCM Money attributes also use 6 decimal values, the default. The **Price Scale** preference does not affect non-PCM Money attributes.

The following table lists the PCM Money attributes that are affected by the **Price Scale** value.

Table 34–2 Agile PCM Money attributes

PCM object tables	Money attributes affected by Price Scale
Sourcing Project - Price Details	Material Price Addr 1 – Material Price Addr 7 Non-Material Price 1 – Non Material Price 25 Non-Material Total NRE Total Material Total Material(s) Total Price Total Price(s) Extended Price Extended Standard Cost Material Price Target Cost
Sourcing Project - Analysis - Rollup Price Entry	Total Unit Cost Total Materials Price Total Non-Materials Price Total Extended Cost
Sourcing Project - Analysis - Analysis	Standard Cost ipnMoney1 – ipnMoney5 mpnMoney1 – mpnMoney5 respMoney1 – respMoney5
Sourcing Project - Analysis - Costed BOM Analysis	Standard Cost
Sourcing Project - Analysis - Non Material Price Entry	Total Non-Materials nonMaterialModifier1 – nonMaterialModifier25
Sourcing Project - Items	Standard Cost money01 – money05
Sourcing Project - AML - Items	money01 – money05
Sourcing Project - AML - AML	money01 – money05

Table 34–2 (Cont.) Agile PCM Money attributes

PCM object tables	Money attributes affected by Price Scale
Prices - Price Lines	Material Price Material Price 1 – Material Price 7 money01 – money05 Non Material Price 1 – Non Material Price 25 Non Recurring Cost Total Material Price Total Non Material Price Total Price
Request for Quote - Responses	ipnMoney1 – ipnMoney5 mpnMoney1 – mpnMoney5 respMoney1 – respMoney5

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

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

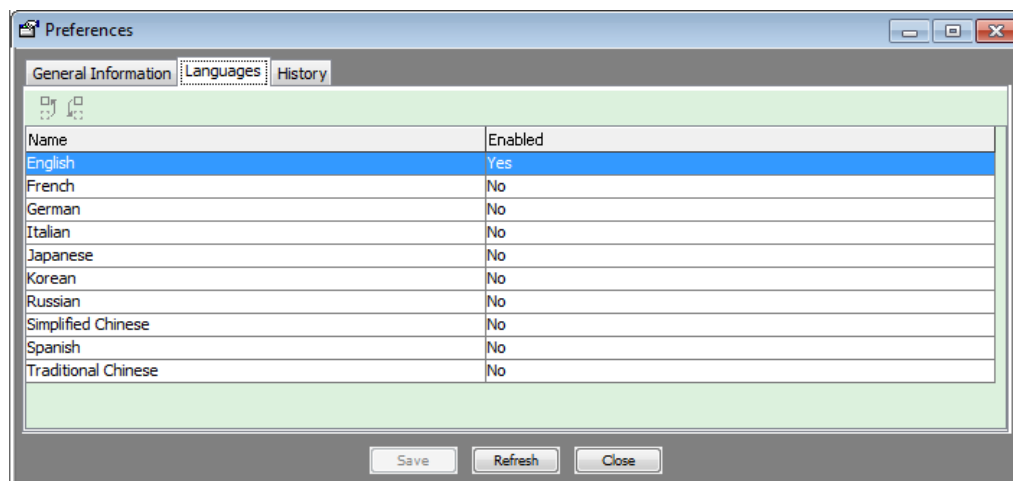
Languages tab

The **Languages** tab lists the available languages for the Agile system. The administrator can select one or more languages at a time and enable or disable them using the Enable/Disable buttons.

By default, English is enabled and you cannot disable English.

You will be able to see in two columns the name of the language and whether or not the language is currently enabled or disabled with a setting of Yes or No.

Figure 34–1 Preferences Settings



This list of supported languages is current as of May, 2011 and is subject to change. See the languages tab found in the **Preferences** node for your current installation supported languages.

Once you are finished with applying the settings you desire then click **Save**. At this point there will be a message alerting you that you must restart the server to apply the changes.

The Agile PLM server will successfully load translated labels and fields for languages that are enabled. The Administrator history is only generated for enabled languages.

User preferences for languages are limited to the enabled system languages.

For more information about Agile PLM Language settings, see ["Administrator Nodes in Java Client"](#) on page 2-4.

The **Licenses** node appears under **Server Settings**. This node provides information about your company's Agile PLM license configuration.

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 licenses and assigned roles and privileges determines which specific tasks a user can perform in certain Agile PLM solutions.

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 13-8.

Note: *Concurrent user assignments and counts may not apply to your current installation and upgrade of the Agile product. For more information contact Oracle Consulting - Agile Practice or your Oracle Agile PLM sales representative.

The **General Info** tab of the Licenses window includes the information shown in the following table. You cannot edit this information.

Table 35–1 Licenses window, General Info tab

"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. 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 drop-down list. Then open each of the remaining drop-down 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 restart 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.

Note: 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, contact your Agile PLM representative.

Recipe and Material Workspace Module

Recipe & Material Workspace (RMW) has fields to select under **Licenses > Modules**. There is a **Recipe Management** and also a **Material and Equipment Management** option to enable. Once the administrator selects **Yes** from the drop-down menu, there are other steps that need to be taken to enable the **Recipe & Material Workspace** menu option in Web Client for Agile PLM users to access the RMW solution.

The `pharma.sql` file must be run on the Agile PLM database, which adds the required privilege types for users to work in RMW. For more information, see the *Agile PLM Recipe & Material Workspace Administrator Guide*. In addition, RMW users need to be granted the Recipe & Material Workspace Access privilege. For more information, see ["Default Agile PLM Privileges"](#) on page 17-5. After enabling the RMW module under **Licenses** and completing these other tasks, the Agile PLM Web Client displays the **Recipe & Material Workspace** option in the drop-down menu for **Tools and Settings**.

If the **Recipe Management** and **Material and Equipment Management** options are both disabled in Java Client, users are no longer able to see the **Recipe & Material Workspace** option in the drop-down menu for **Tools and Settings**.

Task Monitor and Task Configuration

This chapter explains what tasks can be monitored in Agile PLM and how to configure these tasks.

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
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** drop-down list to display only the tasks matching the following criteria:

- **All** – shows all tasks
- **Scheduled** – shows tasks scheduled when it's 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.

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.

Table 36–1 Task Monitor properties

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.

The **Purge** button permits 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 calendar 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.

Table 36–2 Task Configuration

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	In PPM solution, identifies the list of activities scheduled for the coming week and notifies the owners in a summary format.	User-defined
Full Text Search Scheduler	Indexes the content in files for full text search capability.	600 (10 hours)

Table 36-2 (Cont.) Task Configuration

Name	Description	Default interval (minutes)
Attachment Purging Task	Moves outdated files into a special folder and cleans up metadata in the database. ■ The task runs when the server is restarted, and will run 24-hours later (when Task Interval is set to the default 1440). Therefore, the interval is 24-hours from the time the server is started. ■ The task will run when the server is restarted only if it did not run that day. Otherwise, it will run after 24-hours. ■ 6:00 AM GMT is the reference time used to ascertain if the task has already run that day. The duration of a day is 6:00 AM to 6:00 AM the next day. For a particular use case of Attachment Purging Task, see "Use Case for Attachment Purging Task" on page 31-11.	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 through Web Client > Tools > Administration > Cache Health Monitor .	5
Schedule Event Task	The settings for this task run in support of triggered events that use the Scheduled Event event type.	30
Compliance Migration Task	This task sorts all legacy compositions into three categories: Fully Disclosed, Partially Disclosed, or Undisclosed. Note: In PG&C solution, for upgrades in the 9.2.x releases, this task must be enabled and run <i>once</i>; then this task can be disabled and is not needed.	1 (this task is run only once by upgrade customers)
Account Lockout Notify Task	The settings of this task run in support of account lockout email notification.	2

Table 36–2 (Cont.) Task Configuration

Name	Description	Default interval (minutes)
Specification Management Task	When users select objects to add or replace a specification, they are added to a queue to be processed when this task starts. If more than one user selects objects, all of the objects are added to the same queue. Duplicates are filtered out of the queue.	2
External Rollup Task	For PG&C: Time interval and other settings (see table below) for PG&C scheduled External Rollup. Includes a Notification field where you can specify users and user groups who receive External Rollup notifications.	30
OneTime PX Token Cleanup Task	Housekeeping task to periodically delete all expired tokens in the ONETIME_PX_TOKENS table. It is configured by default to run once a day to check all entries in the ONETIME_PX_TOKENS table, and remove those tokens whose lifetime has expired compared to the value of agile.sso.expirationTime set in the agile.properties. The settings of this task can be reconfigured.	1

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.

Table 36–3 Task Configuration - General Info tab properties

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 ensure that no event is skipped.
Task Delay Time	How many minutes the event is delayed before it starts to run.
Task Lookback Window	How far back in minutes the task manager is to look to retrieve the events that can be run now. For a particular use case that involves temporarily re-setting Task Lookback Window, see "Use Case for Attachment Purging Task" on page 31-11. In general, the value for Task Lookback Window should always bigger than the value for Task Interval to ensure that no event is skipped. For the Attachment Purge Task, the shortest default time is 15. For example, if you set the Task Lookback Window to 0, the system uses 15 minutes regardless of the 0 setting.
Task Max Event Number	Number of events that can be running at the same time on one server.

Table 36–3 (Cont.) Task Configuration - General Info tab properties

Property	Description
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 restart the system.
Task Start Time	For tasks that include a Task Start Time : Permits 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**.

Administering Attachments

This chapter discusses how to determine your company's file management policy and configure settings for attachments.

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. Refer "[Administering Designs](#)" on page 38-1.
- Does your company need to organize and track attachments and bundles of attachments? This may indicate building from the File Folder 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 all right 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. See "[File Management in Agile PLM](#)" on page 31-2.

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 31-4.

How SmartRules affect Attachments

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 following example:

- Part 55, Revision B, **Attachments** tab table lists attached file Test.txt, version 3; that is:
File Name = Test.txt, **File Folder** = Folder004, **Folder Version** = 3.
- Part 55, Revision B is added to the **Affected Items** tab of a change object, thus creating pending revision C.

Table 37–1 Copy Files to Rev SmartRule settings

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, with a new File Folder, that is, revision C inherits the same attachments as revision B: File Name = Test.txt, File Folder = Folder005, Folder Version = 1
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, select both the Add check box and the Attachments check box. To add the item with no attachments, select only the Add check box.
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, select both the Add check box and the Attachments check box. To add the item with no attachments, select only the Add check box.

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.

How Preferences affect Attachments

Systemwide preferences are documented in ["Default Systemwide Preferences"](#) on page 34-1.

Filename Prefix

Agile File Manager uses a prefix that is attached to each file that is stored in the file vault. 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 suites your company's business practices.

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 project from a PPM template.

The following table illustrates how each setting works in the following example:

- Object ABC includes the following attachment:
File Name = Test.txt, **File Folder** = Folder004, **Folder Version** = 3.
- A user opens Object ABC and uses Save As to create Object XYZ.

Table 37–2 Save As Attachments preference settings

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 Folder = Folder013 ■ Version = 1 A new copy of Test.txt is created in the file vault, and a new file folder (Folder014, 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 Folder = 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.
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.

When this preference is set to Yes:

- 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.
- In Web Client, allows the use of an Open Plug-in that opens an attached file in its native application. This plug-in is used when:
 - The user selects one or more file rows and then clicks the **Open** button.

- The user clicks the filename link in the attachment table, and the file extension has not been defined as a viewable file. See ["Specifying Supported File Types for AutoVue for Agile"](#) on page 20-5.

When this preference is set to No, the Web Client file **Open** action is the same as the file **Get** action.

Administrator Settings for File Upload and Download

Agile PLM uses the File Uploader when users add files as attachments in Web Client. Supported web browsers are Safari, Chrome, Firefox and IE.

File sizes up to 16 GB are supported. Pausing and restarting file transfers—both downloads and uploads—are supported. Get and Checkout file transfer downloads can be restarted. The file Open action uses a plug-in; for more information, see ["Allow Download of Productivity Components"](#) on page 37-4.

The File Upload Manager displays the progress of file uploads as they occur, allows users to pause and resume a file upload in progress, and retains a list of completed file uploads. The Agile preferences that associated with file upload are:

- ["Upload Max Chunk Size"](#) on page 37-5.
- ["Upload Max Concurrent Transfers"](#) on page 37-5.
- ["Max File Upload Histories Displayed"](#) on page 37-6.

Attachment file actions that involve file downloads (Get, Open, Checkout) are separate HTTP sockets handled by the browser. File download capabilities are configured with Agile preferences:

- ["Download Max Chunk Size"](#) on page 37-6.
- ["Download Max Concurrent Transfers"](#) on page 37-6.
- ["Download Token Max Resumes Allowed"](#) on page 37-6.
- ["Download Token Use Duration"](#) on page 37-6.

Upload Max Chunk Size

File transfers can be paused and restarted.

The Agile preference Upload Max Chunk Size (bytes) determines the maximum size, in bytes, of each chunk or portion of files that are uploaded during the file upload process. If the file upload is paused or interrupted, when the file upload is resumed, Agile PLM resumes uploading with the last chunk that had not been completely uploaded when the file upload process was stopped.

Valid settings are 1 - unlimited (0). Default is 10485760.

Maximum specified setting: 9999999999 (9,999,999,999)

See also ["Download Max Chunk Size"](#) on page 37-6.

Upload Max Concurrent Transfers

The Agile preference Upload Max Concurrent Transfers determines how many concurrent file transfers of multiple files to one client that one user is allowed. Valid settings are 1 - 20; default is 10.

This limit is applied per user, regardless of how many browsers sessions the user has open at one time.

See also ["Download Max Concurrent Transfers"](#) on page 37-6.

Max File Upload Histories Displayed

The Agile preference Max File Upload Histories Displayed determines the maximum number of historical file transfers that are displayed in the File Upload Manager in Web Client. Valid range is 0 - 500; default is 250.

When the number of file transfers exceeds the number set in this preference, the histories of the oldest file transfers are removed from the list.

The user is able to use the **Clear All** button in the File Upload Manager to clear the list.

Download Max Chunk Size

File transfers can be paused and restarted.

The Agile preference Download Max Chunk Size (bytes) determines the maximum size, in bytes, of each chunk or portion of files that are downloaded during the file download process. If the file download is paused or interrupted, when the file download is resumed, Agile PLM resumes downloading with the last chunk that had not been completely downloaded when the file download process was stopped.

Valid settings are 1 - unlimited (0). Default is 1048576.

Maximum specified setting: 999999999 (9,999,999,999)

See also ["Upload Max Chunk Size"](#) on page 37-5.

Download Max Concurrent Transfers

The Agile preference Download Max Concurrent Transfers determines how many concurrent download transfers one user is allowed. Valid settings are 1 - 20; default is 10.

This setting applies regardless of how many browsers or Agile sessions the user has open at one time.

See also ["Upload Max Concurrent Transfers"](#) on page 37-5.

Download Token Max Resumes Allowed

The Agile preference Download Token Max Resumes Allowed determines the maximum number of times a user may resume a download transfer. Valid settings from 0 - no upper limit. Default is 10.

Each file transfer in Agile PLM is treated as a separate File Manager session. If this preference is set to 0, then no resumes are allowed after the File Manager session has timed out.

See also ["Download Token Use Duration"](#) on page 37-6.

Download Token Use Duration

The Agile preference Download Token Use Duration is the time (in minutes) that the user is allowed to restart a paused file download transfer. Valid settings begin at 0 and there is no upper limit. Default is 1440 (one day).

The time starts at the initiation of the file transfer. Once the set time period expires, transfer restarts are not allowed. If the transfer is in process, the file transfer is not stopped, even if the Download Token User Duration time limit has expired. For

example, if the time limit is 1 hour (60 minutes), and the file transfer takes 2 hours, the transfer is completed if it is not paused. If the user pauses the transfer at 50 minutes, he can resume the transfer until 60 minutes has elapsed the initial download initiation. After 60 minutes, attempting to resume the file transfer returns an error.

See also ["Download Token Max Resumes Allowed"](#) on page 37-6.

Assign Roles and Privileges for Attachments

Agile PLM roles are fully documented in ["Roles"](#) on page 16-1 and privileges are fully documented in ["Privileges and Privilege Masks"](#) on page 17-1. 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 ready-to-use roles and privilege masks.

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
- Add to Table
- Delete from Table

Note: GetFile privilege works in tandem with Checkout privilege to actually deliver the attachment file to the user's computer. 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.

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.

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 do not want every user to have this range of permissions on the file folders, and those roles do not 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.

Provided that 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 ready-to-use 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.

Attachment Privileges and Thumbnails

Attachment privileges are also applied to Thumbnails. A user must have either Read privilege and GetFile privilege, or have Read privilege and ViewFile privilege for an attachment row in order for Agile PLM to display the Thumbnail for that attachment on any tab or screen, including:

- Item Title Block

- Item BOM
- Item Attachments
- Item Where Used
- Manufacturer Part Title Block
- File Folder Title Block and Where Used
- Design Title Block, Structure, and Where Used
- Search Results
- Quick View of objects

Reusable Criteria for Attachment Privilege Masks

The Agile PLM pre-defined attachment privilege masks are based on broadly defined reusable criteria, for example, All Items. However, you can create custom privilege masks with reusable criteria that you fine tune to your needs.

When creating a reusable criteria for attachment privilege masks, in addition to the Attachment table attributes, you can specify read-through attributes on the business object Attachment table. That is, you can create a reusable criteria that uses read-through attributes from the Files table of the attached file folder object. In the Create Criteria dialog, these attributes appear in the attribute list with .Files as part of their name. For example: Attachment.Files List01 or Attachment.Files Date01.

This expanded list of Attachment table attributes allows you to define reusable criteria based on a list (for example "Internal" and "External"). You can choose to use a dynamic list of suppliers or user groups to define attachment privileges.

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.

Note: When **Attachments.Filename** is selected in the Modify privilege mask Applied To property, the user is granted the ability to add files to the table and to delete files from the table and to update the file row on the table. If you need to give users different add file and delete file capabilities, then use the Add to Table privilege and the Delete From Table privilege. Add to Table and Delete from Table privileges take affect when **Attachments.Filename** is removed from the Modify privilege mask Applied To property. For more information, see ["Add to Table and Delete from Table Privileges"](#) on page 17-12.

The following table lists the Modify privilege mask Applied To properties and which attachment actions they control.

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 17-19). 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.

File Folder attachment actions

Table 37–3 *File Folder attachment actions*

User action	Privilege	Class	Applied to	Example Privilege Mask or Role / Notes
Add file to File Folder	Modify	File Folder	Files.FileName	Example - Modify File Folders
Checkin File from File Folder	Checkin	File Folder	None.	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

Table 37–4 *Business Object attachment actions*

User action	Privilege	Class	Applied to	Example Privilege Mask or Role / Notes
Checkin attachment on Business Object	Checkin	Business Object	None.	Example - Checkin for Mfr Parts
Remove attachment from Business Object	Modify	Business Object	Attachment.FileName	Example - Modify Mfr Parts

Table 37–4 (Cont.) Business Object attachment actions

User action	Privilege	Class	Applied to	Example Privilege Mask or Role / Notes
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

Table 37–5 Add New File to Business Objects User Actions

User action	Privilege	Class	Applied to	Example Privilege Mask or Role / Notes
Add new attachment to Business Object	Modify	Business Object	Attachment.Filename	Example - Modify Mfr Parts
Add attachment by search to Business Object (requires both Discover and Modify privileges)	Discover	Business Object (the business object being searched against)	None.	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
Continued: Add attachment by search to Business Object (requires both Discover and Modify privileges)	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 attachment to a Manufacturer Part by using Add Search to search for Items.

Table 37–5 (Cont.) Add New File to Business Objects User Actions

User action	Privilege	Class	Applied to	Example Privilege Mask or Role / Notes
Add multiple attachments in one file folder to business object and specify Folder Description (requires multiple Modify privileges)	Modify	Business Object	Attachment.Filename	Example - Modify Mfr Parts
Continued: Add multiple attachments in one file folder to business object and specify Folder Description (requires multiple Modify privileges)	Modify	Business Object	Attachment.Folder Description	Example - Modify Mfr Parts

Markup Subclass

Attachment redline markups and file folder Ad Hoc redline markups are created, modified, and viewed in the AutoVue for Agile.

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 37-13.

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 AutoVue for Agile opens.

See also ["Discovery and Read Privileges"](#) on page 17-36.

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 between versions within the same pending revision (for change-based markup) or previous versions (for ad-hoc 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 previous versions and the 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 AutoVue for Agile. 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 37-12.

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. 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:

Table 37–6 Comparison of default privilege masks for Redline Markup default roles

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

Table 37–6 (Cont.) Comparison of default privilege masks for Redline Markup default

Markup for Self role	Markup for Others role
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 AutoVue for Agile.
- If a user does not have Modify privilege for a specific Markup object listed in the AutoVue for Agile markup panel, the AutoVue for Agile 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 AutoVue for Agile.
- 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 enables 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 want 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

A few recent enhancements concerning attachments are discussed below.

View All Versions

On the standard **Actions** menu, the most significant added Action is **View All Versions**. The View All Versions action is available in File Folder and Design objects.

The **View All Versions** 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** drop-down, 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 Smart URLs

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

These quick access Smart 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. When a user clicks the Smart URL, an Agile PLM Web Client window opens and displays the object, attachment file or search window.

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 Project 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.
- Manually typing an Attachment Smart URL in an easy-to-understand format:

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.

For detailed information about all types of Smart URLs, see *Getting Started with Agile PLM*, chapter "Working with Business Objects in Web Client", section "Smart URL Quick Access to Objects, Files, and Searches."

Administering Designs

This chapter discusses how to configure Agile PLM to handle design objects.

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 business class in the File Folders base class.

Objects created in the Designs class have many of the same properties and behaviors of File Folders. The Designs class is enhanced for use with the Engineering Collaboration (EC) solution; therefore, this chapter highlights those differences. [Chapter 37, "Administering Attachments"](#) contains foundation details about the File Folders base class.

Deployment of Design structures in Agile PLM requires 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 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 Engineering Collaboration, 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."

A feature of the Version drop-down 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.

View All Versions

On the standard **Actions** menu, the most significant added Action is **View All Versions**. The View All Versions action is available in File Folder and Design objects.

The **View All Versions** 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** drop-down, 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. The administrator determines which fields are enabled and visible on the **Title Block** tab.

In Web Client, the **Title Block** can contain two additional sections, called **Page Two** and **Page Three** by default. Agile administrators can add custom class fields to **Page Two** section and custom subclass fields to the **Page Three** section. The Agile administrator determines whether these sections are enabled, and what they are called.

Table 38–1 Title Block tab fields

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
Version	The currently selected version of the Design object
Last Modified Date	Date the Design object was last modified

Table 38–1 (Cont.) Title Block tab fields

Field	Description
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
Checkin Date	When the Design object is checked in, displays the checkin date
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
Thumbnail	Displays information about thumbnail graphics in Design objects; whether it is enabled or not is determined by the systemwide Preference Thumbnail Support and the User Preference settings.
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 37-7, especially "[Modify Privilege and Attachments](#)" on page 37-9: see the section of the table for File Folder Attachment Actions.

Note: 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).

Structure Tab

The Designs **Structure** tab supports "read-through" fields from Designs **Title Block** tab or **Page Two**.

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 drop-down enables you to **Expand** or **Collapse** the structure.

AutoVue for Agile supports Designs **Structure** tab and File Folder **Attachments** tab.

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 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. 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 SmartRule **Display Structure Tables** offers the choice between No Display (appropriate for non-CAD business environments) and Display. See "[Display Structure Tables](#)" on page 19-6.

Copy Files to Rev - Designs SmartRule

The SmartRule **Copy File to Rev - Designs** offers three setting choices: Disallow, Reference, and Reference with Warning. See "[Copy Files to Rev - Designs](#)" on page 19-4.

Design-specific Role & Privilege

Design Engineer is a Role tailored to create, access, and manage Designs class objects.

Privileges and privilege masks around the Designs business object use the Agile PLM Discovery and Read model, including on the **Structure** tab.

To add or remove approvers and perform signoff actions, the user needs the appropriate privilege masks for Design objects.

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.

Note: 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.

Administering Agile Drive

Agile Drive is a system extension enabling users to perform file management operations of Agile objects without requiring the user to invoke the Agile PLM application. It connects Agile's Distributed File Manager as a Network Place on your system, thus enabling Explorer-like operations, such as copy or delete, on file attachments of Agile objects. Agile Drive displays Agile objects as folders, and its attachments as files in these folders.

File Management

With Agile Drive, you can work on files such as documents, drawings, and so forth, that are associated with Agile objects as file attachments in Agile. The actions a user can perform on files are the following:

- View / Read a file
- Save a file
- Update / Edit a file
- Delete a file
- View file properties
- Add a file
- Move a file
- Copy files

The action a user can perform on folders is the following:

- View Folder Properties

Enabling Agile Drive

To enable Agile Drive:

1. Go to **System Settings > Preferences**.
2. From the **Agile Drive** drop-down list, select **Enabled**.
3. Restart all Distributed File Managers.

Note: By default, Agile Drive is set to Disabled.

Once you enable the Agile Drive, the access will be Read-only.

For more detailed information about how to configure the required settings, set up Agile Drive for users, and perform actions using Agile Drive, see *Agile PLM Agile Drive User Guide*.

Administering Approval Matrix

This chapter explains how to configure the Approval Matrix feature in Agile PLM.

Approval Matrix Overview

The Agile PLM Approval Matrix feature enables you to automatically assign users to workflow actions (Approvers, Observers, Acknowledgers, and Notified on Entry) by the job functions each person performs at work, for example, *Developer* or *Product Manager*.

- A Functional Team matches a user with a job function. For example:
 - Mary Jones – Developer
 - John Smith – Product Manager
 - Bob White – QA Lead
- The Administrator configures a workflow to associate a job function with a workflow action, for example:
 - Approver – Developer
 - Acknowledger – Product Manager
 - Observer – QA Lead
- When a routable object is created, one or more functional teams are selected in the **Functional Team(s)** field. When the routable object enters a signoff status, the job functions configured in the workflow are matched to the job functions in the Functional Teams. Agile PLM then populates the Workflow table with the appropriate users. From the examples above:
 - Approver – *Developer* – Mary Jones
 - Acknowledger – *Product Manager* – John Smith
 - Observer – *QA Lead* – Bob White

Configuring Approval Matrix

The Agile PLM Approval Matrix feature enables you to automatically assign Approvers, Observers, and Acknowledgers to routable object workflow actions according to the job functions each person performs at work, for example, *Developer* or *Product Manager*. Each user and user group can be assigned multiple job functions, if needed. Users and job functions are linked in Functional Teams. Functional teams are associated with a routable object as the routable object moves through the workflow. The combination of Functional Team, workflow criteria and approval template

determines which users perform which workflow actions: Approver, Observer, or Acknowledger.

By default, the Approval Matrix feature is not automatically enabled when Oracle Agile PLM is initially installed or upgraded. To use the Approval Matrix feature, you must configure the necessary Agile PLM Administrator settings. The Approval Matrix Manager can then configure and maintain the necessary Functional Teams.

To setup the Approval Matrix Feature:

1. Enable the Functional Teams class, and enable the necessary Functional Team(s) attributes. See ["Enable Approval Matrix Classes and Attributes"](#) on page 40-2.
2. Add the Job Function(s) attributes to the Applied To property of the appropriate Read and Modify privilege masks. See ["Modify Privilege Masks"](#) on page 40-4.
3. Assign the Approval Matrix Manager role to the users you have chosen to manage the approval matrix functions. See ["Assign Approval Matrix Administrator Role"](#) on page 40-4.
4. Create a role that gives the Approval Matrix Managers access to the Approval Matrix Administrator reports. See ["Create Approval Matrix Administrator Reports Role"](#) on page 40-5.
5. Modify the workflow criteria-specific properties by specifying job functions for the default approvers, acknowledgers, observers, and notify users. See ["Configure Job Functions in the Workflow"](#) on page 40-6.

To administer Approval Matrix:

1. Select job functions in the **Job Function(s)** attribute of user objects and user group objects. See ["Assigning Job Functions to Users and User Groups"](#) on page 40-7.
2. Create functional teams and choose job functions for each team. See ["Creating and Managing Functional Teams"](#) on page 40-8.
3. Use the Approval Matrix Administrator reports assist in the ongoing management of approval matrix usage and functional teams. See ["Running Approval Matrix Reports"](#) on page 40-11.

To use functional teams with routable objects:

1. See ["Using Functional Teams with Routable Objects"](#) on page 40-13.

Enable Approval Matrix Classes and Attributes

To use the Approval Matrix feature you must first enable the Functional Teams class and you must enable (make visible) the necessary attributes in other classes.

To enable the Functional Teams class and subclass:

1. Under **Data Settings**, double-click **Classes**. The Classes window appears.
2. Double-click the **Functional Teams** class name. The class properties window appears.
3. Next to the **Enabled** drop-down list, select **Yes**.
4. Click **Save**.

To enable the associated attributes:

See ["Configuring Attributes"](#) on page 5-42.

The following table lists the Agile PLM classes that include attributes that are associated with Functional Teams and Job Functions.

Table 40–1 Attributes associated with Functional Teams and Job Functions

Class or object	Tab	Attribute	Notes
Functional Teams	n/a	n/a	Functional Teams is a class under the User Groups base class.
User	General Info User Groups/ Functional Teams	Job Function(s) Name Job Function(s) Status	None
Customers	Quality	Functional Team(s)	PSRs table and QCRs table
Suppliers	Quality	Functional Team(s)	PSRs table and QCRs table
Parts	Quality	Functional Team(s)	PSRs table and QCRs table
Documents	Quality	Functional Team(s)	PSRs table and QCRs table
User Group	General Info Functional Teams	Job Function(s) Name Job Function(s) Status	None
Changes Declarations PSRs QCRs	Cover Page Workflow Affected Items	Functional Team(s) Reviewer Job Function Functional Team(s)	None

The following table lists objects and tabs where the Functional Team(s) attribute appears as a read-through field. (See "[About Attributes, Flex Fields, and Read-Through Fields](#)" on page 5-27).

Table 40–2 Where Functional Team(s) attribute appears as read-through field

Class or object	Tab	Attribute
Changes	Affected Items Redline BOM Redline Manufacturers	Functional Team(s)
Declarations	Items Manufacturer Parts Part Groups	Functional Team(s)
Items	BOM Manufacturers Prices Quality Where Used	Functional Team(s) (PSRs table and QCRs table)
Manufacturers	Where Used	Functional Team(s)

Table 40–2 (Cont.) Where Functional Team(s) attribute appears as read-through field

Class or object	Tab	Attribute
Product Service Requests	Affected Items	Functional Team(s)
Quality Change Requests	Affected Items	Functional Team(s)
Customer	Related QCR Related PSR	Functional Team(s)
Supplier	Related QCR Related PSR	Functional Team(s)

Modify Privilege Masks

To read and modify the Approval Matrix attributes you enabled, you must add those attributes to the appropriate Read and Modify privilege masks. The table in ["Enable Approval Matrix Classes and Attributes"](#) on page 40-2 lists the object attributes that must be added to the Applied To property of the appropriate privilege masks.

If you have configured custom privilege masks, you must modify them to include the Approval Matrix attributes in the Applied To property.

For roles that create and modify user objects:

- Read Users
- Modify Users

For roles that create and modify user groups:

- Read User Groups
- Modify User Groups

For roles that allow the modification of routable objects, the Read and Modify privilege masks associated with those routable objects, for example:

- Read Changes
- Modify Eng Changes
- Read Prod Service Request
- Modify Prod Service Request
- Read Quality Chg Request
- Modify Quality Change Request

Refer to ["Routable and Nonroutable Objects"](#) on page 5-2 for a complete list of Agile PLM routable objects.

Assign Approval Matrix Administrator Role

Assign the Approval Matrix Manager role to the users who will be managing and updating the Functional Teams. This role allows the Approval Matrix Manager to create Functional Teams, add users to the Functional Team, remove users from the Functional team and define the user's Job Function on that team.

If you want the Approval Matrix Manager user to also assign Job Functions to users or user groups, then that user must be assigned a role that allows him to edit the Job Function(s) attribute on user objects and user group objects.

To assign the Approval Matrix Manager Role:

1. In Java Client, navigate to **Admin > Roles**.
2. Search for the Approval Matrix Manager role:
 - In the **Filter By** field, select Name.
 - In the **Match If** field, select Contains
 - In the **Value** field, enter matrix.
 - Click **Apply**.
 - Double-click the Approval Matrix Manager row to open the role.
3. In the Approval Matrix Manager role window, click the **Users** tab.
4. Click the Add User button.
5. In the Select Users dialog, search for the users you want, and move them into the Recipients list.
6. Click OK.

Create Approval Matrix Administrator Reports Role

To facilitate the management of Functional Teams, there are three Administrator reports that provide information about how the Approval Matrix feature is configured. You can create a role that allows a user (for example, the Approval Matrix Manager) to run those three Administrator reports in Web Client. Because the reusable criteria conditions specify only the three Approval Matrix-related reports, this role does not allow the user to view or run any other Administrator Reports.

To create an Approval Matrix Administrator Reports role:

1. Create an *Approval Matrix Administrator Reports* criteria. This criteria specifies the names of *only* the three Approval Matrix Administrator reports.
 - a. Create a new reusable criteria. (See ["Creating a New Criteria"](#) on page 10-3).
 - b. In the Name field, enter Approval Matrix Administrator Reports.
 - c. In the **Object Type** field, select Administrator Report.
 - d. Click **Add** to begin defining the criteria conditions. Define the criteria conditions as follows:

General Info.Name Equal To Workflow Approval Report Or

General Info.Name Equal To Workflow Job Functions Without Users Report Or

General Info.Name Equal To Inactive Users / User Groups on Active Functional Teams Report
2. Create the following privilege masks. Specify the Approval Matrix Administrator Reports criteria as the Privilege Criteria in each privilege mask.

Table 40-3 Privilege Masks for Approval Matrix Administrator Reports Role

Privilege	Privilege mask name
Discovery	Discover Approval Matrix Administrator Reports
Read	Read Approval Matrix Administrator Reports
Run Report	Run Approval Matrix Administrator Reports

(See ["Creating New Privilege Masks"](#) on page 17-31)

3. Create an Administrator privilege mask as follows.

To run any administrator reports, the user must have a valid Administrator privilege mask. However, only one single Applied To property is needed for the Approval Matrix Administrator user to be able to run approval matrix administrator reports. For this privilege mask, the Users property will give the user an active Administrator privilege, but will restrict access to other Administrator functions. See also ["Specialized Administrator Privilege Masks"](#) on page 17-29.

 - a. Create an Administrator privilege mask.
 - b. In the **Name** field, enter Administrator for Approval Matrix Administrator Reports.
 - c. In the **Applied to** property, select Users.
 - d. Click **Save**.
4. Create a *Run Approval Matrix Administrator Reports* role as follows:
 - a. Create a new role. (See ["Creating a New Role from Scratch"](#) on page 16-18).
 - b. In the Name field, enter Run Approval Matrix Administrator Reports.
 - c. Assign the following privilege masks to the role. (These are the privilege masks that you created in steps 2 and 3 of this procedure.)

Discover Approval Matrix Administrator Reports

Read Approval Matrix Administrator Reports

Run Approval Matrix Administrator Reports

Administrator for Approval Matrix Administrator Reports
 - d. Click **Save**.
5. Assign the Run Approval Matrix Administrator Reports role to the appropriate users.
 - a. In the role window, click the **Users** tab.
 - b. Click **Add Users** to open the Select Users dialog box.
 - c. Select and use the arrows to move users from the Names list to the Recipients list.
 - d. When you are finished, click **OK**.

Configure Job Functions in the Workflow

In the workflow statuses that include signoff capability (Review-type statuses and Released-type statuses), you can define approval template settings for each status criteria.

That is, for each status criteria, you can select a job function for the default Approver, Observer, Acknowledger, or Notified person. When the routable object enters that workflow status, Agile PLM matches the job functions in the workflow with the assigned job functions in the functional teams that were selected in the **Functional Team(s)** field on the **Cover Page** tab. Agile PLM then populates the routable object **Workflow** tab with the names of the appropriate users or user groups.

To configure the job functions approval template:

1. Under **Workflow Settings**, double-click **Workflows**. The Workflows window appears.
2. Double-click the workflow you want. The workflow window appears.
3. Click the **Status** tab to display it.
4. In the Status table, click a review-type or released-type status to select it.
5. In the lower Criteria table, double-click the criteria you want to modify.
6. In the field you want to configure, click the icon to open the Address Book. The fields to configure are:
 - Notify Upon Entry
 - Approvers
 - Acknowledgers
 - Observers
7. Click the Job Functions tab.
8. Select the job functions you want and use the arrow buttons to move them into the Recipients list.
9. When you are done, click **OK**.
10. Repeat step 6 through step 9 to configure the remaining fields.
11. In the **Group Signoff Expansion** field, select either **All** (default) or **Any**. This property determines whether user groups are expanded to populate the Workflow tab with the usernames of the members of the group (**All**) or to populate the Workflow tab with the user group name (**Any** – only one user needs to sign off).

Approval Matrix Administration Overview

The Approval Matrix Manager user manages the Functional Teams. Approval Matrix Manager tasks include:

- Verifying the assigned Job Functions of users and user groups.
- Creating functional teams.
- Adding users and user groups to a functional team.
- Selecting job functions for the members of the functional team.
- Removing members of a functional team.

Assigning Job Functions to Users and User Groups

The ability to modify the **Job Function(s)** attribute of user objects and user groups objects requires a role that includes the appropriate Modify privilege masks.

Each user or user group can be assigned multiple job functions. A user can be a member of multiple functional teams and therefore, he can have a different job function on each functional team.

See "[Modifying User Properties](#)" on page 13-5 and "[Modifying a User Group](#)" on page 14-4 for basic modification instructions.

In Java Client:

1. Locate and open the user or user group you want to modify.

(Under **User Settings**, double-click the **Users** node or the **User Groups** node.)

2. In the **Job Function(s)** field, click the icon to open the selection dialog.
3. Select one or more job functions in the Choices list and use the arrow buttons to move them to the Select list.
4. When you are done, click **OK**.
5. In the user object window click **Save**.

In Web Client:

1. Locate and open the user or user group you want to modify.
(Choose **Tools and Settings > Address Book > Users** or **Tools and Settings > Address Book > User Groups**.)
2. Click **Edit**.
3. In the **Job Function(s)** field, click the icon to open the selection palette.
4. Double-click a row to add it to the field.
5. Press **Escape** to close the palette.
6. When you are done, click **Save**.

In Web Client, to add the same job function to multiple users simultaneously:

1. Open the address book **Users** tab.
Choose **Tools and Settings > Address Book > Users**.
2. Select the rows of the users you want to modify.
3. If necessary, use the **Personalize** filter to narrow your choices.
4. Choose **More > Assign Job Functions**.
The Assign Job Functions dialog appears.
5. In the **Job Functions** field, enter a job function name or click the icon to open the selection palette.
6. Double-click a row to add it to the field.
You can select one or more job functions.
7. Press **Escape** to close the palette.
8. When you are done, click **Save**.

Creating and Managing Functional Teams

Note: Functional Team objects are created in Agile PLM Web Client. You must have a role that allows you to create and modify Functional Teams.

See also "[Assigning Job Functions to Users and User Groups](#)" on page 40-7..

To create a functional team:

1. In Web Client, choose **Tools and Settings > Address Book > Functional Teams**.
The Address Book opens with the **Functional Teams** tab displayed.

2. Click **Add**.
3. In the Create New dialog, select a value in the **Type** field, if necessary.
4. In the **Name** field, enter the name of the functional team.
5. Click **Save**.

The functional team object is displayed.

6. Modify the remaining fields on the **General Info** tab, if desired.
 - Description – Enter a meaningful description.
 - Status – Can be set to Active or Inactive.
 - Owner – If desired, select a different user.
7. Click **Save**.

On the **Job Functions** tab, you specify the job functions that will be included in this functional team, and you select the user or user group that will perform each job function on this team.

To add select job functions and add team members:

1. Click the **Job Functions** tab.
2. Click the **Add** button. The Add Job Function to Functional Team dialog appears.
3. In the **Job Function** field, click the icon to open the selection palette.
4. Double-click to select a job function.

You can select only one job function for each job function table row. Each job function can be listed only once on the job function table.

5. Press Escape to close the palette.
6. Click the icon to open the Users/User Groups search palette.
7. Search for the user or user group you want to add.

The search is limited to users or user groups that have been assigned the job function that you selected in step 4. For example, if you select Developer as the job function, the search is limited to users or user groups that where Developer is included in their **Job Function(s)** attribute.

8. Double-click the users you want to add.
9. If desired, you can perform additional searches to find more users or user groups to add.

You can add as many users and user groups as needed.

10. When you are done, click **Add**.

The row is added to the job functions table.

To remove a job function from the Job Function table:

1. Select the row you want to remove.
2. Click **Remove**.

To edit a job function row:

You can add or remove users or user groups in the **User/User Groups** cell of the Job Functions table.

1. In the table row you want to modify, double-click inside the **User/User Groups** cell. The search palette appears.
2. Click the small x button on each user or user group you want to remove.
3. Type the name of the user or user group you want to add separated by semicolons.
Or, click the icon to open the address book palette.
The search is limited to users or user groups that have been assigned the job function in that row.
4. Press Return to save your modifications to the cell.
5. When you are done, click **Save** on the job functions table.

Resolving Missing Users

Use the Workflow Job Functions Without Users Report to identify the routable objects that have missing users.

The **Missing User** icon (a red question mark) is displayed in the **Reviewer** column of routable object workflow table when:

- A job function has been defined as a reviewer for the routable object.
And
- There is no identified user or user group to assign as a reviewer.
A missing user can appear if:
 - The job function *is not* included on the functional team Job Functions table.
 - Or
 - The job function *is* included on the Job Functions table, but no users or user groups are listed in the **Users/User Groups** field.

For example, the workflow requires that a user with the Product Strategy job function must approve the routable object. The functional team that was selected in the routable object **Functional Team(s)** attribute does not include the Product Strategy job function. When the routable object enters the CCB status, the missing user is indicated by the **Missing User** icon.

Figure 40–1 Resolving Missing Users

Status Code	Workflow Status	Reviewer	Action	Req'd	Reviewer Job Function
	Implemented				
	Released				
	CCB				
		 Analyst, Analyst12	Awaiting Approval	Yes	Developer
			Awaiting Approval	Yes	Product Strategy

To resolve a missing user on the routable object workflow table:

You must have the appropriate modify privileges to edit the workflow table **Reviewer** field.

1. Double-click inside the table cell where the **Missing User** icon appears. A small search dialog appears.
Only users and user groups that have the specified job function included in their **Job Function(s)** attribute appear in the search results. For example, when you

resolve a missing user for a Product Strategy reviewer job function, then the search results are limited to Product Strategy users and user groups.

2. Enter text to find a reviewer:
 - a. Begin typing a name and Agile PLM displays a name that matches in the search results field.
 - b. Click the name in the search results field to select it.
 - c. Press **Enter** to populate the Reviewer cell and to close the search dialog.
3. Or, click the icon to launch the address book palette.
 - a. Execute a search.
 - b. Double-click to select the search result row you want.
 - c. Press **Escape** to close the address book palette.
 - d. Press **Enter** to populate the Reviewer cell and to close the search dialog.
4. When you are done, click **Save** on the workflow table to save your edits.

Running Approval Matrix Reports

To facilitate the management of Functional Teams, there are three Administrator reports that provide information about how the Approval Matrix feature is configured. These reports produce Excel spreadsheets. For general instructions about running ["Administrator Reports"](#) on page 4-2.

The reports are:

- ["Inactive Users / User Groups on Active Functional Teams Report"](#) on page 40-11.
- ["Workflow Approval Report"](#) on page 40-12.
- ["Workflow Job Functions Without Users Report"](#) on page 40-12.

If you have the appropriate privileges, you can run these reports in Web Client. If you initiate a report in Java Client, Web Client opens to that specific report page.

To access Approval Matrix Administrator reports in Web Client:

1. In the **REPORTS** drawer in the left navigation pane, click the **Expand** icon next to the **Reports and Analytics** folder to view the top-level folders.
2. Click the **Expand** icon next to the **Standard Reports** folder.
3. Click the **Expand** icon next to the **Administrator Reports** folder.
4. In the **Administrator Reports** folder, click the name of the report you want to run to open the report page in the content pane.

Inactive Users / User Groups on Active Functional Teams Report

For general instructions about running ["Administrator Reports"](#) on page 4-2.

Use the **Inactive Users / Users Groups on Active Functional Teams Report** to identify disabled users (and user groups) that are members of active functional teams. This enables you to identify which functional teams need to be modified to remove the inactive user or user group.

To run the report in Web Client:

1. In the **REPORTS** drawer in the left navigation pane, navigate to the report: **Reports and Analytics > Standard Reports > Administrator Reports**. Click **Inactive Users / User Groups on Active Functional Teams Report**. The report is displayed in the content pane.
2. Click the **Execute** button.
3. When the File Download dialog appears, click **Open** to open the spreadsheet report, or click **Save** to save it on your local drive.

Workflow Approval Report

For general instructions about running "[Administrator Reports](#)" on page 4-2.

The **Workflow Approval Report** shows how job function workflow approvals have been configured in each workflow.

To run the report in Web Client:

1. In the **REPORTS** drawer in the left navigation pane, navigate to the report: **Reports and Analytics > Standard Reports > Administrator Reports**. Click **Workflow Approval Report**. The report is displayed in the content pane.
2. Click the **Execute** button.
3. When the File Download dialog appears, click **Open** to open the spreadsheet report, or click **Save** to save it on your local drive.

The report shows how workflows are defined by workflow, status, and criteria. The report include the workflow name, status, criteria, criteria description, action (Approver, Acknowledger, Observer, Notified), and job function.

A "Yes" in a cell indicates which job function will perform which action for each criteria. Note the "Yes" cells in the following report excerpt:

Figure 40–2 Workflow Approval Report

29	Workflow	Default Deviations							
30	Status	Criteria	Criteria Description	Action	Developer	Lead Developer	Product Manager	Product Strategy	QA
31	CCB	All Deviations	All Deviations	Approver	No	Yes	No	No	No
32				Acknowledger	No	No	No	No	Yes
33				Observer	No	No	Yes	No	No
34				Notified	No	No	No	Yes	No
35	Released	All Deviations	All Deviations	Approver	No	No	No	No	No
36				Acknowledger	No	No	No	No	No
37				Observer	No	No	No	No	No
38				Notified	No	No	No	No	No

Workflow Job Functions Without Users Report

The Workflow Job Functions Without Users report list the routable objects that have job functions defined in their workflow, but no user is associated with the job function on the routable object **Workflow** tab. This report lists:

- Job Function
- Object Type
- Object ID
- Object Description
- Status
- Workflow Role (Approver, Observer, Acknowledger, Notified)

To run the report in Web Client:

1. In the **REPORTS** drawer in the left navigation pane, navigate to the report: **Reports and Analytics > Standard Reports > Administrator Reports**. Click **Workflow Job Functions Without Users Report**. The report is displayed in the content pane.
2. Click the **Execute** button.
3. In the Available Classes list, select the classes you want to include in the report. Use the left and right arrow buttons to move them to the Selected Classes list. Use the up and down arrow buttons to arrange them in the order you want.
4. Click **Finish**.
5. When the File Download dialog appears, click **Open** to open the spreadsheet report, or click **Save** to save it on your local drive.

Using Functional Teams with Routable Objects

When Agile PLM has been configured to use the Approval Matrix feature and the Approval Matrix Manager has created the necessary functional teams, then end users can use functional teams in the workflow process.

To use functional teams in the workflow process:

1. Create a routable object, for example, an ECO.
2. On the **Cover Page** tab, the two attributes that control the Approval Matrix feature are:
 - **Workflow** – Select the appropriate workflow for your routable object.
 - **Functional Team(s)** – Select one or more functional teams.
3. When the routable object enters a signoff status (review-type status or released-type status), Agile PLM matches the job functions in the workflow definition to the job functions in the functional teams, and populates the routable object **Workflow** tab with Approvers, Acknowledgers, Observers. That is:
 - A functional team matches one or more users with a job function. For example:
 - Mary Jones – Developer
 - John Smith – Product Manager
 - Bob White – QA Lead
 - The Agile administrator configures a workflow to associate a workflow action with a job function, for example:
 - Approver – Developer
 - Acknowledger – Product Manager
 - Observer – QA Lead
 - On the routable object **Cover Page** or **General Info** tab, one or more functional teams are selected in the **Functional Team(s)** attribute. When the routable object enters a signoff status, the job functions configured in the workflow are matched to the job functions in the functional teams. Agile PLM then populates the Workflow table with the appropriate users. From the examples above:
 - Approver – *Developer* – Mary Jones

Acknowledger – *Product Manager* – John Smith

Observer – *QA Lead* – Bob White

Administering Reference Objects

This chapter explains how to configure the Reference Objects feature in Agile PLM.

What are Reference Objects?

In Agile PLM, the table on the **Relationships** tab enables users to add references to other objects in Agile PLM. Introduced in Agile PLM 932, the Reference Objects feature enables users to search for objects in external applications and add them as references on the **Relationships** tab.

From the **Relationships** tab, an end user can:

- Search for an object in an external application and add a reference to that object in Agile PLM Relationships table.
- Create a new object in an external application, and add a reference to that object in the Agile PLM Relationships table.
- Search, add, and remove Reference Objects from the Agile PLM Relationships table.

Reference Object Setup

As of release 9.3.2, Reference Objects are a new Oracle Agile PLM object class. Reference Objects allow the user to look up objects in external applications and add them to the Relationships tab as references.

- Relationship rules are not supported for Relationship Objects.
- Reference objects are supported in Web Client only. However, once a reference object has been added to a Relationships tab in Web Client, that reference object is visible in Java Client.
- Reference objects are created only from the **Add** drop-down menu on the **Relationships** tab (or **Content** tab in PPM). (Reference objects *cannot* be created from the **Create New** menu in the top pane of Web Client.)
- The Agile administrator must create Discover, Read, Create, Modify, and Deleted privilege masks for Relationship Objects, and apply those privilege masks to roles. Reference Objects appears in the **Add** drop-down menu on the **Relationships** tab when end user has a Create privilege mask for Reference Objects.
- You can perform a simple search for reference objects only from the **Relationships** (or **Content**) tab. In all other Agile PLM searches, Reference Objects or its subclasses do not appear as a choice for searching.

The set of search result objects is determined by the external application.

By default, the Reference Objects feature is not automatically enabled when Oracle Agile PLM is initially installed or upgraded.

Overview of the Reference Object feature configuration tasks:

1. On the **System Settings > Reference Objects Management > Applications** node, define the external applications.
2. Enable the Reference Objects class and define the needed subclasses.
3. Define each Reference Objects subclass, including specifying the external application webservice.
4. Define the Attribute Mappings for each subclass.
5. Define the Quickview Mappings for each subclass.
6. Create the necessary privilege masks: Discover, Read, Create, Modify, Delete.

To enable the References Objects class and subclass:

1. Under **Data Settings**, double-click **Classes**. The Classes window appears.
2. Double-click the **Reference Objects** class name. The class properties window appears.
3. Next to the **Enabled** drop-down list, select **Yes**.
4. Click **Save**.

Define External Application

The Reference Objects Applications node (Java Client, **Admin > Systems Settings > Reference Objects Management > Applications**) enables you to create, modify, delete, enable, and disable external applications that Agile PLM will search to find external objects to associate with an Agile Reference Object.

Define the external applications:

1. In Java Client, navigate to the **System Settings > Reference Objects Management > Applications** node.
2. Click the **Create** button.
3. In the Create Application dialog, fill in the Application property fields.
4. When you are finished, click **OK**.

Table 41–1 Specify external application details properties

Property	Description
Name	Name of the external application that will appear in the add Relationship search dialog list and
API Name	This field is filled in automatically. You can enter a different API name, if desired.
Description	Detailed description of the external application.
Host Base URL	The base URL of the external application.
Port	Port number.
Virtual Path	Virtual path of the external application.
UserID	UserID used on external application.
Password	Password for above userID

Table 41–1 (Cont.) Specify external application details properties

Property	Description
Enabled	Set to Enabled by default. Values: Enabled or Disabled.

- Together, the Base URL, Port and Virtual Path construct a URL to the location of the external application's webservices.
- UserID and Password can be left blank to use the logged in user context during runtime.

You can define multiple external applications, as needed.

Specify Reference Object Webservices

Each remote application must have webservices written for the Reference Object integration. The Host Base URL, Port and Virtual Path properties on the Application definition are used to construct a URL to the location of the external applications webservices.

You can download a sample webservice from

<http://www.oracle.com/technetwork/indexes/samplecode/agileplm-sample-520945.html> on the Oracle Technology Network (OTN) website.

Define Reference Object Subclasses

For each external application object type for which you want to create Reference Objects, you must define a separate subclass. Each external application object type must have its own subclass. For example, if the external application has both Diode objects and Resistor objects, then you must define a subclass for:

- <External Application> Diode
- <External Application> Resistor

When the end user adds Agile Reference Objects to the **Relationships** tab, each Reference Object subclass appears in the search palette object drop-down list.

To enable the References Objects class:

1. Under **Data Settings**, double-click **Classes**. The Classes window appears.
2. Double-click the **Reference Objects** base class name. The class properties window appears.
3. Next to the **Enabled** drop-down list, select **Yes**.
4. Click **Save**.

To create a Reference Object subclass:

1. Navigate to **Data Settings > Classes**. Double-click **Reference objects** class name. The class properties window opens.
2. Click the **Subclasses** tab.
3. Click the New Subclass button. The New Subclass dialog appears.
4. Fill in the editable fields:
 - Name
 - API Name (See "[API Name](#)" on page 4-1.)

- Description
 - Icon (Enter the location of a custom icon, if desired.)
5. Click **OK**.

The subclass window opens.
 6. Complete the remaining fields:
 - Tokens – Tokens is the object name in the external application's webservice that calls up a specific type of object in that application. Example: objectType=Changes
 - Search Webservice – the name of the external application's webservice that initiates a search in the external application.
 - Quick View Webservice – the name of the external application webservice that retrieves the Quick View attributes as defined in the **Mappings** node.
 - Available On – the objects in the current Agile PLM system that will be able to add this Reference Object subclass as a row on their **Relationships** tab. For example, Items and Changes.
 7. Click the Test Webservice button to test the webservices you have configured.
 8. When you are done, click **Save**.

Define Reference Object Attribute Mappings

The **Reference Objects Management** folder **Mappings** node enables you to map attributes from an external application to attributes on a configured Reference Objects subclass.

There are two types of mappings available:

- Attribute Mappings
 - Attribute mappings are automatically created when the subclass is created.
 - There are three mappable Reference Object Attributes: Name, Description, Current Status.
 - The Agile administrator can modify or remove the corresponding Webservice Attributes.
- Quickview Mappings
 - The Quickview mappings define the external application attributes that appear in the Quickview palette when the end user views the Reference Object with the Quickview feature.
 - Quickview mappings are not created automatically when the subclass is created.
 - You can add up to 15 Quickview mappings.
 - Quickview mappings consist of:
 - Label – the label that appears in the Quickview palette.
 - Webservice Attribute – the external application webservice that returns the corresponding external application attribute.
 - Data Type – choices are Text, MultiText, Date, and Numeric.
 - You can modify the order of the Quickview Mappings.

To define attribute mappings:

1. Navigate to **Admin > Settings > System Settings > Reference Objects Management**. Double-click the **Mapping** node to display the Mappings window. The defined Reference Object subclasses are displayed in a table.
2. Double-click the table row of the subclass you want to modify. The Mappings:<subclass name> window appears.
3. Under Attribute Mappings, you can modify the Webservice Attribute.

Note: When specifying Quickview mappings for an Agile-to-Agile reference object subclass, the Webservice Attribute names cannot include any white space (space characters).

4. Under Quickview Mappings, click the **Add** button to add a row.
5. Double-click in a cell to enter values for Label and Webservice. Use the drop-down list to select a Data Type.
6. Click the **Add** button again to add another row, up to 15 rows.
7. Click the Reorder Quickview Attribute Mapping button to display the Order dialog.
8. Select a row and use the up arrow and down arrow buttons to rearrange the order of the attributes.
9. When you are finished, click **OK** in the Order dialog.
10. When you are finished in the Mapping dialog, click **OK**.

Note: When specifying Quickview mappings, Page Two and Page Three attributes must have unique API names. For example, if date01 on Page Two and date01 on Page Three have the same API name, only the Page Two date01 attribute will be displayed in the Quickview display.

To avoid this conflict, in the Java Client Administrator Classes node, rename one or both of the conflicting attributes so that the API names are unique.

Create Reference Object Privilege Masks

The Administrator privilege includes an **AppliedTo** value, **Reference Objects Management**. This Administrator privilege property grants access to both the **Applications** and **Mappings** nodes in the **Reference Objects Management** folder.

You can create reusable criteria for Reference Objects, and then use that criteria to create privilege masks for the privileges Create, Modify, Discovery, Read, and Delete. Discovery and Read of the Relationship table rows is achieved by granting privilege masks for Reference Objects class and subclass.

A Create Reference Objects privilege mask controls whether a user can create reference objects. It also controls the availability of the "Reference Objects" selection on the **Add** button drop-down menu on the **Relationships** tab.

Administering Revision-Specific Relationships

This chapter explains how to configure the Revision-Specific Relationships feature in Agile PLM.

Revision-Specific Relationship Attributes

When Agile PLM is first installed, revision-specific relationships are disabled by default. To use revision-specific relationships, the Agile administrator must enable the appropriate relationship tabs attributes and define the needed privilege masks for user roles.

Revision-specific relationships are supported for the revision-controlled classes Parts, Documents, and Prices. To create a revision-specific relationship, the revision-specific relations attributes must be enable for both classes in the relationship. However, you can choose to display the revision for some classes, but not for others.

For example, you may choose to enable revision-specific relationships for only Parts and ECOs. In a relationship between a Part and an ECO, the relationship defaults to the LATEST revision on the Relationships table of the ECO, and then the user can select a specific revision. In contrast, in a relationship between a Part and a Deviation (not revision-specific relationship enabled), the relationship defaults to ALL revisions on the Relationships table of the Deviation.

The Relationship table (Content table in PPM) attributes that are used to track revision-specific relationships are:

- **Revision**

Enabling this attribute is required for revision-specific relationships. When this attribute is enabled, and the user has the appropriate Read and Modify privilege masks, then the user can select a specific revision from the Revision cell drop-down list on the Relationships table

Read and Modify privilege masks must include the Relationships table Revision attribute in the AppliedTo list.

When the Relationships table Revision attribute is enabled, then the Relationships table **More** menu selections for **Accept New Revisions** and are also enabled

Important: Before you enable a Relationship table Revision attribute, plan how you want to use revision-specific relationships in your company. After users have created revision-specific relationships, the revision-specific relationship feature is not easily disabled.

When you have enabled the Revision attribute (set the attribute Visible property to Yes), and then you save your modifications to the attribute properties, the following Warning is displayed:

WARNING! If you enable the revision attribute, it cannot be easily disabled later. Once you have enabled the revision attribute, users are allowed to create multiple Revision-Specific relationships on the Relationships tab. If you wish to disable the revision attribute later, you must first resolve all multiple rows (one row for each revision of the same object) to a single ALL to All relationship row for all <object class name> with Revision-Specific relationships. Click **Yes** to proceed.

- **Change**

This read-only attribute shows the change (ECO, MCO, or PCO) associated with the selected revision in the Revision cell. If this attribute is visible, and the user has read privilege for the attribute, when the user clicks the change number, the user is navigated to the change object.

- **Track Impact**

Track Impact determines whether or not to track the impact of a new release of the revision-controlled target object.

Track Impact is editable inline if the user has the appropriate modify privilege mask AppliedTo property. To edit Track Impact, the target must be revision-controlled.

- **Impacted Flag (image)**

When **Track Impact** is set to Yes, then the Track Impact flag indicates that the Relationship target object has changed and has a new revision.

If the selected revision is Latest, then the flag is cleared when the user selects the relationship row and chooses **More > Accept New Revision**.

Refer to *Getting Started with Agile PLM* for more information about revision-specific relationships.

Revision-Specific Relationship System Settings

The preference Display Change on Relationship Tab Revision Dropdown determines whether the change number associated with the selected revision is displayed beside the revision in the Revision drop-down list. See ["Default Systemwide Preferences"](#) on page 34-1.

The Copy Relationships to Rev SmartRule determines whether or not the relationships table is copied to the new revision of a revision-controlled object. See ["Copy Relationships to Rev"](#) on page 19-5.

Privileges for Revision-Specific Relationships

In order to use revision-specific relationships, users must have the appropriate Read and Modify privilege masks.

The user requires Read privilege mask that includes Revision, Change, Track Impact, and Impacted Flag (image) in the privilege mask AppliedTo property.

To create a revision-specific relationship, the user requires a Modify privilege mask that includes at least Revision in the AppliedTo property. Include Change and Track Impact in the AppliedTo property depending on the capabilities you wish to grant to the user. The Impacted Flag (image) attribute does not appear as a choice in the Modify privilege mask AppliedTo dialog because it does not require a Modify privilege mask.

See also ["Item Relationship Creation Using \\$CURRENTREV and \\$LATESTREV Criteria"](#) on page 10-10.

Intellectual Property Reporting

Agile PLM features related to intellectual property reporting include Agile PLM Administrator reports and systemwide preferences that control the recording of user actions in the database for later retrieval.

Attachment IP Reports

The list of Standard Administrator reports includes two reports that return information about attachment files, when they were accessed, and who accessed them. See also "[Administrator Reports](#)" on page 4-2.

- **Attachment History Report**

This report allows you to see all the attachment history actions for objects you specify in the report wizard.

If the specified objects are Change Orders or Change Requests, you are prompted to choose whether to create the report with the attachments of the change objects or to create the report with the attachments of the affected items of the change objects.

The output is an Excel spreadsheet.

- **Attachments Accessed by User Report**

This report allows you to see all the attachment actions performed by the specified users in the specified time period.

In the report wizard, you specify a time period date range, and you specify one or more users or user groups. You also have the option to select all users.

This report returns only File Folder and Attachment history.

The output is an Excel spreadsheet.

User History Reports

The list of Standard Administrator reports includes two reports that return information the actions of specified users. See also "[Administrator Reports](#)" on page 4-2.

- **User History Report**

This report allows you to see all the Agile PLM actions of the specified users during the specified time period.

In the report wizard, you specify a time period date range, and you specify one or more users or user groups. You also have the option to select all users.

The output is an Excel spreadsheet.

- **User Usage Report**

For the specified users, this report lists Agile PLM usage over a period of time, including the number of logins and the total login time in minutes.

In the report wizard, you specify a time period date range, and you specify one or more users or user groups. You also have the option to select all users.

The output is an Excel spreadsheet.

Recording User Actions in the Database

Two Agile PLM preferences determine what type of user actions to record in the database for later retrieval. See also "[Default Systemwide Preferences](#)" on page 34-1.

- **Record Recently Visited History**

No – Agile PLM tracks read access by recording the Recently Visited list at these events: at logout, at timeout, or when the user kills the browser. The Recently Visited History can be set to 10, 25, 50, or 100 in the Recently Visited Folder Size preference. If Recently Visited is set to 25, and the user has accesses more than 25 objects, when he logs out, only the last 25 objects are recorded in the database

Yes – In order to track all the read access actions of the user, Agile PLM records the Recently Visited list at these events: when the Recently Visited set limit is reached, when the user logs out, at timeout, and when the user kills the browser.

The Agile server maintains a table to record the Recently Visited records.

- **Record Simple Search**

Enabled or Disabled

When enabled, Agile PLM records in the database basic information about the Simple Searches that have been run. The information recorded includes: userid, time stamp, and search string.

The Agile server maintains a table to record the Simple Search information.

Administering Thumbnails

The way attachment thumbnails and streaming files are generated, stored and displayed in Agile PLM is controlled by a combination of settings in the Agile Administrator nodes **Preferences**, **Location**, **Viewer and Files**, and **Users**.

When the system preference **Thumbnail and Streaming File Pre-Generation** is enabled, then AutoVue creates streaming files and thumbnails and stores them. The combination of thumbnail file and streaming file settings determine the specific behavior in Agile PLM. These setting combinations and the Agile behavior results are discussed in "[Possible Combinations of Thumbnail Settings](#)" on page 44-3.

For more information about how thumbnails are displayed to the end user in Web Client, see *Getting Started with Agile PLM*, chapter "Working with Thumbnails."

Thumbnail File and Streaming File Settings

The following list summarizes the Agile Administrator settings that affect the display of thumbnail files, and the generation and storage of both thumbnail files and streaming files.

- **Systemwide Preferences**

The following systemwide preferences are overall system settings for thumbnails.

- **Thumbnail Display** system preference

Server Settings > Preferences

This systemwide preference determines whether thumbnails will be displayed (Enabled) or not displayed (Disabled). See "[Default Systemwide Preferences](#)" on page 34-1.

- **Thumbnail and Streaming File Pre-Generation** system preference

Determines whether thumbnails and streaming files are pre-generated through AutoVue by specific file managers, as determined by the **Enable Pre-Generation by Vue Server** option setting for each file manager. See also "[Advanced File Manager Fields](#)" on page 31-6.

See "[Default Systemwide Preferences](#)" on page 34-1.

- **Viewer and Files**

Settings in the **Viewer and Files** node control the storage of thumbnail files and streaming files by file type. See [Chapter 20, "Viewer and Files."](#)

- File Association tab, **Auto Generate Thumbnails** column

To store pre-generated thumbnails by file type, select the check boxes for the file types you want in the **Auto Generate Thumbnails** column. See "[File Association tab](#)" on page 20-5.

- File Association tab, **Viewer** column

To store pre-generated streaming files by file type, select the check boxes for the files you want in the **Viewer** column. See "[File Association tab](#)" on page 20-5.

- General Information tab, **Directly Use These Thumbnail Image Types** field

List of file types (by file extension) that are directly converted to thumbnails without using the Vue server. See "[Directly Use These Thumbnail Image Types](#)" on page 20-4.

- **File Manager**

Use the **Server Settings > Locations > File Manager** tab to configure each file server. See "[File Management in Agile PLM](#)" on page 31-2, and "[Configuring a File Manager](#)" on page 31-5.

- **Thumbnail and Streaming Files Generation** section of Advanced file manager settings

Enable Pre-Generation by Vue Server check box enables the pre-generation of thumbnails and streaming files for that specific file manager. See "[Advanced File Manager Fields](#)" on page 31-6.

- **User Profile preferences**

When thumbnail display is enabled at the system level, then thumbnail display can also be controlled for each user.

User object > Preferences tab – Display Preferences section

- **Thumbnails** user preference

On or Off; default is Off

Determines whether thumbnails are displayed for the specific user. Thumbnail display can be set On or Off for each user with this user profile preference. See "[User Properties Defined](#)" on page 13-8.

- **Table Display Mode** user preference

Standard or With Thumbnails

When the **Thumbnails** user preference is On, then this user preference determines the default thumbnail view for tables.

For more information about how thumbnails are displayed to the end user in Web Client, see *Getting Started with Agile PLM*, chapter "Working with Thumbnails."

- **Search Display Mode** user preference

Only Thumbnails, Standard, or Standard with Thumbnails

When the **Thumbnails** user preference is On, then this user preference determines the default thumbnail view for search results tables.

For more information about how thumbnails are displayed to the end user in Web Client, see *Getting Started with Agile PLM*, chapter "Working with Thumbnails."

Possible Combinations of Thumbnail Settings

The following examples illustrate the possible combinations of thumbnail-related settings and the results of each combination.

Example 1 Thumbnail settings combination

Table 44–1 *Thumbnail setting combinations, Example 1*

Thumbnail settings	Setting
Preference: Thumbnail and Streaming File Pre-Generation See " Default Systemwide Preferences " on page 34-1.	Enabled
Preference: Thumbnail Display See " Default Systemwide Preferences " on page 34-1.	Enabled
File Manager, Thumbnail and Streaming File Generation, advanced setting: Enable Pre-Generation by Vue Server (check box) See " Advanced File Manager Fields " on page 31-6.	Check box selected on 1 or more File Managers.

The following table summarizes the results in Agile PLM when thumbnail settings are configured as shown in [Table 44–1](#), "[Thumbnail setting combinations, Example 1](#)":

Table 44–2 *Results of thumbnail setting combination, Example 1*

Answers the question:	Results
Is the pre-generated streaming file stored?	Yes, streaming file stored.
Are pre-generated AutoVue thumbnails visible? In the Viewer and Files node, File Association tab, in the Auto Generate Thumbnail column, select the file type check box to pre-generate the thumbnail for that file type. See " File Association tab " on page 20-5.	Yes, visible for the checked file types.
Are pre-generated AutoVue thumbnails stored? In the Viewer and Files node, File Association tab, in the Auto Generate Thumbnail column, select the file type check box to pre-generate the thumbnail for that file type. See " File Association tab " on page 20-5.	Yes, stored for the checked file types.
Are Directly Used Thumbnails visible? In the Viewer and Files node, General Info tab, the Directly Use These Thumbnail Image Type field, contains a list of file types (by file extension) that are directly converted to thumbnails without using the Vue server. See " Directly Use These Thumbnail Image Types " on page 20-4.	Visible
Are EC or SDK Published Thumbnails visible?	Visible

Example 2 Thumbnail settings combination**Table 44–3 Thumbnail setting combinations, Example 2**

Thumbnail settings	Setting
Preference: Thumbnail and Streaming File Pre-Generation See " Default Systemwide Preferences " on page 34-1.	Enabled
Preference: Thumbnail Display See " Default Systemwide Preferences " on page 34-1.	Disabled
File Manager, Thumbnail and Streaming File Generation, advanced setting: Enable Pre-Generation by Vue Server (check box) See " Advanced File Manager Fields " on page 31-6.	Check box selected on 1 or more File Managers.

The following table summarizes the results in Agile PLM when thumbnail settings are configured as shown in [Table 44–3, "Thumbnail setting combinations, Example 2"](#):

Table 44–4 Results of thumbnail setting combination, Example 2

Answers the question:	Results
Is the pre-generated streaming file stored?	Yes, streaming file stored.
Are pre-generated AutoVue thumbnails visible? In the Viewer and Files node, File Association tab, in the Auto Generate Thumbnail column, select the file type check box to pre-generate the thumbnail for that file type. See " File Association tab " on page 20-5.	No
Are pre-generated AutoVue thumbnails stored? In the Viewer and Files node, File Association tab, in the Auto Generate Thumbnail column, select the file type check box to pre-generate the thumbnail for that file type. See " File Association tab " on page 20-5.	Yes, stored for the checked file types.
Are Directly Used Thumbnails visible? In the Viewer and Files node, General Info tab, the Directly Use These Thumbnail Image Type field, contains a list of file types (by file extension) that are directly converted to thumbnails without using the Vue server. See " Directly Use These Thumbnail Image Types " on page 20-4.	No
Are EC or SDK Published Thumbnails visible?	No

Example 3 Thumbnail settings combination**Table 44–5 Thumbnail setting combinations, Example 3**

Thumbnail settings	Setting
Preference: Thumbnail and Streaming File Pre-Generation See " Default Systemwide Preferences " on page 34-1.	Disabled

Table 44–5 (Cont.) Thumbnail setting combinations, Example 3

Thumbnail settings	Setting
Preference: Thumbnail Display See "Default Systemwide Preferences" on page 34-1.	Disabled
File Manager, Thumbnail and Streaming File Generation, advanced setting: Enable Pre-Generation by Vue Server (check box) See "Advanced File Manager Fields" on page 31-6.	Check box selected on 1 or more File Managers.

The following table summarizes the results in Agile PLM when thumbnail settings are configured as shown in Table 44–5, "Thumbnail setting combinations, Example 3":

Table 44–6 Results of thumbnail setting combination, Example 3

Answers the question:	Results
Is the pre-generated streaming file stored?	No
Are pre-generated AutoVue thumbnails visible? In the Viewer and Files node, File Association tab, in the Auto Generate Thumbnail column, select the file type check box to pre-generate the thumbnail for that file type. See "File Association tab" on page 20-5.	No
Are pre-generated AutoVue thumbnails stored? In the Viewer and Files node, File Association tab, in the Auto Generate Thumbnail column, select the file type check box to pre-generate the thumbnail for that file type. See "File Association tab" on page 20-5.	No
Are Directly Used Thumbnails visible? In the Viewer and Files node, General Info tab, the Directly Use These Thumbnail Image Type field, contains a list of file types (by file extension) that are directly converted to thumbnails without using the Vue server. See "Directly Use These Thumbnail Image Types" on page 20-4.	No
Are EC or SDK Published Thumbnails visible?	No

Example 4 Thumbnail settings combination

Table 44–7 Thumbnail setting combinations, Example 4

Thumbnail settings	Setting
Preference: Thumbnail and Streaming File Pre-Generation See "Default Systemwide Preferences" on page 34-1.	Enabled
Preference: Thumbnail Display See "Default Systemwide Preferences" on page 34-1.	Enabled

Table 44–7 (Cont.) Thumbnail setting combinations, Example 4

Thumbnail settings	Setting
File Manager, Thumbnail and Streaming File Generation, advanced setting: Enable Pre-Generation by Vue Server (check box) See " Advanced File Manager Fields " on page 31-6.	No Check boxes are deselected.

The following table summarizes the results in Agile PLM when thumbnail settings are configured as shown in [Table 44–7, "Thumbnail setting combinations, Example 4"](#):

Table 44–8 Results of thumbnail setting combination, Example 4

Answers the question:	Results
Is the pre-generated streaming file stored?	No
Are pre-generated AutoVue thumbnails visible? In the Viewer and Files node, File Association tab, in the Auto Generate Thumbnail column, select the file type check box to pre-generate the thumbnail for that file type. See " File Association tab " on page 20-5.	No
Are pre-generated AutoVue thumbnails stored? In the Viewer and Files node, File Association tab, in the Auto Generate Thumbnail column, select the file type check box to pre-generate the thumbnail for that file type. See " File Association tab " on page 20-5.	No
Are Directly Used Thumbnails visible? In the Viewer and Files node, General Info tab, the Directly Use These Thumbnail Image Type field, contains a list of file types (by file extension) that are directly converted to thumbnails without using the Vue server. See " Directly Use These Thumbnail Image Types " on page 20-4.	Visible
Are EC or SDK Published Thumbnails visible?	Visible

Example 5 Thumbnail settings combination

Table 44–9 Thumbnail setting combinations, Example 5

Thumbnail settings	Setting
Preference: Thumbnail and Streaming File Pre-Generation See " Default Systemwide Preferences " on page 34-1.	Disabled
Preference: Thumbnail Display See " Default Systemwide Preferences " on page 34-1.	Enabled
File Manager, Thumbnail and Streaming File Generation, advanced setting: Enable Pre-Generation by Vue Server (check box) See " Advanced File Manager Fields " on page 31-6.	Either a check box selected on 1 or more File Managers, or no check boxes are selected on any File Managers.

The following table summarizes the results in Agile PLM when thumbnail settings are configured as shown in [Table 44-9, "Thumbnail setting combinations, Example 5"](#):

Table 44-10 Results of thumbnail setting combination, Example 5

Answers the question:	Results
Is the pre-generated streaming file stored?	No
Are pre-generated AutoVue thumbnails visible? In the Viewer and Files node, File Association tab, in the Auto Generate Thumbnail column, select the file type check box to pre-generate the thumbnail for that file type. See "File Association tab" on page 20-5.	No
Are pre-generated AutoVue thumbnails stored? In the Viewer and Files node, File Association tab, in the Auto Generate Thumbnail column, select the file type check box to pre-generate the thumbnail for that file type. See "File Association tab" on page 20-5.	No
Are Directly Used Thumbnails visible? In the Viewer and Files node, General Info tab, the Directly Use These Thumbnail Image Type field, contains a list of file types (by file extension) that are directly converted to thumbnails without using the Vue server. See "Directly Use These Thumbnail Image Types" on page 20-4.	Visible
Are EC or SDK Published Thumbnails visible?	Visible

Configuring Single Sign-On

Agile PLM has the possibility of integrating aspects of your PLM system with Single Sign-On (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:

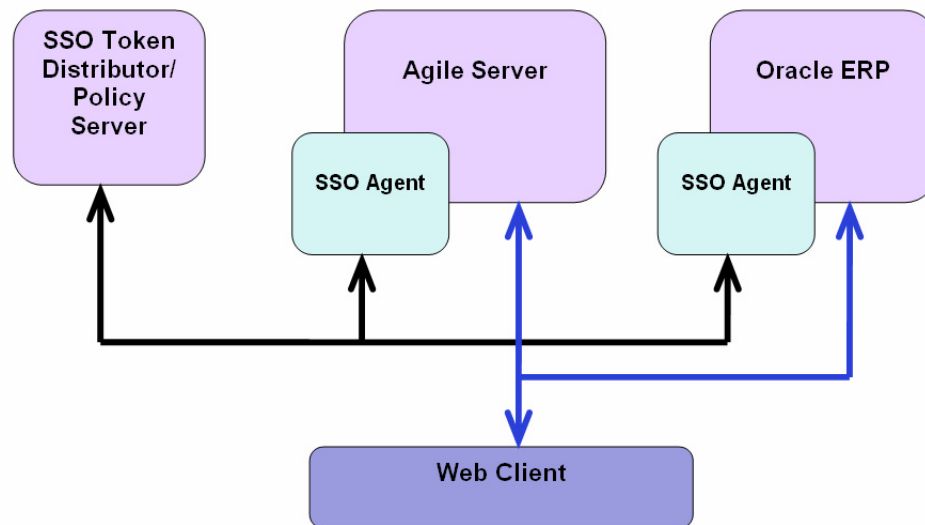
- Launching Web Client
- Clicking on a URL for an email notification
- When a customer's supplier launches the Microsoft Excel-based Solution from a Declaration
- When Web Client times out.

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.

Figure A-1 Overview of Single Sign-On in PLM

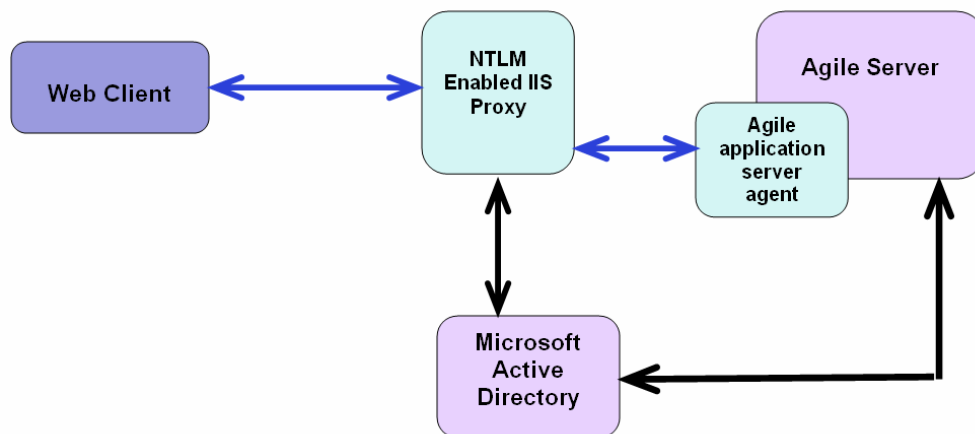


Configuring and Deploying SSO with Windows NTLM

The following sections outline the steps to configure and deploy NTLM for Single sign-on capability.

SSO NTLM Authentication

Figure A-2 SSO NTLM Authentication



Configure SSO for Windows NTLM

Microsoft Windows NTLM has been certified for Agile PLM. Discuss your company's needs with your Oracle Consulting - Agile Practice representative.

Configure IIS Proxy with WLS

These are the steps to configure Windows NTLM for Single sign-on with Internet Information Services (IIS) as proxy server for WLS.

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.

Install and enable Windows Authentication in IIS:

Install and enable Windows Authentication in IIS for site to use Windows NT LAN Manager for authentication:

1. Navigate to Administrative Tools > Service Manager.
2. Navigate to Roles > Web Server
3. Right-click **Add Role** and Install Windows Authentication.
4. Navigate to IIS.
5. Click **Default Site**.
6. Double-click **Authentication**.
7. Enable Windows Authentication.
8. Disable Anonymous Authentication.
9. In Site Authentication page, select Windows authentication.
10. Click **Providers**.
11. Make NTLM Provider as First.
12. Open IIS Manager, use **Default Web Site**.
13. Click the site.
14. Double-click **Request Filtering** in right pane.
15. Click **Edit Feature Settings** in the Actions pane.
16. In Edit Request Filtering Settings Dialog, change Maximum query string (Bytes) to 4096 and then click **OK**.
17. Restart IIS.

Note: Agile 934 PLM with WLS1213 must be installed and IIS7.5/IIS8 Proxy configuration must be completed before proceeding to further steps.

IIS7.5 Proxy Configuration with Agile PLM:

1. Install and configure the WebLogic plug-in patch.
 - a. Downloaded the WLSPlugin11gWLSPlugin12.1.3-IIS-Win64.zip from the location

http://download.oracle.com/otn/nt/middleware/12c/wls/1213/fmw_12.1.3.0.0_wlsplugins_Disk1_1of1.zip

- b. Extract the plug-in zip to location
C:\myhome\weblogic-plugins-1.1
- c. Create iisproxy.ini file in %PLUGIN_HOME%\lib\ with the settings below:
WebLogicHost=wls-host
WebLogicPort=wls-port
Debug=ALL
WLLogFile=C:\Temp\wl-proxy.log
- d. Ensure that the %PLUGIN_HOME%\lib is included in the system PATH:
Control-Panel > System > System Properties > Environment Variables >
System Properties > PATH
- e. Open IIS Manager; use **Default Web Site** or create a **Web Site**.
- f. Click the site.
- g. Open **Handler Mappings** and add a script map:
Set the **Extension** to like '*'
Set Executable to %PLUGIN_HOME%\lib\iisproxy.dll, and give a **Name**.
- h. Start IIS.

IIS8 Proxy Configuration with Agile:

1. Download IIS ARR v3.0 from the URL below
<http://www.iis.net/downloads/microsoft/application-request-routing>
After installing successfully, go to IIS Home. Note that there is a new feature under the ISS section: Application Request Routing Cache. There is also a new node on the left panel.
2. Right-click **Server Farms** and choose **Create Server Farm**.
 - a. Add a server farm.
 - b. Enter a name.
 - c. Select the option: **Online**.
 - d. Click the **Next** button.
3. Add the Agile server addresses that require a proxy.
 - a. Select the option: **Online**.
 - b. Click **Advanced Settings**.
 - c. Change the http port to an Agile port.
 - d. After adding all the Agile servers, then click the **Finish** button.
 - e. Click **Yes** in the Rewrite Rules popup.
4. Click the Server Farm you created in steps 2 and 3 above.
 - a. Double-click **Caching** on the right panel.
 - b. Deselect the option: **Enable disk cache**.
 - c. Click **Apply**.
5. Click the Server Farm again.

- a. Double-click **Health Test**.
 - b. Enter the URL.
 - c. Click the **Verify URL Test** button.
 - d. If the test result is pass, then click **Apply**.
6. Click the Server Farm again.
 - a. Double-click **Routing Rules**.
 - b. Select the option: **Use URL Rewrite to inspect incoming requests**.
 - c. Deselect the option: **Enable SSL offloading**.
 - d. Click **Apply**.
7. Go to <Agile_Home>/ agileDomain/config and open the agile.properties file for editing.
Change the configuration for **network.resolvehost** to false.
8. Start Agile PLM.
IIS8 can act as a proxy for Agile PLM successfully.

Configure PLM for NTLM with WLS

A. To configure your PLM system for SSO with NTLM, perform these operations.

Important: Stop the Agile Server. For information on how to stop the Agile PLM server, see the *Agile PLM Database Install Guide*.

1. In the WLS console, go to **Summary of Security Realms > AgileRealm > Providers**.
2. Click **New** and add "AgileIdentityAsserter" as the AgileRealm Authentication Provider.
3. Open the added AgileIdentityAsserter, select the Active type as Authorization (the AGILESSO is already a default value there). Both should be selected.
4. Click **Save**, then click **Activate the Changes**, and then logout from the console.
5. Stop the Application server.

B. Edit this file:

agile_
home/agileDomain/applications/application.ear/application.war/WEB-INF/web.xml.

WLS 1213 supports multiple authentication methods. Add the following elements:

```
<login-config>
    <auth-method>client-cert, form</auth-method>
    <realm-name>AgileRealm</realm-name>
    <form-login-config>
        <form-login-page>/default/login-cms.jsp</form-login-page>
        <form-error-page>/default/loginError.jsp</form-error-page>
    </form-login-config>
</login-config>
```

```
</login-config>
```

C: Perform the following setting modifications for the action "CLICK ON LOGIN UPON LOGOUT SHOULD LOGIN AUTOMATICALLY IN SSO ENABLE SYSTEM".

Edit this file:

agile_home/agileDomain/config/agile.properties

- Set the agile.sso.enabled value in agile.properties to the following:

```
agile.sso.enabled= true
```

- Set the agile.sso.cookie.name in agile.properties to the following:

```
agile.sso.cookie.name=AGILESSO
```

Note: Manually add agile.sso.enabled property in the agile.properties file located in agile_home/agileDomain/config and set the value to true.

D. Restart the Agile server.

E. Ensure that NT user name and password exist in DB:

Ensure that the NT user name and password exist in the DB to which the application is connected (by migrating from Microsoft Active Directory Domain LDAP Server. Refer to "[LDAP](#)" on page 33-1 for information about configuring the LDAP server, migrating users and activation) to which the application is connected.

F. Set Web Server Proxy URL in Agile PLM Administrator:

1. Log in to Java Client as administrator.
2. Navigate to the Location node.
3. Enter the Web Server Proxy URL.
4. Restart the File Manager.

G. Attempt to access the Proxy URL in your Windows computer:

- In IE browser, it should automatically login to Agile PL M.
- In Firefox browser, it will ask for your network credentials only for the first time access.

RMW SSO Configuration

If the Recipe & Material Workspace application is configured with the Agile 9.3.x SSO environment, the system administrator needs to update the Agile Proxy (SSO) URL in the CFMConfig.xml of "<AgileHome>\AgilePharma\config".

The entry must be changed to read:

```
<AgileSSOProxyUrl> </AgileSSOProxyUrl>
```

For more information about the system configuration of Agile Recipe & Material Workspace, see the *Agile PLM Recipe & Material Workspace Administrator Guide*.

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.

1. The AAS agent passes the user information to the application server security framework.
2. 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.

The Oracle Access Manager

Oracle Access Manager (OAM) ensures authentication and strict authorization policies are applied to your applications and services such as:

- Controlled access to web applications, Enterprise Java Beans (EJB) applications, J2EE resources, and common packaged enterprise applications.
- Web SSO for secure access to multiple applications with one authentication step.
- Flexible authentication support.

Agile PLM 9.3.4 is certified with OAM (11gR2) suite of products.

OAM 11gR2 Configuration with Agile PLM 9.3.4

This section covers Oracle Access Manager (OAM) 11gR2 configuration with Agile PLM.

- "[OAM11gR2 Configuration with Agile PLM 9.3.4 Using IIS 7.5 Web Server](#)" on page A-8

- "OAM11gR2 Configuration with Agile PLM 9.3.4 Using OHS1213 Web Server" on page A-13
- "OAM11gR2 Configuration with Agile PLM 9.3.4 Using Apache 2.4 Web Server" on page A-18

Table A–1 OAM 11gR2 Configuration with Agile PLM 9.3.4- Version information

OAM Server Version	WebGate Version	Webserver	Operating System
11gR2	10g	IIS 7.5	Windows 2008 R2
11gR2	10g	Apache 2.4.x	Linux 6
11gR2	1213	OHS1213	Linux 6

OAM11gR2 Configuration with Agile PLM 9.3.4 Using IIS 7.5 Web Server

Perform the prerequisite steps, and then perform the configuration steps as explained in the following sections.

IIS 7.5 Web Server Configuration Prerequisites

Ensure the following components have been downloaded and installed.

1. Installed/configured and tested IIS 7.5 webserver with Agile 9.3.4 (Agile should be installed on WLS1213). You can refer to the Knowledge Base for details.
2. Download OAM WebGate 10g for IIS from the site:
<http://www.oracle.com/technetwork/middleware/ias/downloads/101401-099957.html>
 - a. Get oam_int_win_v11_cd1.zip from disk2 for windows.
 - b. Extract and start installation using Oracle_Access_Manager10_1_4_2_5_Win64_ISAPI_WebGate.exe
3. Now install OAM WebGate 10g on the same system where IIS 7.5 webserver has been installed.

Ensure that IIS7.5 is installed with all Role Services. If not, you can add those from Server Manger. Navigate to Web Server, right click, Add Role Services. Add all role services. You can refer to the Knowledge Base for details.

The following sections/main steps explain the configuration of the OAM11gR2 Server with the Agile PLM 934 application:

- "OAM WebGate Registration in OAMServer (IIS 7.5)" on page A-8
- "IIS 7.5 Webserver Configuration with WebGate" on page A-9
- "OAM Webgate Configuration for IIS 7.5 Webserver" on page A-11
- "Agile PLM Configuration for IIS 7.5 Webserver" on page A-12
- "Testing (IIS 7.5)" on page A-13

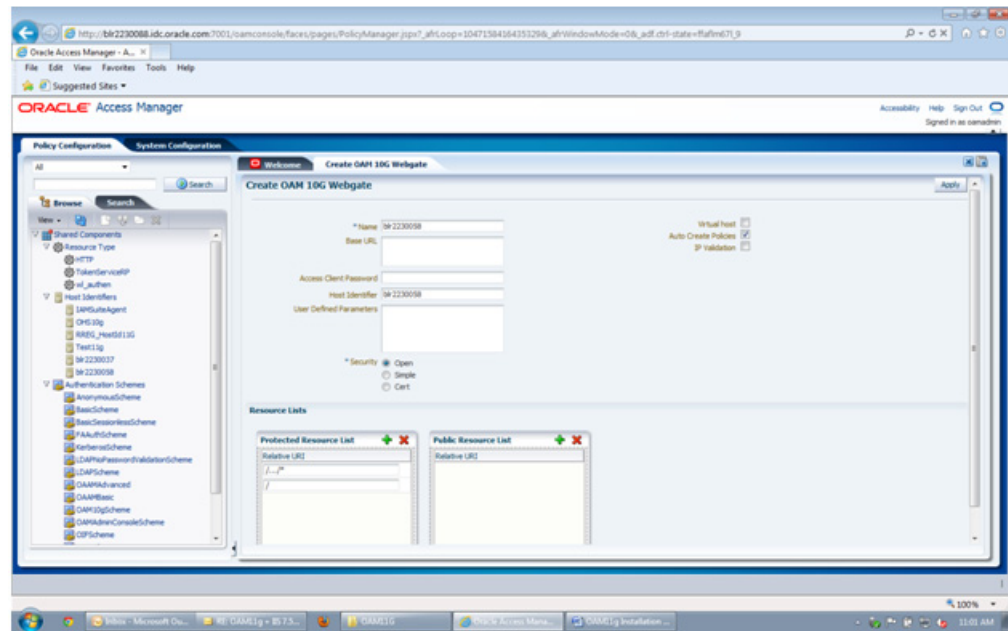
OAM WebGate Registration in OAMServer (IIS 7.5)

To perform OAM WebGate Agent registration in OAMServer:

1. Create a WebGate entry on OAM console through UI mode Steps:
 1. Click **New OAM WebGate 10g** in welcome page.
 2. Enter the **Name**. The host identifier will populate automatically.

3. Click **Apply**.

Figure A-3 OAM WebGate Agent Registration



IIS 7.5 Webserver Configuration with WebGate

The following steps must be performed after the installation of OAM10g WebGate for IIS 7.5 Webserver:

1. Navigate to Site-ISAP Filters tab and add Filter OracleWebGate point to webgate.dll.
2. Navigate to Site.
 - a. Right-click **Add Application**.
 - b. Give alias name as access and point physical path to Web Gate\access folder.
3. Navigate to Host Level.
 - a. Click **ISAPI and CGI Restrictions**.
 - b. Click **Add**.
 - c. Add the path to webgate.dll and type description as OracleWebGate.
 - d. Select check box **Allow extension path to execute**.
 - e. Click **OK**.
4. Navigate to Web Gate/access.
 - a. Right click Properties.
 - b. Navigate to Security.
 - c. Assign Full Control to Everyone.
5. Restart IIS.

WebLogic Proxy Configuration for IIS 7.5 Webserver

To configure WebLogic proxy for IIS 7.5 Webserver:

1. Ensure that you have installed and configure the WebLogic proxy plug-in patch for IIS 7.5 Webserver.

Download the WLSPlugin11gWLSPlugin12.1.3-IIS-Win64.zip from the location:

http://download.oracle.com/otn/nt/middleware/12c/wls/1213/fmw_12.1.3.0.0_wlsplugins_Disk1_1of1.zip

2. Extract the plug-in zip to location C:\myhome\weblogic-plugins-1.1.

Note: This will be referred as the variable PLUGIN_HOME going forward.

3. Create iisproxy.ini file in %PLUGIN_HOME%\lib\ with below details:

WebLogicHost=wls-host

WebLogicPort=wls-port

Debug=ALL

WLLogFile=C:\Temp\wl-proxy.log

WLEXcludePathOrMimeType=/obrar.cgi

4. Ensure that the %PLUGIN_HOME%\lib is included in the system PATH
(Control-Panel > System > System Properties > Environment Variables > System Properties > PATH)

5. Open IIS Manager, use 'Default Web Site' or create a 'Web Site' based on your needs.

- a. Click the site.

- b. Open 'Handler Mappings' and add a script map

- Set the 'Extension' like '/Agile/*'

- Set 'Executable' to %PLUGIN_HOME%\lib\iisproxy.dll

- Give a 'Name'

6. Create new directory oamsso under

<IIS inetpub>\wwwroot\

and copy file logout.html to oamsso folder from OAM server

<Middleware Home>\user projects\domains\oam_domain\output\<933IIS Agent>

7. Navigate to Host Level and click on ISAPI and CGI Restrictions and click on Add, add the path to iisproxy.dll and select allow extension path to execute.

8. Open IIS Manager, use either 'Default Web Site' or create a 'Web Site'.

- a. Click on the site.

- b. Double-click on Request Filtering in right pane.

- c. Click Edit Feature Settings in Actions pane.

- d. In Edit Request Filtering Settings Dialog, change Maximum query string (Bytes) to:

4096

- e. Click **OK**.

Note: If you need to add any protect and unprotect resources to work with specific functionality, then add those resource URLs as handler mappings by following the same process above.

9. Restart IIS.

OAM Webgate Configuration for IIS 7.5 Webserver

To configure OAM WebGate:

1. Add the authorization policy as below:
 - a. Navigate to OAM Console > Policy Configuration > Applications domain > Agent (Name of the Agent in this case) > Authorization Policies.
 - b. Open Protected Resources Policy.
 - c. Navigate to Response tab.
 - d. Add Response as below:

Name= remote-user

Type=Header

Value=\$user.attr.dn
 - e. Click **Apply**.
2. Configure Resources for Web gate:
 - a. Add these resources with webroot context (in this case Agile):

Add resource URLs

/Agile

/Agile/.../*

with Authentication and Authorization policy as Protected Resource Policy.

Figure A-4 Add resource URLs

Search Results								
Actions ▾ View ▾					Detach			
Serial Number	Resource Type	Host Identifier	Resource URL	Query String	Authentication Policy	Authorization Policy	Name	
1	HTTP	933IIS	/Agile		Protected Resource Policy	Protected Resource Policy		
2	HTTP	933IIS	/Agile/.../*		Protected Resource Policy	Protected Resource Policy		

- b. Exclude the Resources for Gantt Chart.

You must exclude the below static resources to work on Gantt chart with WebGate. Also use the webroot context while creating Resources to exclude.

Navigate to OAM Console > Policy Configuration > Applications domain > Open WebGate10g Agents.

Click **Resources**.

In the Resources window, click **Search**.

Add the following Resource Types by using the **Create** button. IN the Create New page:

Select Type as HTTP.

Select the Host Identifier of the Web Gate Agent.

Type the Resource URL with webroot context.

Select Protection level as Excluded.

Add the resources as shown in the following figure.

Figure A–5 Add resources for Gantt chart

Search Results							
Actions ▾ View ▾					Detach		
Serial Number	Resource Type	Host Identifier	Resource URL	Query String	Authentication Policy	Authorization Policy	Name
1	HTTP	933IIS	/Agile		Protected Resource Policy	Protected Resource Policy	
2	HTTP	933IIS	/Agile/.../		Protected Resource Policy	Protected Resource Policy	
3	HTTP	933IIS	/Agile/WEB-INF/.../		Protected Resource Policy	Protected Resource Policy	
4	HTTP	933IIS	/Agile/applet/.../				
5	HTTP	933IIS	/Agile/css/.../				
6	HTTP	933IIS	/Agile/default/.../				
7	HTTP	933IIS	/Agile/images/.../				
8	HTTP	933IIS	/Agile/includes/.../				
9	HTTP	933IIS	/Agile/static/.../				
10	HTTP	933IIS	/favicon.ico				

Agile PLM Configuration for IIS 7.5 Webserver

1. Navigate to the WebLogic console where the Agile application is installed and create AgileIdentityAsserter.

1. In WLS Console:

Click **Lock and Edit**.

Move to Summary of Security Realms > AgileRealm > Providers.

Click **New**.

Create AgileIdentityAsserter Authentication with "AgileIdentityAssertion" Provider.

2. Open the added AgileIdentityAsserter.
 3. Select the Active type as remote-user and Save.
 4. Click **Activate Changes**.
 5. Logout from the console.
2. Open agile.Properties file, and add the below settings:

```
oam.header.name=remote-user
```

```
oam.sso.logout.url=/oamsso/logout.html?end_url=/Agile/PLMServlet
```

Note: Where /Agile is the web-root context for the installed application.

3. Open the Web.xml (\application.ear\application.war\WEB-INF\ web.xml) and change auth-method as below:

```
<auth-method>client-cert, form</auth-method>
```
4. Restart the WebLogic Application Server where the Agile Application is installed.
5. Configure LDAP Server (which is used as identity store in OAM) with Agile, Migrate LDAP Users into Agile Application and Activate LDAP users.

6. Login to Agile Java Client.
 Navigate to the Location node.
 Enter the Web Server Proxy URL.
 Restart the File Manager.

Testing (IIS 7.5)

1. Attempt to login to Agile Proxy URL with the IIS 7.5 webserver port number as configured.
 You should see the OAM Credentials page.
2. Enter the appropriate OAM (Configured LDAP Identity store user) username and password and the Agile application home page should be presented.

OAM11gR2 Configuration with Agile PLM 9.3.4 Using OHS1213 Web Server

Perform the prerequisite steps, and then perform the configuration steps as explained in the following sections.

OHS1213 Web Server Configuration Prerequisites

Ensure the following components have been downloaded and installed.

1. Download OHS 12.1.3 from the URL below:
<http://www.oracle.com/technetwork/middleware/webtier/downloads/index-jsp-156711.html>
2. Extract the zip file and then run the .exe file.
3. Installation steps:
 - a. Find the Oracle Home, which is different than the Weblogic Home.
 Choose Standalone HTTP Server (Managed independently of WebLogic server).
 - b. Ensure that all the checks are passed.
 - c. Click **Next** button next to the installation progress panel to install OHS.
4. Create an OHS instance:
 - a. Cd to \$OHS_HOME\oracle_common\common\bin
 - b. Enter:
`config.sh`
 to launch the Configuration wizard.
 - c. Choose:
Create a new domain
 - d. Check:
 Oracle HTTP Server (standalone) - 12.1.3.0 [ohs]
 - e. Use the default JDK version:
 Oracle HotSpot 1.7.0_51
 - f. Create:

Component ohs1

- g. Define the following parameters:

Admin Host = OHS Server Host

Admin Port = 9999

Listen Port = 7777

SSL Listen Port = 4443

- h. Enter the username and password for Node Manager. Use Oracle123!

- i. Create the instance.

5. Configure the instance:

- a. Go to the directory:

\$OHS_HOME\user_projects\domains\base_
domain\config\fmwconfig\components\OHS\ohs1

- b. Edit:

mod_wl_ohs.conf

- c. Add the information shown below:

```
<IfModule weblogic_module>
    WebLogicHost <Agile-wls host>
    WebLogicPort <Agile-wls port>
    Debug ON
    WLLogFile <Temp location>/weblogic.log
</IfModule>
<Location /Agile>
    WLSRequest on
</Location>
<Location /JavaClient>
    WLSRequest on
</Location>
<Location /CoreService>
    WLSRequest on
</Location>
```

6. Start Node Manager:

- a. Go to the directory:

\$OHS_HOME\user_projects\domains\base_domain\bin

- b. Run:

startNodeManager.cmd

- c. Start OHS component by using the command:

startComponent.cmd ohs1'

7. WebGate should be installed by default once OHS1213 is installed.

OAM11gR2 Server Configuration Main Steps

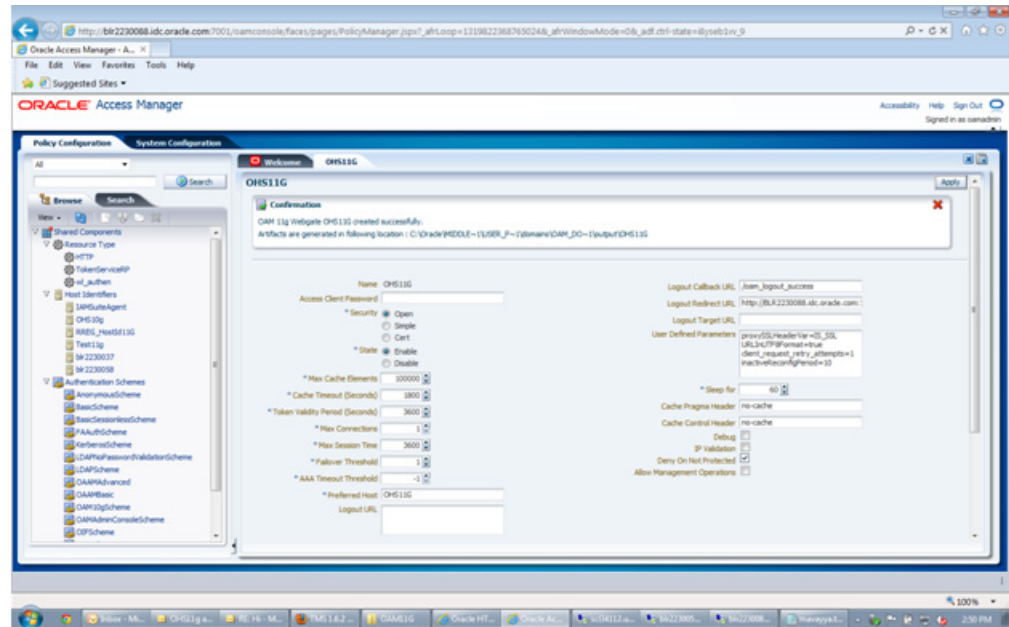
The following sections/main steps explain the configuration of the OAM11gR2 Server with the Agile 934 Application:

- "OAM WebGate Registration in OAMServer (OHS1213 Webserver)" on page A-15
- "OAM WebGate Configuration for OHS1213 Webserver" on page A-15
- "Agile PLM Configuration for OHS1213" on page A-17
- "Testing (OHS1213)" on page A-18

OAM WebGate Registration in OAMServer (OHS1213 Webserver)

Create WebGate11g Agent in OAM Console:

Figure A–6 Create WebGate11g Agent



OAM WebGate Configuration for OHS1213 Webserver

A. The following steps are required to be performed post installation of WebGate11g for OHS1213 Webserver on the Server where you installed your OHS and WebGate.

1. Deploy WebGate:
 - Go to the directory:
`<OHSHOME>/webgate/ohs/tools/deployWebGate`
 - Run the `deployWebGateInstance.sh` as below:
`./deployWebGateInstance.sh -w <OHSHOME>/user_projects/domains/base_domain/config/fmwconfig/components/OHS/ohs1 -oh <OHSHOME>`

You should see the following sample on the console:

```
Copying files from WebGate Oracle Home to WebGate Instancedir
```

2. Add to the PATH in Environment Variables:
`export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:<OHSHOME>/lib`
3. Update `httpd.conf` with the WebGate configuration:

a. Go to directory:

```
<OHSHOME>/webgate/ohs/tools/setup/InstallTools
```

b. Run the command below:

```
./EditHttpConf -w <OHSHOME>/user_projects/domains/base_  
domain/config/fmwconfig/components/OHS/ohs1 -oh <OHSHOME>
```

You should see the following sample on the console:

```
The web server configuration file was successfully updated  
  
/scratch/qa/OHSHOME/user_projects/domains/base_  
domain/config/fmwconfig/components/OHS/ohs1/httpd.conf has been  
backed up as /scratch/qa/OHSHOME/user_projects/domains/base_  
domain/config/fmwconfig/components/OHS/ohs1/httpd.conf.Orig
```

4. Copy the cwallet.sso and ObClientAccess.xml file from OAM Server:

From location <Middleware Home >\user_projects\domains\oam_
domain\output\OHS11G in OAM Server

To OHS instance Web Gate directory:<OHSHOME>/user_
projects/domains/base_
domain/config/fmwconfig/components/OHS/ohs1/webgate/config

B. Add the authorization policy:

1. Navigate to OAM Console > Policy Configuration > Applications domain > Agent (Name of the WebGate11g Agent in this case) > Authorization Policies.

2. Open Protected Resources Policy.

3. Navigate to Response Tab.

4. Add Response as below:

Name= remote-user

Type=Header

Value=\$user.attr.dn

5. Click Apply.

C. Add user defined parameters for OHS11g WebGate Agent in OAM Console:

1. Navigate to OAM Console > System Configuration > Access Manager Settings > SO Agents > OAM Agents > WebGate 11G Agent.

2. Add the below parameters to User Defined Parameters attribute:

UniqueCookieNames=enabled

filterOAMAuthnCookie=false

3. Click Apply.

D. Configure resources for WebGate::

1. Add these resources with webroot context (in this case Agile):

Add resource URLs

```
/Agile
```

```
/Agile/.../*
```

with Authentication and Authorization policy as Protected Resource Policy.

Figure A-7 Add resources

Search Results							
Actions ▾ View ▾					Detach		
Serial Number	Resource Type	Host Identifier	Resource URL	Query String	Authentication Policy	Authorization Policy	Name
1	HTTP	OHS933.LINUX	/Agile		Protected Resource Policy	Protected Resource Policy	
2	HTTP	OHS933.LINUX	/Agile/.../*		Protected Resource Policy	Protected Resource Policy	

2. Exclude the Resources for Gantt chart:

We Need to Exclude the below static resources to work on Gantt chart with WebGate. Also use the webroot context while create Resources to exclude.

- Navigate to OAM Console > Policy Configuration > Applications domain > Open WebGate Agents.
- Click **Resources**.
- In the Resources window, click **Search**.
- Add the following Resource Types using **Create** Button.

In Create New page:

Select Type as HTTP.

Select the Host Identifier of the Web Gate Agent.

Type the Resource URL.

Select Protection level, Authentication Policy.

Add the resources as shown in the following figure:

Figure A-8 Add resources

	Resource Type	Host Identifier	Resource URL	Query String	Authentication Policy	Authorization Policy
1	HTTP	OHS11G	/.../applet/*		Unprotected Resource Policy	Protected Resource Policy
2	HTTP	OHS11G	/.../WEB-INF/*		Unprotected Resource Policy	Protected Resource Policy
3	HTTP	OHS11G	/		Protected Resource Policy	Protected Resource Policy
4	HTTP	OHS11G	/.../static/*		Unprotected Resource Policy	Protected Resource Policy
5	HTTP	OHS11G	/.../images/*		Unprotected Resource Policy	Protected Resource Policy
6	HTTP	OHS11G	/.../default/*		Unprotected Resource Policy	Protected Resource Policy
7	HTTP	OHS11G	/.../*		Protected Resource Policy	Protected Resource Policy
8	HTTP	OHS11G	/.../includes/*		Unprotected Resource Policy	Protected Resource Policy
9	HTTP	OHS11G	/.../css/*		Unprotected Resource Policy	Protected Resource Policy

Agile PLM Configuration for OHS1213

- Navigate to the WebLogic console where the Agile application is installed and create AgileIdentityAsserter.
 - In WLS Console:

Click **Lock and Edit**.

Move to Summary of Security Realms > AgileRealm > Providers.

Click **New**.

Create AgileIdentityAsserter Authentication with "AgileIdentityAssertion" Provider.
 - Open the added AgileIdentityAsserter.
 - Select the Active type as remote-user and Save.
 - Click **Activate Changes**.
 - Logout from the console.

2. Open agile.Properties file, and add the below settings:

oam.header.name=remote-user

oam.sso.logout.url=/oamsso/logout.html?end_url=/Agile/PLMServlet

Note: Where /Agile is the web-root context for the installed application.

3. Open the Web.xml (\application.ear\application.war\WEB-INF\ web.xml) and change auth-method as below:

```
<auth-method>client-cert, form</auth-method>
```
4. Restart the WebLogic Application Server where the Agile Application is installed.
5. Configure LDAP Server (which is used as identity store in OAM) with Agile, Migrate LDAP Users into Agile Application and Activate LDAP users. See "[Agile LDAP Configuration](#)" on page 33-12 to configure LDAP Server with Agile PLM.
6. Login to Agile Java Client.
Navigate to the Location node.
Enter the Web Server Proxy URL.
Restart the File Manager.

Testing (OHS1213)

1. Attempt to login to Agile Proxy URL with the OHS1213 webserver port number as configured.
You should see the OAM Credentials page.
2. Enter the appropriate OAM (Configured LDAP Identity store user) username and password and the Agile application home page should be presented.

OAM11gR2 Configuration with Agile PLM 9.3.4 Using Apache 2.4 Web Server

Perform the prerequisite steps, and then perform the configuration steps as explained in the following sections.

OAM 11gR2 Configuration Prerequisites (Apache 2.4)

Ensure the following components have been downloaded and installed.

1. Download Apache2.4 from Apache site and install/configure and test Apache2.4 with Agile 9.3.4 (Agile should be installed on WLS1213). You can refer to the Oracle Knowledge Base for details.
2. Download and install OAM WebGate 10g for Apache 2.4 from
<http://www.oracle.com/technetwork/middleware/ias/downloads/101401-099957.html>
and install it on the same system where Apache web server has been installed.
You can refer to the Oracle Knowledge Base document 1526342.1 for details:
<https://support.oracle.com/epmos/faces/ui/km/DocumentDisplay.jspx?id=1526342.1>

The following sections/main steps explain the configuration of the OAM11gR2 Server with the Agile 934 Application:

- "WebGate Agent Configuration in OAM Server (Apache 2.4)" on page A-19
- "OAM WebGate Configuration (Apache 2.4)" on page A-19
- "Agile PLM Application Configuration (Apache 2.4)" on page A-21
- "Testing (Apache 2.4)" on page A-21

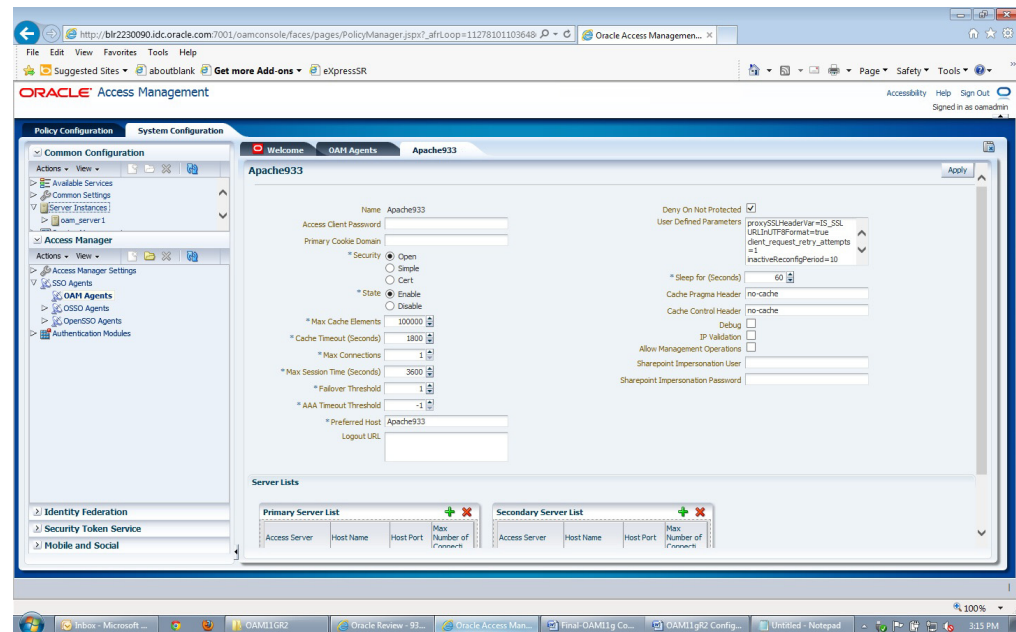
WebGate Agent Configuration in OAM Server (Apache 2.4)

You must add a WebGate Agent for the Apache Webserver in the OAM Server using RREG tool.

To perform OAM WebGate Agent registration in OAMServer:

1. Create a WebGate entry on OAM console through UI mode Steps:
 - a. Click on New OAM WebGate 10g in welcome page.
 - b. Enter the Name. The host identifier will populate automatically.
 - c. Click Apply.

Figure A–9 Adding a WebGate Agent



OAM WebGate Configuration (Apache 2.4)

OAM WebGate Configuration

1. Edit httpd.conf under Apache2.4\conf folder and perform the following actions to Configuring Centralized Logout:

Add the below lines in httpd.conf file:

```
#*****Default Login page alias***
```

```
Alias /oamsso "/scratch/qa/webgate/access/oamsso"
```

```
<LocationMatch "/oamssso/*">
Satisfy any
</LocationMatch>

# *****
```

2. Copy file logout.html to oamssso folder from OAM server <Middleware Home>\user projects\domains\oam_domain\output\<Apache934 Agent>
3. Restart Apache.
4. Configure Resources for WebGate:
 - a. Add these resources with webroot context (in this case Agile):

Add resource URL's " /Agile, /Agile/.../* " with Authentication and Authorization policy as Protected Resource Policy

Figure A-10 Add WebGate Resources

Search Results							
Actions ▾ View ▾					Detach		
Serial Number	Resource Type	Host Identifier	Resource URL	Query String	Authentication Policy	Authorization Policy	Name
1	HTTP	Apache933	/Agile		Protected Resource Policy	Protected Resource Policy	
2	HTTP	Apache933	/Agile/.../*		Protected Resource Policy	Protected Resource Policy	

- b. Exclude the Resources for Gantt chart:

We need to exclude the below static resources to work on Gantt chart with WebGate. Also use the webroot context while create Resources to exclude.

- a. Navigate to OAM Console > Policy Configuration > Applications domain > Open WebGate Agents
- b. Click **Resources**.
- c. In the Resources window, click **Search**.
- d. Add the following Resource Types using **Create** Button. In Create New page:

Select Type as HTTP.

Select the Host Identifier of the WebGate Agent.

Type the Resource URL with webroot context

Select Protection level as Excluded

Add the resources as below:

Figure A-11 Add Resource Types

Search Results							
Actions ▾ View ▾					Detach		
Serial Number	Resource Type	Host Identifier	Resource URL	Query String	Authentication Policy	Authorization Policy	Name
1	HTTP	Apache933	/Agile		Protected Resource Policy	Protected Resource Policy	
2	HTTP	Apache933	/Agile/.../*		Protected Resource Policy	Protected Resource Policy	
3	HTTP	Apache933	/Agile/WEB-INF/.../*				
4	HTTP	Apache933	/Agile/applet/.../*				
5	HTTP	Apache933	/Agile/applet/.../*.class				
6	HTTP	Apache933	/Agile/css/.../*				
7	HTTP	Apache933	/Agile/default/.../*				
8	HTTP	Apache933	/Agile/images/.../*				
9	HTTP	Apache933	/Agile/includes/.../*				
10	HTTP	Apache933	/Agile/static/.../*				
11	HTTP	Apache933	/favicon.ico				

Agile PLM Application Configuration (Apache 2.4)

1. Navigate to the WebLogic Administration console where the Agile application is installed and create AgileIdentityAsserter.
 - a. In WLS Console, click **Lock and Edit**.
 - b. Move to Summary of Security Realms >AgileRealm >Providers.
 - c. Click New and Create AgileIdentityAsserter Authentication with "AgileIdentityAssertion" Provider.
 - d. Open the added AgileIdentityAsserter.
 - e. Select the Active type as remote-user and then Save.
 - f. Click **Activate Changes** and logout from the console.
2. Open agile.Properties file, add the below settings:
oam.sso.logout.url=/oamsso/logout.html?end_url=/Agile/PLMServlet

Note: Where /Agile/PLMServlet is the web-root context for the installed application.

3. Open the Web.xml (\application.ear\application.war\WEB-INF\ web.xml) and change auth-method as below:

```
<auth-method>client-cert, form</auth-method>
```
4. Restart the WebLogic Application Server where the Agile Application is installed.
5. Configure LDAP Server (which is used as identity store in OAM) with Agile.
6. Migrate LDAP Users into Agile Application and Activate LDAP users. For more information, see "[Agile LDAP Configuration](#)" on page 33-12 to configure LDAP Server with Agile.
7. Login to Agile Java Client.
 Navigate to Location node.
 Enter Web Server Proxy URL.
 Restart the File Manager.

Testing (Apache 2.4)

1. Attempt to login to Agile Proxy URL with the Apache webserver port number as configured.
 You should see the OAM Credentials page.
2. Enter the appropriate OAM (configured LDAP Identity store user) username and password and the Agile application home page should be presented

