Leveraging Oracle Fusion Middleware in Agile PLM

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Agenda

• Fusion Middleware Overview
• Fusion Middleware Integration
• Solutions
• Benefits
Agile is a leading provider of PLM applications that enable companies to accelerate product innovation and maximize product profitability by managing the product information throughout their lifecycles.

Next generation Oracle Middleware built using best-of-breed standard based middleware technology, which is in use by 90,000 customers worldwide.

Our focus here is what customers and partners can build today using Fusion Middleware to extend Agile PLM Applications A9 and e6.
Oracle Fusion Middleware

Overview

User Interaction
- Web 2.0 Portal, Rich Internet Apps, Mobile, Search, Desktop, Presence, VoIP

Business Intelligence
- Data Integration, Query & Analysis, OLAP, Dashboards, Reports, Alerts, Real-Time

Content Management
- Web Content, Documents, Digital Assets, Imaging, Records, Information Rights

SOA & Process Management
- ESB, BPEL PM, Workflow, BAM, Rules, B2B, MDM, Registry, SOA Governance

Application Server
- Java EE, Web Services, Complex Event Processing, XTP, RFID & Sensors, SIP

Grid Infrastructure
- Application Clusters, In-Memory Data Grid, Common Metadata Services

Development Tools
- Unified SOA Development Tool & Framework

Enterprise Management
- Provisioning, Diagnostics, Tuning, Configuration Management

Identity Management
- Provisioning, Access Management, Federation, Audit, Directory
Agile PLM
Solutions Leveraging Fusion Middleware
## Leveraging OFM: Where do we start?

### Identify Requirements, Learn Fusion Middleware Component

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Fusion Middleware Components</th>
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<tbody>
<tr>
<td>Integrating with various applications</td>
<td>• Oracle Application Integration Architecture (AIA)</td>
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<tr>
<td></td>
<td>• SOA &amp; Process Management: BPEL Process Manager, Oracle Service Bus</td>
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<tr>
<td>Authoring Tool Integration</td>
<td>• SOA &amp; Web Services</td>
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<tr>
<td>Portal UI, Mobile Applications</td>
<td>• Oracle Web Center, ADF. Mobile ADF</td>
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<tr>
<td>Enterprise Reporting</td>
<td>• BI Publisher</td>
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<tr>
<td>Business Intelligence</td>
<td>• OBIEE, ODI</td>
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<tr>
<td>Enterprise Identity and Access Management</td>
<td>• Identity Management” Oracle Internet Directory,* Oracle Access Manager*</td>
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<tr>
<td>Lower Total Cost of Ownership</td>
<td>• Application Management (Enterprise Management), Application Server (WebLogic, iAS), DB &amp; App clusters, Oracle Linux, Oracle VM</td>
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<td>Application Customization</td>
<td>• J2EE Development Environment: JDeveloper, ADF, ADF Mobile</td>
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Enterprise Integration and Process Management
Using AIA Process Integration Pack (PIP)

<table>
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<tr>
<th>Part / Item</th>
<th>BOM</th>
<th>ECO</th>
<th>ECO effectivity</th>
<th>Item Catalog</th>
<th>Item Cost</th>
<th>Inventory Position</th>
</tr>
</thead>
</table>

Challenges
- Non-integrated release process yield data inaccuracy and added time to market
- Limited support for Design for Cost and supply chain results in higher costs

Solutions
- AIA: Agile Design to Release PIP to Oracle E-Business Suite
- Fusion Middleware: Oracle BPEL Process Manager
- Applications: Agile, Demantra, E-Business Suite

- PIP enables seamless, real-time data access to 360 Degree View, Item Management, Change Management, and Configurator.

Benefits
- Increased margins with efficient NPI process
- Efficient DFx leading to higher quality, faster time to market and lower total cost of ownership

Oracle AIA

Oracle Fusion Middleware
Activity Based Workflow in Agile PLM

Using BPEL and Agile Web Services

**New Part Creation Process with integrated BPEL Workflow**

**Challenge**
- Creation of cross-application (PLM, ERP) process flows

**Solution**
- Fusion Middleware: BPEL Process Manager
- Applications: Agile, E-Business Suite
  - E-Business activities can be orchestrated as BPEL services
  - Agile workflow state change event and Web Services provides a mechanism to launch E-Business suite BPEL workflow
  - Agile ECO cover page attribute can be used to track E-Business Suite workflow process status

**Benefits**
- 360 view of product data (Agile, EBS) within Agile
CAD Integration in Agile PLM
Using BPEL and Agile EC Web Services

Challenges
- WAN performance of CAD connectors
- Ability to customize business logic based on business requirements

Solutions
- Fusion Middleware: BPEL Process Manager
- Applications: Agile, CAD Tools
- Agile EC services migrates some CAD connector logic to server side using BPEL services
- BPEL editor provides ability to customize Agile EC BPEL orchestrated flows
- BPEL Process Manager provides infrastructure for deploying and managing BPEL business processes

Benefits
- Improves efficiency of partners and customers to develop & maintain CAD connectors
Custom Web Applications in Agile PLM
Using ADF and Agile Web Services

Challenge
• Simplified UI for Casual users: Document Management, Item Management, Price & Compliance data import

Solution
• Fusion Middleware: Application Design Framework (ADF), JDeveloper
• Application: Agile

• Oracle ADF provides visual and declarative approach to Java EE Web applications development
• ADF Business Services layer manages interactions with data persistent layer leveraging Agile Web Services

Benefits
• Increase casual user adoption
• Less training overhead

Oracle ADF
Oracle Fusion Middleware
Mobile Applications in Agile PLM

Using ADF Mobile and Agile Web Services

**Challenge**
- Access to PLM use cases (ECO Approval, Sales RFQ) from mobile devices:

**Solutions**
- Fusion Middleware: Mobile ADF, JDeveloper
- Application: Agile

**HTML Support**
- Basic mobile web applications
- Consumer mobile phones with simple HTML browse

**AJAX Support**
- Rich mobile web applications
- High-end consumer phones with AJAX-enabled browser

**Java Client**
- Applications integration with device PIM apps and peripherals
- High-end Smart Devices

**Oracle Mobile ADF**

**Oracle Fusion Middleware**

**Benefits**
- Improves mobile users productivity
Composite Application Integration
Using Web Center and Agile Web Services

Challenge
- Composite and Mashups applications: Product Defect Escalation, Customer Needs Management Dashboard

Solutions
- Fusion Middleware: Oracle Web Center, ADF, JDeveloper
- Applications: Agile, E-Business Suite, Siebel and BI
- Oracle Web Center is an enterprise portal designed for business users and IT
- Unified with Business applications, Enterprise 2.0 services and social communities

Benefits
- Easy to develop and maintain composite and Mashup applications
Custom Reports & Datasheets in Agile PLM
Using BI Publisher and Agile Java API & Web Services

Challenge
• Empower Agile customers to create their own functional reports & product documents (Datasheets & Manuals)

Solutions
• Fusion Middleware: BI Publisher
• Applications: Agile
  • Oracle BI Publisher is a standard-based reporting platform
  • Combines existing Agile Report functionality with powerful publish and distribute capabilities of BI Publishers
  • Agile Process Extension (Px) enables report and document generation using Agile & BI Publisher APIs

Benefits
• Business consultants can customize the report and document templates using familiar desktop tools
• Simplifies report maintenance by separating data logic, layout and UI translation
Enterprise Identity Management
Using Identity Manager & Access Manager

Challenges
• Intellectual Property Protection and Security
• Business risk reduction, regulatory, legal, and corporate policy compliance

Solutions
• Fusion Middleware: Identity Manager, Access Manager, (OAM) Internet Directory (OID)
• Application: All applications, Servers

Benefits
• Operational Efficiency & Cost Containment (e.g. reduce IT support costs)

Reference: Cisco Enterprise Identity and Access Management (EIAM) – Cisco and Oracle White Paper, April 2009
Agile Application Management Pack

Using Oracle Enterprise Manager

Challenges

• Manage applications top-down, from the business perspective
• Manage entire application lifecycle to increase business agility

Solutions

• Fusion Middleware: Enterprise Manager
• Applications: E-Business Suite, Siebel, JD Edwards, PeopleSoft, Agile, etc.
• Servers: All

• Enterprise Manager monitors health of Database, Application, File manager, LDAP, SSO and Web Servers and send alert to IT Administrators
• Agile Application management plug-in tracks user usage, application versions, application status and alerts

Benefits

• Reduce IT Operation Costs
Benefits

• Improve ROI of IT investments
  • Industry leading, open standards-based Fusion Middleware platform
• Extend value chain through Integrated PLM
  • CRM, ERP, CAD, BI, SCM
• Better alignment of business with technology
  • Model services to business requirements and needs
• Lower integration costs & complexity
  • Use platform-neutral technology infrastructure
• Empower business users
  • Better usability, Mobile applications, Web 2.0 Services
Where do we find information?
Agile Fusion Middleware Best Practice Center

- Oracle By Example (OBE):
  - Tutorials with step-by-step instructions
- Articles
  - Articles covering Agile and Fusion Middleware best practices and techniques
- Blogs
  - Blog entries from Oracle Experts & Partners
- Webcasts
  - Webcasts from Oracle Experts & Partners