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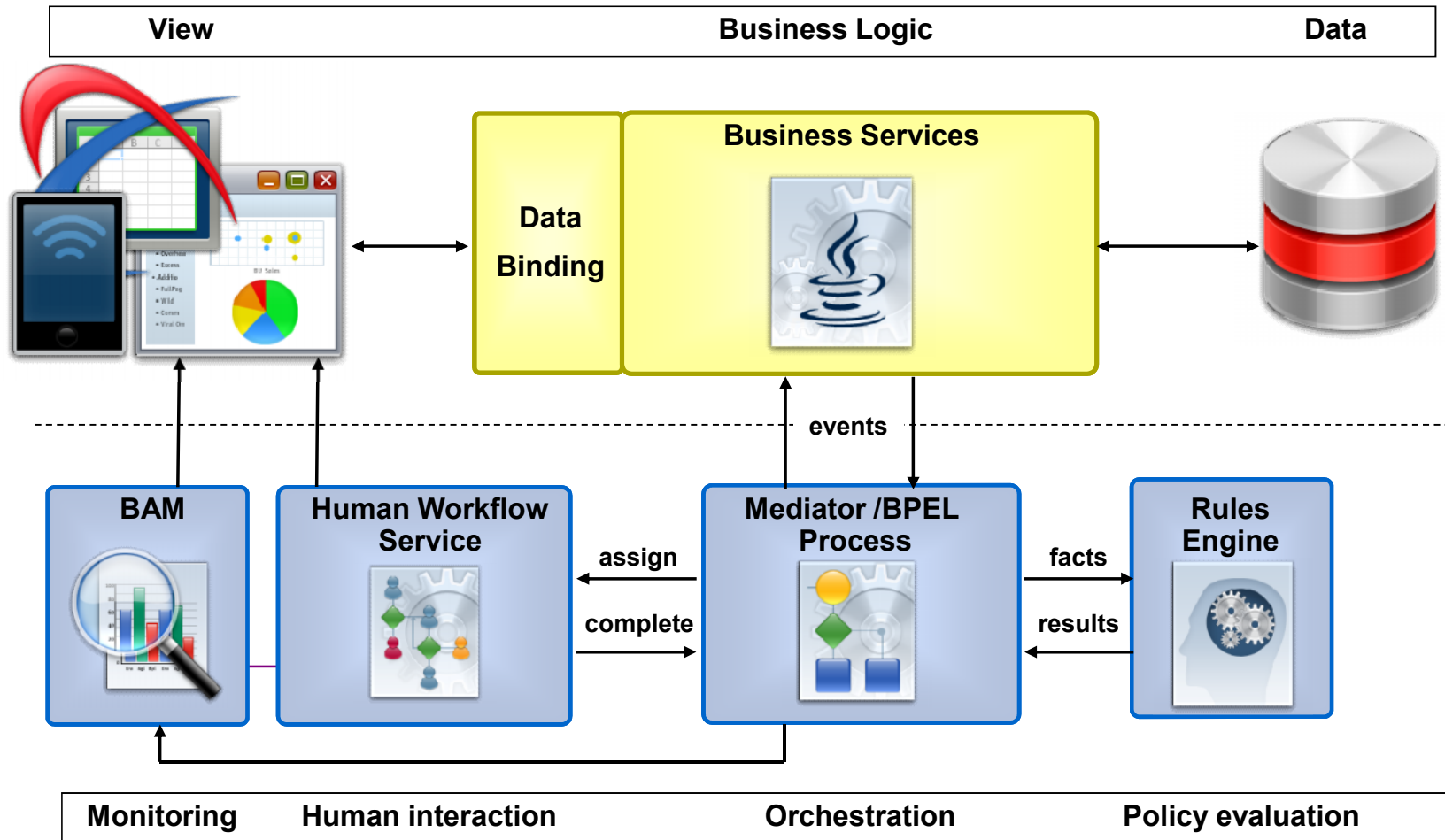
**The Oracle Fusion Development Platform:  
Oracle JDeveloper and Oracle ADF Overview**

Dana Singleterry

Principal Product Manager – Oracle JDeveloper and Oracle ADF

<http://blogs.oracle.com/dana>

# The Fusion Architecture



## Oracle JDeveloper and Oracle ADF

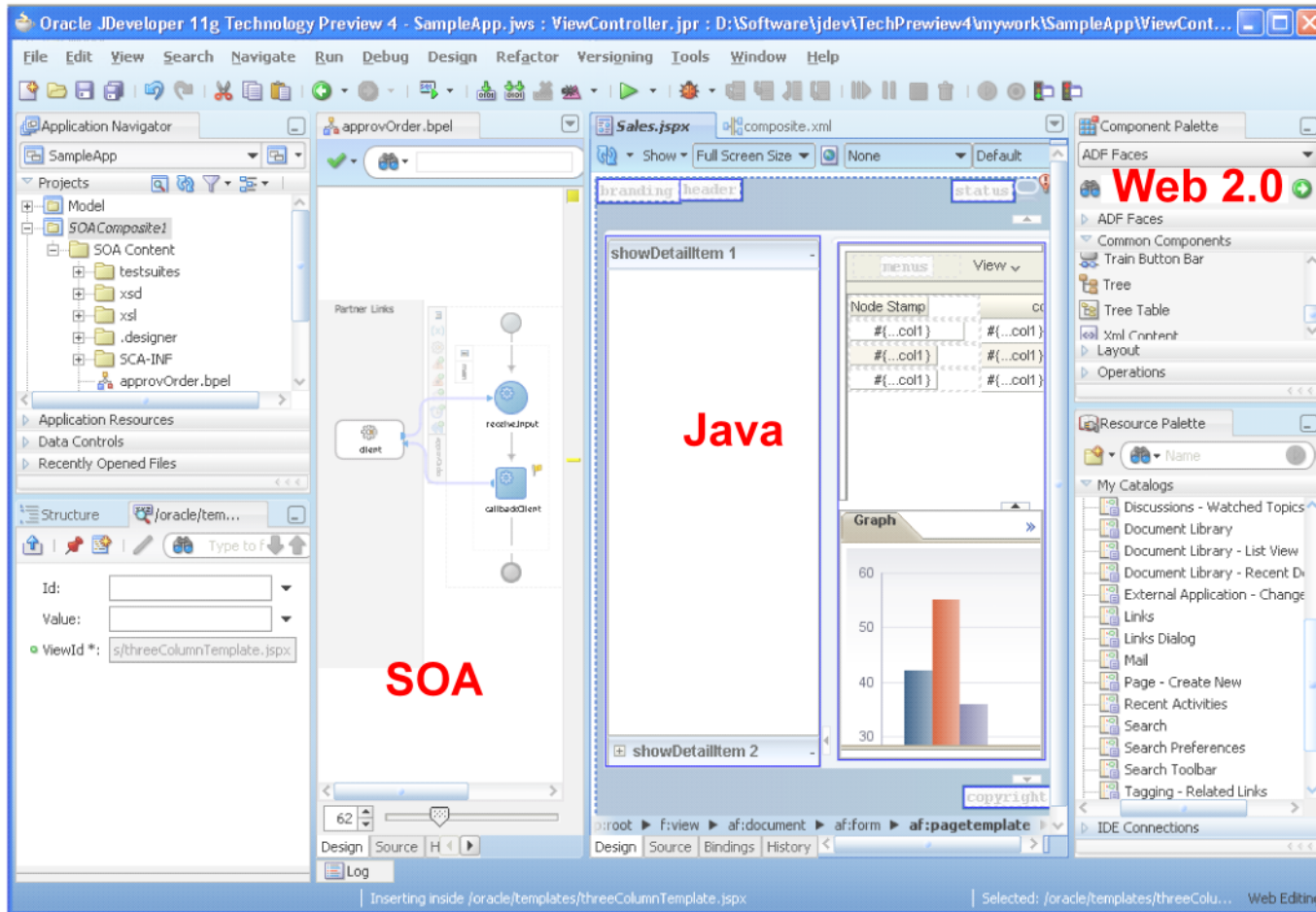
- Integrated development environment
  - Full life cycle
  - Full set of technologies
- Simpler development
  - Visual and declarative
  - Oracle ADF – end to end framework
- Increased productivity
- Standards based

## Oracle JDeveloper - Enterprise IDE

- Java EE
- Web User Interfaces
- Web Services
- SOA
- WebCenter / Portlets
- Database
- XML



# JDeveloper - Unified Visual Development



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# Choice of Development Styles

The screenshot displays three overlapping windows in the Oracle JDeveloper IDE, illustrating different development styles for configuring a JSF application's navigation rules in a file named `faces-config.xml`.

- Visual:** The leftmost window shows a graphical navigation diagram. It features three view icons: `/login`, `/invalidUser`, and `/showData`. Transitions are labeled: `login` from `/login` to `/showData`, `logout` from `/showData` to `/login`, `failed` from `/login` to `/invalidUser`, and `retry` from `/invalidUser` back to `/login`.
- Dialog:** The middle window shows the "Navigation Rules" configuration dialog. It has a tree view on the left with categories like "Managed Beans", "Navigation Rules", "Validators", etc. The "Navigation Rules" section is expanded, showing a list of "From View ID" values: `/login`, `/showData`, and `/invalidUser`. Below this, a "Navigation" section shows "To View ID" values: `/showData` and `/invalidUser`.
- Code:** The rightmost window shows the raw XML code for the `faces-config.xml` file. The XML content is as follows:

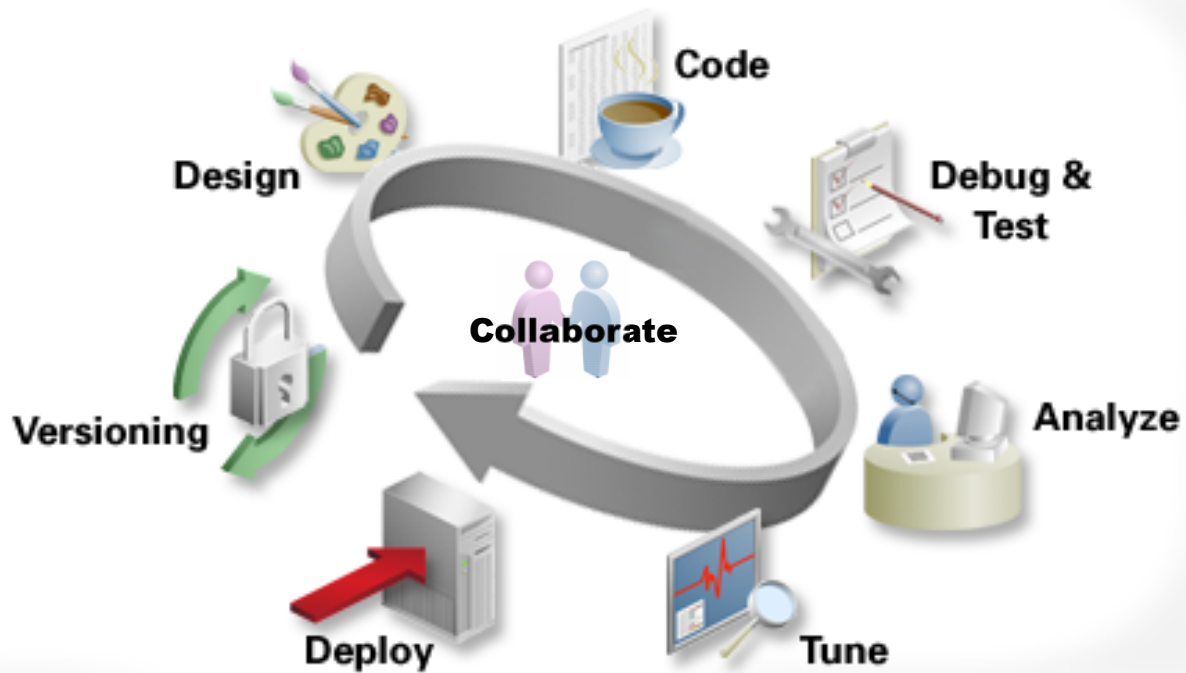
```
<?xml version="1.0" encoding="windows-1252" ?>
<faces-config version="1.2" xmlns="http://java.sun.com/xml/ns/javaee">
  <application>
    <default-render-kit-id>oracle.adf.rich</default-render-kit-id>
  </application>
  <navigation-rule>
    <from-view-id>/login</from-view-id>
    <navigation-case>
      <from-outcome>login</from-outcome>
      <to-view-id>/showData</to-view-id>
    </navigation-case>
    <navigation-case>
      <from-outcome>failed</from-outcome>
      <to-view-id>/invalidUser</to-view-id>
    </navigation-case>
  </navigation-rule>
  <navigation-rule>
    <from-view-id>/showData</from-view-id>
    <navigation-case>
      <from-outcome>logout</from-outcome>
      <to-view-id>/login</to-view-id>
    </navigation-case>
  </navigation-rule>
</faces-config>
```

**Visual**

**Dialog**

**Code**

# Full Lifecycle Support



# Oracle ADF

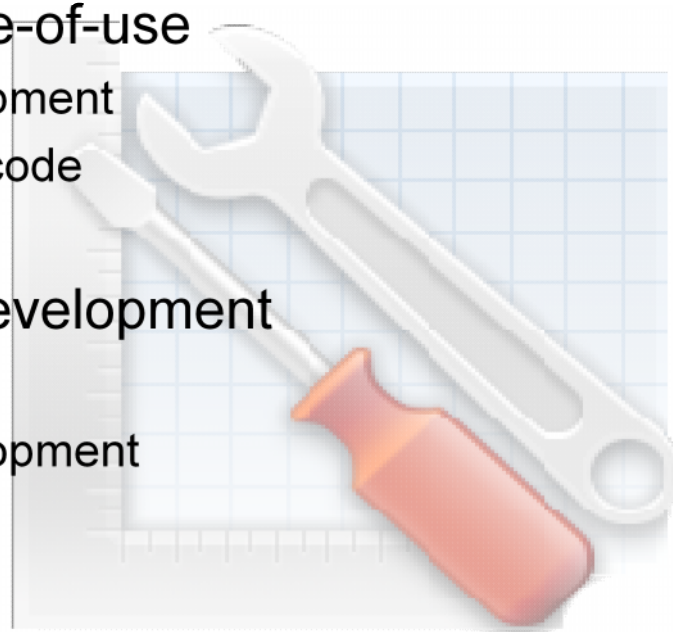
## Oracle's Application Development Framework



## A Common Development Framework

### Oracle Application Development Framework

- Increase productivity & ease-of-use
  - Visual and declarative development
  - Takes care of the “plumbing” code
  - Implements best practices
- Promote service oriented development
  - Re-usable business services
  - Composite applications development
- Standards-based
  - Java EE, SOA, SDO/SCA ...
- End-to-end coverage
  - MVC, security, customization



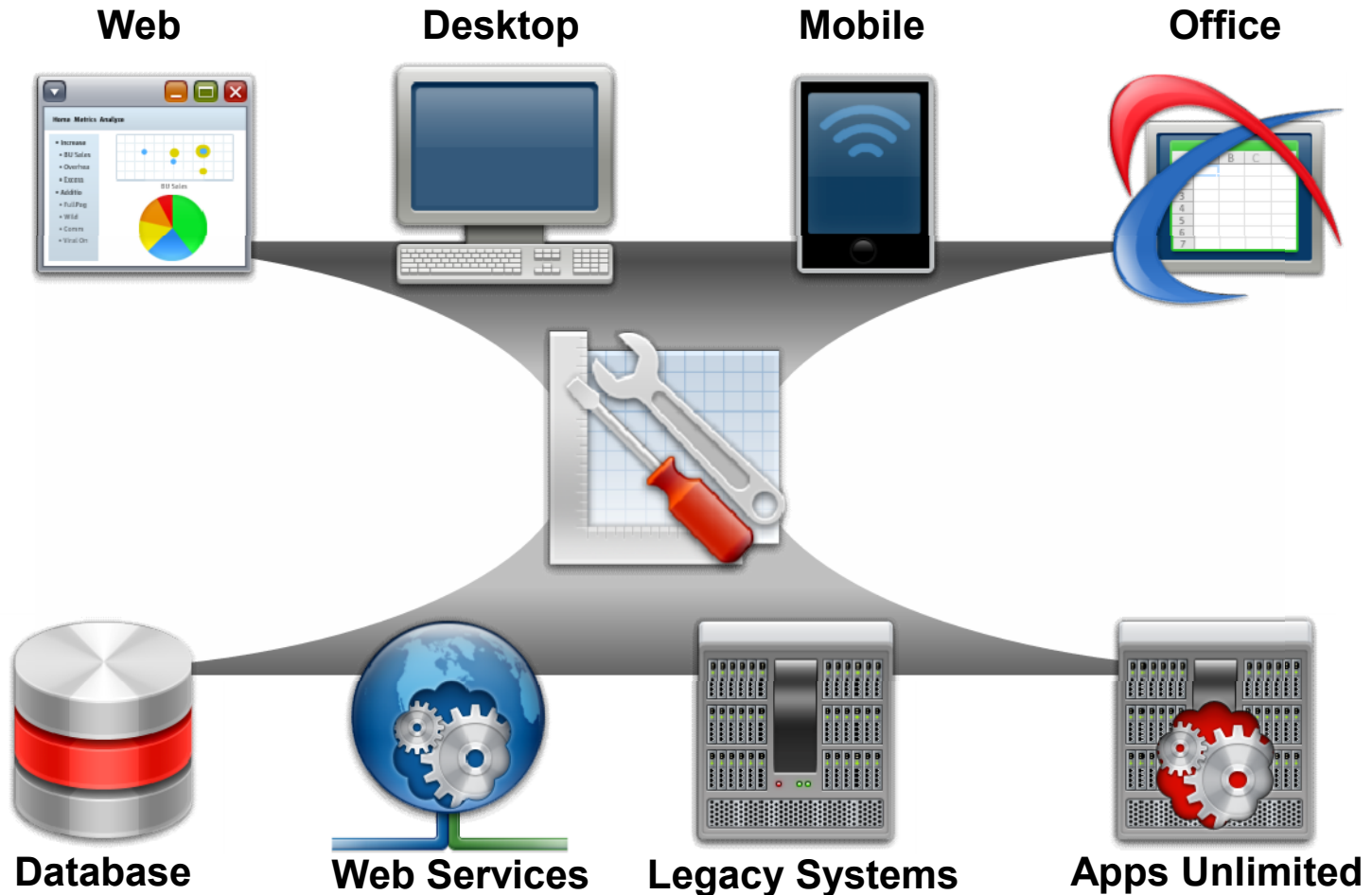
## Oracle's Strategic Framework

- ADF is used at Oracle for all “next generation” Web User interfaces
  - Fusion Applications (CRM, HCM etc.)
  - Middleware components (Enterprise Manager, administration consoles etc)
  - Vertical applications (Insurance, telco, pharma...)
  - WebCenter Spaces and Services
- Anyone can use Oracle ADF
  - Available to customers and partners as part of the platform

## Oracle ADF - Major Benefits

- Faster and simpler standard-based development
  - 30% productivity improvement over .Net
- Rich interactive user interfaces without the cost
- Single set of developer skills
  - Mobile, BI, Geographic Information, Cubic data
- Common infrastructure
  - Declarative customization (company, department, personal, portal)
  - End-to-end security
  - Drag-and-drop binding
  - Reliable certification and support
  - Advanced Tooling

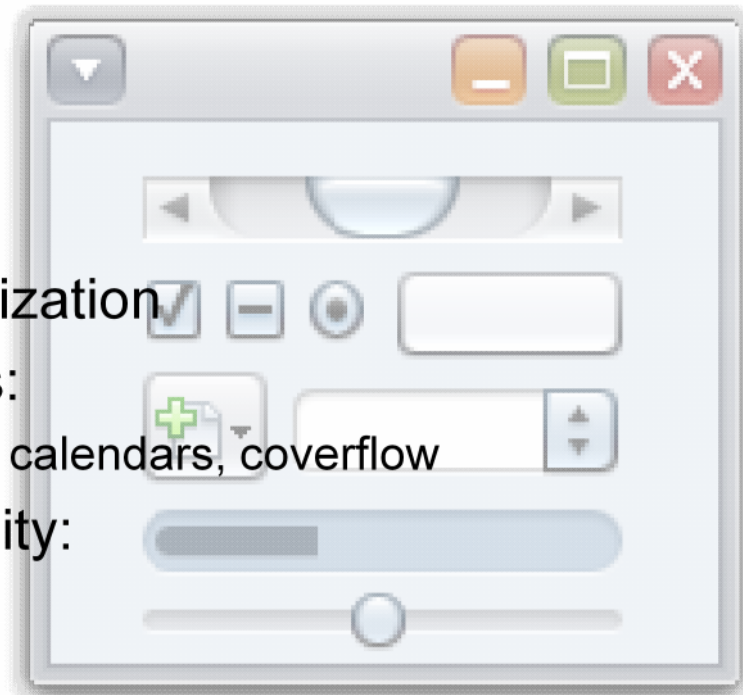
# Oracle ADF – Multi Channel Access



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## ADF Faces Rich Client Components

- Over 150 components
- Ajax enabled
- Pluggable look and feel
- Accessibility & internationalization
- The usual components plus:
  - Charts, gantt, geo-map, pivot, calendars, coverflow
- Built in advanced functionality:
  - Drag and drop framework
  - Dialog and pop-up framework
  - “Active Data” - Dashboards / push updates (comet)
  - Templating and declarative components



# MICROS



# Cuyahoga County GIS

**CEGIS** Cuyahoga Enterprise Geographic Information System  
// MyCuyahoga PRE-RELEASE

**Layers & Locations**

Current Scale: 8 mi.

**Layers** expand all collapse all

- Property
- Emergency Services
  - Evacuation Routes
- Demographics
  - Census Blocks
  - Household Income
  - Median Income by Block Group
  - Population Density
  - Population Change
- Natural Features
  - Contours
  - Hydrography
  - Soils
- Locations** expand all collapse all
  - Cuyahoga
    - Sex Offenders (2 mi.)
    - Gas Stations (8 mi.)
  - Government
    - City Halls
    - Court Houses
  - Public Services & Sites
    - Schools (16 mi.)
    - Hospitals
    - Community Centers
    - Colleges
    - Museums
    - Tourist Attraction
    - Historical Monument
  - Recreational Facilities
  - Shopping & Entertainment
  - Transportation
    - Airports
    - Interstate Ramps (16 mi.)
    - Parking
    - Auto Service (8 mi.)

**Map Viewer**

Display Base Maps Measure Quick Picks

**Locate Parcel**

Find Parcel by Owner Name, Address or Parcel Identification Number:

Mils

Results have been truncated to 100 rows.

File	View	
1	14002028 Mils Abron D.	
	3968 155 St, Cleveland	
2	64734039 Mils Albert	
	1534 254 St, Euclid	
3	10901024 Mils Alfred & Jocelyn P.	
	8909 Kempton Ave, Cleveland	
4	11111133 Mils Algenero	
	559 124 St, Cleveland	
5	45202035 Mils Allan D	
	3735 Hilltop Dr, Parma	
6	70104091 Mils Ann Trs	
	3862 Wallingford Rd, South Euclid	
7	11109012 Mils Annette	
	552 124 St, Cleveland	
8	11210004 Mils Anthony & Margaret S.B.	
	364 Dalwood Dr, Cleveland	
9	67121023 Mils Antoine D. & Johnson-Mi	
	1350 Shawview Ave, East Cleveland	
10	13920026 Mils Atria L	

Details Nearest Locations **Routing**

The routing tool are in development and not all information may be accurate at this time.

	EdR
1 Mils Allan D 3735 Hilltop Dr, Parma,	↑ ↓ -
2 Mils Algenero 559 124 St, Cleveland,	↑ ↓ -

Fastest Ordered Calculate Route

# Fusion Applications HCM

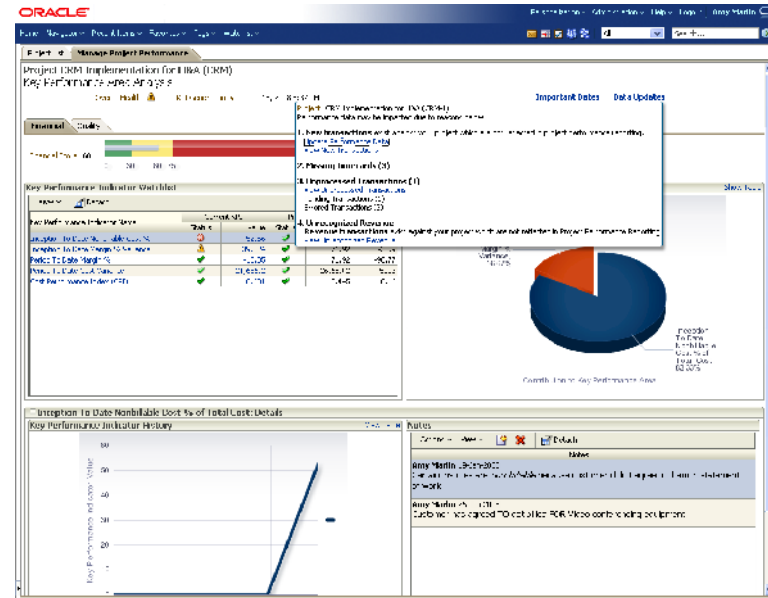
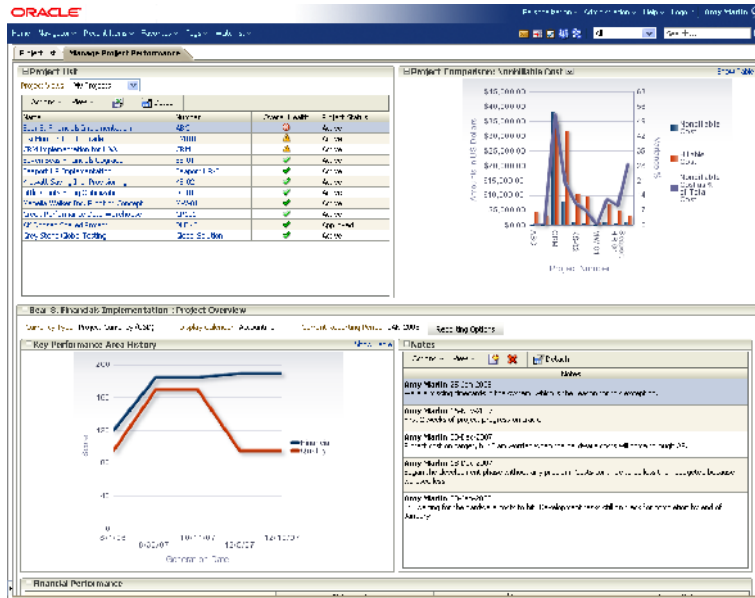
The screenshot displays the Oracle Fusion HCM interface. On the left, there is a navigation pane with options like Search Tag, Hierarchy, and Details. The main area shows a list of employee profiles, each with a photo and contact information. The profiles shown are:

- Terry Lucea**: Accounting Manager, Corporate Accounting. Contact: terry.lucea@adison.com, 947-554-4874.
- Anna Pascal**: Accounting Manager, Corporate Accounting. Contact: anna.pascal@adison.com, 412-565-9833.
- Stella Hahn**: Technical Writer, Corporate Accounting. Contact: stella.hahn@adison.com, 702-555-0338.
- Jason Blake**: Accounting Manager, Corporate Accounting. Contact: jason.blake@adison.com, 481-555-9305.

The screenshot displays the Oracle Fusion HCM interface showing a detailed view of an employee profile. The profile is for **Tom Kimble**, Accounting Manager, Corporate Accounting. The interface includes a navigation pane, a search bar, and a list of employee profiles. The detailed view shows the following information:

- Person Information:**
  - Name: Tom Kimble
  - Job: Accounting Manager
  - Department: Corporate Accounting
  - Location: Dallas, TX
  - Address: 1234 Main St, Dallas, TX 75201
  - Phone: 972-555-1234
  - Mobile: 972-555-5678
  - Email: tom.kimble@adison.com
- Employment Details:**
  - Start Date: 01/01/2010
  - End Date: 12/31/2010
  - Job Number: 123456
  - Supervisor: Anna Pascal
  - Supervisor ID: 123456
  - Supervisor Email: anna.pascal@adison.com
  - Home Phone: 972-555-1234
  - Home Email: tom.kimble@adison.com
- Salary History:**
  - Change Date: 01/01/2010, 04/01/2010, 07/01/2010, 10/01/2010, 01/01/2011, 04/01/2011
  - Compensation: 80000, 82000, 84000, 86000, 88000, 90000
  - Salary: 80000, 82000, 84000, 86000, 88000, 90000
- Performance v. Potential:**
  - Y-axis: Potential (Low, Mid, High)
  - X-axis: Performance (Low, Mid, High)
  - Legend:
    - ▲ 01/01/2010
    - ▲ 04/01/2010
    - ▲ 07/01/2010
    - ▲ 10/01/2010
    - ▲ 01/01/2011
    - ▲ 04/01/2011
- Suitability:**
  - Accountant
  - Leadership
  - Teamwork
  - Customer Service
  - Communication
  - Problem Solving
  - Metaphor
  - Methodical
  - Proactive
  - Responsible
  - Creative

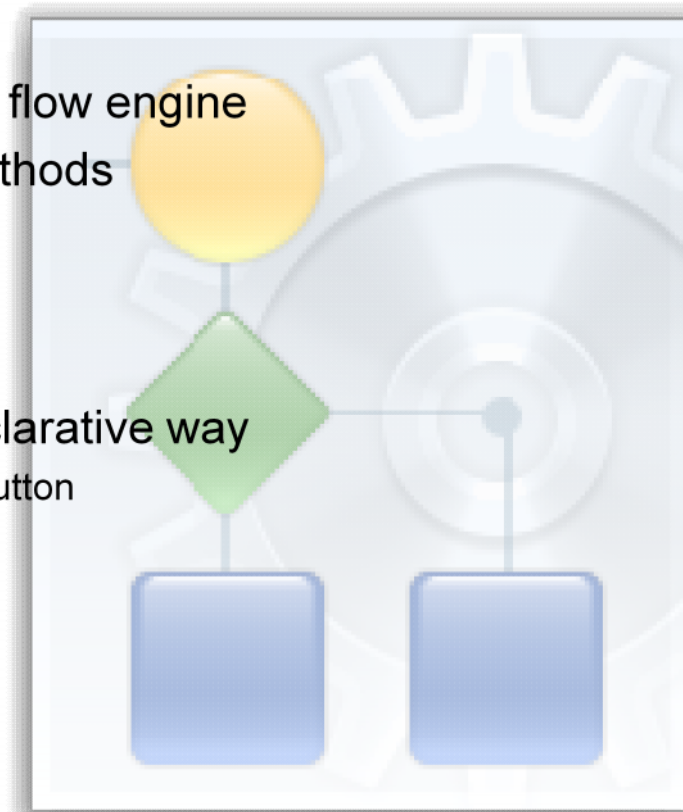
# Fusion Applications Projects



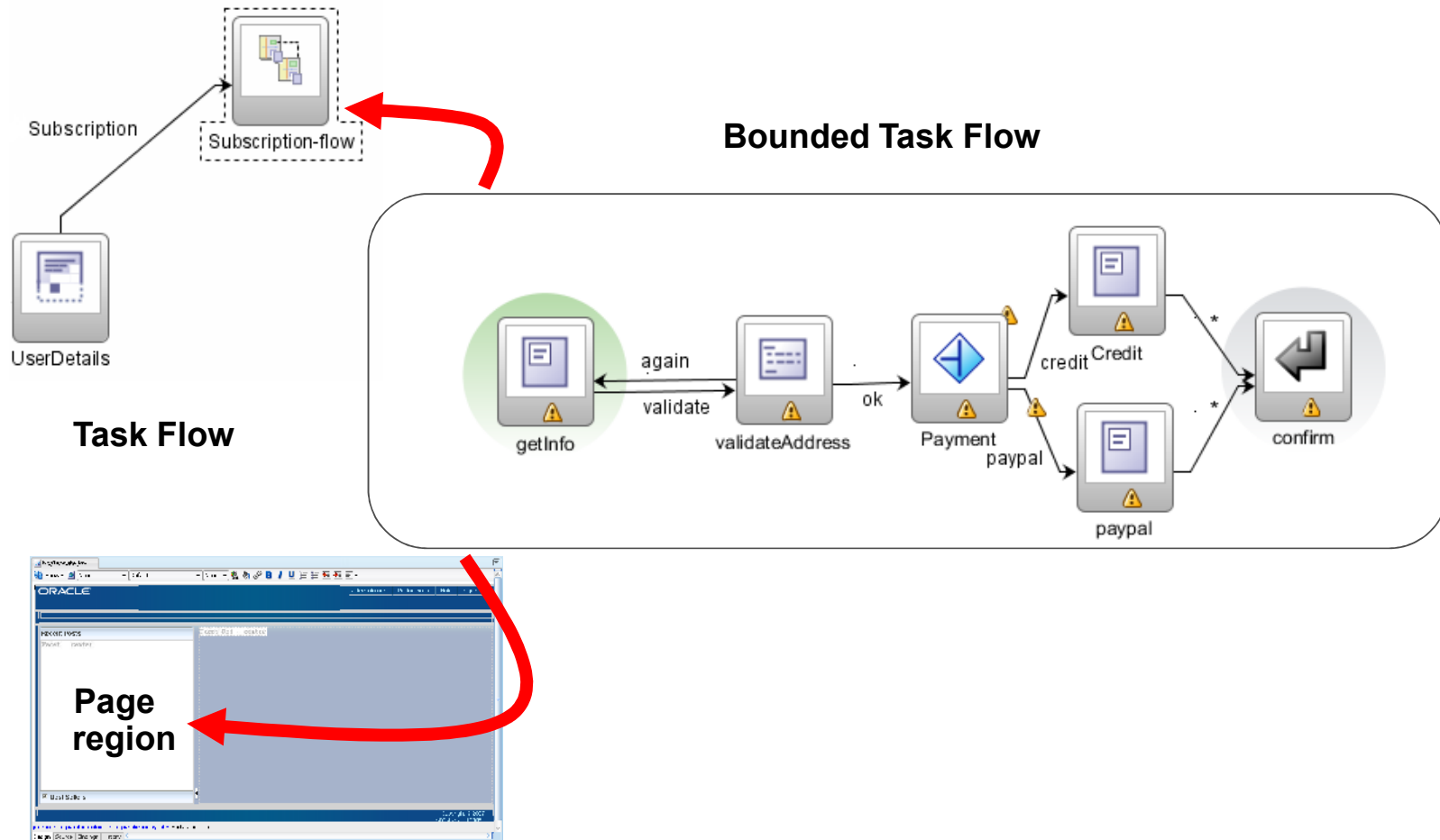


## ADF Controller

- An extension to the JSF page flow engine
- Define flows of pages and methods
- Diagram your process
- Build reusable task flows
  - In other flows, inside other pages
- Advance functionality in a declarative way
  - Transaction, initialization, Back button



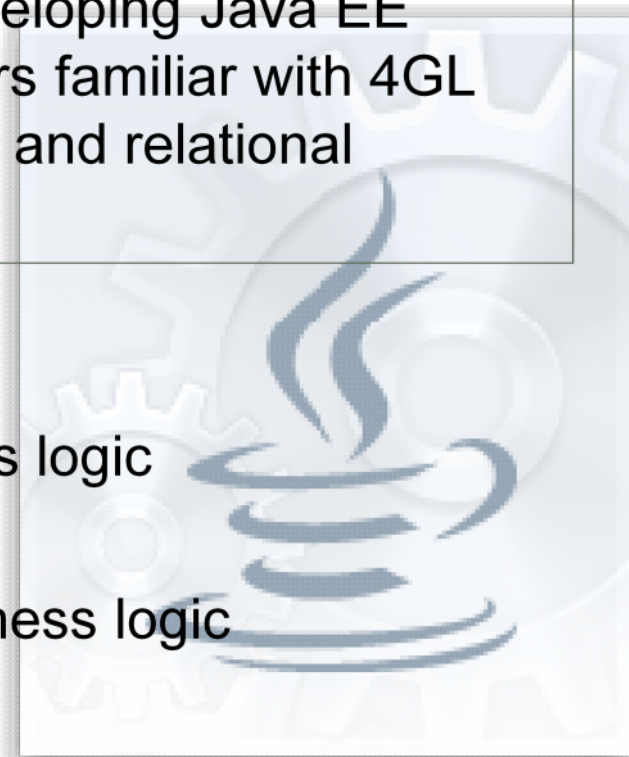
# Task Flows - Reusable Page Flows



## ADF Business Components

A framework that simplifies developing Java EE business services for developers familiar with 4GL tools, declarative development, and relational databases

- Simplify data access
- Simplify validation and business logic
- Uses SQL based data views
- Separate data views from business logic
- Implement best practices
- Easy customization



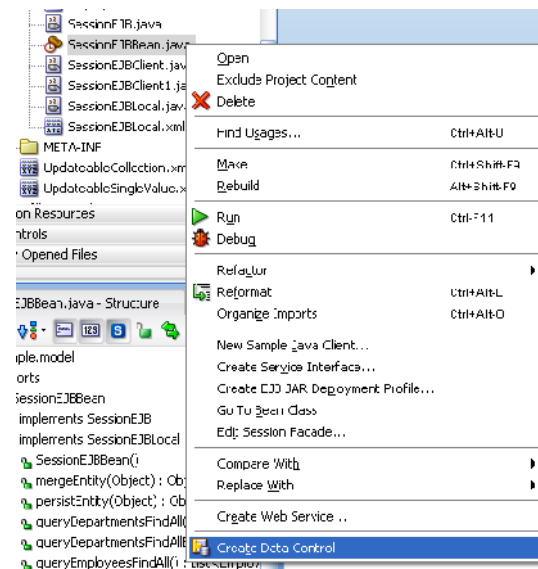
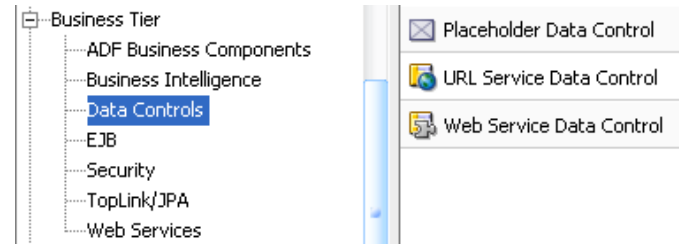
# ADF Model - Data Binding

- ADF Model
  - JSR-227 Data Controls
- Service Oriented Interface
  - Abstract implementation from clients
  - Loose coupling between services and application
- More Reusability
  - Discover and share services
- More Productivity
  - Drag and drop data binding
  - Declarative validation
  - Control hints



## ADF 11g Built-in Data Controls

- ADF Business Components
- Java Class
- EJB
- Web Service
- URL (XML or CSV)
- Place Holder
- Add your own



# Demo



# Additional Core Capabilities



## Mobile Development Challenges

- **Duplicating development efforts**
  - Different tools and environment for different mobile devices and channels (on-device vs. web)
  - Different frameworks for native/on-device vs. web based mobile applications
- **Code-driven development paradigm**
  - Java (ME and SE), Objective C, C++, etc.
- **(Re)build all application services from the ground up**
  - For application logic services, view services, etc.
- **Proprietary frameworks and technologies**

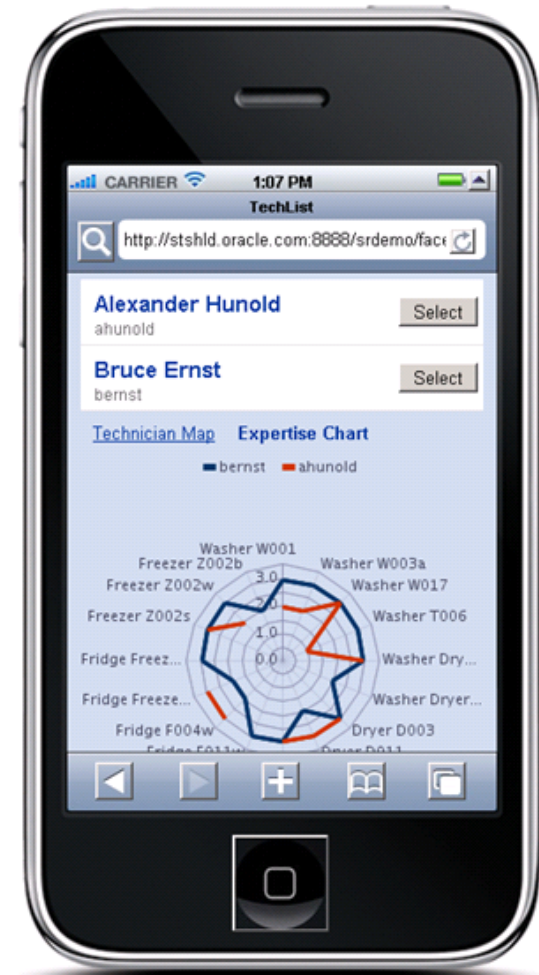
## Oracle ADF Mobile

- Two approaches:
  - ADF Mobile Browser
  - ADF Mobile Client
- Extend your existing application
- Reuse business services
- Same development concepts



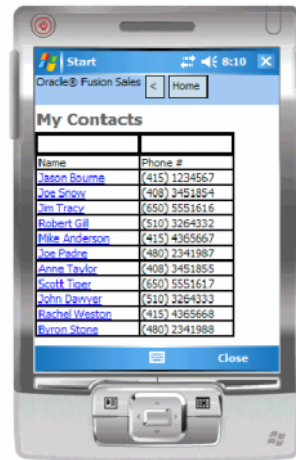
## ADF Mobile Browser

- Delivers mobile-optimized native look-and-feel user interface to mobile browsers
- Adjusts to device's browser capabilities



# ADF Mobile Client


- Renders to an on-device mobile client with device-native UI components



### Service Request Details

**Description:** Dryer is not drying clothes  
**Details:** Dryer D003  
**Address:** 10 Sheridan St, San Francisco

View SR



Map showing Dore St

Start

AVITEK

SR: 101

Status: Open

\*Date: Feb-04-2006 03:10

Product: Washer W003a

Symptom: Not agqitating

\*Description: Agitator does not work

\*Address: 1011 Sherman St

\*City: San Jose

\*State: CA

Cancel

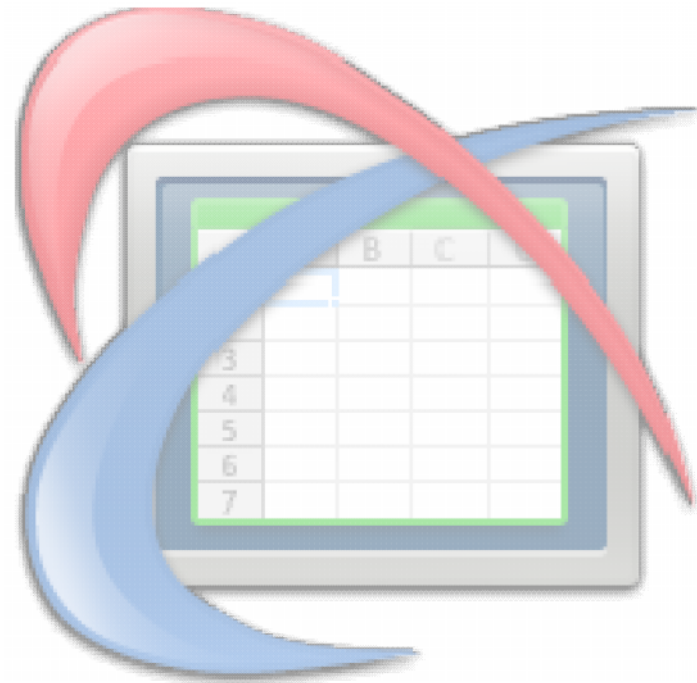
Exit

Save

Menu

## ADF Desktop Integration

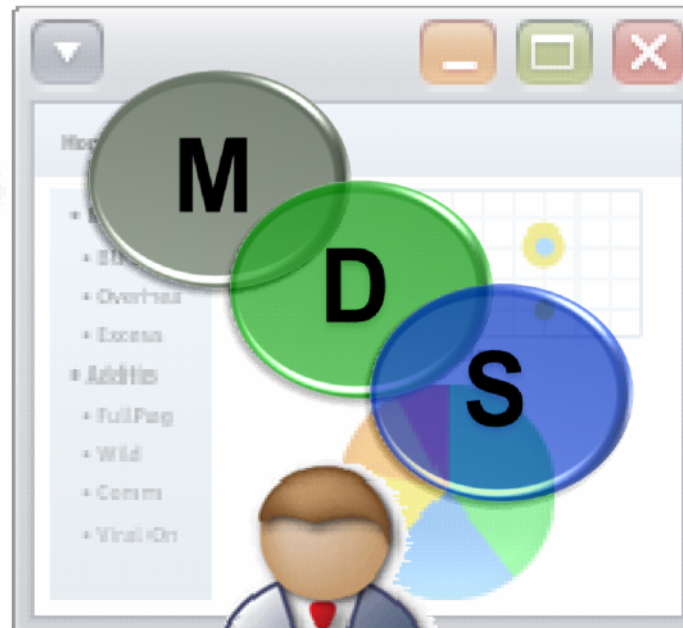
- Excel Spreadsheets connected to Java Business services through ADF binding
- Familiar working environment
- Connected or disconnected
- Leverage business services and security from your application



# The Customization Challenge



End user



Provider



Administrator

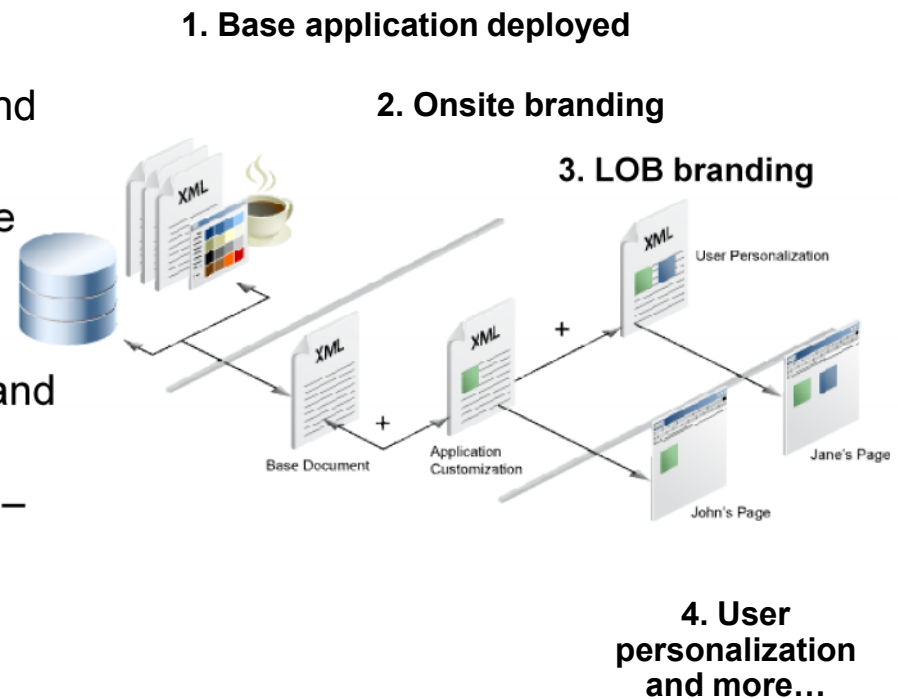
# MDS - Layered Customizations

## Key Capabilities:

- Common metadata store
- Set up personalized content and services for users
- Stored as layers on top of base application

## Benefits:

- Insulates users from updates and patches
- Used throughout Oracle stack – business processes, business intelligence and applications



## ADF Security

- Authentication and authorization
- End to end security
  - Business services operations
  - Task flows
  - UI components
- Externalized security administration
- Sits on top of Oracle Platform Security Services
  - Pluggable providers
  - Adaptive access management



# ADF Security - End-to-end Security

The screenshot displays the Oracle ADF Security configuration interface. It is divided into two main sections: "ADF Security Policies" for Web Pages and "ADF Security" for Task Flows. Both sections include a search field for names and a checkbox for "Show test-all grants only".

**ADF Security Policies - Web Pages**

Web Page Definition	Granted To Roles	Actions
untitled1 (view.pageDefs)	test-all	<input checked="" type="checkbox"/> View
untitled2 (view.pageDefs)		<input type="checkbox"/> Custom <input type="checkbox"/> Edit

**ADF Security - Task Flows**

Task Flow	Granted To Roles	Actions
layoff-flow (/WEB-INF)	test-all	<input checked="" type="checkbox"/> View <input type="checkbox"/> Customize <input type="checkbox"/> Grant <input type="checkbox"/> Personalize

**Departments.xml - Structure**

- Departments
  - Properties
  - Data
  - PublishEvent
  - Publisher
  - Rules
  - Attributes
    - DepartmentId
    - DepartmentName
    - ManagerId
    - LocationId
  - Association Access
  - CustomAttribute

A context menu is open over the "DepartmentId" attribute, showing options: Refactor, Go to Source, Find Usages... (Ctrl+Alt-U), Go to Properties, Go to Declaration, Edit Authorization..., and Edit Security...

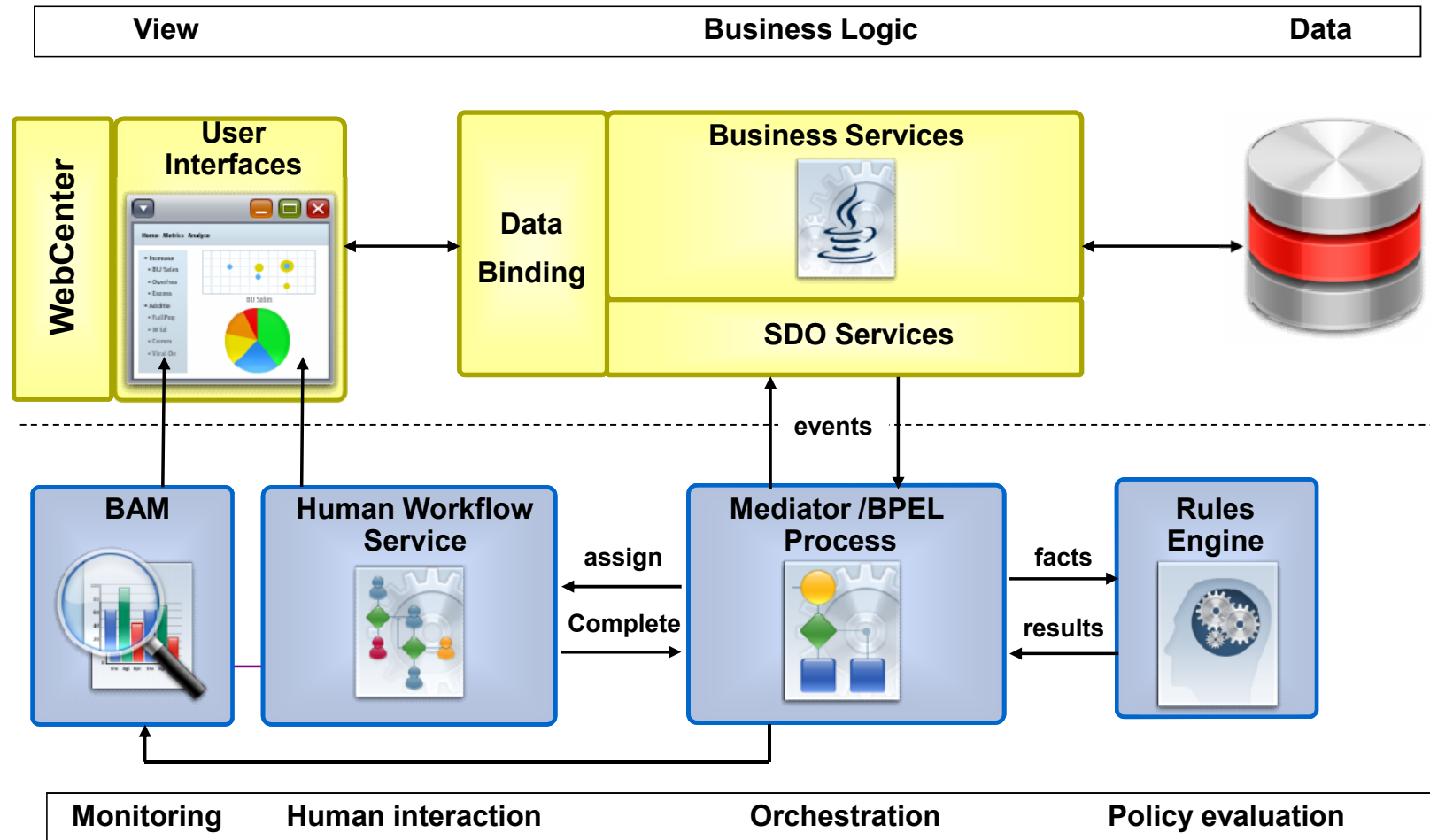
# Fusion Architecture

## The Bigger Picture



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# The Fusion Architecture



## Components of the Fusion Architecture

- Oracle JDeveloper
  - Integrated enterprise development tool
- Oracle ADF
  - Simpler development of standards-based applications
- Oracle SOA Suite
  - Integration and agility
- Oracle WebCenter
  - Web 2.0 for the enterprise



## Summary

- Oracle JDeveloper provides a truly integrated development environment
- Oracle ADF provides simpler development with a complete framework

## Learn More Online – JDeveloper and ADF on OTN

- <http://oracle.com/technology/jdev>
- Tutorials
- Demos
- Books
- Discussion Forum
- How-to's
- Samples
- More

## Related Oracle Press Books



- Quick Start Guide to **Oracle Fusion Development**
- **Oracle JDeveloper 11g** Handbook
- **Oracle Fusion** Developer Guide



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Oracle OpenWorld

**Latin America 2010**

December 7–9, 2010

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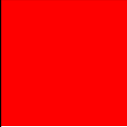


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