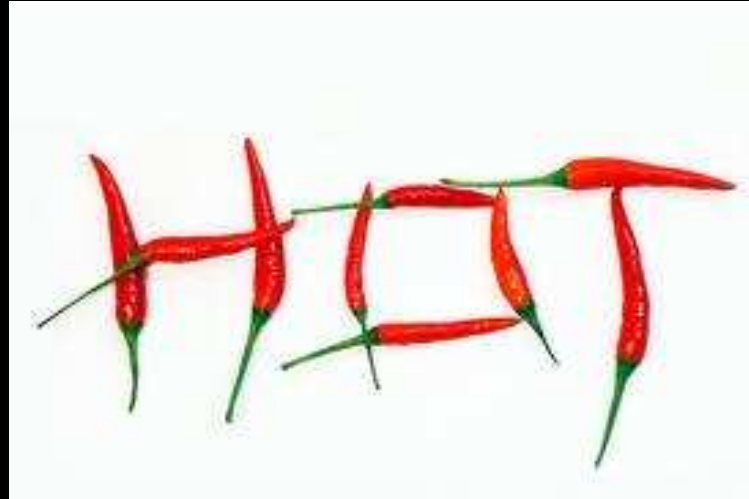


SOA Spice for EBS



**Oracle E-Business Suite (EBS) +
Integrated SOA Gateway (ISG) +
Service Oriented Architecture (SOA)**

Gareth Roberts, March 2013



~~Shell Scripts~~

BPEL

~~FTP~~

OSB (File Adapter)

~~SQL*Loader~~

OSB (Web Service, DB Adapter)

~~Direct Table Access~~

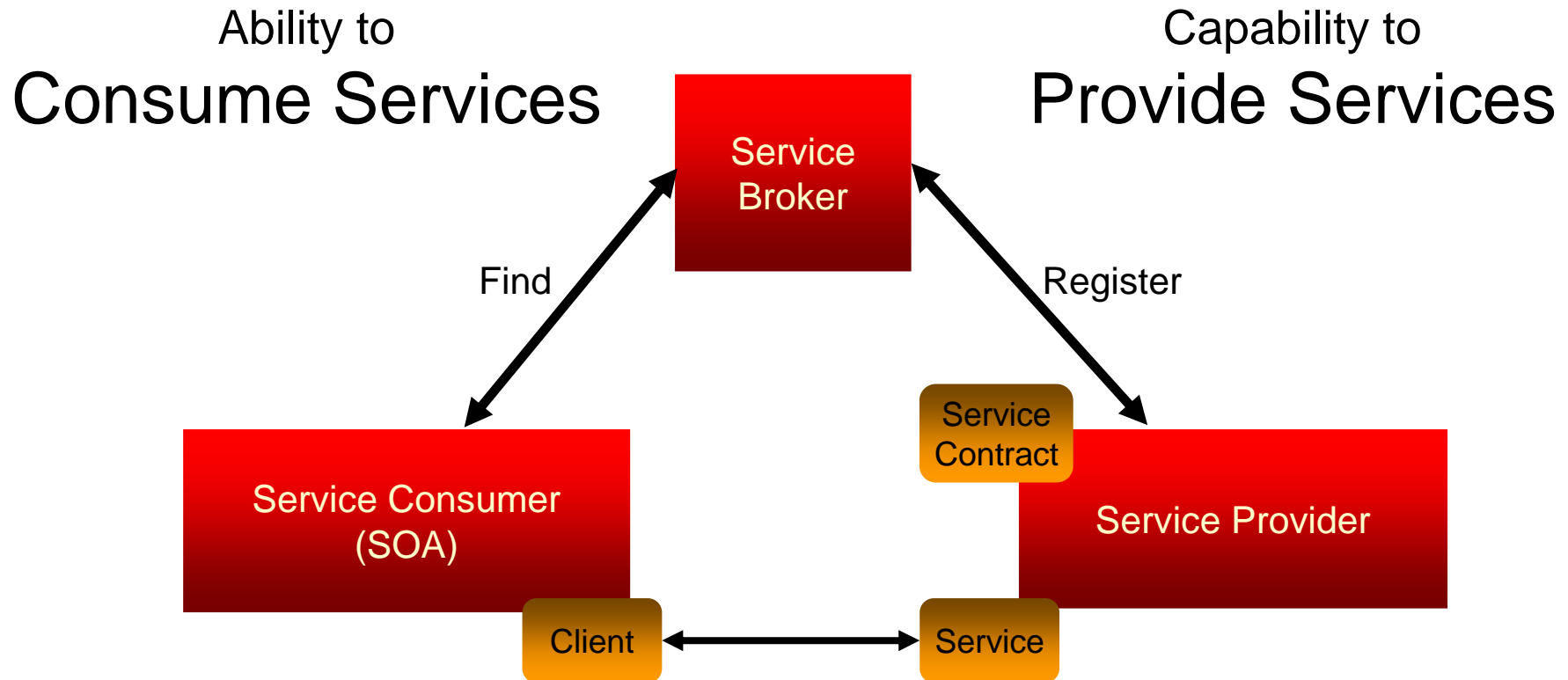
“Service” YES!
Standards YES!

XML, WSDL, BPEL, etc.

Business Process Execution Language, Oracle Service Bus

What is Service Enablement?

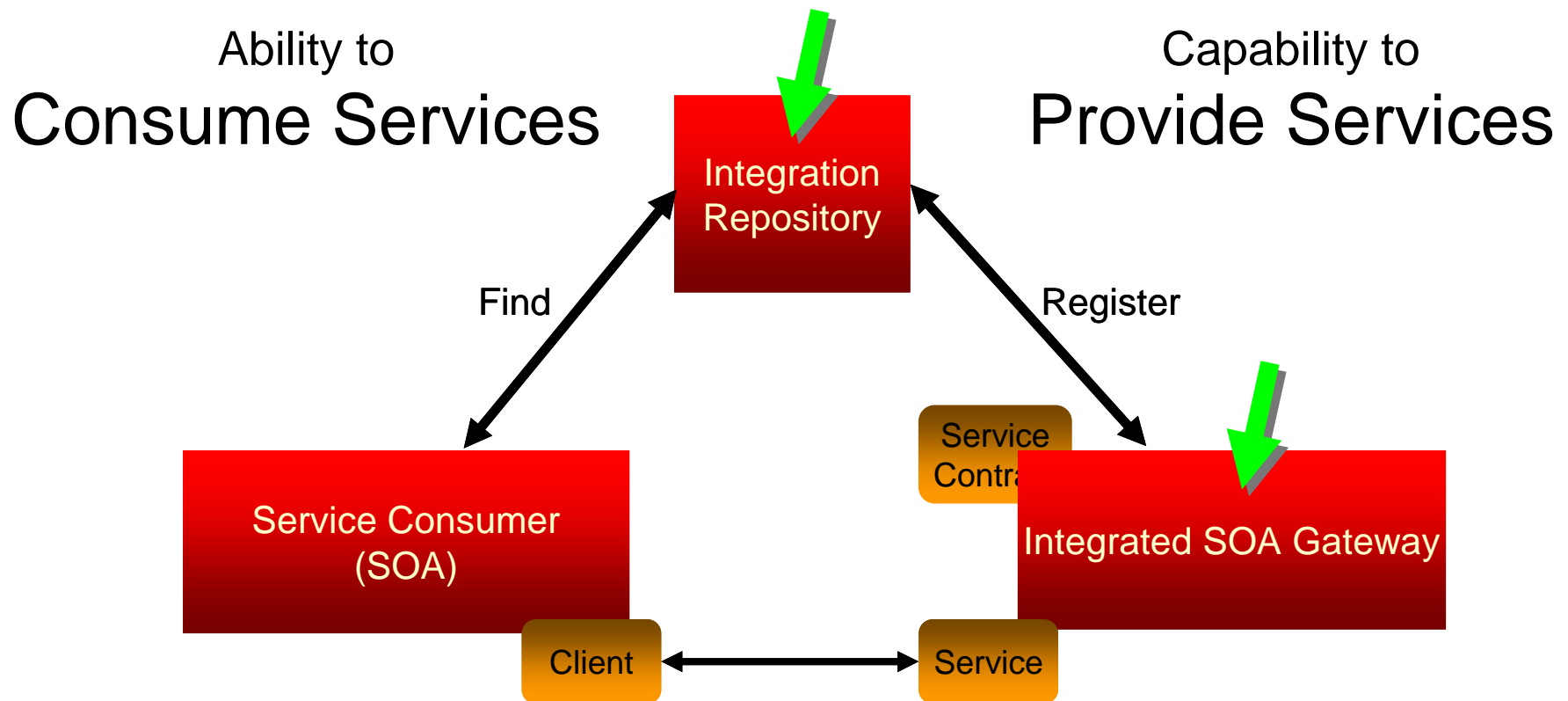
- Abstracted Re-Usable Interfaces
- Standards Based Web Services
- Documented Services & API



Slide credit: Oracle

What is Service Enablement?

- Abstracted Re-Usable Interfaces
- Standards Based Web Services
- Documented Services & API



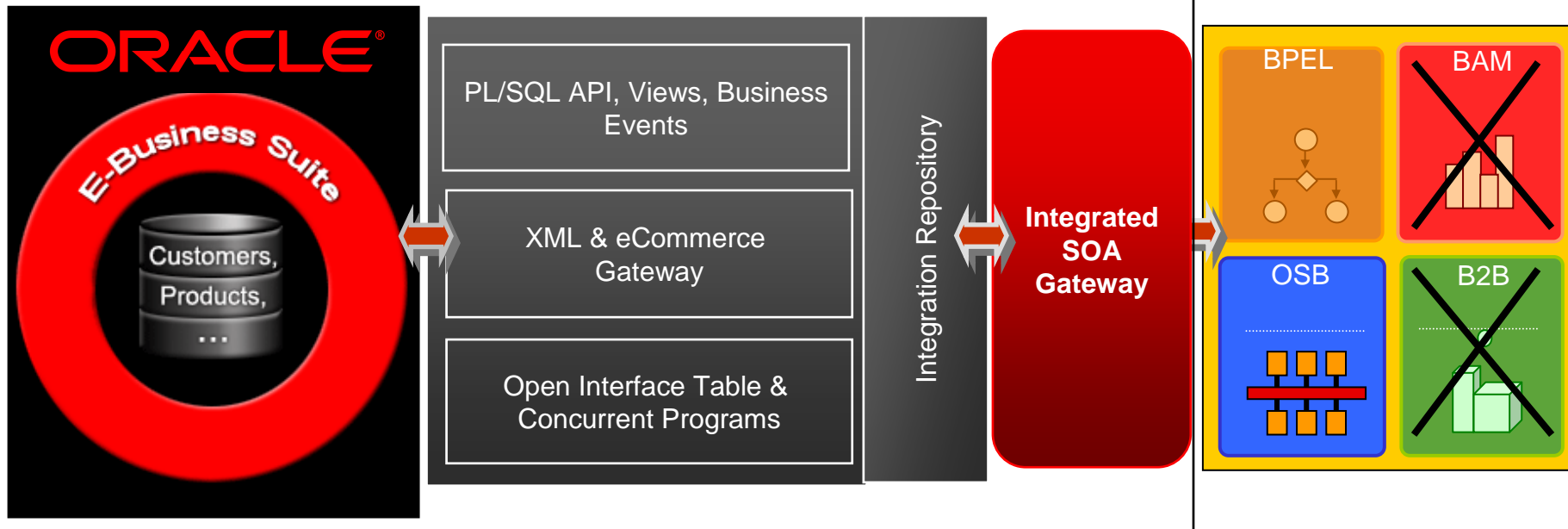
Slide credit: Oracle

E-Business / SOA Solution

Logical Architecture

Oracle E-Business Suite

Oracle SOA Suite



Slide credit: Oracle

Integration Repository (IREP)

- **Catalog** of all Public Interfaces – the single source of truth
- Common User Interface to **Search** and browse E-Business Suite interfaces
- **Embedded** in the EBS schema to leverage standard security
- **Preconfigured** for exposing & administering Interface Points as Web Services
- Source code delivered via standard **Patching** technology



Integrated SOA Gateway (ISG)

Important Features

- **Exposes** E-Business Suite Integration components
 - Interfaces as standard Web Services
- **Built on Integration Repository (IREP)**
 - Exposes only recommended public interfaces
- **Security**
 - Application Context is set
 - Apps Password – No sharing required with FMW
 - Role Based Access Control (RBAC)
- **Standards** based
- Packaged content updated by standard **patch** process



EBS Integration Repository (IREP)

Single Source of Truth for EBS Public Services

- PL/SQL APIs (2650+)
- Open Interface Tables (147+)
- Concurrent Programs (214+)
- XML Gateway (170+)
- eCommerce Gateway (24+)
- Interface Views
- Java
- Web Service

The screenshot displays the Oracle Integration Repository (IREP) interface. On the left, a navigation tree shows the 'Sales Order' folder under 'Order Management Suite'. The main content area is titled 'Process Order API' and includes a search bar and a 'Printable Page' button. The API details are as follows:

Internal Name	OE_ORDER_PUB	Status	Active
Type	PL/SQL	Scope	Public
Owning Product	Order Management		
Business Entity	Sales Order		
MetaLink	Order Management Suite Documentation		
Source File	patch/115/sql/OEXPORDS.pls		
Source Version	115.154.11510.9		
Source Product	ONT		

Description
This public API allows users to perform various operations on sales orders in the Order Management system.

Procedures and Functions

Name	Internal Name	Status	Description
Delete Order	DELETE_ORDER	Active	Use this procedure to delete a sales order in the Order Management system.
Delete Order Line	DELETE_LINE	Active	Use this procedure to delete a sales order line in the Order Management system.
Get Sales Order ID To Value	GET_ORDER_ID_TO_VALUE	Active	Use this procedure to retrieve the information about a Sales Order.
Lock Sales Order	LOCK_ORDER	Active	Use this procedure to lock a sales order in the Order Management System.
Maintain Sales Order	PROCESS_ORDER	Active	Use this procedure to create, update or delete Sales Orders in the Order Management system.
Process Order Header	PROCESS_HEADER	Active	Use this procedure to process the creation, update, or deletion of a sales order header in the Order Management system.
Process Order	PROCESS_LINE	Active	Use this procedure to process the creation, update, and deletion of sales

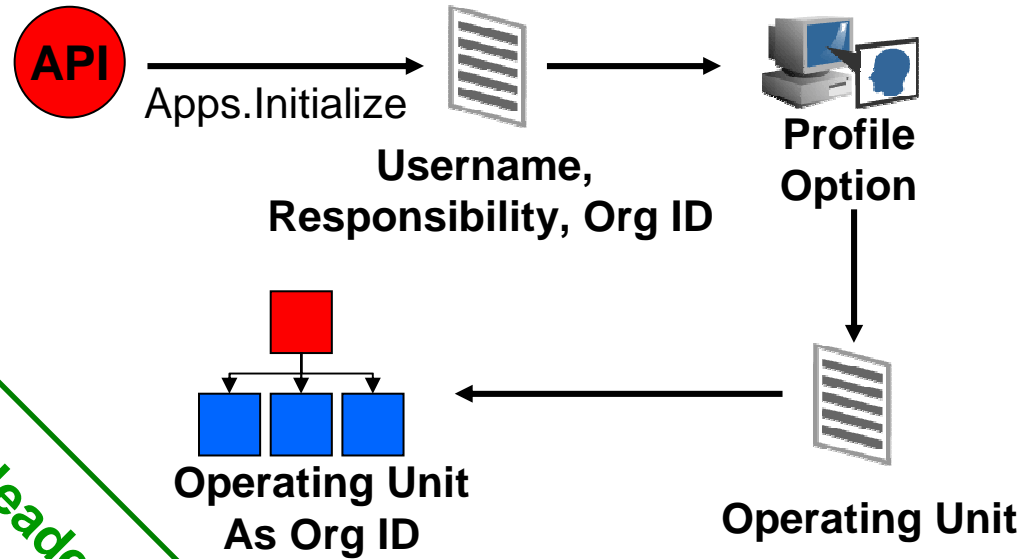


Application Context

Application Context:

- Organization ID
- Username
- Responsibility
- NLS

In SOAP Header for Web Services



EBS Integration Repository Demo



Oracle Applications Home Page

Navigator

Personalize

- ▶ Ak Html Forms
- ▶ Alert Manager, Vision Enterprises
- ▶ Application Developer
- ▶ Application Developer Common Modules
- ▶ Application Diagnostics
- ▶ Auditing Manager
- ▶ Business Intelligence System, Vision Operations (USA)
- ▶ CRM Administrator, Vision Enterprises
- ▶ CRM HTML Administration
- ▶ CRM HTML Developer
- ▶ Custom AOL Workbooks
- ▶ Customer Support, Vision Operations
- ▶ Functional Administrator
- ▶ Functional Developer
- ▶ HRMS Management
- ▶ HRMS Manager, Vision University
- ▶ iMeeting End User responsibility
- ▶ iMeeting Guest user responsibility
- ▶ iMeeting System Configure responsibility
- ▶ iMeeting System Monitor responsibility
- ▶ Install Base Administrator
- ▶ Install Base User
- ▶ **Integrated SOA Gateway**
- ▶ Interaction History JSP Admin
- ▶ iProcurement

Integrated SOA Gateway

▶ [Integration Repository](#)

Administration

▶ [SOA Monitor](#)

▶ [Log](#)

View By Product Family

- Advanced Planning
- Applications Technology
- Contracts Suite
- Discrete Manufacturing
- Financial Globalizations Suite
- Financial Payables Suite
- Financial Receivables Suite
- Financial Services Applications
- Financials
- Human Resources Suite
- Interaction Center
- Marketing Suite
- Marketing and Sales Suite
- Order Management Suite
- Process Manufacturing
- Procurement
- Product Lifecycle Management
- Projects Suite
- Public Sector

Welcome to the Oracle Integration Repository

Search

The Integration Repository is an integral part of Oracle E-Business Suite. It provides a complete catalog of Oracle E-Business Suite's Business Service interfaces. The tool lets users easily discover and deploy the appropriate business service interface from the catalog for integration with any system, application, or business partner.

Search

Browse

Interface Name Internal Name

Product Family Interface Type

Product Business Entity

[+ Show More Search Options](#)

Export						
Name ▲	Internal Name	Product	Type	Source	Status	Description
Profile Management APIs	FND_PROFILE	Application Object Library	PL/SQL	Oracle	Active	APIs to manipulate values stored in client and server user profile caches. Any changes you make to profile option values using these routines affect only the run-time environment.
Profile Table Handler	FND_PROFILE_OPTIONS_PKG	Application Object Library	PL/SQL	Oracle	Active	Table Handler to Insert and Update data into FND_PROFILE_OPTIONS table.
Profile Table Handler	FND_PROFILE_OPTION_VALUES_PKG	Application Object Library	PL/SQL	Oracle	Active	Table Handler to Insert and Update data into FND_PROFILE_OPTION_VALUES table.

Browse

Full Description

APIs to manipulate values stored in client and server user profile caches. Any changes you make to profile option values using these routines affect only the run-time environment. The effect of these settings end when the program ends, because the database session (which holds the profile cache) is terminated.

Web Service - SOA Provider

Web Service Status **Deployed**
WSDL [View WSDL](#)

* Authentication Type Username Token
 SAML Token (Sender Vouches)

[Redeploy](#)

[Undeploy](#)

Source Information

Source File **patch/115/sql/AFPFPROS.pls**
Source Version **120.5.12010000.2**
Source Product **FND**

Procedures and Functions

Select Object and [Create Grant](#)

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

Select	Details	Name ^	Internal Name	Status	Description
<input type="checkbox"/>	+ Show	Get Profile	GET	Active	Gets the current value of the specified user profile option, or NULL if the profile does not exist.
<input type="checkbox"/>	+ Show	Get Profile Value	VALUE	Active	Works exactly like GET, except it returns the value of the specified profile option as a function result.
<input type="checkbox"/>	+ Show	Put Profile	PUT	Active	Puts a value to the specified user profile option.



Browse Search Printable Page

Internal Name **GET**
Interface [FND_PROFILE](#)
Type **PL/SQL**
Business Entity [User Profile](#)

Status **Active**
Scope **Public**

Online Help [See related online help.](#)

Full Description

Gets the current value of the specified user profile option, or NULL if the profile does not exist. All GET operations are satisfied locally. In other words, a GET on the server is satisfied from the server-side cache, and a GET on the client is satisfied from the client-side cache.

Signature

Parameters

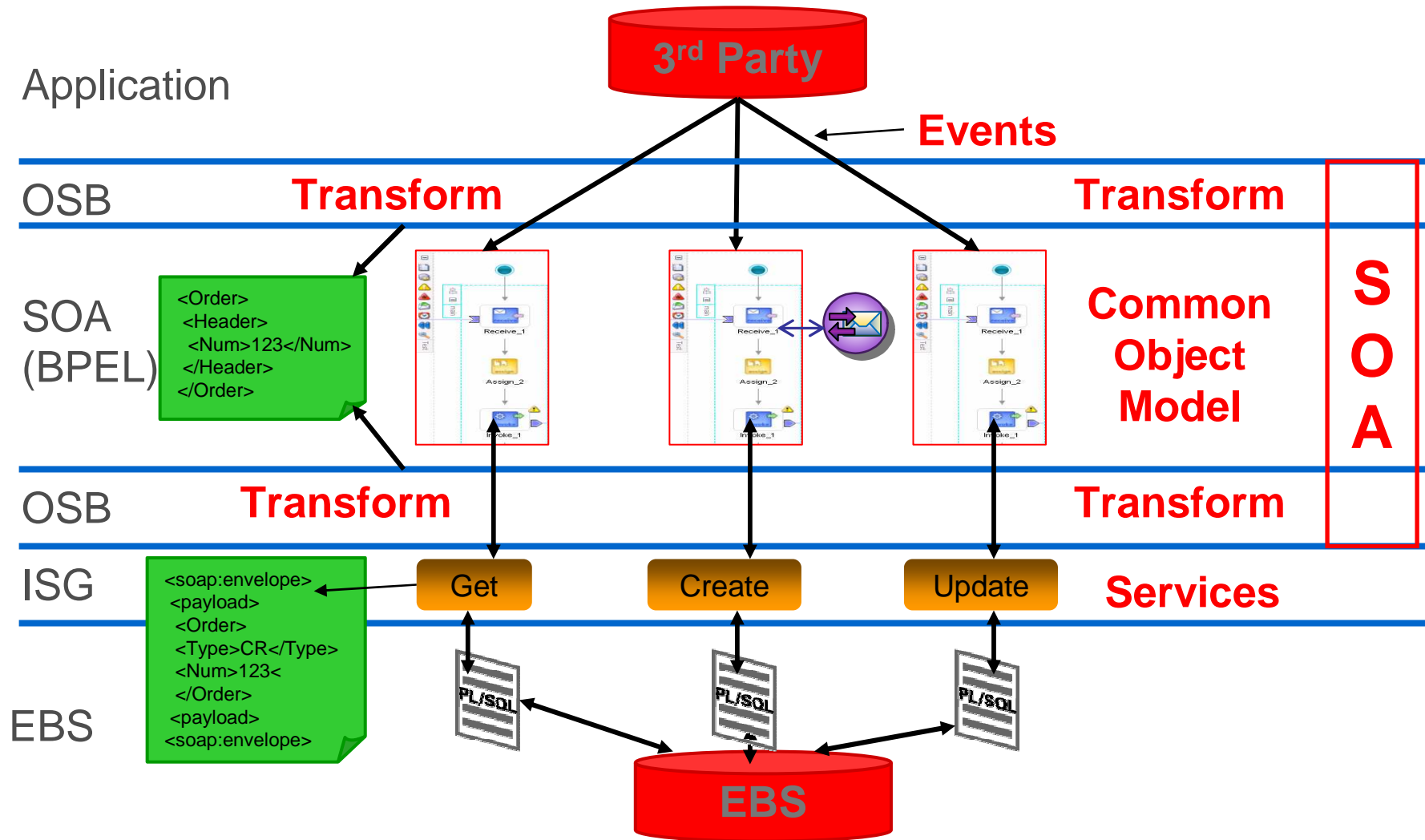
Name	Type	Direction	Precision/Size	Default Value	Description
NAME	VARCHAR2	In			Profile name
VAL	VARCHAR2	Out			Profile value as set by PUT

Browse Search Printable Page

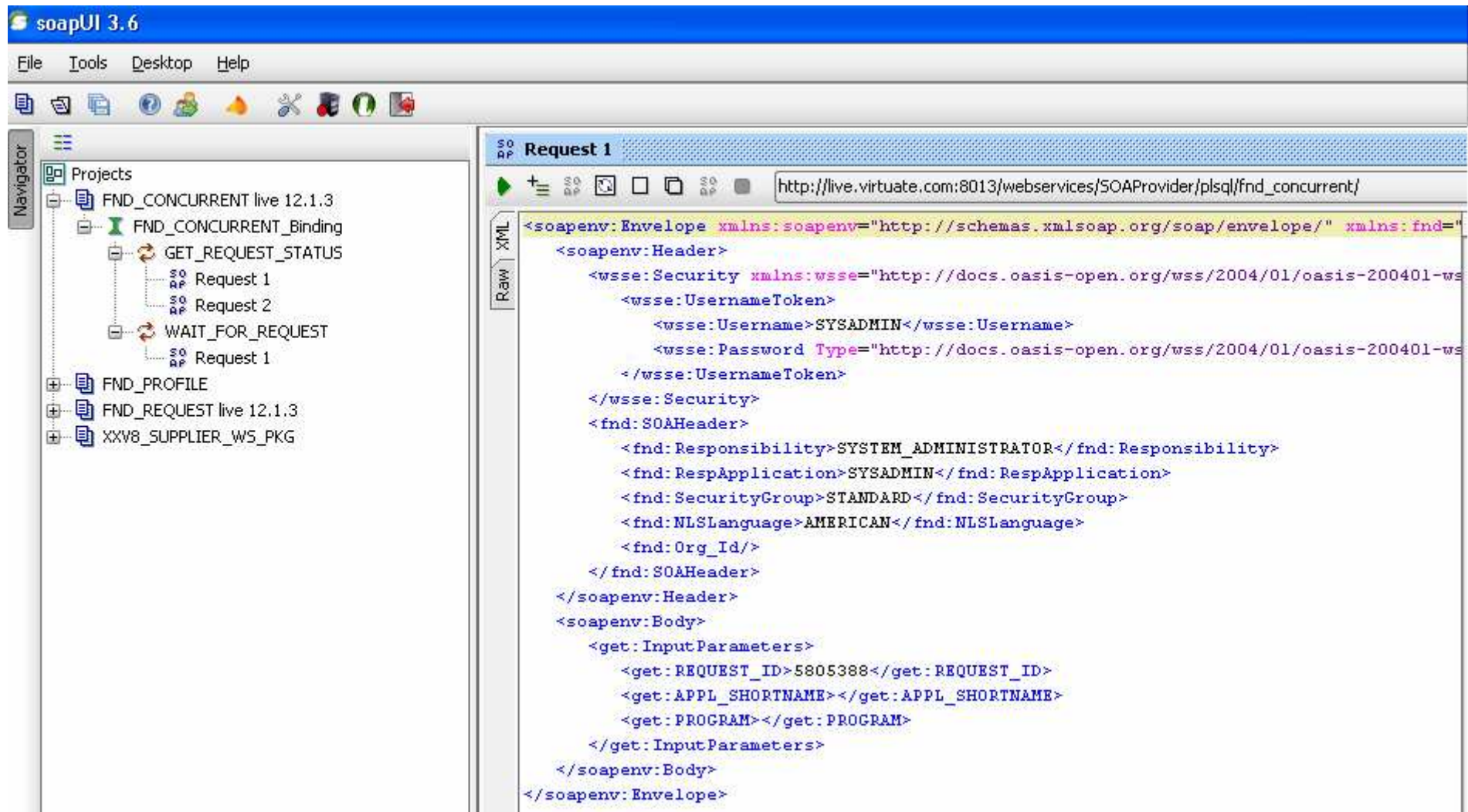


Example - Web Service

Create/Update Service ("Real Time")



SoapUI – The Interface



The screenshot displays the SoapUI 3.6 interface. The top menu bar includes 'File', 'Tools', 'Desktop', and 'Help'. Below the menu is a toolbar with various icons. The left sidebar, labeled 'Navigator', shows a project tree with the following structure:

- Projects
 - FND_CONCURRENT live 12.1.3
 - FND_CONCURRENT_Binding
 - GET_REQUEST_STATUS
 - Request 1
 - Request 2
 - WAIT_FOR_REQUEST
 - Request 1
 - FND_PROFILE
 - FND_REQUEST live 12.1.3
 - XXV8_SUPPLIER_WS_PKG

The main workspace is titled 'Request 1' and shows the URL: `http://live.virtuate.com:8013/webservices/SOAPProvider/plsql/fnd_concurrent/`. The XML view shows the following SOAP request:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:fnd="http://schemas.oracle.com/apex/webservices/xmlsoa/fnd">
  <soapenv:Header>
    <wsse:Security xmlns:wsse="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-security-wsrf#">
      <wsse:UsernameToken>
        <wsse:Username>SYSADMIN</wsse:Username>
        <wsse:Password Type="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-security-wsrf#">
          </wsse:Password>
        </wsse:UsernameToken>
      </wsse:Security>
    <fnd:SOAHeader>
      <fnd:Responsibility>SYSTEM_ADMINISTRATOR</fnd:Responsibility>
      <fnd:RespApplication>SYSADMIN</fnd:RespApplication>
      <fnd:SecurityGroup>STANDARD</fnd:SecurityGroup>
      <fnd:NLSLanguage>AMERICAN</fnd:NLSLanguage>
      <fnd:Org_Id/>
    </fnd:SOAHeader>
  </soapenv:Header>
  <soapenv:Body>
    <get:InputParameters>
      <get:REQUEST_ID>5805388</get:REQUEST_ID>
      <get:APPL_SHORTNAME></get:APPL_SHORTNAME>
      <get:PROGRAM></get:PROGRAM>
    </get:InputParameters>
  </soapenv:Body>
</soapenv:Envelope>
```

SoapUI Demo



Discussion Points...

- Incompatibility of EBS PL/SQL APIs due to session state
- Lack of “Get” and inconsistent standards
- Lack of “Update” and inconsistent standards
- Cloning considerations
- Speed ??? Patch to remove superfluous XML tags
- Synchronous vs Asynchronous - ISG “is” synchronous
- Poll or Business Events?
- Mapping ... EBS to Web Service Params to SOA Model to Target (and vv.) ... 3 mappings???
- Coarse or fine grained web services ... Composites?
- Security (Applications Context + Username / Password) ???



~~Shell Scripts~~

BPEL

~~FTP~~

OSB (File Adapter)

~~SQL*Loader~~

OSB (Web Service, DB Adapter)

~~Direct Table Access~~

“Service” YES!
Standards YES!

XML, WSDL, BPEL, etc.

Business Process Execution Language, Oracle Service Bus

We've been there.



**Talk to us,
we'll help you decide.**

