Oracle Application Framework (OAF):
Architecture, Personalization, and Extensibility
in Oracle E-Business Suite Release 12
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R12 is the Global Business Release
Better: OA Framework Gives You Global Flexibility

- **Think Globally** to make the right decisions
- **Work Globally** to be more productive
- **Manage Systems Globally** to lower cost and increase performance

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Agenda

- Architecture Overview
- Personalization
- Extensibility
- New Features
- Personalization Demo
- Questions
Architecture Overview
OA Framework Architecture

Provides Flexibility from the Beginning

• Standards Compliance
• Declarative Environment
• Model-View-Controller Design
OA Framework Architecture

Open Standards Provide Flexibility

• Oracle Applications development and deployment platform for HTML-based applications
• 100% Java & XML J2EE based, middle-tier application framework and services provide for rapid development & deployment
• Built on Fusion Middleware
• Built on Oracle platform
OA Framework Architecture

Declarative Development Environment Provides Flexibility

- Rapid application development environment
- Consistent & compelling UI
- Built-in durable personalizations
- Extensible UI and business logic
OA Framework Architecture

Model-View-Controller (MVC) Design Provides Flexibility

A component-based design with clean interfaces among model, view, and controller objects.

- **Model** encapsulates data and business logic of the application.
- **View** formats and presents data from a model to the user.
- The **controller** responds to user actions and directs application flow.

The diagram visually represents the three components of the MVC architecture: Model, View, and Controller, highlighting their interactive roles within the OA Framework.
OA Framework Architecture

Model-View-Controller in the Technology Stack

Web Server

Oracle9iAS

HTTP Server and J2EE Container
- Apache
- OC4J

Common Services
- Portal
- SSO
- LDAP

UIX (View): XML & Java for user interface

BC4J (Model): XML & Java for data model & Business Logic

OA Controller: Java for flow and action events

UI Meta Data Repository

Applications Schema
OAF Key Features

- Consistent and Compelling User Interface
- User Interface Interactivity
- Built-in Security
- Integrated Development Environment
- Mobile Support
- Functional Administration Tool
- Durable Personalizations and Extensibility
Personalization
Personalization vs. Extensibility

• Personalization
  • Declaratively tailoring UI look-and-feel, layout or visibility of built-in content to suit a business need or a user preference
  • Use the Personalization Framework
  • All personalizations are stored as metadata

• Extensibility
  • Extending the functionality of an application:
    • Adding new content or business logic
    • Extending/overriding existing business logic
  • Requires JDeveloper OA Extension
Business Challenges Require EBS Flexibility
Tailored Application UI Provides Better Productivity

Most customers desire to:
• Remove unneeded regions and items from the screen.
• Add new regions and items to existing pages.
• Re-label fields, buttons, tips to use customer terminology.
• Change the default value of fields.
• Allow easy access from one screen to another, passing context.
• Add industry-specific content to a page.
Business Challenges Require EBS Flexibility
Tailoring Needs to Be Flexible But Durable

Customers also want to:
• Make changes apply for only a particular user, location, industry, or responsibility.
• Make changes durable to survive upgrades.
• Do all of the above without writing code, and without violating Support agreements.
Personalization Provides Flexibility
Manage Globally to Lower Costs

• Changes can be built, tested and deployed in minutes
  • hide fields, add information where needed
• Most changes can be entered by functional experts, not technical experts
• Changes are stored in metadata or files separate from Oracle files; they do not have to be re-applied after patching
Personalization Provides Flexibility

- Personalization UI is initiated from running application.
- Simple UI to specify changes
  - Profile options control who can do personalizations.
  - Access from Personalize Page link
- Any screens built with the OA Framework can be personalized.
  - Use Form Personalization for forms built using Oracle Forms (covered in session S281409).
- "About This Page" shows a wealth of information about the page structure.
  - Available if Diagnostics are turned on
Flexible Implementation of Personalizations
Makes Global Rollout Easier

• Changes can be made at a variety of levels – function, site, organization, responsibility, user.
• Changes are maintained across upgrades.
• Personalizations are layered and can be targeted for specific groups of users.
• Personalizations can be created in a test environment and later deployed to production.
• Personalizations can be translated.
### Personalization Features

Use the fields below to refine your job search.

<table>
<thead>
<tr>
<th>Location Code</th>
<th>Date Posted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redwood Shores</td>
<td></td>
</tr>
</tbody>
</table>

#### Search Results

<table>
<thead>
<tr>
<th>Name</th>
<th>Job Title</th>
<th>Organization Name</th>
<th>Location</th>
<th>Date Posted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation Analyst Manager</td>
<td>MGR500, Manager</td>
<td>Human Resources-West</td>
<td>Redwood Shores</td>
<td>14-Nov-2002</td>
</tr>
<tr>
<td>Senior Compensation Manager</td>
<td>MGR500, Manager</td>
<td>Human Resources-West</td>
<td>Redwood Shores</td>
<td>13-Nov-2002</td>
</tr>
</tbody>
</table>

- **Hide/show page items and regions**
- **Add new items**
- **Change prompts, titles, text**
- **Reorder items or regions**
- **Make items required**

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**ORACLE**
**Personalization Features**

**Personalization Administration Feature**

- Release 12 provides an easy-to-use import/export utility for personalizations. The Personalization Document Manager:
  - extends the existing command line personalization import/export capabilities with HTML pages included in the Functional Administrator responsibility.
  - allows easy replication of personalizations across database instances.
Personalization Features
Better Administrator Personalization Usability

• Jump directly to the Personalization Hierarchy page for easier access.
• "Simple" page hierarchy makes it easier to get to the items to be personalized.
• For troubleshooting, jump from personalization-related error messages to the “About" page to review and edit the personalization.
Personalization Features

R12 Enhancements Provide Even More Flexibility

• Add more content
  • Add new regions or extend existing regions into pages
  • Include external JSP or HTML regions in existing pages
  • More item styles to add

• Change corporate branding logo using a profile option
Personalization Features

R12 Enhancements Provide Even More Flexibility

- New UI for personalizing configurable pages
Personalization Features

Custom Look-and-Feel Feature (Skins)

• R12 lets you match the look and feel of the EBS to your corporate web site.
  • Modify colors, fonts
  • Add new renderers to modify how fields are laid out
Personalization Features
EL Bindings (SPEL) Provide Better Dynamic Control

• More dynamic control over fields, items, and regions
• Use EL (simple expression language) expressions as property values for Required, Read Only, and Rendered properties
  • For example, make fields hidden or shown based on dynamic criteria that comes from a view object.
Personalization Summary

- Personalization provides a better user experience with targeted user interfaces.
- Personalization provides better business agility.
  - Aids global compliance to constantly changing regulations
  - Provides decision-making efficiencies
- Personalization enhancements make it easier to tailor the E-Business Suite to customer needs.
  - Usability enhancements
  - Ability to add new regions and more items
  - Easier to move/copy personalization definitions
Extensibility
Business Layer Extensibility
Provides Flexibility to Extend EBS Logic

- Extensibility for extending the model
- Allows you to extend server components and transaction business rules
- Add new server attributes
- Include custom business logic for additional validation or transaction extensions
- Register your extension on top of the base server definition
Durable Programmatic Extensibility

Extensions Provide Flexibility

- Recognized extension patterns
- Leverage declarative and object-oriented standard design patterns
- Naming standards
- Substitution

```
oracle.apps.po.OrderBizObj = partner.oracle.apps.po.PartnerOrderBizObj
```
Durable Programmatic Extensibility
Provides Flexibility to Add Your Own Modules

• Build completely new components and applications
• Requires Oracle 9i or 10g JDeveloper with OA Extension
  • JDeveloper 9i for EBS 11.5.10
  • JDeveloper 10g (10.1.3) for EBS 12
  • OA Extension version for each
  • Get the development environment patch to match your version of EBS
• Follow standards in Oracle Application Framework Developer's Guide
New Features
Release 12 New and Changed Features
Better: These New Features Add Future Flexibility

- “Swan” User Interface
- Personalization
- Oracle JDeveloper 10g Release 3 (10.1.3)
- WSRP Support
- Service Interface
"Swan" User Interface
Globally Better Looking

• The best UI concepts from E-Business Suite, PeopleSoft, and JD Edwards applications come together.

• The "Swan" user interface gives the E-Business Suite a fresh new look for Release 12.
  • Improves consistency
  • Improves usability
  • Improves attractiveness
### Track Submitted Expense Reports

The following expense reports are either outstanding or have been paid in the last 30 days.

<table>
<thead>
<tr>
<th>Report Number</th>
<th>Report Status</th>
<th>Last Report Status</th>
<th>Current Activity</th>
<th>Expenses Status</th>
<th>Receipt Status</th>
<th>Report Total ($US)</th>
<th>Purpose</th>
<th>Duplicate</th>
<th>Withdraw</th>
</tr>
</thead>
<tbody>
<tr>
<td>f189002</td>
<td>Pending Manager Approval</td>
<td>0 Andretti, Mr. Evan Not Required</td>
<td>267.07</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f189002</td>
<td>Pending Manager Approval</td>
<td>3 Andretti, Mr. Evan Not Required</td>
<td>8.00 Test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f189002</td>
<td>Pending Manager Approval</td>
<td>3 Andretti, Mr. Evan Not Required</td>
<td>41.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If the status is Pending Your Resolution, you were sent a notification explaining the required action.

### Update Expense Reports

Click an Update icon to make changes to a saved, rejected, or returned expense report.

<table>
<thead>
<tr>
<th>Report Number</th>
<th>Report Date</th>
<th>Status</th>
<th>Report Total ($US)</th>
<th>Purpose</th>
<th>Update</th>
<th>Duplicate</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>f189002</td>
<td>25-Sep-2005</td>
<td>Saved</td>
<td>188.00 Client visit - Seattle</td>
<td>267.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f189002</td>
<td>23-Sep-2005</td>
<td>Saved</td>
<td>100.00 Travel</td>
<td>8.00 Test</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notifications

Select Notifications: Open, Read, Save

<table>
<thead>
<tr>
<th>Subject</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expense 115 10444 for Frost, Mr. Jamie (200 USD)</td>
<td>26-Sep-2005</td>
</tr>
</tbody>
</table>

TIP: Vacation Rules - Redirect or auto-respond to notifications.
TIP: Worklist Access - Specify which user can view and act upon your notifications.
"Swan" User Interface
Globally Better Look Without Global Effort

• Improves appearance without dramatically changing layout or end user actions
  • No need to relearn the applications
  • Does not disturb automated tests
  • Custom applications built with OA Framework will pick up the new UI automatically with little or no rework
• EBS will use only the “Swan” look and feel for R12
### New Personalization Features

Provide More Flexibility

- Add new regions or extend existing regions into pages
- Include external JSP or HTML regions in existing pages
- Use EL expressions as values for Required, Read Only, and Rendered properties
- Custom Look and Feel (CLAF, or Skins)
- Change corporate branding logo using a profile option
- Personalization Document Manager
- More item styles to add, UI enhancements
Personalization Features

Enhanced Home Page Favorites Feature

- The enhanced personalization interface now allows users to search for functions (business flows).
- Users can add, rename, and reorder favorites from within a single page.
Personalization Features
Configurable Start Page Gives Users Flexibility

• Users can now specify the first page that displays after login.
  • Bypass the Home page and go directly to the specified page.
• Use the Preferences link and page to set the target page.
Personalization Features

Hide Responsibilities on Navigator

• The Navigator feature of the Home Page can now be personalized to hide responsibilities.
Personalization Features

Improved "About This Page" Feature

• The "About" page has been extended to include the following:
  • Last 10 patches applied on the instance
  • Flexfield definitions on the page, and whether they use unsupported features specific to the Oracle Forms stack
  • The ability to launch Administrator Personalization
Service Interface Feature

• What is a Service?
  • A discrete unit of business functionality.
  • Self-describing, standalone components that can be deployed as web services, EJB session beans or as co-located Java APIs.

• What is a Business Object?
  • A simple representation of real world business data
  • Example – Purchase Order business object
Service Interface Feature

- Service interface
  - a simple, uniform way for developers to build services
- Service tester
  - an integrated tool for developers to test their services from within the JDeveloper environment.
Service Interface Feature

• Java interface to support both web services and local Java APIs
• Support for the new Service Data Object standard
• Provides secured access to business objects
• Consistent APIs and error handling behavior across different application products
• Small interface easy to learn and use
Service Interface Tester

- Provides the ability to unit or system test your services without building a test harness application.
- Creates unit and integration tests recorded as structured XML data.
- Service tests can be played back from either JDeveloper or from the operating system command line.
Service Interface Tester
Create Test Scripts Right in JDeveloper

Create Service Bean Test Script

Product: FND

File Name: PurchaseOrderServiceTest.xml

Package: oracle.apps.fnd.framework.svctoolbox.tutorial.test

Example: oracle.apps.hr.employee

OK Cancel
Better Technology: R12 Uses Oracle JDeveloper 10g Release 3 (10.1.3)

• J2EE development environment
• End-to-end support for modeling, developing, and debugging applications and Web services
• OA Framework-based applications and services can be extended
• Entirely new applications and services can be built easily
JDeveloper 10.1.3
Provides Flexibility for Your Own Development

• Take advantage of new JDeveloper 10.1.3 features such as:
  • Dynamic projects
  • Improved window management
  • Code Assist
  • Collapsible Code Regions
  • Audit and Metrics tools to improve code quality
  • New UML diagramming tools for modeling database tables and application modules
Better Technology

Evolutionary Strategy Provides Flexibility to Move to Newer Technologies Such as Fusion

- Continue to use OA Extension / UIX Metadata
- Uptake BC4J 10.1.3 (Fully automated upgrade)
- BI Beans 3.2
- Defers conversion to ADF Faces
- Defers JSF / Struts Page Flow uptake
Oracle Portal and WSRP Support
Provides Flexibility to Integrate Content from Multiple Vendors

• Support for the WSRP standard
• Allows integration of content from multiple vendors into portal pages
• Put E-Business Suite content into Oracle Portal or other vendors' portal products
Technology Benefits

• Protect
  • Applications and extensions built to OA Framework 11.5.10 standards upgrade seamlessly to Release 12

• Extend
  • Easily build entirely new applications with JDeveloper 10.1.3
  • Easily integrate diverse application content into portal pages through the WSRP standard

• Evolve
  • Make use of the latest state-of-the-art standards-based technology
Summary: Your Oracle Investment

• Protect Your Global Investment
  • Metadata approach allows durable personalizations and extensions, smoother upgrades

• Extend the Value of Your Current Applications
  • E-Business Suite provides enhanced UI, personalization and other capabilities you can use now
  • Easily add/modify objects to meet business needs

• Evolve to the New Generation of Applications
  • Adopting Fusion Middleware now gets you started
For More Information

• Other Recommended Sessions
  • "Oracle Application Framework: Troubleshooting" - George Kellner, Tuesday, 4:30 PM - 5:30 PM, Moscone West, 2010 West (this room)

• Related Demos/Exhibits
  • Oracle Application Framework (OAF) Personalization, located in Oracle DEMOgrounds A73 ("Customization Without Coding")

• See Your Business in Our Software
  • Visit Oracle Direct in the Oracle DEMOgrounds for a personalized proposal

• Related Web Sites For More Information
  • OTN: http://www.oracle.com/appstech
DEMONSTRATION

OA Framework
Personalization
Additional Resources

• For More Information about our Products
  - http://www.oracle.com/products/

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  - http://www.oracle.com/support/

• For Metalink Information:
  - http://metalink.oracle.com/

• Oracle Product Documentation:
For More Information

http://search.oracle.com

or

http://www.oracle.com/