Oracle® Application Integration Architecture

Oracle Design to Release Integration Pack for Agile PLM
Product Lifecycle Management and JD Edwards EnterpriseOne
Release Notes

Release 11.1

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Oracle Application Integration Architecture Oracle Design to Release Integration Pack for Agile PLM Product Lifecycle Management and JD Edwards EnterpriseOne Release Notes, Release 11.1

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Value Proposition for Oracle Design to Release Integration Pack for Agile Product Lifecycle Management and JD Edwards EnterpriseOne 11.1

This document provides an overview of the value proposition for the Oracle Design to Release Integration Pack for Agile Product Lifecycle Management and JD Edwards EnterpriseOne 11.1. It is a roadmap intended to help you assess the business benefits of Oracle Design to Release Integration Pack for Agile Product Lifecycle Management and JD Edwards EnterpriseOne 11.1 and plan your information technology (IT) projects and investments.

The new features and enhancements that are planned for this release are grouped according to licensed product. This document describes new or changed functionality only. Existing functionality from prior releases is not described. Our goal is to ensure that you leverage technology to its fullest to increase the efficiency and effectiveness of your operations. The final release may not have every feature that is discussed in this document, and a specific feature may become a part of a different application or have a product name that is different from those cited in this document.

The information provided in this document is intended to outline our general product direction and is intended for information purposes. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

The Agile Product Lifecycle Management Design to Release Process Integration Pack delivers seamless synchronization of product content between distributed engineering and manufacturing organizations, enabling your enterprise to accelerate time to market for new products and reduce costs, while improving product quality and minimizing supply chain disruptions.

For added configurability, extensibility, and sustainability, the Agile PLM Design to Release Integration Pack (PIP) 11.1 has been built on the Application Integration Architecture (AIA) Foundation Pack methodology and architecture, giving customers a standards-based, best-practice design to release business process.

Key features include:

- New product introductions (Items, BOM, AML, and so on)

- Product design updates (ECO, MCO, and SCO)

- ECO queue management and process monitoring

- Bi-directional sync of ECO statuses and supply chain attributes

- Collaborative new product [number] request

- Bi-directional synchronization of user defined attributes

- Visibility to product costs and on hand positions in Agile PLM

- Multi-site PLM and multi-org manufacturing support

- Integrated, extensible business process execution workflows, and notifications framework

- Cross-application business process models and domain value maps

- Robust process monitoring and user friendly error handling

- Support for user-extensible business logic, validations, and transformation

- Item synchronization

Oracle Application Integration Architecture replaces traditional enterprise application integration with flexible, pre-built, standards-based business process integration solutions. As an AIA offering, the Design to Release PIP includes all of the necessary business process models, canonical objects, and web services you need out-of-the-box. Now you can quickly orchestrate a sustainable design to release business process across Agile PLM and JD Edwards EnterpriseOne with reduced cost and risk. In addition, the AIA adaptable framework enables you to extend the integration to accommodate your specific business needs.

Product Enhancements for Oracle Design to Release Integration Pack for Agile Product Lifecycle Management and JD Edwards EnterpriseOne 11.1

No integration process enhancements were done for the Oracle Design to Release Integration Pack for Agile Product Lifecycle Management and JD Edwards EnterpriseOne in the 11.1 release.

Participating Applications Certified Versions

The following are the versions of the applications that are certified for use with this release:

- Agile PLM 9.2.2.6, 9.2.2.7, and 9.3.1

- JD Edwards EnterpriseOne applications release 9.0 or higher.

For more information about participating applications enhancements, see the Release Notes for the respective application.

Foundation Pack

Oracle Design to Release Integration Pack for Agile Product Lifecycle Management and JD Edwards EnterpriseOne 11.1 is supported by Foundation Pack 11gR1 (11.1.1.5.0) plus roll up patch 12636915 and available on Oracle Fusion Middleware/SOA Suite 11g.

For more information, see *Oracle Application Integration Architecture Foundation Pack 11g Release 1 (11.1.1.5.0) Release Notes.*

Oracle Design to Release Integration Pack for Agile Product Lifecycle Management and JD Edwards EnterpriseOne 11.1 Features

Agile PLM enables companies to manage individual product life cycles and to complete product portfolios and programs tied to product conception, design, launch, maturity, and phase-out. Primary users of Agile PLM are involved directly or indirectly in the product design. These users manage content in Agile PLM that often directly affects processes managed in other enterprise systems, such as JD Edwards EnterpriseOne, Manufacturing Execution Systems (MES), Customer Relationship Management (CRM), and so forth.

Companies must propagate timely and accurate product design information from the PLM system to the manufacturing system to ensure that products are built to the correct specifications, thereby enabling a low time to market and eliminating excess and obsolete inventory. Any failure in this crucial integration can lead to products being manufactured to incorrect designs, which can lead to these consequences:

- Delays in product launch (thereby compromising market share and profit margins)

- Compromised product quality, leading to higher service costs and further loss of market share

- Expensive inventory write-offs that directly affect the bottom line

The integration of Agile PLM and JD Edwards EnterpriseOne is designed to synchronize product content information between Agile Product Collaboration and JD Edwards EnterpriseOne.

This integration is a first new generation integration solution between Agile PLM and JD Edwards EnterpriseOne Manufacturing.

Business Benefits of this PIP include:

- New and existing manufactured items can be managed in Agile PLM. When new items and changes to the Bill of Material (BOM) are approved, the integration will add the necessary information in JD Edwards EnterpriseOne an Engineering Change Order (ECO).

- For all ECOs sent from Agile PLM and created in JD Edwards EnterpriseOne, any status or effective date changes on the JD Edwards EnterpriseOne ECO will be reflected on the Agile PLM ECO during the update process.

- As part of the Manufacturing Update process for product information synchronization, the Item Attributes information from JD Edwards EnterpriseOne system is updated in Agile PLM.

- As part of the Manufacturing Update process for product information synchronization, the Item Availability, i.e. the Item Balance, information from JD Edwards EnterpriseOne system is updated in the Agile PLM system. The term Item applies to both Parts and Documents in Agile PLM.

- Increased operational efficiencies

- Pre-integrated solution leads to lower cost and risk for implementation.

The integration covers the following business flows:

- New Part/Product Release (PREL)

- Change Order Release and Acceptance

- Update Item Attributes and Unit Costs

- Update Item Balance

- Initial Load - Item and Bill of Material (BOM)

New Part/Product Release

The new part or product release process and the product design modification process within Agile PLM both result in the publication of an Engineering Change Order (ECO). The ECO that results from a new product contains lines with all of the new components used in a bill of material (BOM) followed by details about the BOM. Similarly, a product design modification results in an ECO containing all of the new or changed components used on the BOM followed by just the changes to the BOM.

Change Order Release and Acceptance

During product design, developers introduce new products and parts, and modify the design of existing parts. When they complete the authoring of parts attributes and design information, and are ready to publish to the manufacturing system, the product design is released using the ECO process. The change order release process consists of PREL and Product Design Modification (PDM) flows of Agile PLM.

The release of a change order in Agile PLM acts as a trigger for the synchronization of product design within JD Edwards EnterpriseOne. Because, Agile PLM is a system of records for product design data, the synchronization process involves transferring the released revision of ECO from Agile PLM to the manufacturing system.

Update Item Attributes and Unit Costs

Some item attributes including item cost are updated in Agile PLM when changed in JD Edwards EnterpriseOne.

The update of item attribute and unit cost information from JD Edwards EnterpriseOne to Agile PLM is completed as a batch process. A new batch program (UBE) extracts the list of items (including obsolete items if not filtered in the data selection) for which the attribute values and unit cost need to be updated in Agile PLM.

Update Item Balance

Item balance information is used in Agile PLM to facilitate the design of end items. Item balance information can periodically be synced from JD Edwards EnterpriseOne to Agile PLM so the availability of components is seen in Agile PLM.

The update of Item Balance information from JD Edwards EnterpriseOne to Agile PLM is completed as a batch process. A new batch program (UBE) extracts the list of items for which the quantity values need to be updated in Agile PLM.

Initial Load - Item and Bill of Material (BOM)

When integrating Agile PLM and JD Edwards EnterpriseOne, any existing items and BOMs that will be maintained in Agile PLM going forward, are need to be loaded into Agile PLM. When the items and BOMs are modified, they will be updated in JD Edwards EnterpriseOne.
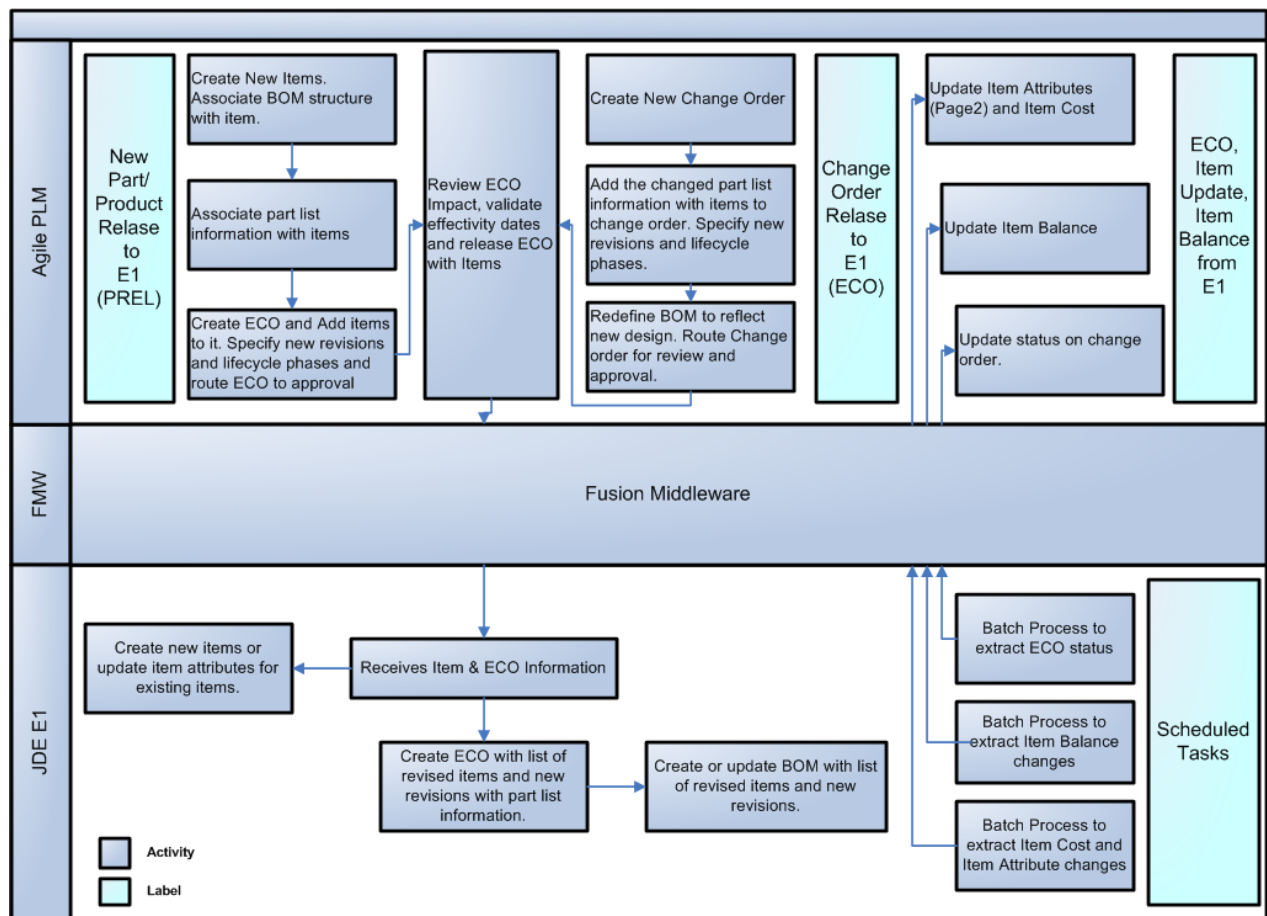
The Design to Release PIP requires that item and BOMs data in JD Edwards EnterpriseOne is initially synchronized to the new instance of Agile PLM. This initial load is a one-way process that loads data from JD Edwards EnterpriseOne into Agile PLM in bulk.

Oracle Design to Release Integration Pack for Agile Product Lifecycle Management and JD Edwards EnterpriseOne 11.1 Architecture

The Oracle Design to Release Integration Pack for Agile Product Lifecycle Management and JD Edwards EnterpriseOne 11.1 architecture is illustrated in the following diagrams:
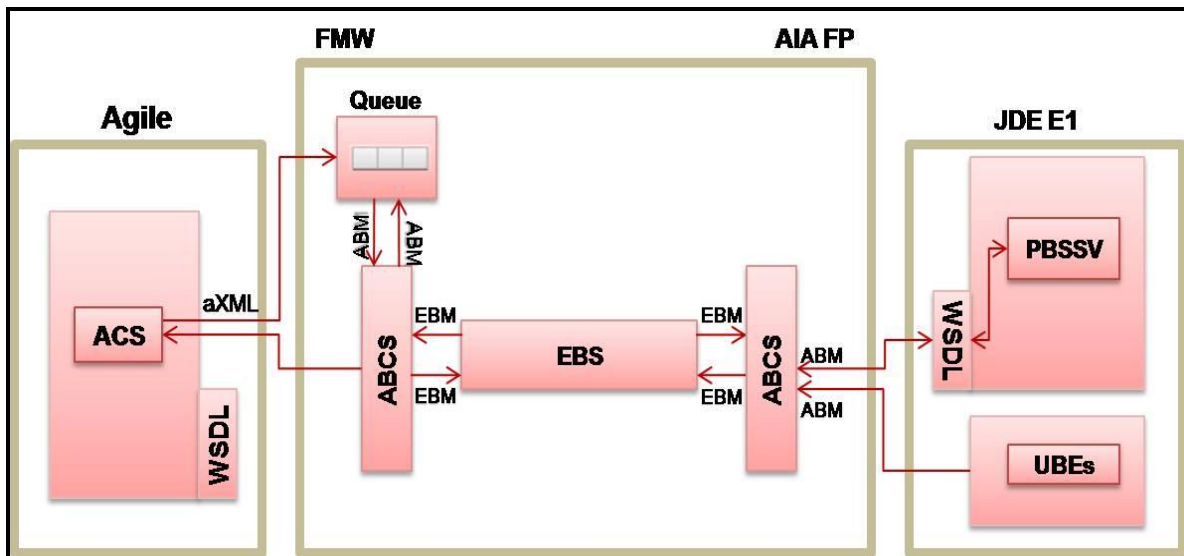
Agile PLM to JD Edwards EnterpriseOne integration architecture

Agile PLM to JD Edwards EnterpriseOne integration architecture flow

Oracle Design to Release Integration Pack for Agile Product Lifecycle Management and JD Edwards EnterpriseOne 11.1 uses the following Enterprise Business Objects (EBO):

- Item EBO

- ItemBalance EBO

- EngineeringChangeOrder EBO

The Oracle Design to Release Integration Pack for Agile Product Lifecycle Management and JD Edwards EnterpriseOne 11.1 supports the following functional flows:

- Engineering Change Order Release

- JD Edwards EnterpriseOne to Agile PLM initial load

- JD Edwards EnterpriseOne to Agile PLM processes

- JD Edwards EnterpriseOne Item and Unit Cost Information to Agile PLM (Batch)

- JD Edwards EnterpriseOne Balance Information to Agile PLM (Batch)

Engineering Change Order Release

During product design, developers introduce new products and parts, and modify the design of existing parts. When they complete the authoring of parts attributes and design information, and are ready to publish to the manufacturing system, the product design is released using the ECO process. The change order release process consists of new Part/Product Release (PREL) and Product Design Modification (PDM) flows of Agile PLM.

The release of a change order in Agile PLM acts as a trigger for the synchronization of product design within JD Edwards EnterpriseOne. Since Agile PLM is a system of records for product design data, the synchronization process involves transferring the released revision of ECO from Agile PLM to the manufacturing system.

JD Edwards EnterpriseOne to Agile PLM Initial Load

Initial load is a process to synchronize items and BOMs from JD Edwards EnterpriseOne to Agile PLM. This process synchronizes data from an existing JD Edwards EnterpriseOne install to a new Agile PLM install. Assume that no items or BOMs exist within Agile PLM at the time of the initial load. Following the initial load, items, and BOMs are maintained in Agile PLM. Because the items and BOMs are modified in Agile PLM, the system sends these changes to JD Edwards EnterpriseOne using the engineering change order release integration flow.

To load the data from JD Edwards EnterpriseOne to Agile PLM, run the extract batch programs in JD Edwards EnterpriseOne. These programs generate XML files that contain the data that will be uploaded into Agile PLM. After the files are written to the Enterprise Server, the appropriate consumer service retrieves and debatches the XML file. The routing service then routes each XML file to a BPEL service.

The BPEL service then transforms the list of items into an XML.xsd format and writes the file with the name agile<BPELInstance>.xml. The process then invokes a Java utility, which picks up the agile<BPELInstance>.xml file, zips it, and saves it as agile<BPELInstance>.axml. An ant script invokes the Agile Integration Service (AIS) Java utility to import the data stored in the agile<BPELInstance>.axml file in the form of change orders. These change orders are moved to the released state in Agile PLM by calling a Java utility built with Agile SDK.

JD Edwards EnterpriseOne to Agile PLM Processes

Engineering Change Order Update

The engineering change order update process from JD Edwards EnterpriseOne to Agile PLM is a communication of change in status of the ECO in JD Edwards EnterpriseOne, a part of the manufacturing update business flow. It constitutes a key requirement for keeping users in Agile PLM apprised of the life cycle of an ECO. This process involves communicating the ECO status in JD Edwards EnterpriseOne to a configurable field in the Change Order flex field in Agile PLM; and changing the status of the change order in Agile PLM.

JD Edwards EnterpriseOne Item and Unit Cost Information to Agile PLM (Batch)

Item and Cost Universal Batch Engine (UBE) have a Cost Method processing option. Specify the cost method in the processing option to enable the UBE to extract the unit cost of an item.

JD Edwards EnterpriseOne Balance Information to Agile PLM (Batch)

The item balance information in JD Edwards EnterpriseOne is stored in three fields: Reserved Quantity, Available Quantity, and On-hand Quantity. An item in JD Edwards EnterpriseOne can exist in more than one branch or plant.

A change to any of the three quantities may affect one or more branch/plants. You make these changes in Agile PLM. Similarly, changes made in the item information may affect one or more branch/plants. For example, changing the cost of an item in JD Edwards EnterpriseOne will trigger a similar update in Agile PLM.

Additional Resources

There are additional resources that can help your organization learn more about this release.

Resource	Navigation
Process Integration Pack Implementation Guides	**Oracle Technology Network:** http://download.oracle.com/docs/cd/E21374_01/index.htm
Foundation Pack Guides	**Oracle Technology Network:** http://download.oracle.com/docs/cd/E21764_01/aia.htm
Installation and Upgrade Guide	**Oracle Technology Network:** http://download.oracle.com/docs/cd/E20059_01/doc.250/e18557.pdf
User Guide and Capacity Planning Whitepaper	**Oracle Technology Network:** http://www.oracle.com/technology/documentation/agile.html

Visit the My Oracle Support/Oracle Metalink website frequently to keep apprised of ongoing changes.

For other sources of documentation, visit Oracle Technology Network: Oracle Documentation.

For training opportunities, visit Oracle University.