Agile Product Lifecycle Management

Agile Content Service User Guide

v9.3.2

ORACLE®

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CONTENTS

Preface

Oracle's Agile PLM documentation set includes Adobe® Acrobat PDF files. The Oracle Technology Network (OTN) Web site http://www.oracle.com/technetwork/documentation/agile-085940.html contains the latest versions of the Agile PLM PDF files. You can view or download these manuals from the Web site, or you can ask your Agile administrator if there is an Agile PLM Documentation folder available on your network from which you can access the Agile PLM documentation (PDF) files.

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

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

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

TTY Access to Oracle Support Services

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

Readme

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

Agile Training Aids

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

Accessibility of Code Examples in Documentation

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

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New in Release 9.3.2

ACS enhancements and new features in this release address Running ACS in a clustered environment, Reformatting Agile Export Data into ERP Acceptable Formats, and Managing Integration Errors. Background and procedural information appear in the following paragraphs.

Running ACS in a Clustered Environment

This enhancement enables running Agile ACS in a Web Logic Cluster environment. For background information and procedures, see Running Agile Content Service in a Clustered Environment on page 10 and Configuring the acs.skipserver and startAgileCluster.cmd Files on page 10.

Reformatting Agile Export Data into ERP Acceptable Formats

This enhancement provides a set of new features in Agile Java Client. Under a new ACS node called *Format Library*, it enables Agile users to transform Agile data into formats that can be processed by downstream applications. For referential and procedural information on Format Library, see Managing the Format Library on page 49.

Managing Error Messages

New features and enhancements implemented in Integration error handling enable users to perform the following functions. For referential and procedural information, see Managing ATO Error Messages on page 72.

- Manage and correct integration errors
- Reprocess ATOs
- Search for ATO Integration errors
- Report on ATO Integration errors
- Create Dashboard tables to track ATO integration errors
- Identify Dependencies in Change Objects

Configuring Agile Content Service

This chapter includes the following:

This chapter contains information about configuring the settings for Agile Content Service.

About Agile Content Service

Agile Content Service™ is an event-driven XML-based publishing service that makes the product record available to a wide variety of business applications and users, both internally and across the global manufacturing network. In addition to allowing employees and supply chain partners to publish the product record on demand, Agile Content Service can be configured to automatically publish the Item Master, BOM, and AML changes during any phase of the product lifecycle to multiple destinations, ensuring that everyone is working with up-to-the-minute information.

How Agile Content Service Works

Every time Agile Content Service publishes product content, it produces a transfer order that keeps track of what, where, and when product content is transferred. Agile Content Service allows for destination-specific content, ensuring that external entities receive only the information to which they should have access. Roles and privilege masks can be configured to ensure that the right information is sent.

Agile PLM users can publish product content in real time with a content transfer order (CTO) or set up subscribers to automatically create automated transfer orders (ATO) based on a schedule or triggered by a workflow status change. Agile Content Service is easily configured and can support transfers to multiple destinations and transfer protocols, including a file, HTTP, HTTPS, FTP, JMS, or another Agile PLM system.

Setting Up Agile Content Service

Before publishing content, Agile Content Service needs to know exactly what content must be transferred, as well as when it goes, where it goes, and a few other factors.

Agile Content Service consists of the following components:

□ **Destinations** (Where)

Destinations define where to publish product content. Agile PLM provides a file, FTP, HTTP(S), JMS queue, and Agile system as destination types. Users can publish product content to any number of destinations across these destination types.

A file destination is useful when users publish to internal systems. FTP and HTTP(S) destinations are useful when users publish to external systems. A JMS queue destination Type is useful when users publish to an EAI system. An Agile destination Type is used to publish to a supply chain partner's Agile PLM system.

❑ **Events** (When)

Events define when to publish automated product content for an ATO. Events can be based either on a schedule or on an object's moving to a specified workflow status.

❑ **Filters** (What)

Filters determine what data elements to publish. Filters provide the ability to configure the data of the element that gets published. Agile Content Service provides default filters for all objects.

❑ **Criteria** (What)

For ATOs, criteria allow automated subscribers to determine what objects they should process. For CTOs, the user decides what objects to process by selecting them on the **Selected Contents** tab of the CTO.

❑ **Subscribers**

Subscribers are created by the Agile PLM administrator. All applications and external systems that need access to specific product content are defined as subscribers. Subscribers are defined by their configured destinations, filters, criteria, events, assigned roles, and ATO creation data.

❑ **Package Services**

Package services contain settings used to create the package in the Agile PLM target system for Agile-to-Agile transfers. Package services are defined on the target Agile PLM system in an Agile-to-Agile transfer.

❑ **Response Services**

Response services define where automated responses are delivered. They are part of an acknowledgment by the remote recipient of the data. Response services are defined on the target Agile PLM system in an Agile-to-Agile transfer.

Running Agile Content Service in a Clustered Environment

Agile Content Service processes transfer orders in the order they are submitted. Processing transfer orders in this order prevents errors from occurring if the same part is affected by multiple changes. Because of this possibility, there is no advantage for Agile Content Service to run on multiple nodes of a clustered environment. Preparing the environment for cluster operations in a Web Logic Cluster requires setting up the `acs.skipServer` and `startAgileCluster.cmd` files.

Configuring the Properties and Start Cluster Files

In a clustered environment, you must disable the Agile Content Service on all nodes, except one. To disable Agile Content Service, change the `acs.skipServer` property value to **true** in the `agile.properties` or start script files on those nodes. When this property is set to **true**, Agile Content Service does not run. If the property is set to any other value, or not set at all, Agile Content Service will run on the node.

N o t e   Adding the property to the startup script file on the managed server, overrides any values in the `agile.properties` file. For example, if on the Managed server `agile.properties` is set to `acs.skipServer=false`, but the token in startup script file is set to `acs.skipServer=true`, the value in the `agile.properties` file is replaced by the value in the startup file and the node is skipped.

To configure the acs.Skipserver property in the startup script file, do as follows:

1. Navigate to the managed server that is used to trigger the ACS Event. For example, managed Server1.

2. Open the `startAgileCluster.cmd` startup file from the location `AGILE_HOME\agileDomain\bin` on the managed Server that triggers the ACS Event.

3. Add the token `-Dacs.skipServer=value` before the `weblogic.Server` script in the `startAgileCluster.cmd` startup file. See the Configured `startAgileCluster.cmd` in the following example below.

4. Save the startup file Restart the managed Server.

Example: Configured startAgileCluster.cmd file

```
("%JAVA_HOME%\bin\java" -server -XX:MaxPermSize=256M -ms1024M -mx1024M -
XX:NewSize=256M -XX:MaxNewSize=256M -XX:+UseConcMarkSweepGC -classpath
"%CLASSPATH%" %JMX_SET% -Dweblogic.Domain=agileDomain -
Dweblogic.Name=SJBUILD01-GX620-ManagedServer1 "-Dbea.home=C:\WlsCluster"
-Dweblogic.management.username=%WLS_USERNAME% -
Dweblogic.management.password=%WLS_PW% -Djava.awt.headless=true -
Dweblogic.ProductionModeEnabled=%STARTMODE% -
Dweblogic.log.StdoutSeverity=Error "-
Djava.security.policy==C:\WlsCluster\wlserver_10.3/server/lib/weblogic.po
licy" -
Dagile.log.dir=C:\Agile\Agile931/agileDomain/servers/ServerAgileManaged1/
log -Dweblogic.management.server=http://SJBUILD03-
GX620.agile.agilesoft.com:9001 -Dacs.skipServer=true weblogic.Server
```

Workflows for Transfer Orders

Agile PLM provides a default workflow for ATOs and a default workflow for CTOs. Because ATOs and CTOs use automated processes, certain restrictions apply to their workflows.

Default ATOs Workflow

Because ATO processing is completely automated, the Default ATOs workflow is read-only and cannot be modified. Correct processing of ATOs cannot be ensured if you use a different workflow.

Caution   *Use only the Default ATOs workflow to process ATOs.*

Default CTOs Workflow

Unlike the Default ATOs workflow, the Default CTOs workflow allows you to route CTOs for review. Oracle strongly suggests that you use the Default CTOs workflow to process CTOs.

Any workflow used for CTOs must observe the following restrictions. Correct processing of CTOs cannot be ensured if the workflow you use does not observe these restrictions.

Note	When the CTO enters the Released Type status that is the signal to ACS that the CTO is ready to be processed. When a CTO enters the Released Type status, ACS automatically finds the released CTO, automatically processes it, and automatically moves it to the Complete Type status. Any alteration of the Released or Complete Type statuses may prevent correct CTO processing.

- A CTO workflow may have only one Released Type status.

- The workflow status immediately following the Released Type status must be the Complete Type status.

- The Released Type status must not have any approvers. Therefore, do not modify this workflow status to automatically add approvers, and be sure that the Ad Hoc Approvers/Observers property for this status is set to No.

If you need a different CTO workflow, the best way to create one is to open the Default CTOs workflow and use Save As to create the new CTO workflow. In the new CTO workflow, do not alter the Released and Complete Type statuses in any way. However, you may add as many Submit and Review Type statuses as you need and modify the settings of those statuses to suit your needs.

Tracking Published Data

Completed transfer orders, both ATOs and CTOs, provide a record of what, where, and when product content is transferred and whether those transmissions were successful. This allows you to maintain an audit trail of all published product content data.

When you use ATOs to automatically publish product content data, Agile Content Service keeps track of what data has been transferred with ATOs. The next time an ATO publishes object data to the same destination, the Agile PLM system compares the object data specified for extraction on the new ATO against the ATO records of previously transferred data. An object that was previously transferred to that destination will not be transferred again, unless you chose to include modified objects. An object with modified data can be transferred again to the same destination.

In contrast, a CTO always publishes the specified data, regardless of whether if it was transferred to that destination previously. If you need to republish data specified on an ATO, a simple method is to open the ATO, and use Save As to create a CTO. You can edit the **Selected Content** tab of the CTO to specify only the objects you want to republish.

Setting and Editing Destinations

This chapter includes the following:

Destinations define which resources can accept the extracted content. These are managed from the **Destinations** node. With Agile Content Service, you can define the following destination protocols:

- Agile

- FTP

- File

- HTTP/HTTPS

- JMS Queue or Topic

You can now specify the filename extension at the Destination level. That is, any extract that goes to a given destination will use the specified file extension, if provided. If an extension is not provided, the default is based on the format of the extraction.

Users cannot create destinations. Destinations must be created and assigned by the administrator before a user can create a transfer order. When creating a destination, you can also test the connection to verify that the destination can be located.

The Status column in the Destinations window indicates the status of the last attempted transmission of data to this destination. When a destination is created or reset, the default status is Success, even though no transmission has occurred.

Agile PLM provides an example destination with the file protocol that saves the transfer file to the root directory of the application server. You can use this example destination when creating a subscriber or CTO, if the properties meet your company's needs.

Agile Destinations

Agile Content Service can publish to another Agile PLM system. Agile Content Service creates a package in the target system using *WebServices*. After the package is accepted, the data can be directly imported from the **Attachments** tab of the package. Make sure to use aXML format if you want to directly import the data.

Note   To create an Agile destination on your Agile PLM system, you need the following information about the target Agile PLM system: server URL (including the host name, the virtual path name, and the port number), the appropriate username and password to use on the target Agile PLM system, and the name of the package service to select on the target Agile PLM system. To obtain this information, you may need to contact the administrator of the target Agile PLM system.

For information about how to configure your Agile PLM system to receive data from another Agile PLM system, see Setting and Editing Package Services on page 41. (For information about ACS settings for both source Agile PLM systems and target Agile PLM systems, see Settings Required for Agile-To-Agile Publishing on page 53.)

▶ *To create an Agile destination:*

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.

2. Click [icon]. The Create Destination dialog box appears.

3. Type a name and a description of the destination in the **Name** and **Description** fields.

4. Select Agile from the **Protocol** list.

5. Select either Yes or No from the **Response Expected** list.

    For information about how to configure your Agile PLM system to send responses from a destination, see Setting and Editing Response Services on page 45.

6. Click the [icon] button next to the **Notification User** field to display the list of available users. Select the users to be notified if a transfer failure occurs.

7. Select either HTTP or HTTPS from the **Server URL** drop-down list.

8. Type the URL and port of the target Agile PLM application server in the host and port fields, respectively. Type the virtual path name in the virtual path field, which is the last field.

    Note   The virtual path is determined when an Agile PLM system is installed. For example, if the URL used to log in to the Web Client on the target Agile Application Server is:

    http://www.clapton.com/Agile/PLMServlet

9. Enter the URL information as shown above, where www.clapton.com is the host name, and **Agile** is the virtual path name. The field following the colon (:) is reserved for a port number. 80 is usually used for HTTP and 443 is usually used for HTTPS. If a port other then 80 or 443 is being used, the port will appear in the URL used to log in to the Agile Web Client. Omit **PLMServlet**, which is the application name. Contact the administrator of the target Agile PLM application server if you have questions about the correct URL to use.

10. Type the username and password of the target Agile PLM application server in the **User Name** and **Password** fields. Click **Grab Package Services**.

    If the remote Agile PLM system can be properly contacted, the Package Service list is populated with the package services from the target Agile PLM server.

    Note   If the user's password in the target Agile PLM system changes, be sure to edit the destination with the new password.

11. Select the appropriate Package Service from the drop-down list.

> **Note** You may need to contact the administrator of the target Agile PLM system to determine which package service you should select.

12. Edit the following destination parameters, if necessary:

 • **Filename Prefix** (default is TO)

 • **File Number** (default is 000001)

 The name of the transfer order file consists of the Filename Prefix parameter followed by the File Number parameter. The File Number parameter increments by one each time a file is transferred.

13. Click **OK**.

FTP Destinations

You can publish data to an FTP site. Agile Content Service uses the user name and password, if set, to log in to the FTP server. You can also verify the connection to the site during creation to ensure access.

> **Note** If a file with the same name already exists at the FTP site when the transfer order is published, it is overwritten.

▶ *To create an FTP destination:*

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.

2. Click [icon]. The Create Destination dialog box appears.

3. Type a name and a description of the destination in the **Name** and **Description** fields.

4. Select FTP from the **Protocol** list.

5. Click the [icon] button next to the **Notification User** field to display the list of available users. Select the users to be notified if a transfer failure occurs.

6. Type the URL of the FTP site where the transfer order is sent, including port number, if needed, in the **URL or Target Path** field.

 > **Note** When entering the URL of the FTP site you do not need to enter ftp://.

7. Type the username and password of the FTP site, if needed, in the **User Name** and **Password** fields.

8. Edit the following destination parameters, if necessary:

 • **Filename Prefix** (default is TO)

 • **File Number** (default is 000001)

 • **Filename Extension**

 The name of the transfer order file consists of the Filename Prefix parameter followed by the File Number parameter with the extension of the Filename Extension parameter. The File

Number parameter increments by one each time a file is transferred.

Check **Enable User-defined Filename Extension** to activate the Filename Extension field. Specify the filename extension, either .pdx or .axml. All files extracted with this destination have the same file extension. If no extension is specified, the default is based on the format of the extraction.

9. Select Binary from the **Transfer Mode** list.

10. Click **Test** to verify the destination.

When testing the connection to the destination, temporary files are created in the destination location. You can delete these files after the connection is verified.

11. Click **OK**.

File Destinations

You can publish data to a file system. Agile Content Service must have access to the fully qualified path where the file will be located for a successful transfer. Sufficient disk space must also be available to write the file to the destination. You can verify the connection to the path during creation to ensure access.

Note   If a file with the same name already exists at the destination when the Transfer Order is published, it is overwritten.

▶ *To create a file destination:*

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.

2. Click . The Create Destination dialog box appears.

3. Type a name and a description of the destination in the **Name** and **Description** fields.

4. Select File from the **Protocol** list.

5. Click the button next to the **Notification User** field to display the list of available users. Select the users to be notified if a transfer failure occurs.

6. In the **URL or Target Path** field, type the fully qualified path where the transfer order is to be located.

Note   You can specify any directory on your network to which the Agile Application Server can write successfully.

The target path you specify is located on the computer on which the Agile PLM application is installed. It is *not* located on the logged-on user's computer. For example, if you specify **C:\temp** the transfer file will be written to the directory named **temp** on the **C** drive of the computer where the Agile PLM application is installed. The transfer file will *not* be written to the **C:\temp** directory of your computer.

UNIX: File destinations can be located in the /opt/Agile folder and its subfolders. Users may not have write privileges to other folders. Remember to use slashes (/) instead of backslashes (\) in the path.

7. Edit the following destination parameters, if necessary:

   - **Filename Prefix** (default is TO)
   - **File Number** (default is 000001)
   - **Filename Extension**

   The name of the transfer order file consists of the Filename Prefix parameter followed by the File Number parameter with the extension of the Filename Extension parameter. The File Number parameter increments by one each time a file is transferred.

   Check **Enable User-defined Filename Extension** to activate the Filename Extension field. Specify the filename extension, either .pdx or .axml. All files extracted with this destination have the same file extension. If no extension is specified, the default is based on the format of the extraction.

8. Click **Test** to verify the destination.

9. Click **OK**.

HTTP and HTTPS Destinations

Agile Content Service can publish data to an HTTP server using the POST method. The complete URL entered in the **URL or Target Path** field gives the location of the server.

To create an HTTP or HTTPS destination:

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.

2. Click [icon]. The Create Destination dialog box appears.

3. Type a name and a description of the destination in the **Name** and **Description** fields.

4. Select HTTP or HTTPS from the **Protocol** list.

5. Select either Yes or No from the **Response Expected** list.

   If Yes is selected, the status of any Transfer Order subscribed with this destination is not changed to Complete until a Success response is returned from this destination. If a Success response is not received, no additional Transfer Orders are sent to the destination.

   For information about how to configure your Agile PLM system to send responses from a destination, see Setting and Editing Response Services on page 45.

6. Click the [icon] button next to the **Notification User** field to display the list of available users. Select the users to be notified if a transfer failure occurs.

7. Type the URL of the HTTP(S) site where the transfer order is to be sent in the **URL or Target Path** field.

   Note   When entering the URL, you do not need to enter **http://** or https://.

8. In the **Request File Field** field, type the name to use for the MIME part (i.e., section) which will contain the file data.

   (If you need information about how the HTTP POST is constructed, contact Agile Support.)

9. Edit the following destination parameters, if necessary:

   • **Filename Prefix** (default is TO)

   • **File Number** (default is 000001)

   • **Filename Extension**

   The name of the transfer order file consists of the Filename Prefix parameter followed by the File Number parameter with the extension of the Filename Extension parameter. The File Number parameter increments by one each time a file is transferred.

   Check **Enable User-defined Filename Extension** to activate the Filename Extension field. Specify the filename extension, either .pdx or .axml. All files extracted with this destination have the same file extension. If no extension is specified, the default is based on the format of the extraction.

   Note   You cannot remove these parameters.

10. Click the ⬇ button next to the **Additional Parameters** field to display a dialog box. Click the **Add** button to enter any additional name/value parameter pairs needed when the URL is submitted. Click **OK**.

    These parameters will be included as named parts of the generated MIME message.

11. Click **Test** to verify the destination.

12. Click **OK**.

Sample HTTP Destination

The following example HTTP destination illustrates how the destination settings are used to construct the HTTP POST.

Destination parameter	Setting
Name	**HTTP 1**
Description	**Test HTTP destination**
Protocol	**HTTP**
Notification User	
URL or Target Path Http:	**localhost:9522**
Request File Field	**ACS File Data**
Filename Prefix	**TO**
File Number	**00001**
Additional Parameters	**foo=bar**

```
POST / HTTP/1.1
Content-Length: 7414
Content-Type: multipart/form-data; boundary=----AlQiUnIdLaEvS-f2a7b238
Cache-Control: no-cache
Pragma: no-cache
User-Agent: Java/1.4.2
Host: localhost
Accept: text/html, image/gif, image/jpeg, *; q=.2, */*; q=.2
Connection: keep-alive

------AlQiUnIdLaEvS-f2a7b238
content-disposition: form-data; name="foo"

bar
------AlQiUnIdLaEvS-f2a7b238
content-disposition: form-data; name="ACS File Data"; filename="TO00001.AXML"
Content-type: Application/Octet-stream;
Content-Transfer-Encoding: binary

...

------AlQiUnIdLaEvS-f2a7b238--
```

JMS Destinations

Agile Content Service can publish data to Java Messaging Service (JMS). The TIBCO Enterprise, WebLogic JMS, WebLogic AQ, Oracle JMS and Oracle AQ are the JMS queues or topics currently supported by Agile Content Service.

Note   ACS does not support Topics for Oracle AQ and WebLogic.

Before configuring the JMS destination, you may need to make some modifications to the JMS installation to connect with Agile Content Service.

To create a JMS destination:

Note   You can perform either JMS queue processing or JMS topic processing, depending on the settings of the **Connection Factory** and **Destination Name** parameters of the JMS destination. See step 8 and step 10 below.

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.

2. Click . The Create Destination dialog box appears.

3. Type a name and a description of the destination in the **Name** and **Description** fields.

4. Select JMS from the **Protocol** list.

5. Select either Yes or No from the **Response Expected** list.

   If Yes is selected, the status of any Transfer Order subscribed with this destination is not changed to Complete until a Success response is returned from this destination. If a Success response is not received, no additional Transfer Orders are sent to the destination.

   For information about how to configure your Agile PLM system to send responses from a destination, see Setting and Editing Response Services on page 45.

6. Click the ⬇ button next to the **Notification User** field to display the list of available users. Select the users to be notified if a transfer failure occurs.

Note	For the parameters **Provider Context Factory**, **Connection Factory**, and **Default Provider URL** (in step 7, step 8, and step 9 below), the Agile PLM system fills in the fields with server-specific defaults. For example, if your Agile PLM system is running on an Oracle application server, Oracle defaults are used. Verify whether these defaults are correct for your Agile PLM installation and make any needed modifications.

7. Type the name of the context factory class of the JMS server in the **Provider Context Factory** field. The name of the context factory class should be in a format similar to the following examples:

   TIBCO: **com.tibco.tibjms.naming.TibjmsInitialContextFactory**

   Oracle JMS: **com.evermind.server.rmi.RMIInitialContextFactory**

   Oracle AQ: **com.evermind.server.rmi.RMIInitialContextFactory**

   WebLogic JMS: **weblogic.jndi.WLInitialContextFactory**

   WebLogic AQ:**weblogic. jndi.WLInitialContextFactory**

8. In the **Connection Factory** field, enter the name of the connection factory that will be obtained from JNDI tree. This is the name under which the JMS connection factory is registered. Whether queue processing or topic processing is used is determined by the type of connection factory named in the **Connection Factory** field.

   The default TIBCO installation provides the following two sample connection factories:

   QueueConnectionFactory (for queue processing)

   TopicConnectionFactory (for topic processing)

   Example values for Oracle JMS are the following:

   QueueConnectionFactory (for queue processing)

   TopicConnectionFactory (for topic processing)

   Example value for Oracle AQ queue processing is as follows:

   java:comp/resource/_simpleOemsRP_**/QueueConnectionFactories/**_QCF_

   Example value for WebLogic JMS is as follows:

   local JNDI name of Connection Factory as configured in WebLogic

9. Type the URL, including the address and port, of the host in the **Default Provider URL** field. The default value that appears in this field should be valid for the application server's built-in JMS

provider. Consult your JMS documentation for more information.

For TIBCO, the URL should be in a format similar to the following example:

tcp://*JMS_ServerName:***7222**

For Oracle JMS the URL should be in a format similar to the following example:

ormi://*Oracle_JMS_ServerName:***12401**

For Oracle AQ the URL should be in a format similar to the following example:

ormi://*Oracle_Application_ServerName_Where_AQ_IsConfigured:***12401**

For WebLogic JMS, the URL should be in the format similar to the following example:

t3://*weblogic_serverName:***7001**

> **Note**   WebLogic AQ is only supported where Agile PLM is deployed.

10. Type the name of the queue or topic in the **Destination Name** field. The name of the queue or topic depends on how you have configured your JMS server. Consult your JMS documentation for information about creating and configuring queues and topics.

    For example, TIBCO provides the following sample queue and topic:

    queue.*sample*

    topic.*sample*

    The example values for Oracle JMS are:

    Queue: **jms**/*demoQueue*

    Topic: **jms**/*demoTopic*

    The example value for Oracle AQ is:

    java:comp/resource/*simpleOemsRP*/**Queues**/*JMSDEMO_QUEUE*

    The example value for WebLogic JMS with Agile deployed on it is:

    Queue: com.agile.jms.AsyncQueue

    The example value for WebLogic AQ is:

    local JNDI name of destination as configured in WebLogic Admin, for example, TEST_QUEUE which maps to PLM_ECO_QUEUE in AQ.

11. Type the username and password needed to access the queue in the **User Name** and **Password** fields.

12. Click the button next to the **Additional Parameters** field to display a dialog box. Click the **Add** button to enter any additional name/value parameter pairs. Click **OK**.

    > **Note**   These parameters are passed as JMS header properties when delivering content to the JMS destination.

13. Click **Test** to verify the destination.

14. Click **OK**.

JMS Message Properties

Messages sent to JMS destinations contain the following three components:

▫ message header—used for message identification

▫ properties—contain application-specific fields

▫ body—holds the content of the message.

ACS adds the following properties to its JMS messages:

Property Name	Property Value
ClientName	"Agile Content Service"
ServerName	"Agile Product Lifecycle Management"
ServerVersion	The specific Agile server version
AgileRecordLocator	The key used to identify the **Where Sent** row from the transfer order
TransmissionTimestamp	The timestamp when the JMS message was transmitted displayed as a long number representing the number of milliseconds since January 1, 1970, 00:00:00 GMT.
AgileTransferObjectNumber	The transfer order number
AgileTransferObjectSelectedContentNumbers	A semicolon delimited list of the object name or number from the **Selected Content** tab. If the object is an item, then the change number is noted in parenthesis. For example, if the **Selected Content** tab for the transfer order contains change C1 and item P1 at revision A C2, then this property value would be "C1; P1(C2)".
AgileTransferObjectSelectedContentIdentifiers	A semicolon delimited list of the object identifiers from the **Selected Content** tab. If the object is an item, then the change ID is appended following a colon. For example, if the **Selected Content** tab for the transfer order contains change C1 with ID 6001 and item P1 with ID 6002 at revision A C2 with ID 6003, then this property value would be "6001;6002;6003".

Configuring AQ in WebLogic

After setup for AQ has been completed in the database, the WebLogic application server must be configured.

To configure AQ in WebLogic:

1. Log in to the WebLogic Administration console.

2. On the left pane, click **agileDomain > Services > JDBC > Data Sources**.

3. Create a new data source for AQ by entering the following information on the General Tab:
    a. Name: Enter a name for the data source.
    b. JNDI Name: aqjmsds
    c. Database Type: Oracle
    d. Database Driver: Oracle's Driver (Thin XA) for instance connections; Versions: 9.0.1, 9.2.0, 10,11

4. Click the Connection Pool tab.

5. Enter the following values:
    a. URL: jdbc:oracle:thin@*hostname:port_number:sid*
    b. Driver Class Name: oracle.jdbc.xa.client.OracleXADataSource
    c. Properties: *aq_db_username*
    d. Password: *aq_db_password*

6. Click the Targets tab.

7. On the tab, select the available Agile Server that is deployed on the WebLogic application server.

8. Click Save.

9. On the left pane, click **agileDomain > Services > Messaging > JMS Modules.**

10. Create a new JMS module with the target as the Agile PLM server:
    a. Name: AQJMS Module
    b. Target: agilePCServer

11. In the new JMS Module, create a new Foreign Server.
    a. Name: AQ
    b. Target: agilePCServer

12. On the newly created Foreign Server, enter values for the following fields on the General tab:
    a. JNDI Initial Context Factory: oracle.jms.AQjmsInitialContextFactory
    b. JNDI Properties: datasource=aqjmsds

13. Click the Connection Factories tab.

14. Create a new connection factory with the following information:
    a. Name: CF
    b. Local JNDI Name: aqjms
    c. Remote JNDI Name: XAQueueConnectionFactory
    d. Username: Same name used when you created the new data source.
    e. Password

15. Click the Destination tab.

16. Create a new destination with the following information:
    a. Name: Dest
    b. Local JNDI Name: TEST_QUEUE
    c. Remote JNDI Name: Queues/PLM_ECO_QUEUE

17. Click Save.

18. Restart the WebLogic application server.

19. After restarting, you can now create a JMS destination for WebLogic AQ.

Note   In Oracle AQ, a queue named PLM_ECO_QUEUE should be created in the schema of the user specified in the Username field of the data source.

Editing Destinations

You can edit all of the parameters of the destination, except Protocol. Any future Transfer Orders referencing the edited destination use the updated settings.

You cannot edit a destination if it is referenced by an enabled subscriber. You must disable the subscriber before any changes can be made to the destination. See Enabling and Disabling Subscribers on page 39 for more information.

To edit a destination:

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.

2. Double-click the name of the destination you want to edit.

3. Edit the **General Information** tab of the destination to make changes to the necessary fields.

4. Click **Save** and **Close**.

Resetting Destinations

If delivery to a destination fails, the failure appears on the **Where Sent** tab of the transfer order and in the **Transmission Status** column on the Destinations window. The **Where Sent** tab of the transfer order indicates the transmission status and displays an error message in the **Transmission Notes** column.

On a destination window, the **History** tab of the destination displays details indicating which transfer order caused the failure. After you make any necessary changes to the transfer order or the destination to correct the problem, you can reset the destination to attempt delivery again.

Once a destination has failed, no other transfer orders can be sent to that destination until it has been reset. Transfer orders for that destination are queued in the order they were scheduled to be transmitted. The **Transmission Notes** column indicates that the transfer order is waiting for another destination. Once the destination is reset, the transfer orders are transmitted according to their order in the queue.

To reset a destination:

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.

2. Select the destination to reset.

3. Click .

Deleting Destinations

Destinations can be deleted only if they are not currently assigned to a transfer order or subscriber.

To delete a destination:

1. Under **System Settings > Agile Content Service**, double-click **Destinations**. The Destinations window appears.

2. Select the destination you want to delete.

3. Click ✕.

Setting and Editing Events

This chapter includes the following:

Events determine when content is transferred to a destination. These are handled from the **Events** node.

Events can be based either on a schedule or on an object's moving to a specified workflow status. For example, if you wanted to query for objects matching a specific definition every night at midnight, you would create a scheduled event. Or if you wanted to watch for all change orders moving to a Released status, you would create a workflow event.

Scheduled Events

Scheduled events are repeated after a specified period of time has elapsed, or at a specific time hourly, daily, or weekly. When a scheduled event is processed, all Agile PLM objects that meet the definition specified in the subscriber that have not been processed are extracted.

Agile PLM provides an example scheduled event that is set to trigger at midnight on Saturday and Sunday. This event can be used when creating a subscriber if the schedule properties meet your company's needs. (For information about subscribers, see)

To create a scheduled event:

1. Under **System Settings > Agile Content Service**, double-click **Events**. The Events window appears.

2. Click . The Create Event dialog box appears.

3. Type a name and a description of the event in the specified fields.

4. Select Scheduled from the **Event Type** list.

5. Click in the **Frequency** field to schedule the event.

6. Review the following schedule properties and change them, if necessary.

The default setting is **Every X hours Y Minutes**. If you accept this default, you must select a time interval.

Setting	Action
Once A Day	Automatically runs the extraction once a day at the designated start time.
Every X Hours Y Minutes	Specifies the time interval between extractions, calculated from the Starting At time: ▫ If the previous extraction is not finished, the next extraction follows after the previous extraction is complete. ▫ The minimum time is 0 hours, 5 minutes: the maximum time for each field is 11 hours and 59 minutes.
Starting At	Specifies an absolute time to start checking for subscriber criteria. If the starting time and ending time are the same, the subscriber criteria are checked for 24 hours.
Ending At	Specifies an absolute time to stop checking for subscriber criteria.
Days	Specifies the days to process extractions according to the hourly schedule.

7. Click **OK**.

Workflow Events

Workflow events enable subscribers to publish data based on a status change of an object. When the workflow status of an object changes and a subscriber is configured for that particular change, the data is published. A subscriber cannot act on the first status of a workflow, such as Pending.

Agile PLM provides an example workflow event that is set to trigger when change orders are released. This event can be used when you create a subscriber if the workflow properties meet your company's needs.

Note   Only the object controlled by the workflow is extracted. For example, the Example Workflow Event uses the Default Change Orders workflow and the Released status. The triggering event is when any routable object using the Default Change Orders workflow makes a status transition into the Released status. The routable object and its associated objects (for example, affected items) and attachments are extracted and published.

Any changes to an object after Agile Content Service is triggered to process it, but before the extraction process begins, are reflected in the extracted content. For example, if a subscriber is configured to publish an ECO at the Review status, but the ECO is immediately promoted to the Released status, then the extracted status for the ECO may be Released.

▶ *To create a workflow event:*

1. Under **System Settings > Agile Content Service**, double-click **Events**. The Events window appears.

2. Click . The Create Event dialog box appears.

3. Type a name and a description of the event in the specified fields.

4. Select Workflow from the **Event Type** list.

5. Select a workflow from the **Workflow** list.

6. In the **Workflow Status** field, select a status from the list of available values based on the selected workflow.

7. Click **OK**.

Editing Events

You cannot change the event Type after the event is created, but you can change the **Frequency** field in a scheduled event and the Type of workflow in a workflow event.

You cannot edit an event if it is referenced by an enabled subscriber. You must disable the subscriber before any changes can be made to the event. See Enabling and Disabling Subscribers on page 39 for more information.

To edit a scheduled event:

1. Under **System Settings > Agile Content Service**, double-click **Events**. The Events window appears.

2. Double-click the scheduled event you want to edit.

3. Edit the **General Information** tab of the event.

4. Make changes to the **Name** and **Description** fields, if necessary.

5. Click the button next to the **Frequency** field.

6. Make the necessary changes to the schedule.

7. Click **OK**.

8. Click **Save**.

To edit a workflow event:

1. Under **System Settings > Agile Content Service**, double-click **Events**. The Events window appears.

2. Double-click the workflow event you want to edit.

3. Edit the **General Information** tab of the event.

4. Make changes to the **Name** and **Description** fields, if necessary.

5. Select a different workflow from the **Workflow** list, if necessary.

6. In the **Workflow Status** field, select a different workflow status, if necessary.

7. Click **Save**.

Deleting Events

You can delete an event only if it is not assigned to a Subscriber.

To delete an event:

1. Under **System Settings > Agile Content Service**, double-click **Events**. The Events window appears.

2. Select the event you want to delete.

3. Click ✕.

Chapter 4

Setting and Editing Filters

This chapter includes the following:

Filters define what content is published in the transfer order. These are managed from the **Filters** node.

Note   Filters that you save in the Agile Content Service node are also available for use in the Agile PLM Export wizard. For more information, see the *Agile PLM Import & Export Guide*.

Filters are limited to windows within base classes. If a filter for a specific class makes a tab visible that a subclass does not have visible, the tab is omitted from the extracted data. For example, the **Page Three** tab of an ECO is not visible, but the filter for the Change Orders class allows you to extract **Page Three** tabs. When an ECO is extracted using this filter, the data on Page Three is skipped because it is not visible on the subclass.

You can have multiple filters for the same base classes, but with different filter names. Agile Content Service provides default filters for the following classes. (Object classes that are not included in this list are not supported by Agile Content Service.)

▫ Changes
  - Change Orders
  - Change Requests
  - Deviations
  - Manufacturer Orders
  - Price Change Orders
  - Sites Change Orders
  - Stop Ships

▫ Declarations
  - Homogeneous Materials Declarations
  - IPC 1752-1 Declarations
  - IPC 1752-2 Declarations
  - JGP Declarations
  - Part Declarations
  - Supplier Declarations of Conformance
  - Substance Declarations

- Discussions
- Items
  - Parts
  - Documentation
- Manufacturers
- Manufacturer Parts
- Packages
- Part Groups
- Prices
  - Published Prices
  - Quote Histories
- Product Service Requests
  - Problem Reports
  - Non-Conformance Reports
- Programs
  - Activities
  - Gates
- Quality Change Requests
  - Audits
  - Corrective and Preventive Actions
- Specifications
- Substances
  - Substances
  - Substance Groups
  - Subparts
  - Materials
- Suppliers
- Transfer Orders
  - Content Transfer Orders
- Users
- User Groups

You can use any of the default filters when creating a subscriber or CTO if the properties meet your company's needs, or use them as templates when creating new filters.

You should select your filtering options based on the needs of your integration. Selecting filtering options that result in more data than you need can have an adverse impact on the performance of your extractions. For example, if your integration only needs the details of the affected items of a change and not the full assemblies of those affected items, you should specify an item filter with a BOM option indicating Tab Only.

Note   A filter for ATO objects is not needed. To extract data about ATO objects to aXML files, specify a role that includes privilege masks that allow a user to view ATO objects. When the selected role allows access to ATO objects, data about the ATO object itself is extracted and included in the aXML file. This information can be used to troubleshoot delivery issues.

▶ *To create a filter:*

1. Under **System Settings > Agile Content Service**, double-click **Filters**. The Filters window appears.

2. Click ▦. The Create Filter dialog box appears.

3. Type a name and a description of the filter in the specified fields.

4. Select an object class or base class from the **Filter Object Type** list.

5. Click the ⬇ button next to the **Viewable Tabs** field to display the list of available tabs based on the selected class

    Note   The first tab (Title Block, General Information, or Cover Page) is required for every filter and is already selected for each object Type.

6. Select any additional tabs you want in the filter.

7. Click **OK**.

    Depending on which class you select and the tabs that are viewable in that class, the tab options displayed and available in the lower part of the Create Filter dialog box are updated.

8. Click the ▾ button to display the drop-down list of available tab filter options.

    a. Select one of the following options from the **BOM Options** list:

        Note   This field is available only for classes with a BOM tab selected in the **Viewable Tabs** field for items or item-associated classes.

        - **Tab Only:** extracts only the displayed table values.
        - **Tab and Items:** you provide a numeric value to indicate the number of levels to be extracted from the BOM, or you can check a box to indicate all levels.

    b. Select one of the following options from the **Attachments Options** list:

        Note   This field is available only for classes with an Attachments tab selected in the **Viewable Tabs** field.

        - **Tab Only**: only the Attachment information is packaged with the extracted data.
        - **Tab and Files**: all attachments are packaged with the extracted data.

    c. Select one of the following options from the **Affected Items Options** list:

Note   This field is available only for classes with an Affected Items tab selected in the **Viewable Tabs** field for changes or ECO, MCO, and SCO classes.

- **Tab Only**: only the Affected Items information is packaged with the extracted data.
- **Tab, Redline Content, and Items**: all items and redline content are packaged with the extracted data. Redline content includes redline Title Block, BOM, AML, and Attachments data.
- **Tab and Redline Content**: the Affected Items information and redline Title Block, BOM, AML, and Attachments redline data are packaged with the extracted data.

d.   Select one of the following options from the **AML Options** list:

Note   This field is available only for classes with a Manufacturers tab selected in the **Viewable Tabs** field for items or item-associated classes.

- **Tab Only**: only the manufacturer information is packaged with the extracted data.
- **Tab and Manufacturer Parts**: all AML tab and manufacturer parts information is packaged with the extracted data.

e.   Select one of the following options from the **General Info Options** list:

Note   This field is available only for the Manufacturer Part class.

- **Tab Only**: only the manufacturer information is packaged with the extracted data.
- **Tab and Manufacturer**: all manufacturers are packaged with the extracted data.

f.   Select one of the following options from the **Affected Prices Options** list:

Note   This field is available only for the Prices class or price-associated classes.

- **Tab Only**: only the price information is packaged with the extracted data.
- **Tab and Redline Content**: all Prices and Redlined Price lines.

9.   Click **OK**.

Editing Filters

The contents of a filter can be changed if the filter is not assigned to a transfer order or not referenced by an enabled subscriber.

If the filter is assigned to a transfer order, it can be edited when the transfer order is completed. If the filter is referenced by an enabled subscriber, you must disable the subscriber to edit the filter. See Enabling and Disabling Subscribers on page 39 for more information.

To edit a filter:

1.   Under **System Settings > Agile Content Service**, double-click **Filters**. The Filters window appears.

2.   Double-click the name of the filter you want to edit.

3.   Edit the **Name** and **Description** field on the **General Information** tab.

4.   Make changes to other filter details on the **Filter** tab.

Note   If you selected the Affected Items tab when you created your filter, you can choose to send only the BOM and AML redline changes from the **Redline changes only** drop-down list on the **Filter** tab.

> If you selected the Attachments tab along with the Tab and Files attachment option when you created your filter, you can choose files of only specific types to be included during export by entering a comma-separated list of file extensions in the **Include File Extensions** field.

5. Click **Save**.

When you edit a filter, if the attachment option is Tab and Files, you can set the Include File Extensions field, which lets you indicate the file extensions that should be included in the extract. If an extension is not specified, then all extensions are included; if an extension is specified, then only files with the indicated extension(s) are included.

For example, if you specify .doc as the extension (note that the period isn't required), and a part that you are extracting has both a .doc and a .GIF file attached, only the .doc file will be included in the extract This option is not available when a filter is created, just when a filter is being edited.

Deleting Filters

Filters can be deleted only if they are not currently assigned to an existing transfer order or subscriber.

To delete a filter:

1. Under **System Settings > Agile Content Service**, double-click **Filters**. The Filters window appears.

2. Select the filter you want to delete.

3. Click ✕.

Setting and Editing Subscribers

This chapter includes the following:

After you configure events, filters, destinations, roles, and criteria, you can create subscribers to publish data automatically when all of the subscriber requirements are met. A subscriber is associated with only one event and criteria, but can contain multiple destinations, filters, and roles. These are managed from the **Subscribers** node.

Creating Subscribers

Agile PLM provides an example scheduled subscriber and an example workflow subscriber. The example subscribers incorporate the other Agile Content Service example settings as a template you can use when creating a subscriber to match your company's requirements.

To create a subscriber:

1. Under **System Settings > Agile Content Service**, double-click **Subscribers**. The Subscribers window appears.

2. Click ⬚. The Create Subscriber dialog box appears.

3. Type a name and a description of the subscriber in the **Name** and **Description** fields.

4. Select the subclass from the **Subclass** list.

   This is the ATO subclass Agile Content Service generates when an event occurs that matches all the properties of this subscriber.

5. Select the **Default ATOs** workflow from the **Workflow** list.

   For more information about workflows, see *Getting Started with Agile PLM*.

6. Select ATO Number from the **AutoNumber** list to select an autonumber source for the selected subclass.

   The default autonumber source is ATO Number. For more information about autonumbers, see the *Agile PLM Administrator Guide*. Because ATOs are processed automatically, an autonumber source is required.

7. Select the object that should be processed by selecting available criteria from the **Criteria** list. For more information about criteria and how to create new criteria, see the *Agile PLM Administrator Guide*.

> **Note** If you are creating a scheduled event subscriber, be sure to define your criteria as specifically as possible, to avoid receiving unwanted data in your transfer order. For example, "All Change Orders released after 8/18/2008" returns a specific group of change orders, unlike "All Change Orders" which returns every change order in your system.

8. Select the event specific to this subscriber from the **Event** list.

9. Click **OK**. The window of the new subscriber appears.

10. Select Yes or No from the **Include Modified Objects** drop-down list. (Scheduled Subscribers only)

    If yes, new and modified objects since the last processing of the subscriber are published. If no, only objects that have been created since the initial processing of the subscriber and meet the Criteria specified by the subscriber are published.

    > **Note** ATOs created from scheduled events will be limited to 100 objects on the Selected Content tab. For example, if there are 500 objects that meet the given criteria, then five ATOs are created, which allows ACS to process transfer orders in manageable amounts while still achieving the desired results.

11. Click the **Subscriber Details** tab to add destinations, filters, and roles, and to select the transfer file format.

12. Click ⬚ to display the Subscriber Detail dialog box.

13. Click ⬇ to select values for the **Destinations**, **Filters**, and **Roles** fields from the lists of options available for this subscriber. Roles are applied to further fine-tune or define the data extraction. For more information about roles, see the *Agile PLM Administrator Guide*.

14. Select the file Type of the transfer file, PDX or aXML, from the **Data Format** drop-down list.

    Product Definition Exchange (PDX) packages contain product content, such as item or change details, plus BOM data, manufacturer information, drawings, and other attached files. PDX packages are based on an industry-standard format for encoding structured data in an XML format. This standard provides an application-independent way to describe product content. PDX does not support all the object types supported by Agile Content Service.

    The Agile Extensible Markup Language (aXML) format is an XML representation of Agile PLM's business schema. aXML contains all product content managed in Agile PLM including items, change details, manufacturer information, problem reports, cost, drawings, and other files. aXML does support all object types supported by Agile Content Service. An aXML file is a ZIP file, which includes the XML representation of the Agile PLM content and the associated attachments.

15. Select the language to use from the **Language** drop-down list.

    The language setting does not affect or translate data in the transfer file; it does determine which language is used to label object attributes, for example, field and column names.

16. Select a site to use from the **Site** drop-down list.

    The site setting further defines the data extraction. For example, if you select the Hong Kong site, only BOM information visible for the Hong Kong site will be extracted.

17. Click **Save**.

    The destination detail is displayed in a row on the **Subscriber Details** tab.

For each detail row you want to add, click ⬚ to display the Subscriber Detail dialog box. Follow the instructions in step 13 through step 17 above.

Validating Subscribers

After you have created your subscriber, you should review the settings to ensure a successful transfer. Review at least the following settings:

▫ Destination — Make sure this setting points to the correct location and the connection has been verified. Make sure that the appropriate personnel are designated for notification.

▫ Event — If it is a scheduled event, make sure the proper schedule is set. If it is a workflow event, make sure it is set to the proper workflow and status.

▫ Filter — Make sure there is a filter for each object you want to transfer.

▫ Roles — Make sure the correct fields are being extracted.

If the criteria, events, and filters are not well defined for a subscriber, Agile Content Service may not trigger the ATO or you may not receive the expected results in the ATO.

Enabling and Disabling Subscribers

When a subscriber is created, it is disabled by default. This allows all fields of the subscriber to be changed before it is used. You must enable a subscriber before it is recognized by the Agile Content Service.

When a subscriber is enabled, you cannot edit its subscriber details and you cannot edit any of its referenced destinations, events, or filters. If any of these settings require changes, you must disable the subscriber.

To enable or disable a Subscriber:

1. Under **System Settings > Agile Content Service**, double-click **Subscribers**. The Subscribers window appears.

2. Select the subscriber you want to enable or disable.

3. Click **Enable** ⬚ or **Disable** ⬚ .

Deleting Subscribers

Subscribers can be deleted only if they are disabled and not currently assigned to any transfer order objects.

To delete a subscriber:

1. Under **System Settings > Agile Content Service**, double-click **Subscribers**. The Subscribers window appears.

2. Select the subscriber you want to delete.

3. Click ✕.

Setting and Editing Package Services

This chapter includes the following:

Note   For Agile-to-Agile publishing, you must create package services on the target Agile PLM system; package services are not needed on the source Agile PLM system. For a summary of the Agile-to-Agile communication configuration tasks required on both the source Agile PLM system and the target Agile PLM system, see Settings Required for Agile-To-Agile Publishing on page 53.

Package services are used to define what Package subclass, autonumber source, and workflow are used when content is received from a remote system through an Agile destination. When you enable Agile-to-Agile communication, you must configure the target Agile PLM system to properly create the package object using the correct autonumber source and route it to the correct program manager. You can configure multiple package services on a target Agile PLM system if you wish to treat data from each source in a specific manner. However, it is not necessary to create a package service for each source; several sources can use the same package service.

The following modifications or settings are also required for you to successfully define and use package services:

▫ The following package object fields must be visible on the **Cover Page** tab of the Package object class:

- **Response Expected**
- **Source GUID**
- **XFER Order Locator**

▫ Create or identify a user who has a role that provides the ability to create, modify, and delete package objects and the ability to change the status of the package object to the required workflow status. You must provide this user's username and password to the administrator of the source Agile PLM system; it is needed to define a destination on the source Agile PLM system (see Setting and Editing Destinations on page 13). If the package service moves the package object to the Submit status, then the privilege masks in the default Partner role are sufficient if you modify the Modify Pending Package privilege mask by adding the following fields to the **Selected** list in the Applied To property:

- Packages.Cover Page.Program Manager
- Packages.Cover Page.Response Expected
- Packages.Cover Page.Source GUID
- Packages.Cover Page.XFER Order Locator

If you do not want to modify this privilege mask, use the Partner role and privilege masks as a guide to create the necessary role.

| Note | Verify that the package service will work successfully with the package object configuration, package workflow settings, and login user role. For information, see Verifying Agile-to-Agile Publishing on page 55. |

To create a package service:

1. Under **System Settings > Agile Content Service**, double-click **Package Services**. The Package Services window appears.

2. Click [icon]. The Create Package Service dialog box appears.

3. Type a name and a description of the subscriber in the **Name** and **Description** fields.

4. Select Package from the **Subclass** list.

| Note | If you have defined a specific package subclass for use in package services, select that subclass from the list. |

5. Select Package Number as the autonumber from the **Number Source** list.

6. Select Default Packages from the **Workflow** list.

| Note | If you have defined a specific package workflow for use in package services, select that workflow from the list. |

7. Select a workflow status from the **Workflow Status** drop-down list.

   Agile recommends using the Submitted workflow status to ensure that the receiving program manager is notified about the package.

   When an Agile-to-Agile transfer occurs, the package object is created on the target Agile PLM system and the package workflow status is set to the status specified in the **Workflow Status** field of the package service.

| Note | When creating a package service with a target package workflow status other than Pending, make sure the target workflow allows changes directly from the Pending status to the status to be used (determined by the Manual Valid Next Status property for the Pending status if the status to be used is not the next status after Pending in the workflow). Also make sure that the logged-in user specified in the target Agile PLM system destination has the privilege to make the change (Change Status (CS) privileges for packages) in the target Agile PLM system. |

8. Click **OK**.

Editing Package Services

You can edit all of the parameters of the package service except the **Subclass** field.

To edit a package service:

1. Under **System Settings > Agile Content Service**, double-click **Package Services**. The Package Services window appears.

2. Double-click the package service you want to edit.

3. Edit the **General Information** tab of the service to make the necessary changes.

4. Click **Save** and **Close**.

Deleting Package Services

You can delete a package service at any time. Because a package service does not restrict or define other ACS settings and does not have relationships with database objects, your ability to delete it is not restricted.

Note   If a source Agile PLM system attempts to deliver content to a deleted package service, the content transfer will fail.

To delete a package service:

1. Under **System Settings > Agile Content Service**, double-click **Package Services**. The Package Services window appears.

2. Select the package service you want to delete.

3. Click ✕.

Setting and Editing Response Services

This chapter includes the following:

A remote target Agile PLM system, HTTP/S destination, or JMS destination can relay an accept or reject message back to the source Agile PLM system after the expected data is received. These messages are called responses. Responses are recorded in the Response column of the **Where Sent** tab (on transfer orders in the source Agile PLM system) of the transfer order corresponding to the responding destination. An Agile PLM target system makes use of a response service and pre-built process extensions to respond to the source Agile PLM system. Process extensions are used to determine what package workflow state should initiate a response, and the response service is used to define how and where to respond.

To define a response service, you must enable the process extensions and define their Initiate From property from the **Process Extension** node and you must define, from the **Workflows** node, which package workflow status initiates a response. See Process Extensions. Where the response is sent is managed from the **Response Services** node.

Note   Package Services and Response Services are defined on an Agile PLM system that receives Agile-to-Agile data. (See Settings Required for Agile-To-Agile Publishing on page 53.)

The Global Unique ID (GUID) attribute in a response service definition is a non-editable text field that uniquely defines the source Agile PLM server. It is used to determine how to respond to the package sender. The target system looks up the GUID and locates the corresponding response service. That response service has all the information needed to contact the package sender, such as username, password, protocol, and host.

Creating Response Services

When you create a new response service, the GUID from the source Agile PLM system is retrieved automatically. After the values for server, port, protocol, and context are set, the source Agile PLM system is contacted. If the contact is successful, the GUID is retrieved and the response service's GUID property is set automatically.

▶ *To create a response service:*

1. Under **System Settings > Agile Content Service**, double-click **Response Services**. The Response Services window appears.

2. Click . The Create Response Service dialog box appears.

3. Type a name and a description of the destination in the **Name** and **Description** fields.

4. Select HTTP or HTTPS from the **Server URL** drop-down list.

5. Type the URL and port of the target Agile PLM application server in the host and port fields, respectively. Type the virtual path name in the virtual path field, which is the last field.

   The virtual path is determined when an Agile PLM system is installed. For example, if the URL used to log in to the Web Client on the target Agile PLM application server is:

   http://www.clapton.com/Agile/PLMServlet

6. Enter the URL information as shown above, where www.clapton.com is the host name, and **Agile** is the virtual path name. The field following the colon (:) is reserved for a port number. 80 is usually used for HTTP, and 443 is usually used for HTTPS. If a port other then 80 or 443 is being used, the port will appear in the URL used to log in to the Agile Web Client. Omit **PLMServlet**, which is the application name. Contact the administrator of the target Agile PLM application server if you have questions about the correct URL to use.

7. Type the username and password of the source Agile PLM application server in the **Username** and **Password** fields.

8. Click **Retrieve GUID** to verify the destination.

   If the destination is verified, the **GUID** field is completed automatically.

9. Click **OK**.

Editing Response Services

You can edit all of the parameters of the response service.

To edit a response service:

1. Under **System Settings > Agile Content Service**, double-click **Response Services**. The Response Services window appears.

2. Double-click the response service you want to edit.

3. Edit the **General Information** tab make the necessary changes.

   Note   If you change the **Server URL**, **Username**, or **Password** field, click **Retrieve Response Service** to automatically verify and update the **GUID** field.

4. Click **Save** and **Close**.

Deleting Response Services

You can delete a response service at any time. Because a response service is neither enabled nor disabled, your ability to delete it is not restricted.

Note   If you delete a response service, your target Agile PLM system will no longer be able to respond to the referenced source Agile PLM system.

To delete a response:

1. Under **System Settings > Agile Content Service**, double-click **Response Services**. The Response Services window appears.

2. Select the response service you want to delete.

3. Click ✕.

Responses and Process Extensions

The reject and accept responses are generated by process extensions. Agile PLM provides two process extensions that you can use to send an accept or reject response to the source Agile PLM system. To use the Agile-supplied process extensions successfully you must do the following:

□   From the **Classes** node, on the Package base class **Process Extensions** tab, you must assign the accept and reject process extensions to list them on this tab.

□   From the **Process Extensions** node, you must enable the accept and reject process extensions.

□   From the **Process Extensions** node, you must open the two process extensions and modify the **Initiate From** field on the process extension **General Information** tab. Select either Workflow State (to initiate the process extension upon entering a specific workflow status) or Actions Menu (to manually initiate the process extension from the **Actions** menu. You can select both, if they meet your needs. (The Tools Menu selection is not appropriate for transfer responses.)

□   From the **Workflows** node, you must modify the workflow for the Package subclass specified in the package service.

The "Process Extensions" chapter in the *Agile PLM Administrator Guide* explains in detail how to select and enable process extensions and how to modify the appropriate workflow.

Managing the Format Library

This chapter includes the following:

About Format Library

Format Library supports transforming Agile product records data into formats supported by the destination ERP system. In prior releases, this was accomplished using *ChangeCast*. Now, ACS enables monitoring change release activities and publishing the related data to one or more previously configured destinations. In particular, the data manipulation capabilities of ChangeCast enable configuring Agile data and mapping them to specific output formats. TXT and XML are two basic output types of XSLT. ChangeCast and JDE are sample XSLT templates that are shipped with the product. If you need to transform the exported file with a specific format to integrate with other systems, you must create the new format and edit the XSLT code in Java Client's **Format Library** node; see Creating Templates and Editing Template Formats on page 50. The output format is configured using the **Subscriber Detail** dialog in Java Client's **Subscribers** node; see Configuring the Output Format on page 51.
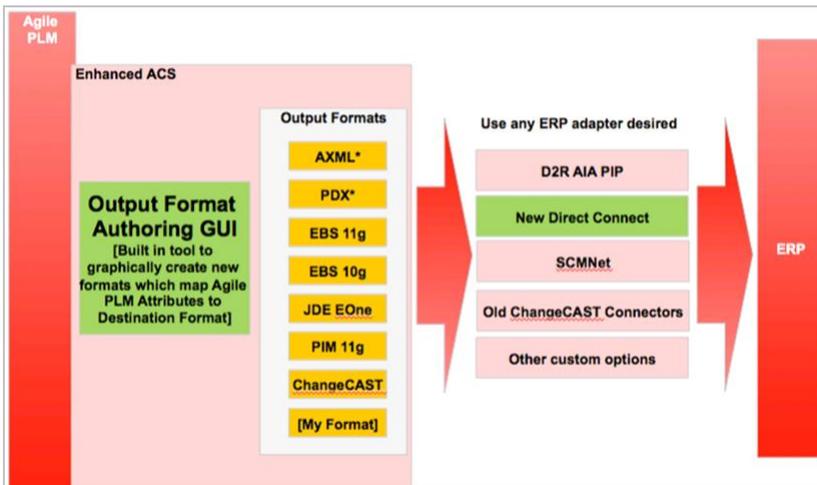
Creating Templates and Editing Template Formats

To create a new format and edit the format's Template XSLT code:

1. Log in to Java Client, with Admin privileges and select **Admin > System Settings > Agile Content Service > Format Library**. The Format Library window appears.
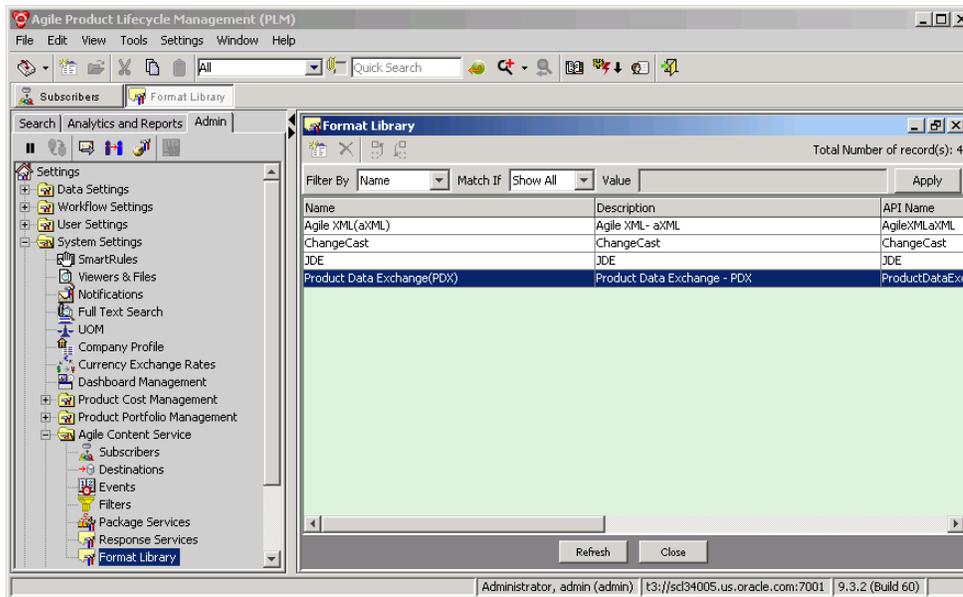
2. In **Format Library**, click .

   The Create Format dialog appears. Note that when you click the drop-down arrow, your choice of Template Type is either BI Publisher or XSLT and Output Type choices are XML and TXT.

3. In dialog's **Name** field, type the name of the new format. For example, **new_format,** and select **XSLT** from the drop-down arrow menu.
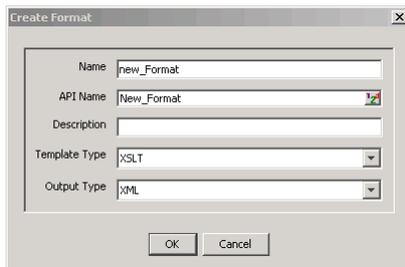
4. Click **OK**.

The Format Library window displays the newly created format.
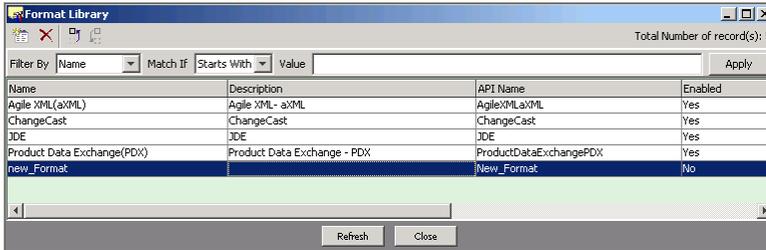
5. In Format Library, double-click **new_Format**.

    The new_Format dialog appears.
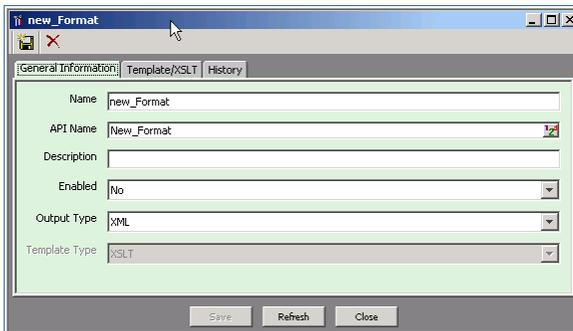
6. Click the **Template/XSLT** tab and write your own XSLT code for your new_Format.
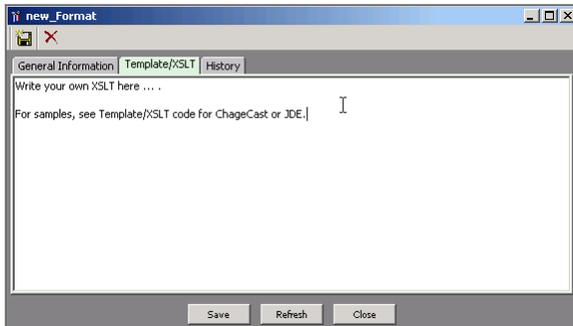
7. Click **Save**.

In Java Client's Format Library node, you can create and edit template formats using the Create Format dialog and if enabled, you can select the desired configuration in the Subscriber Detail dialog.

Configuring the Output Format

Before configuring a Subscriber to publish data automatically, you must configure the necessary events, filters, destinations, roles, and criteria. A subscriber is associated with only one Event and Criteria, but can have multiple Destinations, Filters, and Roles. You can find the necessary background and procedural information in the following sections:

▫ To configure Destinations, see Setting and Editing Destinations on page 13

▫ To select Event types and triggers, see Setting and Editing Events on page 27

▫ To select Filter, see Setting and Editing Filters

▫ To output type and Criteria, see Setting and Editing Subscribers on page 37.

Deleting Formats

You can not delete the out-of-the box Agile XML(aXML) and Product Data Exchange(PDX) Formats. However, you can delete the out-of-the box ChangeCast, JDE, and Formats that you have defined.

To delete a Format:

1. Under **System Settings > Agile Content Service**, double-click **Format Library**. The Format Library window appears.

2. Select the Format you want to delete.

3. Click ✕.

Enabling and Disabling Formats

When a Format is created, it is disabled by default. This allows modifying all fields in the Format before it is used. You must enable a Format before it is recognized by the Agile Content Service.

Note When a Format is enabled, you cannot edit its Description field.

To enable or disable a Format:

1. Under **System Settings > Agile Content Service**, double-click **Format**. The Format window appears.

2. Select the Format you want to enable or disable.

3. Click **Enable** or **Disable** .

Settings Required for Agile-To-Agile Publishing

This chapter includes the following:

Defining Settings for Agile-To-Agile Publishing

To successfully publish content data from a source Agile PLM system to another target Agile PLM system, you must define the necessary Agile Content Service settings and process extension settings. The same settings are *not* required for both the source and target system.

The following two diagrams and tables summarize the settings required when the source Agile PLM system does not request a response and the settings required when the source Agile PLM system does request a response.

Source Agile PLM System

ACS creates an ATO, releases the ATO, and publishes content to subscribers (target Agile PLM systems)
or
User creates and releases a CTO to publish content to target Agile PLM system.

Target Agile PLM System

Transfer order received; package service creates a package object and attaches the content file. Package is submitted to the program manager.

Source Agile PLM system settings	Target Agile PLM system settings
Define the required Agile destinations. (See Setting and Editing Destinations on page 13.)	Define the package service, which specifies what Package subclass, autonumber source, workflow, and workflow status (typically Submitted) to use when receiving content in an Agile-to-Agile transfer. (See Setting and Editing Package Services on page 41.)
Define the required event. (See Setting and Editing Events on page 27.)	
Define the required criteria or use Agile-supplied criteria. (See Criteria.)	

Define the required filters or use Agile-supplied filters. (See Setting and Editing Filters.)	
Define the required roles or use Agile-supplied roles. (See Roles.)	
Define the subscriber, specifying the event, criteria, destinations, roles, and filters you have previously defined. (See Setting and Editing Subscribers on page 37.)	

When the source Agile PLM system requests a response, the target Agile PLM system must also have response services defined, which also requires settings for process extensions and package object workflows. See the following diagram and table.

For details about the required settings, refer to the following table and the sections and chapters listed below.

Source Agile PLM system settings	Target Agile PLM system settings
Define the required Agile Destinations. (See Setting and Editing Destinations on page 13.)	Define the Package Service, which specifies what Package subclass, autonumber source, workflow, and workflow status (typically Submitted) to use when receiving content in an Agile-to-Agile transfer. (See Setting and Editing Package Services on page 41.)

Define the required Event. (See Setting and Editing Events on page 27.)	Define the Response Service, which specifies the details required to relay an accept or reject message back the source Agile PLM system. (See Setting and Editing Response Services on page 45.)
Define the required criteria or use Agile-supplied criteria. (See Criteria.)	Verify that on the Package base class node, the process extensions have been assigned on the **Process Extensions** tab. Verify that for the Package class, the proper fields are visible on the object **Cover Page** tab. (See Responses and Process Extensions on page 47 and Process Extensions.)
Define the required filters or use Agile-supplied filters. (See Setting and Editing Filters.)	Verify that the Accept Package Response and Reject Package Response process extensions are properly configured: ▫ The process extensions must be enabled. ▫ To automatically initiate the process extension, Workflow State must be included in the process extension **Initiate From** field. ▫ To manually initiate the process extension, Actions Menu must be included in the process extension **Initiate From** field. (See Process Extensions.)
Define the required roles or use Agile-supplied roles. (See Roles.)	
Define the Subscriber, specifying the event, criteria, destinations, roles, and filters you have previously defined. (See Setting and Editing Subscribers on page 37.)	Modify the package workflow status criteria to specify the statuses at which an accept and reject response will be initiated, typically the Released and Canceled statuses. (See Process Extensions.)

Verifying Agile-to-Agile Publishing

Before you attempt an Agile-to-Agile transfer, you can perform the following simple test which verifies that the login user on the target Agile PLM system can perform the actions specified in the package service. This test verifies that the package object and workflow are configured correctly, and that the login user has the necessary privileges. Perform the steps in the order given.

To verify the package service, package object, package workflow and login user settings:

1. Log in to the target Agile PLM system using the username and password specified in the destination (on the source Agile PLM system) for this target Agile PLM system. (See Setting and Editing Destinations on page 13.)

Note If a user on the source Agile PLM system (for example, the administrator of the source Agile PLM system) logs in to the target Agile PLM system and performs this test, you will also verify that the source Agile PLM system can log in automatically from outside the target Agile PLM system firewall. However, a user on the target Agile PLM system can also perform this test and verify that the package object and workflow configuration and login user privileges are correct.

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2. Create a package object. Use the package subclass specified in the target Agile PLM system package service.

3. Delete the package object. This verifies that the user has the necessary privilege to delete the package object.

4. Create another package object. Use the package subclass specified in the target Agile PLM system package service.

5. On the **Cover Page** tab of the package object, verify that the following fields are available for modifying. You should be able to enter text or make a selection from a drop-down list or dialog box.

   - **Originator** (Select a different user.)

   - **Date Originated** (Select a different date.)

   - **Description** (Enter text.)

   - **Workflow** (Select the workflow specified in the target Agile PLM system package service.)

   - Modify the following three fields. In an Agile-to-Agile content transfer, these fields are filled in automatically; however, for the content transfer to be successful, the fields must be both visible on the **Cover Page** tab and available for modifying. If you can modify these fields manually, you have verified that the login user has the necessary privilege masks for these fields, and, therefore, the fields can be successfully filled in automatically during an Agile-to-Agile transfer.

   - **Response Expected** (Select a setting from the drop-down list.)

   - **Source GUID** (Enter text.)

   - **XFER Order Locator** (Enter text.)

6. Click **Save**.

7. Click the **Attachments** tab to display it.

8. Verify that the login user can attach a file to the package object.

   Choose **Add | Files** and add a file to the **Attachments** tab. Use any file Type, for example, a simple text file.

9. Click the **Workflow** tab to display it.

10. Verify that the login user can change the workflow status of the package object to the workflow status specified in the package service.

   On the workflow flowchart, click the workflow status specified in the package service. (See Setting and Editing Package Services on page 41.)

   For example, if the package service specifies the Review status, you should be able to click that status box in the flowchart and change the workflow status of the package object. If the Review status is not available and clickable, verify that the workflow you are using allows a change in status from the Pending status directly to the Review status. This is determined by

the Manual Valid Next Status property of the Pending status. Also verify that the role of the login user has the appropriate privilege to change the status from Pending to Review. Refer to the following table for more details.

| **Note** | The Default Packages workflow and the Agile-supplied Partner role (modified as explained in <u>Setting and Editing Package Services</u> on page 41) allow the login user to move a package from the Pending status directly to the Submit status. If you are using the Default Packages workflow and the Partner role, and, in the package service, you selected a workflow status other than Submit, you must make the appropriate modifications to the package workflow and login user role. |

If you can perform the preceding steps successfully, the login user can create a package object, modify specific fields, attach a file, and move the package object to the specified workflow status. These are the same actions specified in the package service.

Problem	Possible cause	Solution
In the source Agile PLM system, on the **Where Sent** tab of the ATO, the error "Insufficient Privilege" appears.	The target Agile PLM system user specified as the login user in the Agile PLM source system destination does not have the necessary privileges to either create a package object in the target system or does not have the necessary privileges to move the package object to the specified workflow status.	In the target Agile PLM system, modify the role of the login user to one that has the necessary privileges. See <u>Setting and Editing Response Services</u> on page 45.
In the target Agile PLM system, the package object is created, but does not move to the correct workflow status; the error "Insufficient Privilege" appears.	If the login user on the target Agile PLM system has the necessary privileges (see row above), then the package workflow on the target system may not allow the package to move directly to the workflow status specified in the package service.	If the login user has the necessary change status privileges (see row above), verify that the package workflow (on the target system) you are using allows a status change directly from the Pending Type status to the status specified in the package service. This is determined in the workflow by the Manual Valid Next Status property for the Pending status. Refer to the note in step 7 under "Setting and Editing Response Services" for more details.
Duplicate package objects appear on the target Agile PLM system.	If the package object on the target system cannot be moved to the workflow status specified in the package service (for any reason, including, but not limited to, insufficient login user privileges), the target Agile PLM system attempts to delete the package object. If the login user does not have the appropriate Delete privilege mask, this may fail, and thus it is possible to have duplicate package objects.	In the target Agile PLM system, verify that the login user has a role that includes a Delete privilege mask for package objects. If not, modify the role or assign an appropriate role. Also verify that the login user has a role with the necessary privileges to move the package object to the workflow status specified in the package service. See <u>Setting and Editing Response Services</u> on page 45.

Security Considerations

This chapter includes the following:

Roles and privileges play an important part in limiting and defining the Agile PLM content that is extracted by a transfer order.

Content Transfer Order Originator Field

The **Originator** field on the **Cover Page** tab of a CTO is an important component of the security safeguards for CTOs. The roles and site assignments of the user who is specified in the **Originator** field are used to further define the data that is extracted. In ATOs, the roles used to extract data are defined in the subscriber. In contrast, for CTOs, the roles used to extract data are defined by the roles of the user specified in the **Originator** field.

For example, if the originator user does not have the necessary privileges to view items assigned to the Libra product line, when BOM items are extracted, any Libra product line items will not be extracted.

In a similar manner, if the originator user is not assigned to the Hong Kong site, Hong Kong BOM data will not be extracted, even if Hong Kong is selected in the Site column on the **Destinations** tab.

By default, when a CTO is created, the **Originator** field is populated with the name of the creator of the CTO. Using the Agile-supplied Content Manager role, the content manager user is able to select a different user in the **Originator** field and also release the CTO, thus publishing product content that the content manager cannot access. Before assigning the Content Manager role to users, determine whether this ability meets your company's needs.

If you do not want the originator of a CTO to publish data he cannot access, one way is to modify the existing Content Manager role, or to create a similar role that includes a Change Status privilege mask for CTOs with a criteria that forces the user who changes the status of a CTO to be the user whose name is in the **Originator** field of the CTO (Cover Page.Originator Equal to $USER). If you create and assign a role with this restricted privilege mask, the user listed in the **Originator** field of the CTO (by default, the creator of the CTO) must also be the user who changes the status and releases the CTO.

If you create additional roles and privilege masks for CTO objects, keep this powerful security feature in mind. If you allow a user to both modify the **Originator** field and release the CTO, this makes it possible for the creator of a CTO to specify a user with more powerful roles than the creator user has, which may violate your company's security objectives.

Using Agile PLM Roles to Define Destination-Specific Content in Automated Transfer Orders

When you define a subscriber, the roles you specify for each destination on the **Subscriber Details** tab (in conjunction with the specified **Filters** and **Subscriber Sites** settings for each destination) determine exactly what product content is extracted. The flexibility of Agile PLM roles, privilege masks, and criteria allows you to create, if needed, roles for each destination. Agile PLM Discovery and Read privilege masks determine which objects can be extracted. The Applied To property of these privilege masks determines which object tabs and fields can be extracted. You can specify individual fields in the Applied To property of the privilege mask, thus defining, field by field, the specific product content that can be extracted.

For more information about roles, privilege masks, and criteria see the *Agile PLM Administrator Guide*.

Working with Transfer Orders

This chapter includes the following:

About Transfer Orders

Transfer orders keep track of what, where, and when product content is transferred by Agile Content Service (ACS). There are two types of transfer orders: automated transfer order (ATO) and content transfer order (CTO). ATOs are created automatically by system-level subscribers that are configured by your Agile PLM administrator. CTOs are created when product content is published on demand by end users.

The Transfer Order Object

This section includes the following topics:

- Cover Page Tab

- Selected Content Tab

- Where Sent Tab

- Attachments Tab

- Workflow Tab

- History Tab

When you view a transfer order, you are viewing a set of tabs on the Transfer Order window (Java Client) or page (Web Client). The following table lists the tabs for transfer orders and the section where each tab is described.

Transfer order tab name	Tab information includes
Cover Page tab	General information about the transfer order.
Selected Content tab	Objects being transferred by the transfer order.
Where Sent tab on page 64	Delivery details about the transfer order and extraction.

Transfer order tab name	Tab information includes
Workflow tab	Where the transfer order is in the assigned workflow.
Attachments tab	Attached files.
History tab	Log of all actions taken on the transfer order.

Cover Page Tab

The **Cover Page** tab has fields that contain the general information about the transfer order. Agile PLM automatically completes some of the fields; you complete the rest.

To edit fields of an unreleased transfer order, click the **Edit** button. You may not be able to edit the contents of some fields.

Note   You cannot edit the Cover Page fields of an ATO.

Fields on the Cover Page Tab

By default, the **Cover Page** tab contains the fields listed in the following table. Agile PLM administrators can configure fields on the **Cover Page** tab.

Note   All fields are completed by Agile Content Service for ATOs.

Field	Contains...	Completed...
Transfer Order Type	Displays CTO or ATO.	Automatically or manually, when created.
Transfer Order Number	The number of the transfer order.	Automatically or manually, when created.
Description	Text that describes the transfer order. The maximum length is set by the Agile PLM administrator.	Manually for CTO; automatically for ATO.
Originator or **Subscriber**	The user who created the CTO (can be selected from a drop-down list) or the subscriber of the ATO. **Note**: For CTOs, the roles assigned to the user listed in this field are the roles used to limit and define what data is extracted by the transfer order. For ATOs, roles are specified in the subscriber details.	Automatically or manually, when created.
Status	Transfer order status; if no workflow has been selected, this field is Unassigned.	Automatically, when created; updated as the transfer order moves through the assigned workflow.

Field	Contains...	Completed...
Workflow	The name of the workflow being used to move this transfer order through the release process.	Manually, whether one or more than one workflow applies. If more than one workflow applies to a CTO, the workflow selection can be changed as long as the CTO is in the Pending status type. Selecting the blank field in the Workflow drop-down list switches the CTO to the Unassigned status. For more information about workflows, see *Getting Started with Agile PLM*.
Date Originated	The date the transfer order is created.	Automatically, when created.
Date Released	The date the transfer order is released.	Automatically, when released.
Final Complete Date	The date the transfer order is completed.	Automatically, when completed.

Status on the Cover Page Tab

Agile PLM uses a workflow stamp in the upper right corner of the **Cover Page** tab to indicate the status of a transfer order. Your Agile PLM administrator defines the name of each status in each workflow.

Your Agile PLM administrator may have created customized workflows and statuses for your company. The table below shows only the default transfer order workflow statuses.

Status name	Status definition
Unassigned	No workflow has been assigned to this transfer order. The originator may still be developing the transfer order (CTOs only). No statuses are displayed on the **Workflow** tab.
Pending	The workflow has been assigned. The originator may still be developing the transfer order (CTOs only). It has not yet been approved or perhaps even completed.
Review	The transfer order is under review. It has not yet been approved or completed (Default CTOs workflow only).
Released	The transfer order is being processed by Agile Content Service.
Complete	Agile Content Service automatically moves a Released transfer order to Complete status after it is successfully processed. If a transfer order cannot be successfully processed, it remains in Released status, and an error appears on the **Where Sent** tab.

Note Do not modify any setting in the Released or Complete status in the default CTO workflow. Transfer orders extract data only while in Released status with enough time allowed for the extraction thread to process it.

The **Workflow** tab shows all the statuses the transfer order has been through, and the statuses remaining to complete the extraction process. (See "Workflow Tab")

With appropriate privileges, you can switch a transfer order to another status with the **Workflow** tab or the **Next Status** button.

Selected Content Tab

The **Selected Content** tab lists the objects that are being transferred by the transfer order. You must have the required privileges to modify the **Selected Content** tab.

□ The **Selected Content** tab includes the following fields that are used to define what is extracted when the transfer order is processed:

□ **Type** — the type of the object.

□ Icons indicating the type of object, whether it has attachments, whether it has pending changes, and, if it is an item object, whether it has AML information on its **Manufacturers** tab.

□ **Name/Number** — the number assigned to the object.

□ **Description** — the description of the object.

□ **Lifecycle/Status** — the current lifecycle phase or workflow status of the object.

□ **Rev** — the revision of the object to be transferred when the transfer order is released.

To view an object listed on the **Selected Content** tab, click its number.

Where Sent Tab

The **Where Sent** tab lists the transfer information of the transfer order. You must have the required privileges to modify the **Where Sent** tab.

The **Where Sent** tab includes the following fields:

□ **Destination** — where the transfer order is published.

Agile PLM provides file, FTP, HTTP(S), JMS queue or JMS topic, and Agile system as destination types. For example, a content manager at an OEM uses Agile Content Service to publish a CTO containing a released assembly to an EMS provider for quoting. That EMS provider may have set up an FTP site (destination) where the CTOs should be published. Or upon the release of an ECO, a content manager publishes a CTO to their EAI system to update the appropriate downstream systems with the latest released assembly. That EAI system would be listed as the destination for the CTO.

Destinations are defined by your Agile PLM administrator.

□ **Filters** — the extraction details for the transfer order.

Filters determine what tabs are extracted for the objects listed on the **Selected Content** tab. Filters are grouped by base classes (for example, Change) and classes (for example, Change Orders). If a filter for a specific class includes a tab that is not visible, the tab is omitted from the extracted data. For example, the **Page Three** tab of an ECO is not visible, but the filter for the Change Orders class allows you to extract **Page Three** tabs. When an ECO is extracted using this filter, the data on Page Three is skipped because it is not visible in the ECO subclass.

Default filters are available for all objects. Additional filters are created by your Agile PLM administrator.

□ **Data Format/Data Extraction** — the file type of the transfer file: aXML or PDX.

Agile Extensible Markup Language (aXML) format is an XML representation of Agile PLM's business schema. aXML contains all product content managed in Agile PLM. When the transfer

order is published, a .ZIP file containing the aXML file and any attachments is created.

Product Definition Exchange (PDX) packages are an industry-standard format for encoding structured data in an XML format. Like aXML, a PDX package is also a zipped file with an attachment payload. The advantage of PDX is that it is an application independent way to describe product content. The disadvantage is that it may not support all Agile objects and data. For example, Price objects and price change orders (PCOs) cannot be exported in PDX format. For more information about PDX packages, see "Working with Packages."

□ **Language** — determines which language is used to label object attributes, for example, field and column names. No language translation of data is performed.

□ **Site** — one of the filters used to extract data. For example, if you select the Hong Kong site, only data visible for the Hong Kong site is extracted. To extract data for all sites, select All.

□ **Date Sent** — the date the transfer order is released.

□ **Transmission Status** —the status of the transmission:

- **Pending:** the transfer order is being processed.

- **Extracting:** the data in the row (Selected Content and Filters) is currently being extracted into the specified file format.

- **Transmitting:** the data was successfully extracted and is currently being transmitted to the specified destination.

- **Success:** the data was successfully transmitted.

- **Failure**: the data extraction or transmission was not completed.

□ **Transmission Notes** — the message describing the reason for the transmission failure, if one occurs.

□ **Response —** the acknowledgment of the transfer order by the remote system.

A remote system or destination can relay an accept or reject message to Agile PLM after the expected data is received. Responses are defined by your Agile PLM administrator.

□ **Roles —** (appears on the **Where Sent** tab of ATOs only) the roles used to extract data for this transfer order.

For ATOs, roles are specified in the subscriber definition. Roles further fine tune and define the data to be extracted. For example, if the roles selected do not allow a user to read manufacturer part objects, then manufacturer part object data will not be extracted even though manufacturer part objects appear on the **Selected Content** tab. The output file will contain a section of content not readable by the role, but the details will display No Privilege.

Note For CTOs, the roles used to extract data are defined by the roles assigned to the user who is listed in the **Originator** field in the **Cover Page** tab.

If multiple transfer orders are being published to the same destination and that destination fails, only the first transfer order's **Where Sent** tab indicates the failure. The status of the remaining transfer orders does not change until the first transfer order is successfully transmitted. The remaining transfer orders are queued in the order they were scheduled to transmit. If a transfer order is failing and blocking a destination, you should delete the failing transfer order.

The **Transmission Notes** column indicates that the transfer order is waiting for another destination. Once the failed destination is reset (your Agile PLM administrator must reset the failed destination), the transfer orders are transmitted according to their order in the queue. This is done to maintain

situations where data must be transmitted in sequential order.

Note	A transfer order is processed when it enters the Released status. Data extraction takes place at this time, not at the time the transfer order was created. Any changes to an object after the transfer order is created, but before the extraction process begins, are reflected in the extracted content. For example, if an ECO is at the Review status when the transfer order is created, but the ECO is promoted to the Released status before the data is extracted, then the extracted status for the ECO is Released.

Workflow Tab

The **Workflow** tab shows where the transfer order is in the assigned workflow and lists present and past signoff information. It also shows all the approvals and rejections made during each approval cycle.

The Signoff History table on the **Workflow** tab includes the following fields:

▫ **Status Code —**

▫ **Reviewer —** the user who reviewed the transfer order. This can be an approver or an observer, and it can be a single user or a user group.

▫ **Action —** the action taken by the reviewer.

▫ **Required —** whether the reviewer is a required reviewer (approver) or not (observer).

▫ **Local Client Time —** the date and time of the action.

▫ **Signoff Comments —** any comments made by the reviewers (approvers and observers) during signoff.

▫ **Signoff User —** the name of the user who actually approved or rejected the transfer order.

▫ **Status Changed By —** the name of the user who switched the status.

▫ **Workflow Status —** the name of the status.

▫ **Workflow —** the name of the workflow that the transfer order is following.

▫ **Signoff Duration —**

The **Workflow** tab also includes a chart of the workflow, which shows all possible status names for the transfer order. The current status is highlighted. With appropriate privileges, you can use the **Workflow** tab to promote the transfer order manually. This information also appears on the **History** tab.

Attachments Tab

The **Attachments** tab of a CTO lists the files that have been attached to that transfer order. Attached files can be drawings or scanned images, documents, non-viewable files, compressed files, and so on. You can also point to a URL instead of a local attachment.

For more information about attachments and the **Attachments** tab, see *Getting Started with Agile PLM.*

History Tab

The **History** tab shows a summary of actions taken against the transfer order, including:

▫ A description of the action

▫ Which user took the action

▫ The date and time of the action (local client time)

▫ Details of the action

▫ Comments made by users

▫ Users notified

▫ The current status of the transfer order

▫ The next status of the transfer order

While the transfer order status is Unassigned or Pending, the creation of the transfer order and any subclass modifications are recorded on the **History** tab, but no other actions are recorded. A transfer order must have a status type other than Unassigned or Pending before actions are recorded on the **History** tab.

Comments on the **History** tab are different from the comments on the **Workflow** tab. Comments on the **Workflow** tab come from approvers and observers during the online approval process. Comments on the **History** tab can be made by anyone with sufficient privileges at any time.

The **History** tab shows some response information, such as the failure reason. In Java Client, you can double-click a row in the History table to see detailed information.

Note   If you do not have the appropriate Read privileges, you cannot view the fields on the **History** tab. If you have questions about your privileges, see your Agile PLM administrator.

Creating Content Transfer Orders

If you have the appropriate privileges, you can create or modify a CTO.

Creating a CTO with the Create Command

When you create a CTO, you select the order type (subclass) and assign a number. Then you complete it by entering data on its tabs.

In Java Client and Web Client, complete the fields on each tab.

For more information about creating transfer orders and other objects, see *Getting Started with Agile PLM.*

Note   Once the CTO is created, that CTO exists until you delete it. (See "Deleting Transfer Orders".)

Creating a CTO in Java Client

To create a CTO in Java Client:

1. Click the **New Object** button .

2. In the New dialog box, select the appropriate CTO subclass. Use the supplied autonumber, or enter a number. Click **OK**.

   The CTO is created and displayed with the **Cover Page** tab on top.

3. On the **Cover Page** tab, enter a description and select a workflow. The Default CTOs workflow is recommended. When you have finished, click **Save**.

   > **Note** The roles applied when object data is extracted are determined by the roles assigned to the user listed in the **Originator** field on the **Cover Page** tab of the CTO.

   For example, if the originator user does not have the necessary privileges to view items assigned to the Libra product line, when BOM items are extracted, any product line Libra items will be not be extracted.

   In a similar manner, if the originator user is not assigned to the Hong Kong site, Hong Kong BOM data will not be extracted, even if Hong Kong is selected in the Site column on the **Destinations** tab.

4. On the **Selected Content** tab, click **Add** to search for objects you want to transfer. Select the objects in the search results and click **OK**.

5. If any of the selected objects are items or prices, you must select a revision for each item or price you have selected. In the Select Revisions dialog box, select an item in the left pane. In the right pane, select the item revision you want. By default, the most recent released revision is selected, but you may select a different revision.

   When you have finished selecting revisions for each item, click **OK**. The objects are added to the Selected Content table.

6. On the **Where Sent** tab, click **Add** to add a destination for the transfer. You can add multiple destinations. (See Where Sent Tab on page 64.)

   In the Add dialog box, select the following:

   - From the **Destination** drop-down list, select a destination. Destinations are created and defined by your Agile PLM administrator.

   - In the **Filters** field, click the button to open the Filters dialog box. Select as many filters as you need. Your Agile PLM administrator defines the filters used on your Agile PLM system. If you have questions about which filters to use, ask your Agile PLM administrator.

     You need at least one filter for each Type of object Type on the Selected Content table of the CTO. On your Agile PLM system, there may be multiple filters for the same object class, each with a different name and definition. Depending on how the filter is defined, Agile ACS may extract only the table information visible on a tab, or Agile ACS may extract the information visible in the table and also the objects listed in the table. For example, a filter for items may include the option for the **BOM** tab of Tab and Items, All Levels. In this example, when an item on the CTO **Selected Content** tab is extracted, all the items on its BOM, through all BOM levels, are also extracted.

In a similar manner, a filter can determine whether the AML information on an item's **Manufacturers** tab is extracted. In that case, you must also select a filter for manufacturer part objects and manufacturer objects.

Each Type of object extracted needs a filter, whether the object Type is listed on the **Selected Content** tab of the CTO or the object Type is referenced on the tabs of the selected objects.

For details about filters used in your Agile PLM system, ask your Agile PLM administrator.

- Select a data extraction format, either aXML or PDX. For details about these formats, see Where Sent Tab on page 64.

Note   Refer to the export section of the *Agile PLM Import and Export Guide* for information about which objects are supported in aXML or PDX.

- Select a language. For details about the language setting, see Where Sent Tab on page 64.

- In the **Site** field, select All, or select one site. For example, if you select the Hong Kong site, only object data that is visible to the Hong Kong site will be extracted.

- When you are finished, click **OK**.

Creating a CTO in Web Client

To create a CTO in Web Client:

1. In the toolbar, choose **Create New > Transfer Orders**.

2. On the Create Content Transfer Orders page, select the appropriate CTO subclass. Use the supplied autonumber, or enter a number. Click **Save**.

3. On the Cover Page Information tab, enter a description and select a workflow. The Default CTOs workflow is recommended. When you have finished, click **Save**.

Note   The roles applied when object data is extracted are determined by the roles assigned to the user listed in the **Originator** field on the **Cover Page** tab of the CTO.

For example, if the originator user does not have the necessary privileges to view items assigned to the Libra product line, when BOM items are extracted, any product line Libra items will be not be extracted.

In a similar manner, if the originator user does is not assigned to the Hong Kong site, Hong Kong BOM data will not be extracted, even if Hong Kong is selected in the Site column on the **Destinations** tab.

4. On the Selected Content tab, click **Add** to add the objects you want to transfer. In the Search window, enter the search criteria for the objects you want to transfer, and click **Search**.

5. Double-click the objects you want to transfer. The objects are added to the Selected Content table.

6. On the Add Where Sent tab, click **Add** to add a destination for the transfer. You can add multiple destinations. (See Where Sent Tab on page 64.)

In the Add Transfer Specifications window, select the following:

- From the **Destination** drop-down list, select a destination. Destinations are created and defined by your Agile PLM administrator.

- In the **Filters** field, launch the palette to open the filter selection window. Select as many filters as you need by double-clicking. Your Agile PLM administrator defines the filters used on your Agile PLM system. If you have questions about which filters to use, ask your Agile PLM administrator.

  You need at least one filter for each Type of object Type on the Selected Content table of the CTO. On your Agile PLM system, there may be multiple filters for the same object class, each with a different name and definition. Depending on how the filter is defined, Agile ACS may extract only the table information visible on a tab, or Agile ACS may extract the information visible in the table and also the objects listed in the table. For example, a filter for items may include the option for the **BOM** tab of Tab and Items, All Levels. In this example, when an item on the CTO **Selected Content** tab is extracted, all the items on its BOM, through all BOM levels, are also extracted.

  In a similar manner, a filter can determine whether the AML information on an item's **Manufacturers** tab is extracted. In that case, you must also select a filter for manufacturer part objects and manufacturer objects.

  Each Type of object extracted needs a filter, whether the object Type is listed on the **Selected Content** tab of the CTO or the object Type is referenced on the tabs of the selected objects.

  For details about filters used in your Agile PLM system, ask your Agile PLM administrator.

- Select a data extraction format, either aXML or PDX. For details about these formats, see Where Sent Tab on page 64.

  > **Note** Refer to the export section of the *Agile PLM Import and Export Guide* for information about which objects are supported in aXML or PDX.

- Select a language. For details about the language setting, see Where Sent Tab on page 64.

- In the **Site** field, select All, or select one site. For example, if you select the Hong Kong site, only object data that is visible to the Hong Kong site will be extracted.

- When you are finished, click **Add**.

Creating a CTO Using the Save As Feature

Using the Save As feature is a quick way to create a new CTO that is very similar to an existing CTO or ATO. This feature is also a good way to resend data previously sent in an ATO.

> **Note** If you do not have Discovery and Read privileges for any of the objects on the **Selected Content** tab of the existing transfer order, an error message appears. You can either cancel the CTO creation process or you can continue. If you choose to continue, the CTO is created, however, on the **Selected Content** tab some objects rows in the table are missing due to insufficient user privileges (no Discovery and Read privileges for those objects). The missing objects are not extracted when the CTO is processed.

Modifying Fields

With sufficient privileges, you can modify editable fields. You can modify only fields that have been made editable by the Agile PLM administrator.

You cannot manually enter information on the **Workflow** or **History** tabs; Agile PLM automatically completes these.

N o t e	After a CTO has reached the Released status, it is processed by Agile Content Service, but you can still modify the Description field.

The CTO page opens with the **Cover Page** tab on top.

▶ *To modify a CTO in Java Client:*

1.   Complete or change the appropriate fields on the **Cover Page** tab. Click **Save** when you finish editing the **Cover Page** tab.

2.   On the **Selected Content** tab:

- To add objects, click the **Add** button , and follow the steps to search for and select the objects you want.

- To remove objects, select and highlight the row you want to remove, and click the **Remove** button .

- To select a different revision of an object, delete the object's row and add the object again, selecting a different revision.

3.   On the **Where Sent** tab:

- To add destinations, click the **Add** button , complete the dialog box, and click **OK**.

- To edit a destination and its filters, click the row you want to select it, and click the **Edit** button . In the dialog box, change the fields you want to edit, and click **OK**.

- To remove a destination, click the row you want to select it, and click the **Remove** button .

To modify a CTO in Web Client:

1.   On the **Cover Page** tab, click **Edit,** and complete or change the appropriate fields. Click **Save** when you finish editing the **Cover Page** tab.

2.   On the **Selected Content** tab:
- To add objects, click **Add,** and follow the wizard steps to search for and select the objects you want to add.

- To remove objects, check the rows of the objects you want to remove, and click **Remove**.

3.   On the **Where Sent** tab:
- To add destinations, click **Add**. Complete the information in the window.

- To edit an existing destination, double-click the field on the row you want to edit, change the value, and click **Save**.

- To remove destinations, check the rows of the destinations you want to remove, and click **Remove**.

Managing ATO Error Messages

Information provided in the following paragraphs describe how to:

□ Receive ATO/CTO error and success messages

□ Correct ATO integration error messages

□ Reprocess ATOs that generated the error message

□ Search for ATO integration errors messages and format output results

□ Format Basic and Advanced ATO Search outputs

□ Format ATO Integration error message reports

□ Track ATO integration errors with Custom Dashboards

□ Resolve Change Object Dependencies

Receiving ATO/CTO Error and Success Messages from the ERP

In the event an ATO/CTO fails to process, the error information is passed from the ERP by the WebServices through the adapter, to Agile. These error messages are stored in ATO's Action Items tab. The adapter creates unique IDs for these error codes to facilitate updating their respective statuses to Successful when they are run successfully.

Also, WebServices receives error and success messages from the ERP. To this end, WebServices accepts ATO ID, Change ID, Error Code, Error Type, Error Message and Notes. The Notes field stores a link to the error log for more detailed error reports. This information is used to generate an action item on the ATO. You can see the **Notes** field in the illustration in Reprocessing ATOs with Integration Errors on page 74.

Correcting ATO Integration Errors

When error information is returned by the ERP, you can track it on ATO's/CTO's **Action Items** tab. If you click on the **Action Items** tab, the following information about the error appears:

Data Provided by the Error Message

The error message provides the following information about the error:

▫ **Status** – This field displays the status of the processed ATO. The default Status of the returned error is **Not Accepted**. Once the ATO is run successfully, the Status is automatically reset to **Complete**. That is, even if you have not already reset the Status field yourself.

▫ **Subject** – This field displays the error type. For example, a mapping error, prior change fail, and so on. The error code and error type which are common error classifications, are provided by the Adapter and the values are concatenated by WebServices. If you click on the **Subject** field, a window displaying the fields in that row will appear.

▫ **Description** – This field displays the error message that was passed from the ERP adapter via WebServices.

▫ **Notes** – This field is displays the input by an authorized user that aims to provide help/hints, such as a URL, to resolve the error.

▫ **Assigned To** – This field returns the following information for ATOs and CTOs respectively:

- **ATOs** – This field defaults to the Change Analyst on the Change itself. If there are no Change Analysts, the field is left blank.
- **CTOs** – This field displays the user who created the CTO.

▫ **Due Date** – This field is set by the WebServices call. If a Default date if not provided by WebServices, this field defaults to one day after the WebServices call ($Now) and WebServices supports setting this field.

Reprocessing ATO Integration Error Messages

Assuming you have created and released the transfer order ATO00001 and received the following response from the ERP system, then to reprocess the ATO, in **Actions** menu, select **Reprocess**.

If there is more than one Object on the ATO, they are reprocessed. Once the ATO is reprocessed:

□ All existing action items are set to complete

□ New errors, if any, are recorded as new in Action Menu Items

□ XML data is regenerated and the entire ATO is processed

Searching for ATO Integration Errors

You can search for specific Action Item Subjects that fall under integration error classifications. For example, ATOs with unresolved Data Mapping errors as shown in the following example.

Example: To search for ATO integration errors:

1.   In Web Client, click the Search button ⊞ to display the Search Criteria dialog.

2. In the Search Criteria dialog, click the Advanced search button, and then select **Transfer Orders >
    Automated Transfer Orders > Object Search**.

3. In the **Attribute** drop-down list, select the applicable attribute, for example, **Subject** in case of
    Action Items.

4. Complete the **Operator** and **Value** fields as shown above, and then click Search .

    Agile will retrieve ATO00001.

Formatting Basic and Advanced ATO Search Outputs - 932

To format Basic and advanced search results:

1. In **Search Criteria**, click the Format button to display the **Search Personalization** dialog.
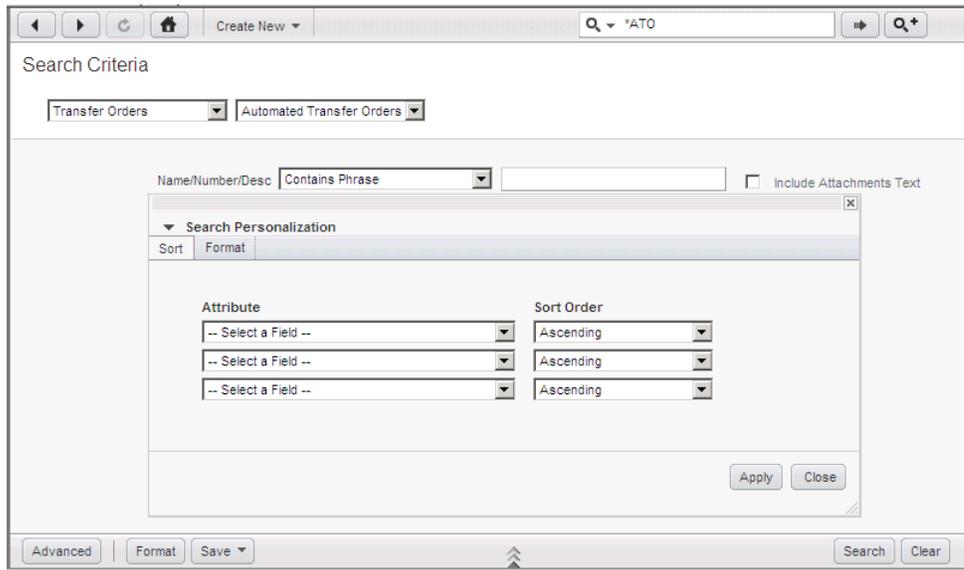
2. In the **Attribute** and **Sort Order** fields, select the desired attributes, the sort order (Ascending/descending), and then click **Apply**.

3. In **Search Personalization** dialog, click **Format**.

4. Use [▶] and [◀] to display, or hide fields you want to display or remove fields in your search result.

5. Click **Apply** and then Click **Save**.

Note For more information to format outputs, refer to *Agile PLM Getting Started Guide*.

Formatting ATO Integration Error Message Reports-

To format the output of your ATO Integration error message report, do as follows:

1. In Agile PLM Window Client, click [Create New ▼] and then, select **Reports >** from the drop-down list, followed by the **Custom Reports** option. The Create Customs Report Wizard appears.

2. Type a name in the Name field, for example, **Test_Report**, and then click [Next >] to open the **Define Query** page.

3. In **Define Query** page, make sure the:

    - **Create New** radio button is checked

    - **Transfer Orders**, **Automated Transfer Orders**, and **Object Search** options are selected from the drop-down lists.

4. In the **Attribute** field, select the applicable fields, for example, **Status** for **Action Items**, or **ATO Number** for **Cover Page**, and so on, and after defining Operator and remaining fields, click [Next >]. The Select Output Field page appears.
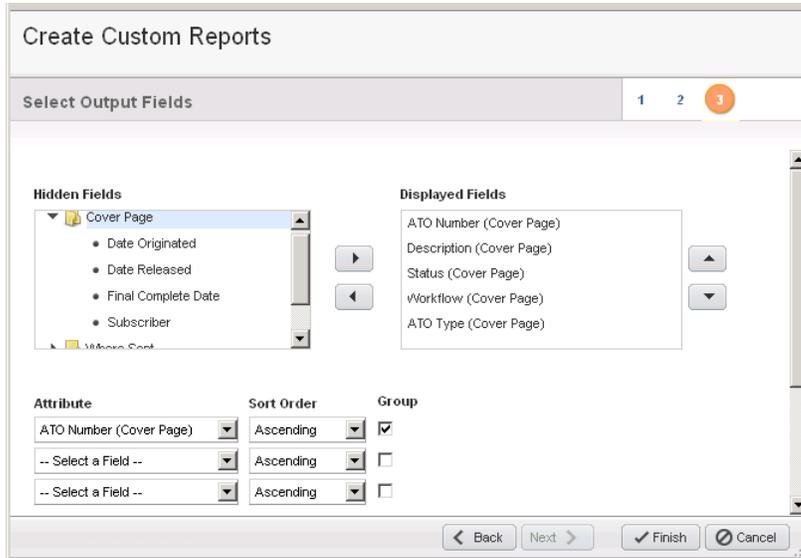
5. Select the applicable attributes and sort order, similar to Formatting Basic and Advanced ATO Search Outputs on page 76 and then click [Finish]. The Search results page appears.

    You have the option to group the selected attributes, by checking the **Group** boxes.

6. In **Search results**, click [Execute]. The Select Layout and Configuration page appears.
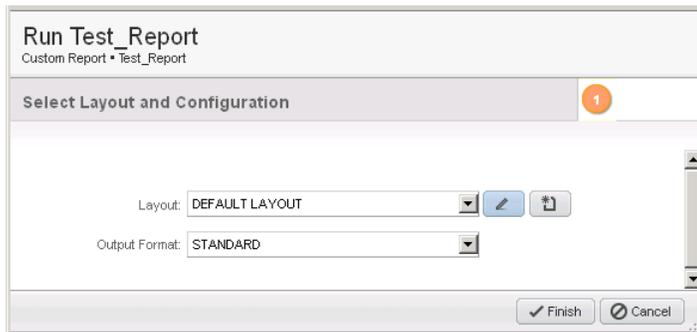
7. In **Select Layout and Configuration,** select and configure the layout as described below:

    - In **Output Format**, options are **PDF**, **WORD, EXCEL, HTML**, and **STANDARD**,

    - In **Layout**, you can select the **DEFAULT LAYOUT**, or use [edit icon] to edit existing layouts, including the **DEFAULT LAYOUT** and [icon]. Be sure to save your settings.

8. Click [Finish].

Note	For more information to create Custom Reports, refer to *Agile PLM Getting Started Guide*.

Tracking ATO Integration Errors with Custom Dashboards

Use the following procedure to configure the Dashboard table to display ATOs.

To configure the Dashboard table to display ATOs:

1. Log in to WebClient.

2. Double -click **Dashboard > Optional Tab 1** or **Optional Tab 21**.

3. Click on the **Configure** button in one of the tables.

4. In **Dashboard Widget Configuration**'s **Configure Table, type table name** and select **Display Type** and then click the **Next >** button.

5. In **Dashboard Widget Configuration**'s **Select or Create a Query,** select **Advanced Search**, and then click **Define Query**. **Transfer Orders > ATO > Object Search >Selected Content Search** and type your search conditions to search for the ATO.

6. In **Dashboard Search** dialog, select the values shown for your query and then click **Finish**. The **Select or Create a Query** step showing query result appears.
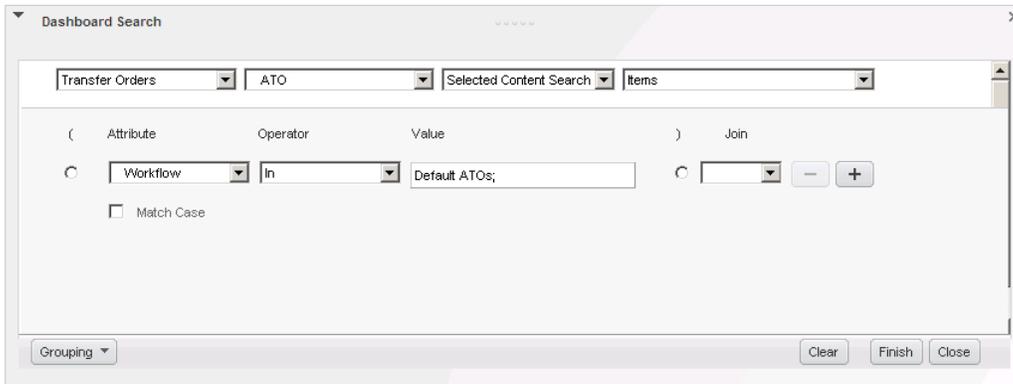
7. In **Select or Create a Query**, click Next .

    The **Select Output field** step appears.
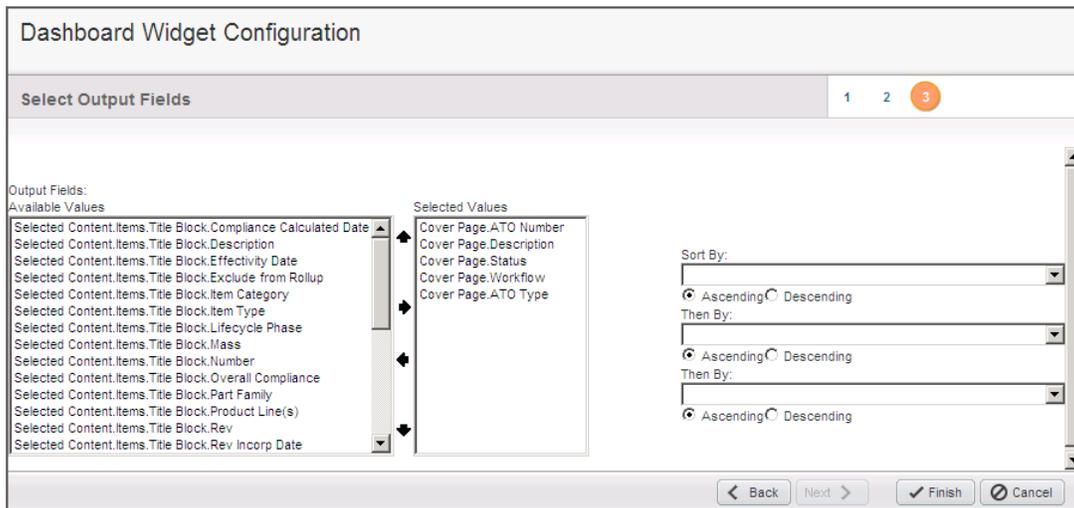
8. Select the desired fields and then click Finish .

Identifying Change Object Dependencies

When an ATO is released, Agile checks for failed ATOs that have the same affected item numbers by checking the set of ECOs, SCOs, and MCOs for dependencies listed in Dependency Conditions on page 80. Agile will then add tags to dependent data for identification purposes.

Dependency Conditions

If there are conflicting change items, Agile will add XML tags to the output, listing the dependency conditions and pass the information to AIA.

□   Affected Object - ECO

□   Affected Object - SCO

▫ Affected Object - MCO

▫ Affected Object - BOM Child – ECO (1 level above and below)

▫ Affected Object - BOM Child – SCO (1 level above and below)

▫ Affected Object - BOM Child – MCO (1 level above and below)

▫ Affected Object – BOM Where Used – ECO (1 level above and below)

▫ Affected Object – BOM Where Used – SCO (1 level above and below)

▫ Affected Object – BOM Where Used – MCO (1 level above and below)

Change Dependencies are included if:

▫ The `ChangeTransferFlag` field in `Agile.properties` file is defined as a P2 text field. The API name of this P2 text attribute which is configured in Java Client, should be the value of this field in `Agile.properties` file.

And

▫ The value of the P2 text field is set to "Errored" or Null (awaiting processing and has a chance of failing)

Changes Dependencies are excluded if:

▫ The `ChangeTransferFlag` field in `Agile.properties` file is not defined.

Or,

▫ The `ChangeTransferFlag` field in `Agile.properties` file is defined and the value of the P2 text field is NOT set to "Errored" or "NULL" or is set to "Transferred" (on the possibility of some Change Order statuses that were processed successfully to the target system and the informationwas not duplicated during reprocessing) because, otherwise, these values will be included.

Deleting Transfer Orders

You can delete unreleased transfer orders with the Java Client. Agile PLM supports "soft" and "hard" deletes.

Note   You *can* undelete a soft-deleted object. You *cannot* undelete a hard deleted object.

You can delete only transfer orders that meet the following criteria:

▫ You created it, or Agile PLM administrator has given you the appropriate privileges to delete a transfer order.

▫ The transfer order is at the Pending status type or the Unassigned status.

▫ The transfer order has failed to reach its Destination.

Printing Transfer Order Tabs

In Java Client, click the **Print** drop-down list button [image] and select All Tabs or select the tab you want to print. The print preview dialog box opens. When you are ready, in the dialog box, click **Print** [image].

In Web Client, you can print transfer order tabs from your Web browser. With the transfer order open, choose **Actions > Print**. You can print the current tab or all tabs. Attachments are printed from their native applications or the Agile Viewer.

For more information about printing, see *Getting Started with* Agile *PLM.*

Agile Standard Reports for Transfer Orders

For detailed information about using all types of Agile reports, see the "Working with Agile Reports" chapter in *Getting Started*, which includes information about:

▫ Standard reports, custom reports, and external reports

▫ How your roles and privileges affect reports

▫ Report object tabs

▫ Creating and modifying report layouts

▫ Creating custom and external reports

▫ Running, scheduling, saving, and deleting reports

▫ Report output window

IP Transfer Report

The IP Transfer Report is the Agile standard report for transfer orders. This report lists the objects sent to a given destination and when they were sent.

To run the IP Transfer report:

1. Select the IP Transfer report in the **Reports > Standard Reports > Process Reports** folder. The IP Transfer Report page appears.

2. Click the **Execute** button. The Select Date Range and Destination page appears.

3. Select the start date and end date of the time period you want to the report to cover. This defines the time range in which transfer orders were sent.

4. Click the **Palette** button [image] next to the **Destination** field and double-click the destinations you want to include.

5. Click **Finish** to display the report.

Default IP Transfer report layout fields	Description
Object Number	The number of the object that was sent, for example, an item number or a change number.
Object Type	The type (subclass) of object, for example, part type Resistor or change order type ECO.
Description	Description of the object that appears in the object's **Description** field.
Date Sent	The date the transfer order was processed and the object was sent to the destination you selected in the report wizard.
TO Number	The transfer order number.

Working with Packages

This chapter includes the following:

What are Packages?

You can use packages to track, control, and route incoming product content.

Agile PLM packages may be created manually by supply chain partner users. More typically, Agile Content Service (ACS) is used to initiate automatic Agile-to-Agile communication. Product data can be sent to your Agile PLM system from another Agile PLM system. The target or receiving Agile PLM system automatically creates a package object, attaches the data files, and submits the package.

Product data can describe a proposed product. Product data may be files and documents attached to the package object. However, ACS allows product data (Agile PLM objects) to be extracted into a PDX or aXML file, which is attached to the package object. The PDX or aXML files can be imported into the target or receiving Agile PLM system, thus creating the appropriate Agile PLM objects on the target Agile PLM system. The files are accessed through the **Attachments** tab of the package.

Agile PLM packages are routable objects. They have workflows that determine the sequence of statuses they follow as they go through the approval cycle.

A package is different from other Agile PLM objects because it has no relationship to any other Agile PLM object. It does not have a revision level, you cannot write changes against it, it has no **Manufacturers** tab, and it has no BOM.

In the same way that the change classes include the subclasses ECO, ECR, and MCO, the Package class may include subclasses in addition to the out-of-the-box Package subclass if your Agile PLM administrator has created them.

If package attachments include PDX, aXML or comma-delimited text files describing Agile PLM

objects, the information can be imported directly from the **Attachments** tab of the released (accepted) package once the package is released.

Intended Audience

This chapter assumes that you are a user who works with Agile PLM package objects. You may be a user who creates and submits packages, an approver or an observer of packages that are routed for approval, or a content manager, who is like a change analyst who works with packages. The package objects you work with may be created by users who are supply chain partners, or the package objects may be created automatically by Agile Content Service (ACS).

Package License Requirements

Agile PLM package objects allow any user, with the appropriate assigned privileges, to create, use, and search for package objects.

Agile-to-Agile communication is provided by the ACS server license. The ACS license allows the Agile PLM administrator to define the details of the automatic package object generation process.

Who Uses Package Objects?

Agile PLM packages are available to users with the appropriate roles and privileges. The *content manager* uses Agile Java Client or Agile Web Client to oversee the routing and approval of packages. Supply chain partners can create and submit packages or use Agile Content Service (ACS) to submit them automatically.

ACS provides automatic Agile-to-Agile communication, which sends Agile PLM data from one Agile PLM system to another. The destination or receiving Agile PLM system automatically creates package objects that include the data files on the **Attachments** tab. The Agile PLM administrator of the destination Agile PLM system defines the details of the automatic package object generation process. Once the package object is automatically created and submitted, the approval and routing procedures are the same as for any other routable object.

Viewing Packages

This section contains the following topics:

▫   Package Tabs

▫   Status of a Package

Package Tabs

Like any other Agile PLM object, a package object is displayed with tabs. This section contains the following topics:

▫   Cover Page Tab

▫   Workflow Tab

▫   Attachments Tab

▫   History Tab

The following table lists the tabs for Agile PLM packages.

Package tab name	Tab information includes
Cover Page	General information about the package. Source GUID, XFER Order Locator, and Response Expected are optional fields used by Agile ACS.
Workflow	Where the package is in the assigned workflow. Signoff approvers and observers, and the results of their reviewing of the package.
Attachments	Attached files. Content from PDX, aXML and CSV files can be imported from the **Attachments** tab to the Agile PLM database. For information about importing package attachment data into the Agile PLM database, see Importing Product Information from Package Attachments.
History	Shows actions taken on the package—for example, when attachments were added and removed.

Note   Your Agile PLM administrator may have added additional **Page Two** and **Page Three** tabs, which contain custom fields defined by the administrator.

Cover Page Tab

The package **Cover Page** tab includes some basic information about the proposed product. The files and images describing the proposed product are included on the **Attachments** tab. The attachments might include specifications, schematics, assembly drawings, test procedures, or any other file type required. The content manager routes a package for review through workflow.

Cover Page field	Completed	Contains
Package Number	Usually automatically; may be an autonumber or a manually entered number.	Package number assigned to the package when it is created.
Status	Automatically, when created; updated as package moves through the assigned workflow.	The status of the package. See Status of a Package. If no workflow is selected, this field is Unassigned.
Originator	Usually manually, but may contain a default.	The user who created the package (can be selected from a drop-down list).
Partner Name	Usually manually, but may contain a default.	The partner (generally, a company) to which the Originator is assigned.
Date Originated	Usually automatically, when created (with default set by the Agile PLM administrator).	The date the package was created.
Date Released	Automatically.	Date the package was released, or accepted.
Assembly Number	Manually.	Number of the proposed assembly.
Assembly Revision	Manually.	Revision of the proposed assembly.

Cover Page field	Completed	Contains
Description	Manually, but can contain a default defined by the Agile administrator.	Up to 1023 characters, including spaces and carriage returns (which count as two spaces).
ECO Number	Manually.	An ECO number associated with the assembly.
Package Type	Usually manually, but may contain a default.	Drop-down list of package types defined by the Agile PLM administrator.
Program Manager (may also be called Content Manager)	Automatically when package changes from pending to submit status.	Name of the content manager assigned to the partner in the **Partner Name** field. A content manager oversees the package routing process (similar to a change analyst).
Category	Manually	The category of this package. A package cannot be changed to a Released workflow status unless the Category field and all other required fields have values.
Workflow	Manually, whether one or more than one workflow applies. If more than one workflow applies to a package, the workflow selection can be changed as long as the package is in the Pending status type. Selecting the blank field in the Workflow drop-down list switches *the package to the Unassigned* status. For more information about workflows, see *Getting Started with Agile PLM*.	The name of the workflow being used to move the package through the approval process.
Final Complete Date	Automatically.	Date the package was switched to the Complete status type.
Source GUID	Automatically.	Required for Agile Content Service (ACS) tasks. Unique identifying code representing the source Agile PLM system when a package object is created by an Agile-to-Agile product content transfer. If ACS is not being used, this field may not be visible. See the *Administrator Guide* for details.
XFER Order Locator	Automatically.	Required for ACS tasks. Identifies the transfer order that created the package. If ACS is not being used, this field may not be visible. See the *Administrator Guide* for details.
Response Expected	Automatically.	Required for ACS tasks. Indicates whether the source Agile PLM system expects a response when the package is either accepted or rejected. If ACS is not being used, this field may not be visible. See the *Administrator Guide* for details.

Workflow Tab

The **Workflow** tab displays a flowchart of the statuses in the selected workflow. The Signoff History table on this tab lists the users who are assigned to either approve or observe the proposed package, the actions taken by the approvers, the date and time of each action, and any comments made by the approvers and observers. The **Workflow** tab of a package is identical to the **Workflow** tab of a change.

Approvers and observers are automatically assigned by the workflow, or they are assigned when the content manager routes the package for approval. For details, see the "Routing Objects with Workflows" chapter in *Getting Started with Agile* PLM.

Attachments Tab

The **Attachments** tab lists the files and URLs that have been attached to the package. You can also import data into your Agile PLM system from text, PDX, aXML, or .CSV files attached to the package.

For general information about working with attachments, see *Getting Started with Agile PLM*.

For information about importing data from a package, see Importing Product Information from Package Attachments.

History Tab

The **History** tab shows a summary of actions taken against the package, including a description of the action, which user took the action, the current status of the package, the next status, and other information.

The types of actions recorded on the History tab are:

- Modify an attachment on the **Attachments** tab
- Add or delete approvers
- Approve and reject
- Change a field, any tab
- Change a status
- Autopromotion fails
- Change a subclass
- Comments
- Send
- Print

Comments on the **History** tab are different from the comments on the **Workflow** tab. Comments on the **Workflow** tab come from approvers and observers when they perform the online approval process. Comments on the **History** tab can be made by anyone with sufficient privileges at any time.

Status of a Package

Each package has a status stamp in the top right corner to indicate the status of a package. Your Agile PLM administrator defines the name of each status in each workflow.

The following table shows the Default Packages workflow statuses.

Status name	Status definition
Unassigned (No status type)	No workflow has been assigned to this package. The originator may still be developing the package. No statuses are displayed on the **Workflow** tab.
Pending (Pending status type)	The originator may still be developing the package. The package has not been submitted to the content manager.
Submitted (Submit status type)	The package has been submitted to the content manager. (If the content manager switches a submitted package to the Pending status, the originator can modify the package and submit it again.)
Review (Review status type)	The package has been routed for review through workflow.
Accepted (Released status type)	The package has been signed off by the approvers and has been released.
Closed (Complete status type)	The package is no longer used.
Hold (Hold status type)	The package has been placed on hold while the content manager gathers information.
Canceled (Cancel status type)	The package has been canceled due to a fundamental flaw or because one or more approvers have rejected it.

Packages in Your Inbox

You can view packages that have been submitted to you in the Agile PLM Inbox.

To view packages in the Inbox in Java Client:

1. Click the **Inbox** drop-down arrow .
2. Choose **Workflow Routings** from the list.
3. In the Inbox table, click the **Workflow** column header to sort the table by workflows.

To view packages in the Inbox in Web Client:

1. From the Web Client toolbar, click **Home** to display the welcome page.
2. Click **Workflow Routings** to display your Workflow Routings Inbox.
3. In the table, click the Workflow column header to sort the table by workflows.

Package Workflow

Agile PLM packages may have custom workflows, just as changes may have custom workflows. For details, see the "Routing Objects with Workflows" chapter in *Getting Started with Agile PLM*.

Packages are created by partners. Typically, partners are customers at other companies who use Agile PLM to create packages.

Here is the typical workflow of a package:

1. A partner at another company creates an Agile PLM package.

2. When the package is complete, the partner submits it to the content manager.

3. The content manager opens and reviews the package. If the package data is not complete, the content manager may return the package to the partner for more information.

4. If the package is complete, the content manager switches it to the next status in the workflow. Typically, the next status is a Review status type, which routes the package for approval.

5. The approvers review the package and either accept it or reject it.

6. When the package is accepted by the approvers, depending on workflow settings, either the content manager accepts (releases) it or it is autopromoted to the next status in the workflow and released (accepted).

7. The content manager processes the package data according to unique company-specific procedures.

   If the package includes PDX files, aXML files, or comma-delimited text files describing Agile PLM objects, these may be imported from the package **Attachments** tab. Package attachments created by Agile-to-Agile communication (through Agile ACS) can be either PDX files or aXML files.

   a. On the package **Attachments** tab, select one attached file.

   b. Click the **Import** button on the **Attachments** tab.

      The import process begins.

   c. Follow the onscreen instructions.

   Note   For more information about the Import wizard, see the *Import and Export Guide*.

8. When the package is processed and no longer used, the content manager closes it.

   Note   Your Agile PLM administrator may define custom workflows for packages. Custom workflows may have multiple Submit, Review, and Released status types. For details, see the "Routing Objects with Workflows" chapter in *Getting Started with Agile PLM*.

The Package Workflow Diagram summarizes the typical workflow of an Agile PLM package, using the Default Packages workflow.

Note   The content manager is the user named in the **Program Manager** field on the **Cover Page** tab. Your Agile PLM administrator may have changed the name of this field.

Package Workflow Diagram
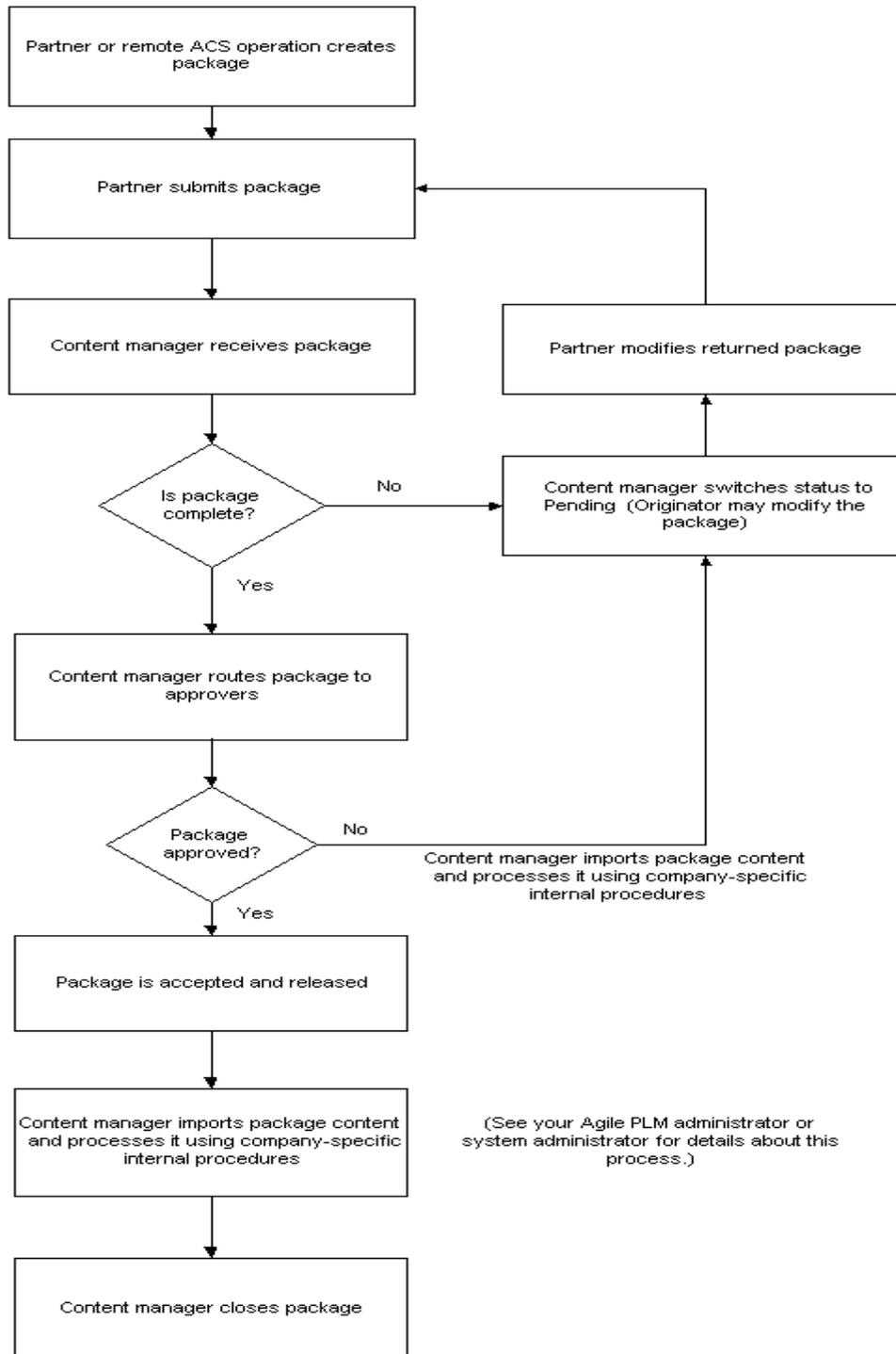
Partners and Content Managers

The Agile PLM administrator assigns the Partner role or Content Manager role to the appropriate Agile PLM users.

What Is a Partner?

Partners are typically users at an EMS customer site who create Agile PLM packages of proposed products and submit them to your company for review and approval. However, a user in your company with the appropriate user license privileges may also create and submit packages.

What Is a Content Manager?

The Agile PLM administrator assigns specific partners to specific content managers. The role of a content manager is similar to that of a change analyst or component engineer. Content managers manage packages throughout their workflow. (In previous releases, the content manager was referred to as the program manager.)

Creating a Package

To create a package, you must have the appropriate privileges.

Creating a Package Object in Java Client

You can create a package with the **File > New > Package** command or the **File > Save As** command.

The process for creating new objects involves two main steps: creating an empty object and then filling in the object tabs with information specific to the object.

To create and complete a package:

1.   Click the **New Object** button .

2.   In the New dialog box, use the **Type** drop-down list to select the Type (subclass) of package you want to create.

3.   Assign a number to the package. To do so, either use the supplied autonumber, click the **AutoNumber** button , or type a number.

   The autonumber format and sequence are determined by your Agile PLM administrator. Your Agile PLM administrator also determines whether using autonumbers is required or optional.

4.   Click **OK**.

   The new package appears with the **Cover Page** tab showing.

5.   Fill in information on the package tabs, as desired.

You do not enter information on the **History** tab. That tab is completed automatically.

Creating a Package Object in Web Client

You can create a package with the **Create > New** command or the **Actions > Save As** command.

A wizard leads you through the process of creating a package and adding attachments.

To create and complete a package:

1. Choose **Create New > Packages**.

2. On the Create Packages page, select the appropriate Packages subclass. Use the supplied autonumber, or enter a number. Click **Save**.

3. Complete the required information on each tab.

    You do not enter information on the **History** tab. That tab is completed automatically.

When you click the **AutoNumber** button to enter the package number, you might see a list of autonumber choices. The autonumber format and sequence are determined by your Agile PLM administrator. Your Agile PLM administrator also determines whether using autonumbers is required or optional.

Submitting a Package

You can submit an Agile PLM package using the same buttons and procedure you use to submit a change or other routable object (provided you have the appropriate privileges). For details, see the "Routing Objects with Workflows" chapter in *Getting Started with Agile PLM*.

No matter which Agile PLM product was used to create the package, when a partner submits a package, the content manager is notified by email.

The content manager can also use defined searches in the **Searches | Content Manager Searches** folder to find recently submitted packages.

Using the same buttons and selections used to work with changes, the content manager can choose an action for the package, including:

□   Audit the package.

□   Return the package to the originator (partner) for more information.

□   Route the package for review to a list of approvers and observers.

□   Accept the package.

□   Cancel the package.

See the Package Workflow Diagram for a summary of the default package workflow.

Approving and Rejecting a Package

Users on the approver and observer lists on the **Workflow** tab approve or reject a package the same way they would approve or reject a change.

Approvers who do not respond to a package within the reminder period receive a reminder email, telling them that they have not yet approved or rejected the package. If the approvers do not respond within the review escalation period, then their appropriate designated escalation person receives an email and can then accept or reject the package in the place of the original approvers. For details, see the "Routing Objects with Workflows" chapter in *Getting Started with Agile PLM*.

Importing Product Information from Package Attachments

If a package contains PDX, aXML or CSV (comma-delimited text) files describing Agile PLM objects, after the package is released (accepted), you can import the PDX, aXML or CSV information directly into your Agile PLM database.

To import product information from package attachments:

1. Open the released package.

2. Display the **Attachments** tab.

3. Select a PDX, aXML or CSV attachment to import, and click **Import**. (You can import only one attachment at a time.)

    The Agile Web Client Import wizard opens, and the file you selected is specified as the file to import. You cannot specify a different file at this point.

Follow the wizard steps to import the data. For more information about importing, see the *Import and Export Guide*.

When the Import process is complete, you are returned to the **Attachments** tab of the package.

Configuring Your Agile PLM System for Agile-to-Agile Communication

To successfully publish content data from one Agile PLM system (the source Agile System) to another Agile PLM system (the target Agile System), the appropriate Agile Content Service settings and process extension settings must be defined. It can be done only by the Agile PLM administrator.

After Accepting/Rejecting Package Objects

In cases where Agile ACS is used to automatically perform Agile-to-Agile communication, the source Agile PLM system can request a response from the target Agile PLM system. The required settings are defined by the Agile PLM administrators of each system. Depending on the settings, a response may be sent to the source Agile PLM system automatically (which requires no action on your part), or you may be required to send a response manually.

If you are required to send a response manually, follow the instructions below.

To send accept or reject responses manually in Java Client:

1. Open the package.

2. Click the **More** button ⧉ at the top of the object window to display the More Actions menu and choose either **Process Extensions > Accept Package Response** or **Process Extensions > Reject Package Response**.

    Or, right-click in the window, and choose either **Process Extensions > Accept Package Response** or **Process Extensions > Reject Package Response** from the shortcut menu.

    > **Note**   The **Process Extensions > Package Responses** commands on the More Actions menu and the shortcut menu are available only if your Agile PLM administrator has enabled them.

To send accept or reject responses manually in the Web Client

1. Open the package.

2. From the **Actions** menu, choose either **Accept Package Response** or **Reject Package Response**.

> **Note**   The **Package Response** commands on the **Actions** menu are available only if your Agile PLM administrator has enabled them.

About Searching for Packages

If you have the appropriate privileges, you can search for Agile PLM packages the same way you search for any object in the Agile PLM database. For details, see *Getting Started with Agile PLM*. If you have questions about your privileges, see your Agile PLM administrator.

The **Searches** folder includes a **Content Manager Searches** folder, which contains the Packages Submitted More Than X Hours Ago search and the CTOs Submitted More Than X Hours Ago search.

Final Status of Packages

Once a package has been reviewed and approved by the approvers and accepted by the content manager, the content manager can process the package data using the internal procedures specific to your company. Also, the content manager can import the package data content from other Agile PLM systems from the package object **Attachments** tab by using the **Import** button. (See Importing Product Information from Package Attachments.) For example, the attachments on the package **Attachments** tab may become attachments for Agile PLM items in your Agile PLM database, or attachments that are PDX, aXML or CSV files could be imported into your Agile PLM database.

The procedures used to process package data are unique to each company. Ask your Agile PLM administrator or your system administrator for information about how this task is performed at your company.

When you have completed processing the package, the content manager can change its workflow status to the Closed status type by using either the **Next Status** button or **Workflow** tab.

Deleting Packages

Agile Java Client and Web Client support "soft" and "hard" deletes.

> **Caution**   You cannot undelete a hard deleted object.

You can delete packages that meet the following criteria:

□   You created it; or you are the content manager, and your Agile PLM administrator has given content managers the appropriate privileges to delete a package.

□   The package is at the Pending status type or the Unassigned status.

To soft-delete an unreleased package in Java Client:

1.   Open the package that you want to delete.

2.   Click the **Delete** button in the package object window, and respond **Yes** to the confirmation prompt.

The package is soft-deleted. It is no longer available for use. However, until it is hard-deleted, its number is reserved and cannot be reused.

To soft-delete an unreleased package in Web Client:

1.   Open the package that you want to delete.

2.   Choose **Actions > Delete**, and respond **OK** to the confirmation prompt.

The package is soft-deleted. It is no longer available for use. However, until it is hard-deleted, its number is reserved and cannot be reused.

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

1.   From the **Recycle Bin Searches** folder, run the Deleted Packages search to locate the soft-deleted package you want to hard-delete.

2.   Open the package.

3.   Click the **Delete** button in the package object window, and respond **Yes** to the confirmation prompt.

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

1.   From the **Recycle Bin Searches** folder, run the Deleted Packages search to locate the soft-deleted package you want to hard-delete.

2.   Open the package.

3.   Choose **Actions > Delete**, and respond **OK** to the confirmation prompt.

Undeleting Packages

Since soft-deleted packages still exist in the database, you can undelete them if you have the necessary privilege. You can undelete packages associated with partners to which you are assigned.

To undelete a package in Java Client:

1.   Find the soft-deleted package by running the Deleted Packages search in the **Recycle Bin Searches** folder.

2.   Open the deleted package you want to restore.

3.   To undelete the package, choose **Edit > Undelete**.

The previously soft-deleted package is undeleted and is once more available to users.

To undelete a package in Web Client:

1. Find the soft-deleted package by running the Deleted Packages search in the **Recycle Bin Searches** folder.

2. Open the deleted package you want to restore.

3. To undelete the package, choose **Actions > Undelete**.

The previously soft-deleted package is undeleted and is once more available to users.