




ORACLE®





The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.



**ORACLE®**



## **Opening up OA Framework Applications using Web Services and Portlets**

Ramkumar Sekar  
Applications Technology Group, E-Business Suite



# Agenda

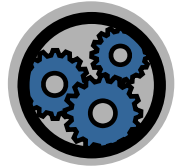
- OA Framework Overview
- Extending OA Framework Applications
  - Portletization
  - Service Enablement
- Portal Strategy
  - Objective
  - What's there today
  - Use Case
  - Details
- Service Enablement Strategy
  - Goals
  - Architecture
  - Business Case
  - Roadmap



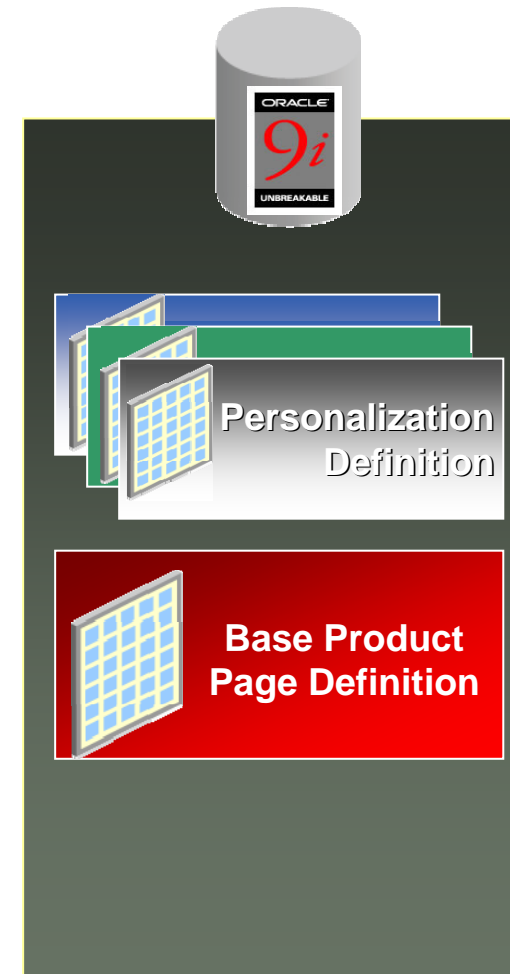
# OA Framework

- Declarative application development
- Rapid development environment
- Consistent & compelling UI
- Built-in durable personalizations
- Extensible UI and business logic
- 100% Java & XML on Oracle platform

# Personalization



- Personalization is added on top of base product meta data at runtime
- Admin Level Personalization
  - Function
  - Location
  - Site
  - Organization
  - Responsibility
- User Level Personalization
  - User Views

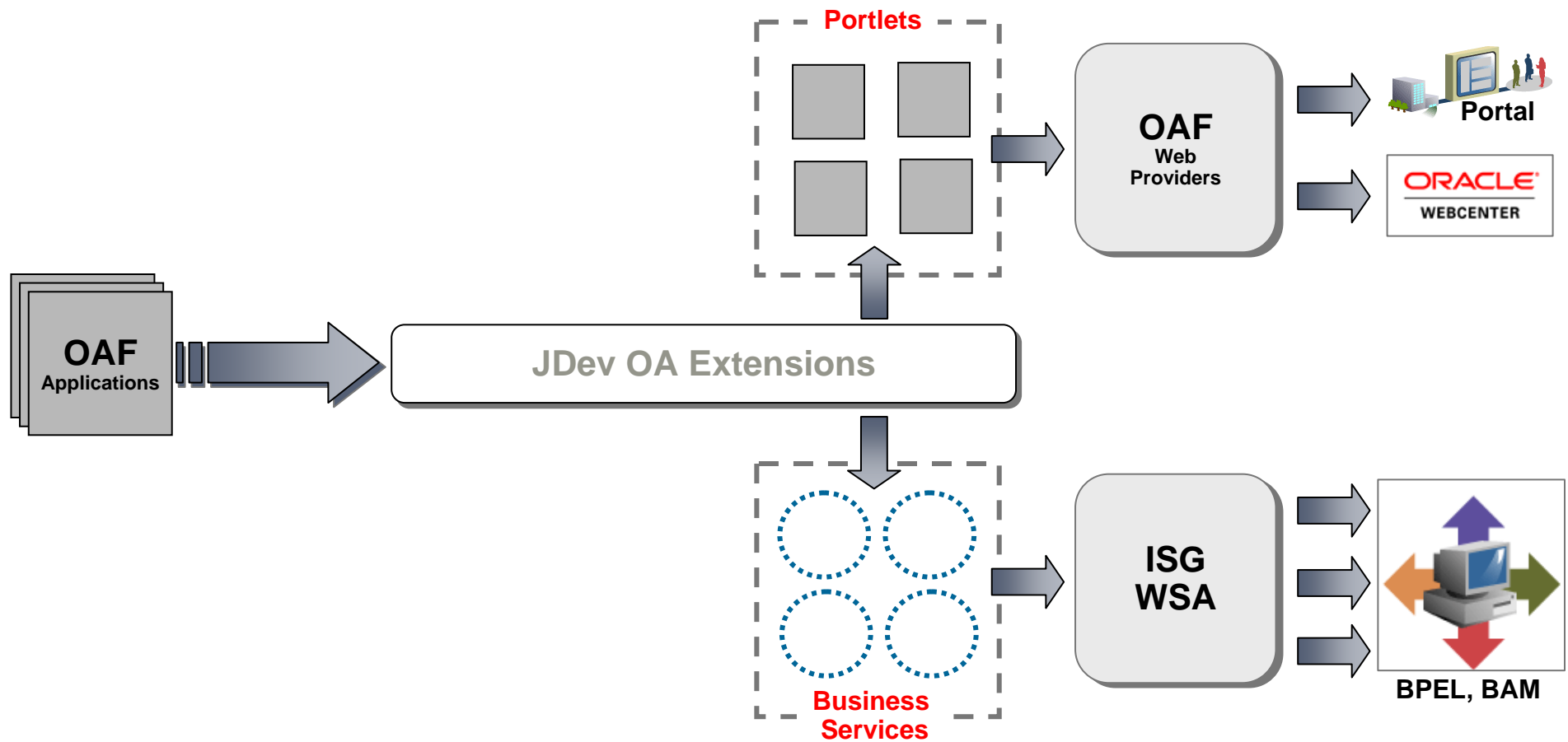




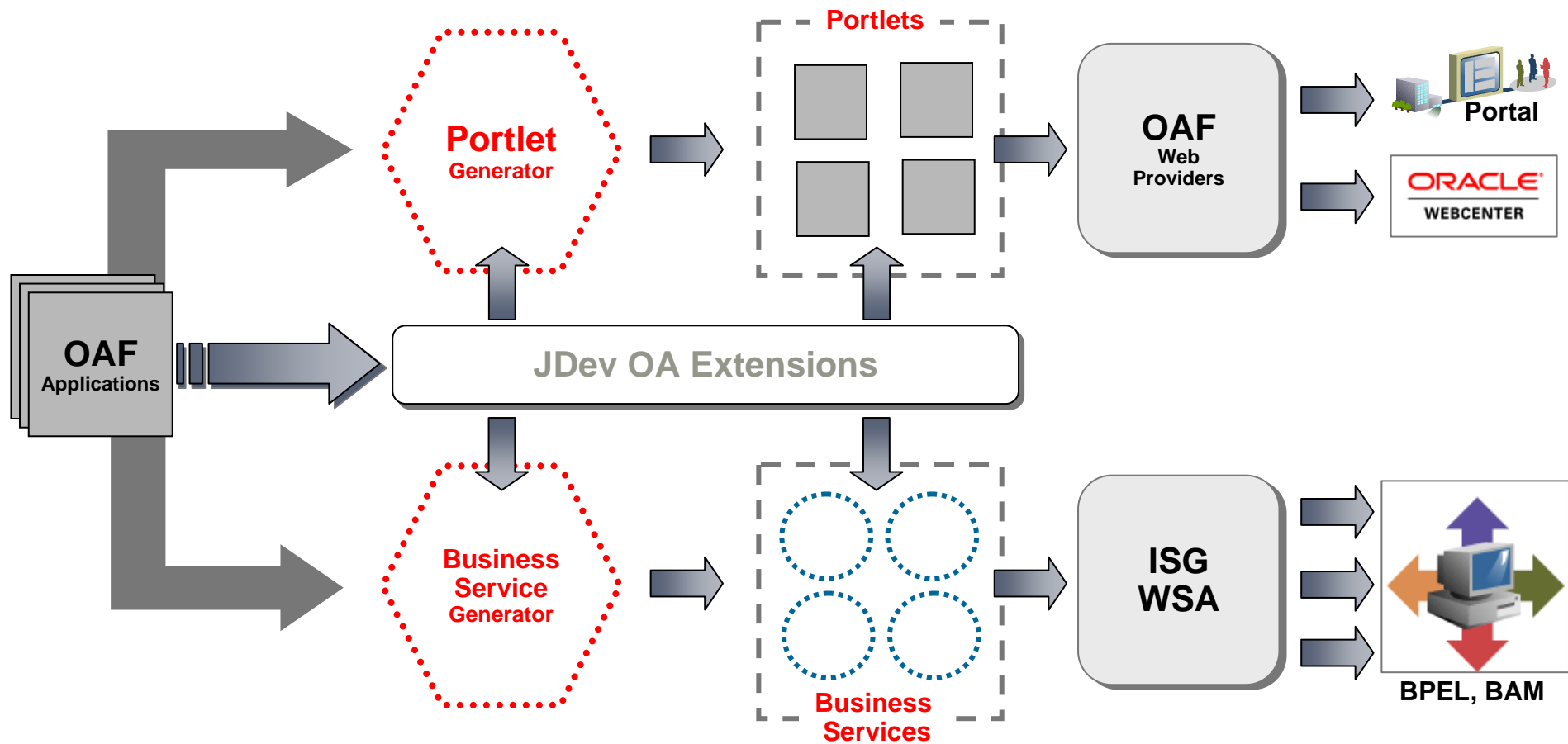
# Personalization vs. Extension

- Personalization – the ability to declaratively alter the UI to meet the business or user needs.
- Extension – the ability to programmatically (in Java) extend the functionality.

# Extending OA Framework Applications



# Extending OA Framework Applications





# Portal Strategy

## Key Objectives

- Path to Enterprise 2.0
- Enhancing the User Experience with Web 2.0
- Rapidly “Portletize” E-Business Suite



# Oracle Portal Key Capabilities with E-Business Suite



*Enables you to:*

- ① Access Relevant Applications With Single Sign-on
- ② Access All Types of Content
- ③ View Personalized Content
- ④ Access to E-Business Suite thru Dedicated Portlets
- ⑤ Personalize Easily without Coding
- ⑥ Empower Decision-Makers with E-Business Intelligence
- ⑦ Provide Value-added Functionality with Partner Portlets



# Portal Strategy

## What's there today...

- Support for portlets in E-Business Suite 11i
  - OA Framework has supported portlets since 11.5.9
  - Support only JPDK portlets
  - Certified with Oracle Portal 9i and 10g
  - OA Framework Provider allows OAF Regions to be exposed as portlets
- Support for portlets in E-Business Suite 12.0
  - WSRP 1.0 support
  - Certified with Oracle WebCenter 10g
- Portlets within E-Business Suite
  - Mostly DBI portlets across products
  - Application Navigator, Favorites, Worklist portlets

# Oracle Portal E-Business Suite Portlets



- Applications Navigator
  - Access Applications menus based on user responsibilities
- Applications Favorites
  - Bookmark specific Applications links for quick access
- Applications Worklist
  - Summary of current workflow notifications
- Oracle Balanced Scorecard
  - Display status of strategic and tactical business objectives
- Performance Management Viewer
  - Display business intelligence key performance indicators in graphical and tabular format

The screenshot displays four Oracle E-Business Suite portlets:

- Custom View Portlet:** A Balanced Scorecard view showing various KPIs with status indicators (red X, green checkmark, yellow exclamation mark). KPIs include: Optimize Product Planning (red X), Improve Fulfillment Performance (green checkmark), Reduce Returns Ratio (green checkmark), Reduce Payables Leakage (green checkmark), Source for Best Values (red X), Control Purch. Expenses (yellow exclamation mark), Reduce Production Costs (yellow exclamation mark), Reduce Mfg. Cycle Time (red X), Capture Contract Savings (green checkmark), and Optimize Inventory Management (yellow exclamation mark).
- List of Indicators Portlet:** A navigation menu with sections:
  - Vision Gross Profit Strategy: Control Purchasing Expenses (yellow exclamation mark)
  - Vision Enterprises: Return on Equity (red X), Increase Operating Profit (green checkmark), Increase Average Order Value (red X), Improve Sales Profitability (red X), Optimize leads Conversion (yellow exclamation mark)
- Revenue Key Performance Indicator:** A bar chart titled "Revenue New Customers - 2003" showing Actual vs Budget for months Jul, Aug, Sep, Oct, Nov, Dec. The Y-axis ranges from \$ 200 to \$ 320. The chart shows actual revenue is generally below budget. Dated: 11-MAY-2004.
- Favorites:** A list of personalized application links:
  - Enterprise Planning and Budgeting Analyst
  - Exchange Rates Site
  - Expenses
  - General Ledger Account Inquiry
  - Self Service Asset Inquiry
  - Payables Invoices
  - Customers Online
  - iReceivables Customer Search
  - Receivables Transactions

# Portal Strategy

## Use Case

**In Progress Appraisal Portlet** Personalize

Appraisals of TestPortlet, TestPortlet

You can download appraisals to complete them offline and upload the completed appraisals.

[Download](#)

[Select All](#) | [Select None](#)

Select	Initiator	Appraisal Date	Main Appraiser	Download	Select a File	Clear Offline Status	Upload	Appraisal Purpose	Details	Update	Delete
<input type="checkbox"/>	TestPortlet, TestPortlet	30-Sep-2008	Abbott, Jane		<input type="text"/> <a href="#">Browse...</a>			Self Assessment			

**Course List Portlet** Personalize

Object Type  ▼

Name

Start Date

End Date

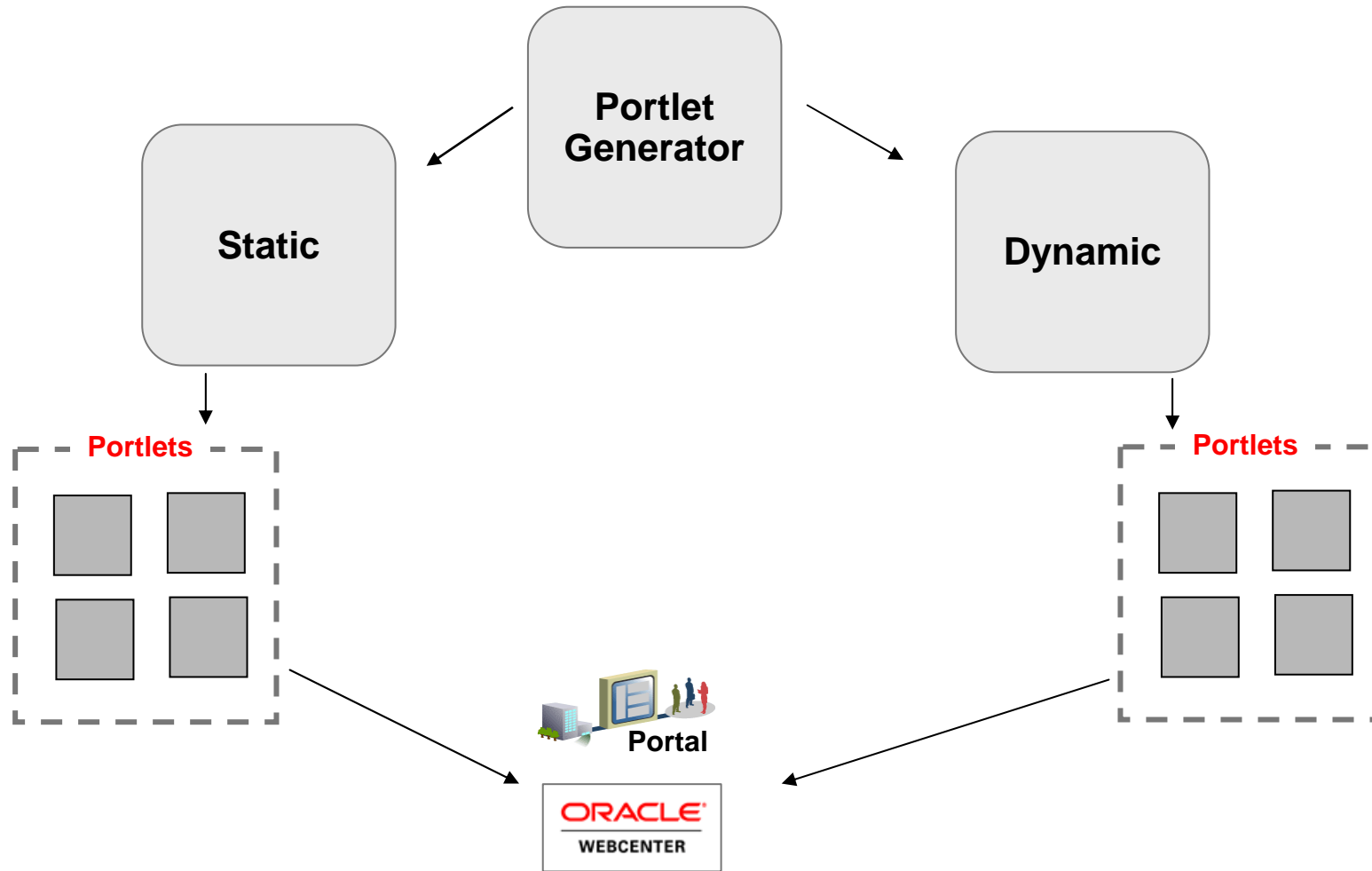
Course Code

[Go](#) [Clear](#)

To view an object and its children, click [View in Hierarchy](#).

Name	Start Date	End Date	Course Code	Primary Category	Offerings	View In Hierarchy
No search conducted.						

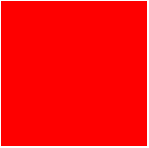
# Portal Strategy





## Portlet Generator – Static

- Allows for introspecting portlets already available in an instance
- Provides a Search and View capability
- Can search for JPDK or WSRP portlets
- Can convert JPDK portlets to WSRP portlets
- UI to introspect OAF Regions in an instance and convert them to portlets



# Demonstration



# Portlet Generator – Dynamic

- Runtime, UI-driven portletization
- Visible UI feedback on the extent to which a region can be portletized
- Regions having a rank of 100% can be portletized at runtime
- Customer-friendly approach as its easy to know how portletizable a page is, and actually portletize if possible



# Demonstration

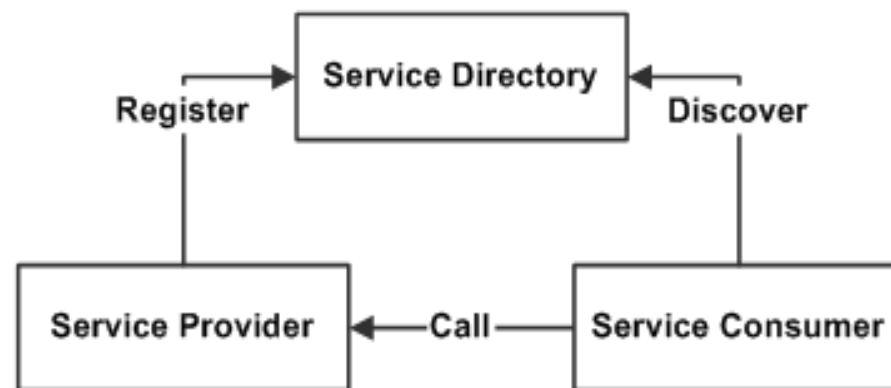


# Service Enablement

# Service Oriented Architecture

## Overview

- Service – A self describing, standalone program, which can be invoked from an external application
- Example: Suppliers can expose a Service that lets Customers get the current status of their purchase order



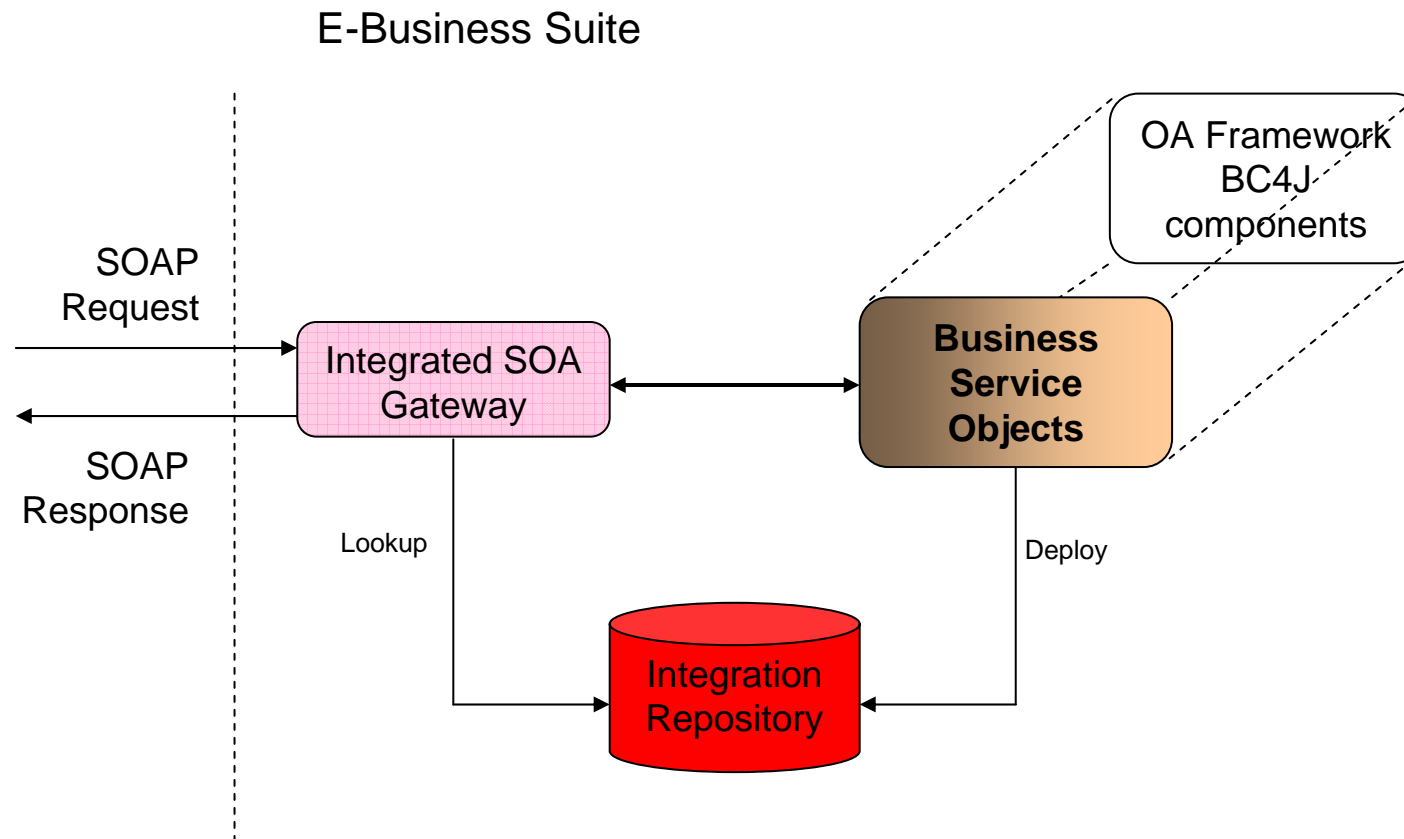


# Business Service Objects

## Overview

- Java and XML-based service-enablement of OA Framework business components
- Layered on top of BC4J components such as application modules and view objects
- Suited for rapid service-enablement of E-Business Suite middle tier
- Exposed to external applications through the Integrated SOA Gateway

# Business Service Objects Architecture





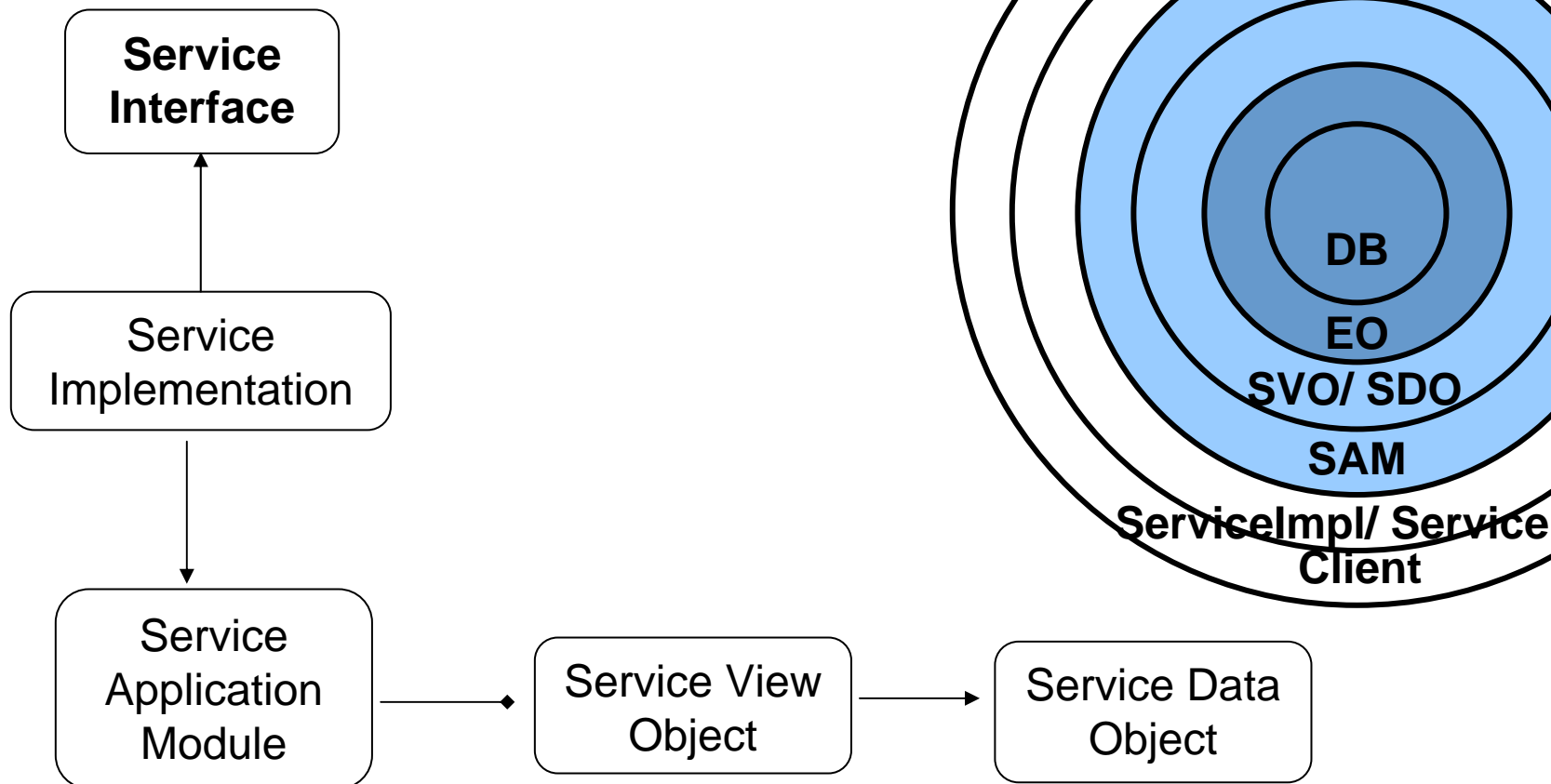
# Business Service Objects

## Architecture

- Integrated SOA Gateway
  - Oracle E-Business Suite SOA Enablement
  - Native Service Enablement
  - Composite Services support
  - Native Service Invocation
  - Native SOA Monitor
- Integration Repository
  - Catalogue of all EBS public integration points
  - Source of truth for customers, consultants and integrators

# Business Service Objects

## Architecture





# Business Service Objects

## Architecture

- High extensibility
- High availability through pooling
- Support for Batch operations
- Consistent with EBS logging and auditing
- Consistent exception handling mechanism



# Business Service Objects

## Development

- Top-down design approach to service enablement
  - Identify the Service interface – the application the service should implement
  - Identify business entities that will participate in the Service
  - Identify public methods that will expose the Service
- Develop using R12.1 OA Extension to JDeveloper
  - Service Application Module wizard
  - Service View Object wizard
  - Business Service Generator



# Business Service Objects

## Development

- For each business entity participating in the service,
  - Create Entity Object(s)
  - Create Service View Object
  - Create Associations and View Links where required
  - Define attributes to be exposed in the Service Data Object
- For each Service interface
  - Create Service Application Module
  - Add SVO instances to the SAM
  - Define the service methods – CRUD and custom methods
  - Implement the methods in the Service implementation class

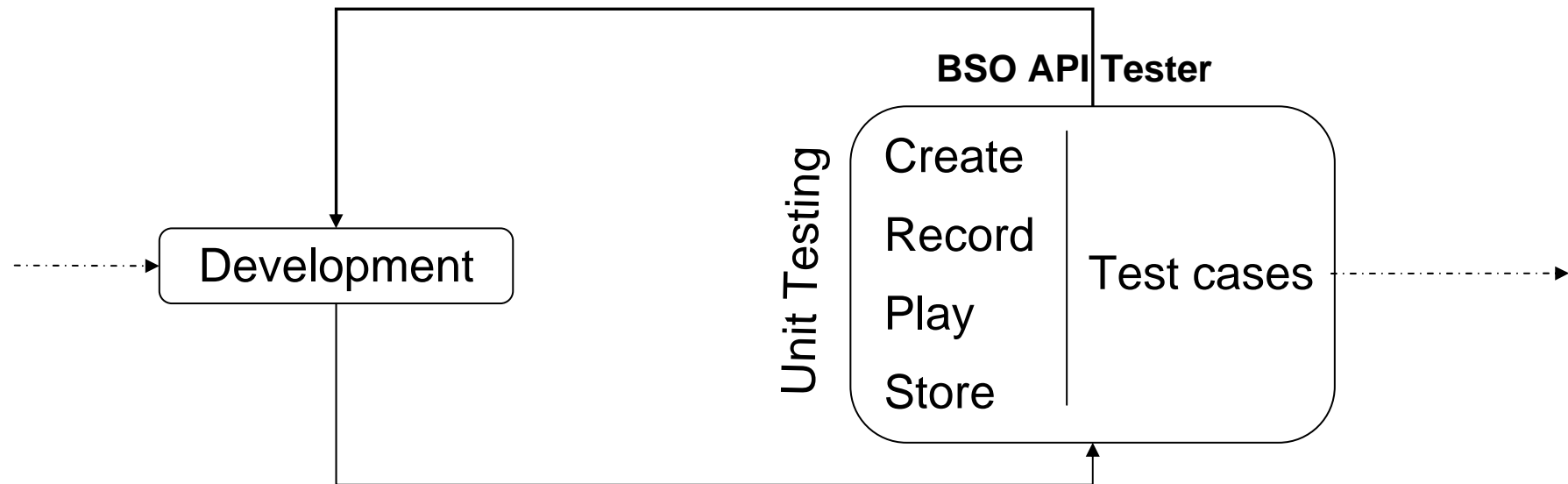


# Demonstration

# Business Service Objects

## Unit Testing – BSO API Tester

- Comprehensive, out-of-the-box unit testing of Business Service Object APIs





# Business Service Objects

## Unit Testing – BSO API Tester

- Features
  - Allows unit testing of service methods
  - Simulates end-to-end services invocation, execution and response
  - Automatically records API tests – XML requests and responses
  - Stores tests as XML scripts
  - Masking – Certain SDO attributes can be removed from output verification
  - Pipelining – Allows attributes of a service response to be sent as input to another service
- Benefits
  - Source control the XML scripts along with code
  - No need to deploy the service before the development cycle ends



# Demonstration



# Business Service Objects

## Deployment

- External deployment methodology
  - Applicable to all external/customer BSOs
  - Create an input file containing the list of Service XMLs (SAM and SVO)
  - Copy the service artifacts to JAVA\_TOP of the target environment
  - Run the Service Deployer tool
    - Creates and deploys the loader files
- Once deployed, the services are visible in the Integration Repository

# Business Service Objects

## Service WSDL Deployment

- Browse the service in the Integration Repository
- Selecting the “*Deploy*” button generates the WSDL

The screenshot displays the Oracle Integration Repository interface. On the left, a navigation tree shows various categories like Business Event, Business Service Object, and Applications Technology. The 'Application Object Library' is selected. The main area shows details for the 'Purchase Order Service' Business Service Object. Key information includes:

- Qualified Name:** /oracle/apps/fnd/framework/toolbox/tutorial/PurchaseOrderService
- Interface:** oracle.apps.fnd.framework.toolbox.tutorial.PurchaseOrderService
- Extends:** oracle.svc.DataProcessorService
- Product:** Application Object Library
- XML Schema:** PurchaseOrderService

The description states: "Approves a list of purchase orders." Under the "Web Service - Web Service Provider" section, the "Deployed WSDL" URL is highlighted with a red circle:

```
http://rws60066rems.us.oracle.com:8012/webservices/AppsWSPProvider/oracle/apps/fnd/framework/toolbox/tutorial/PurchaseOrderService?wsdl
```

Other visible elements include a search bar, a "Redeploy Web Service" button, and a "Source Information" section.



# Business Service Objects

## Security

- Web services security consistent with EBS function security model
- Authentication
  - Secured client access – WS-Security compliant header sent as part of service request
- Authorization
  - Each service method secured through a function
  - Access to service methods granted to users/groups through function grants
- SOAP over HTTPS / SSL for for securing service requests and responses



# Business Service Objects

## Service Invocation

- Any SOAP client or orchestration tool can access the service using the WSDL
  - JDeveloper Proxy
  - Apache AXIS
  - BPEL
- Compatible with SOAP 1.1



# Q&A

QUESTIONS  
ANSWERS

ORACLE®



**ORACLE IS THE INFORMATION COMPANY**