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Oracle E-Business Suite SOA Implementation:
Customer Success Story


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Presentation Agenda

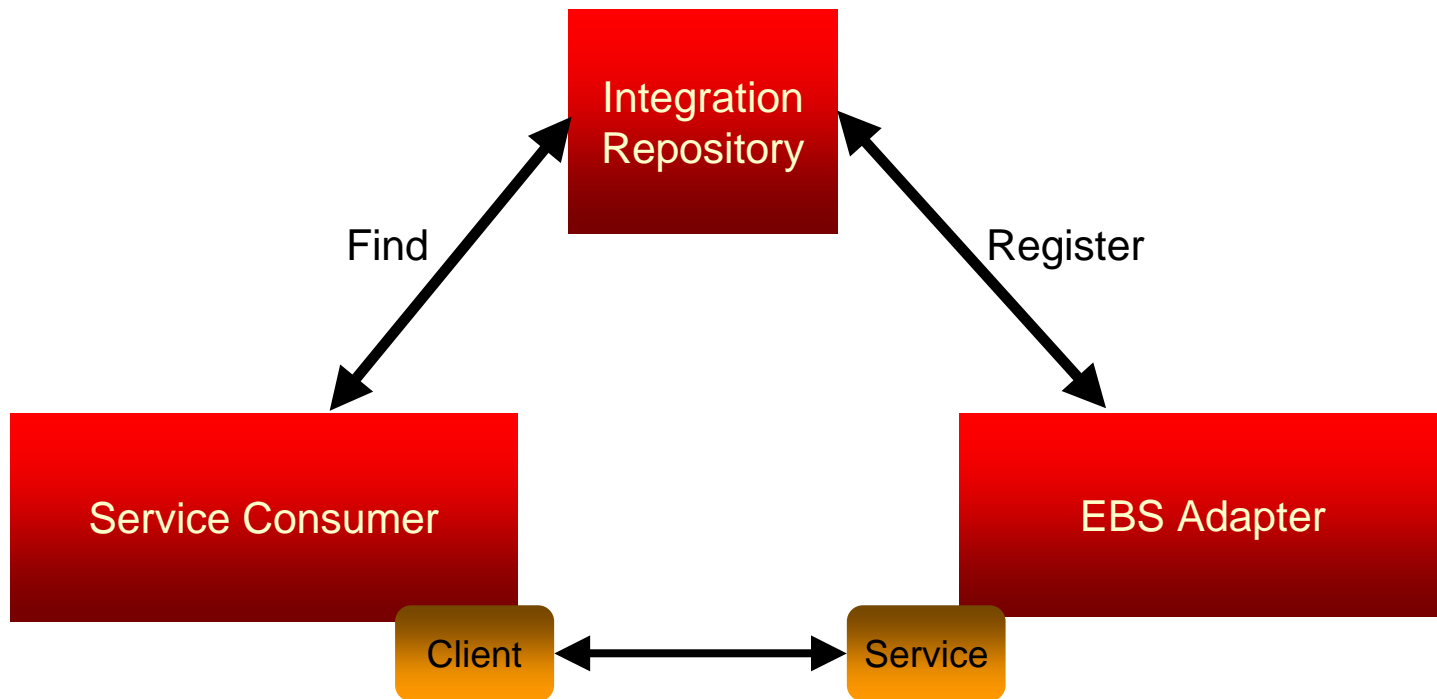
- SOA Principles Of Oracle E-Business Suite
- Key Features Of Oracle EBS Adapter
- Leveraging SOA Suite
- **SLA / KPI Monitoring Demo**
- Forsythe Technology – Success Story
- **PO Automation Demo**
- Customer Benefits
- Q & A



SOA Principles

Oracle E-Business Suite

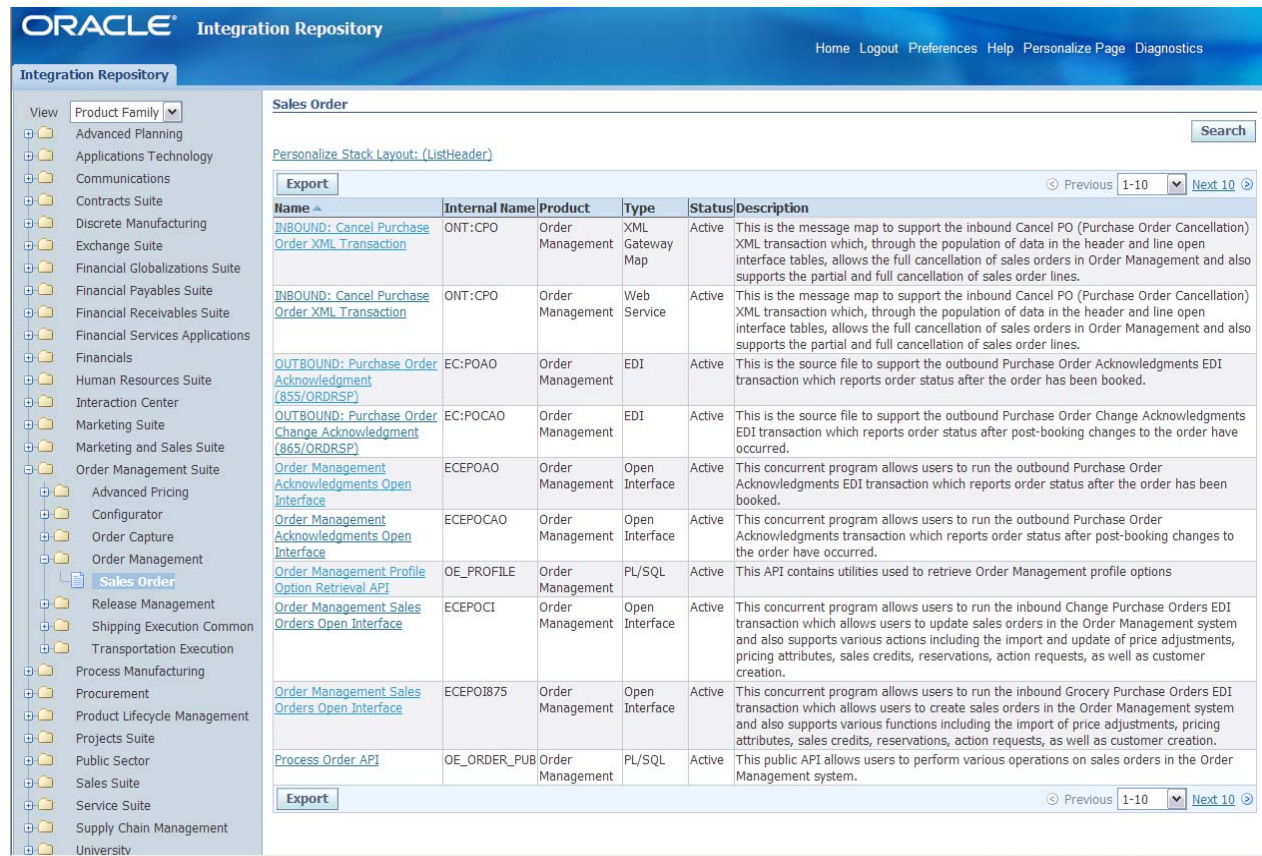
SOA Concept	Oracle E-Business Suite SOA
Service Broker: Describe Service's Location	Integration Repository
Service Provider: An agent to implement a service	Oracle E-Business Suite Adapter



Integration Repository

Source of truth

- An integral part of Oracle E-Business Suite
- Catalog of all public integration interfaces
- Oracle EBS Adapter introspects the public interfaces to expose them as web services

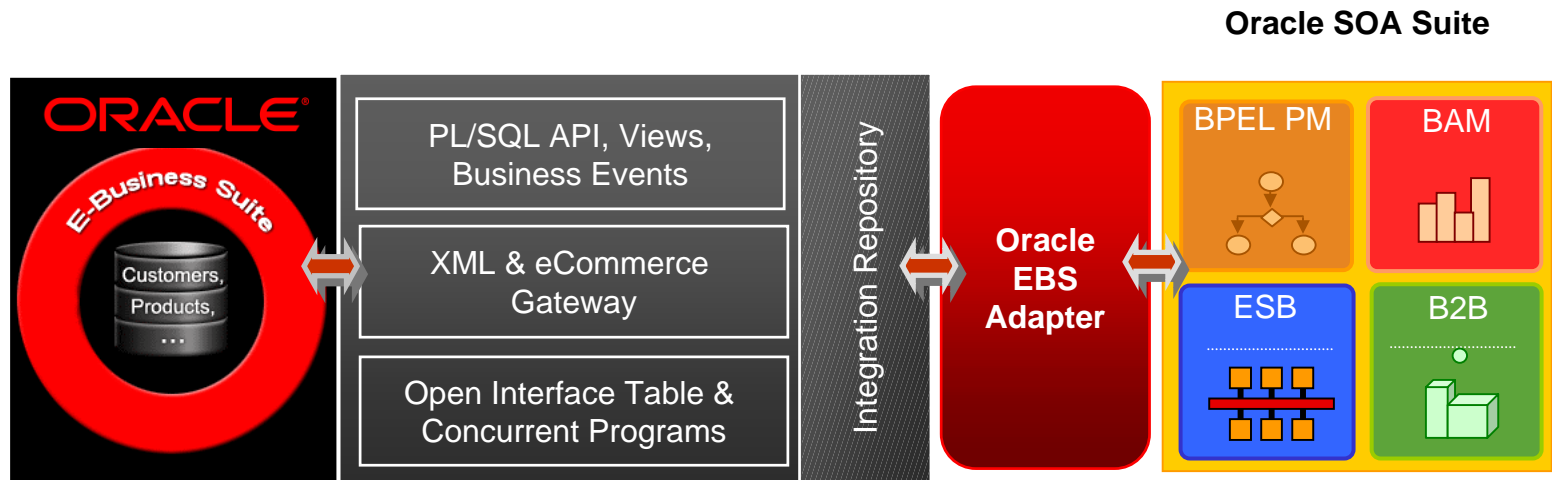


The screenshot displays the Oracle Integration Repository interface. The left sidebar shows a tree view of product families, with 'Sales Order' selected under the 'Order Management Suite'. The main content area shows a table of integration interfaces for 'Sales Order'. The table has columns for Name, Internal Name, Product, Type, Status, and Description. The interfaces listed include inbound and outbound XML transactions, EDI source files, and various open interfaces and APIs.

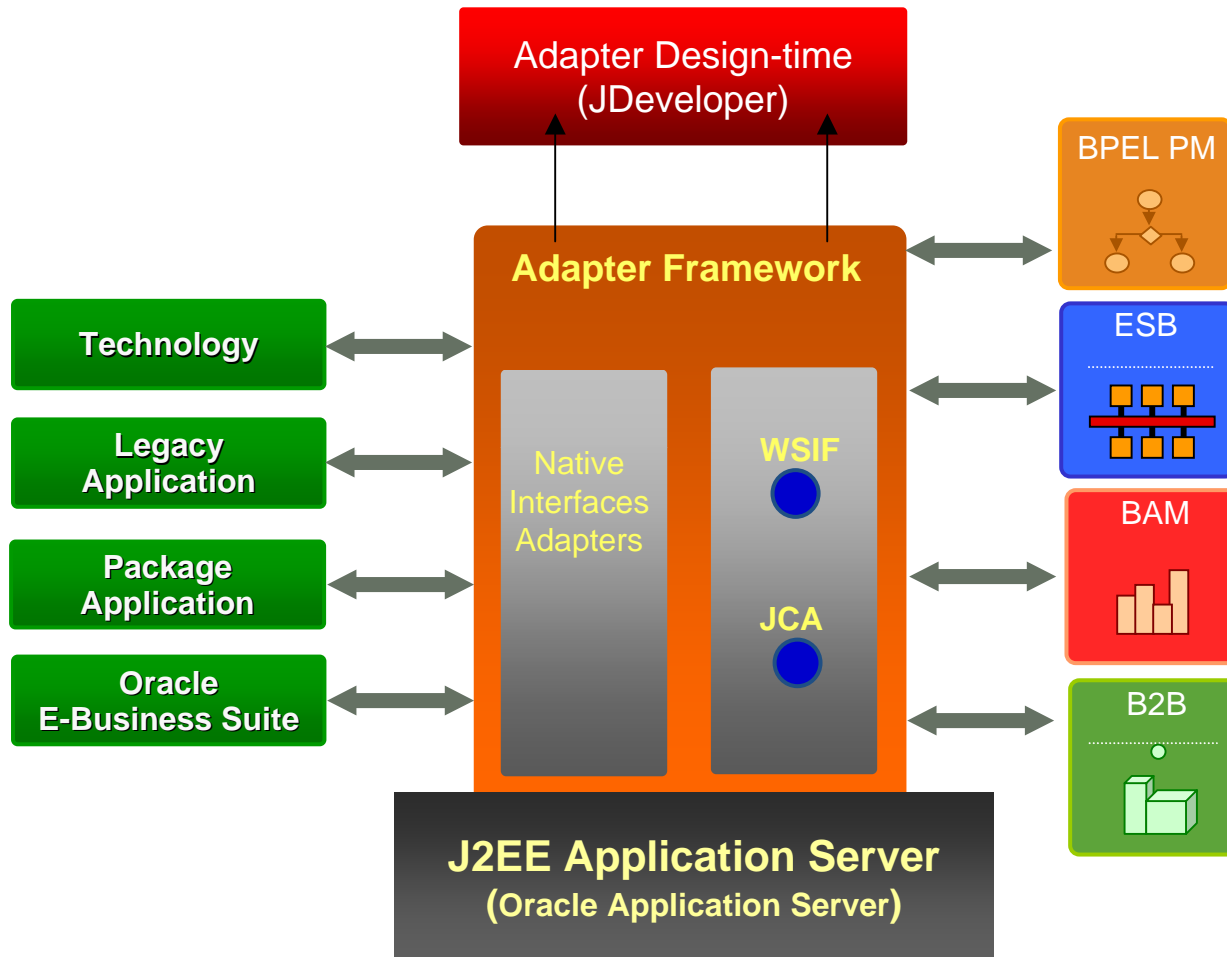
Name	Internal Name	Product	Type	Status	Description
INBOUND: Cancel Purchase Order XML Transaction	ONT:CPO	Order Management	XML Gateway Map	Active	This is the message map to support the inbound Cancel PO (Purchase Order Cancellation) XML transaction which, through the population of data in the header and line open interface tables, allows the full cancellation of sales orders in Order Management and also supports the partial and full cancellation of sales order lines.
INBOUND: Cancel Purchase Order XML Transaction	ONT:CPO	Order Management	Web Service	Active	This is the message map to support the inbound Cancel PO (Purchase Order Cancellation) XML transaction which, through the population of data in the header and line open interface tables, allows the full cancellation of sales orders in Order Management and also supports the partial and full cancellation of sales order lines.
OUTBOUND: Purchase Order Acknowledgment (855/ORDRSP)	EC:POAO	Order Management	EDI	Active	This is the source file to support the outbound Purchase Order Acknowledgments EDI transaction which reports order status after the order has been booked.
OUTBOUND: Purchase Order Change Acknowledgment (865/ORDRSP)	EC:FOCAO	Order Management	EDI	Active	This is the source file to support the outbound Purchase Order Change Acknowledgments EDI transaction which reports order status after post-booking changes to the order have occurred.
Order Management Acknowledgments Open Interface	ECEPOAO	Order Management	Open Interface	Active	This concurrent program allows users to run the outbound Purchase Order Acknowledgments EDI transaction which reports order status after the order has been booked.
Order Management Acknowledgments Open Interface	ECEPOCAO	Order Management	Open Interface	Active	This concurrent program allows users to run the outbound Purchase Order Acknowledgments transaction which reports order status after post-booking changes to the order have occurred.
Order Management Profile Option Retrieval API	OE_PROFILE	Order Management	PL/SQL	Active	This API contains utilities used to retrieve Order Management profile options
Order Management Sales Orders Open Interface	ECEPOCI	Order Management	Open Interface	Active	This concurrent program allows users to run the inbound Change Purchase Orders EDI transaction which allows users to update sales orders in the Order Management system and also supports various actions including the import of price adjustments, pricing attributes, sales credits, reservations, action requests, as well as customer creation.
Order Management Sales Orders Open Interface	ECEPOB75	Order Management	Open Interface	Active	This concurrent program allows users to run the inbound Grocery Purchase Orders EDI transaction which allows users to create sales orders in the Order Management system and also supports various functions including the import of price adjustments, pricing attributes, sales credits, reservations, action requests, as well as customer creation.
Process Order API	OE_ORDER_PUB	Order Management	PL/SQL	Active	This public API allows users to perform various operations on sales orders in the Order Management system.

Oracle E-Business Suite Adapter

Schematic Architecture

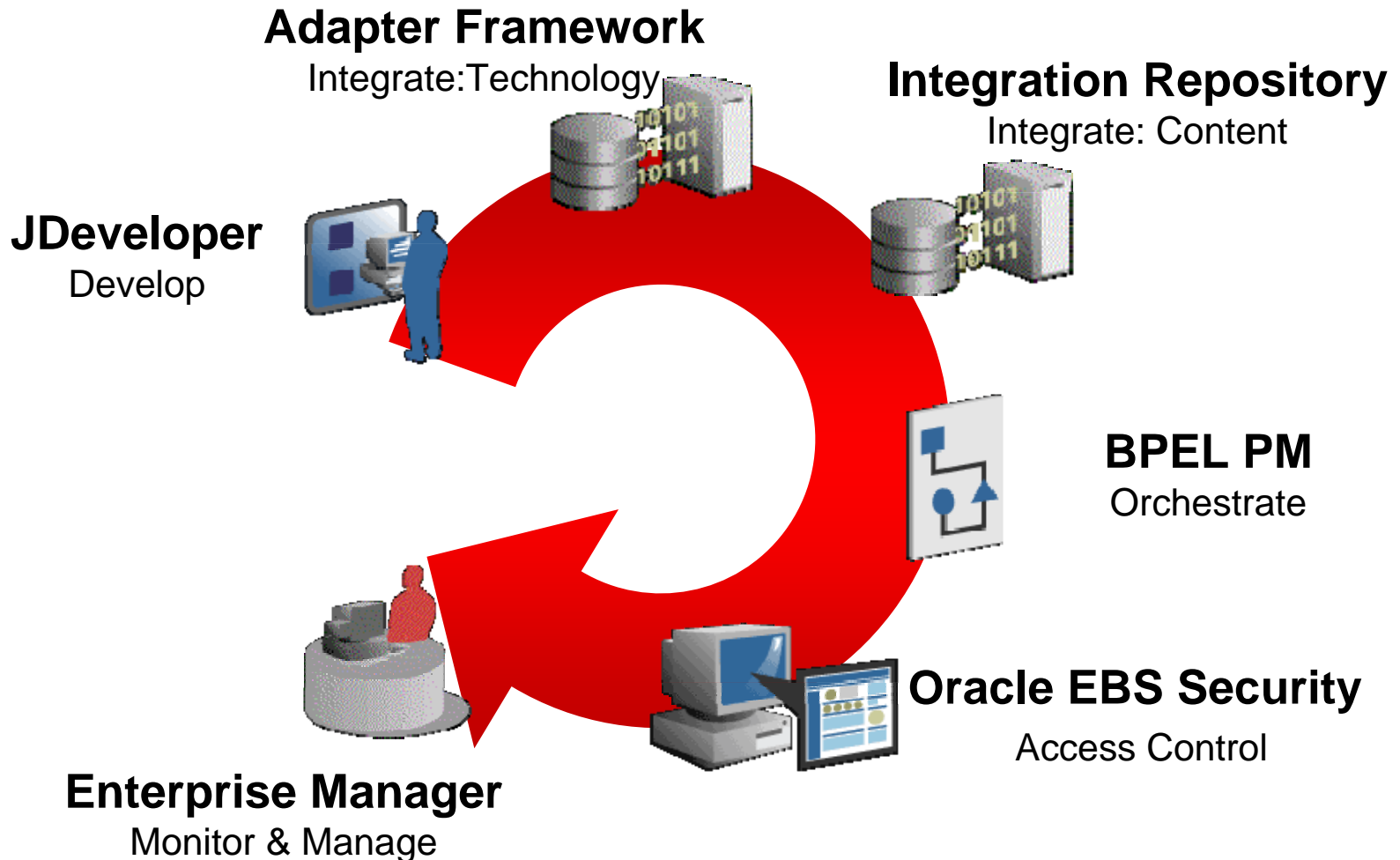


Oracle Adapter Framework



Service Oriented Architecture

Oracle E-Business Suite Adapter – Life Cycle



Oracle E-Business Suite Adapter

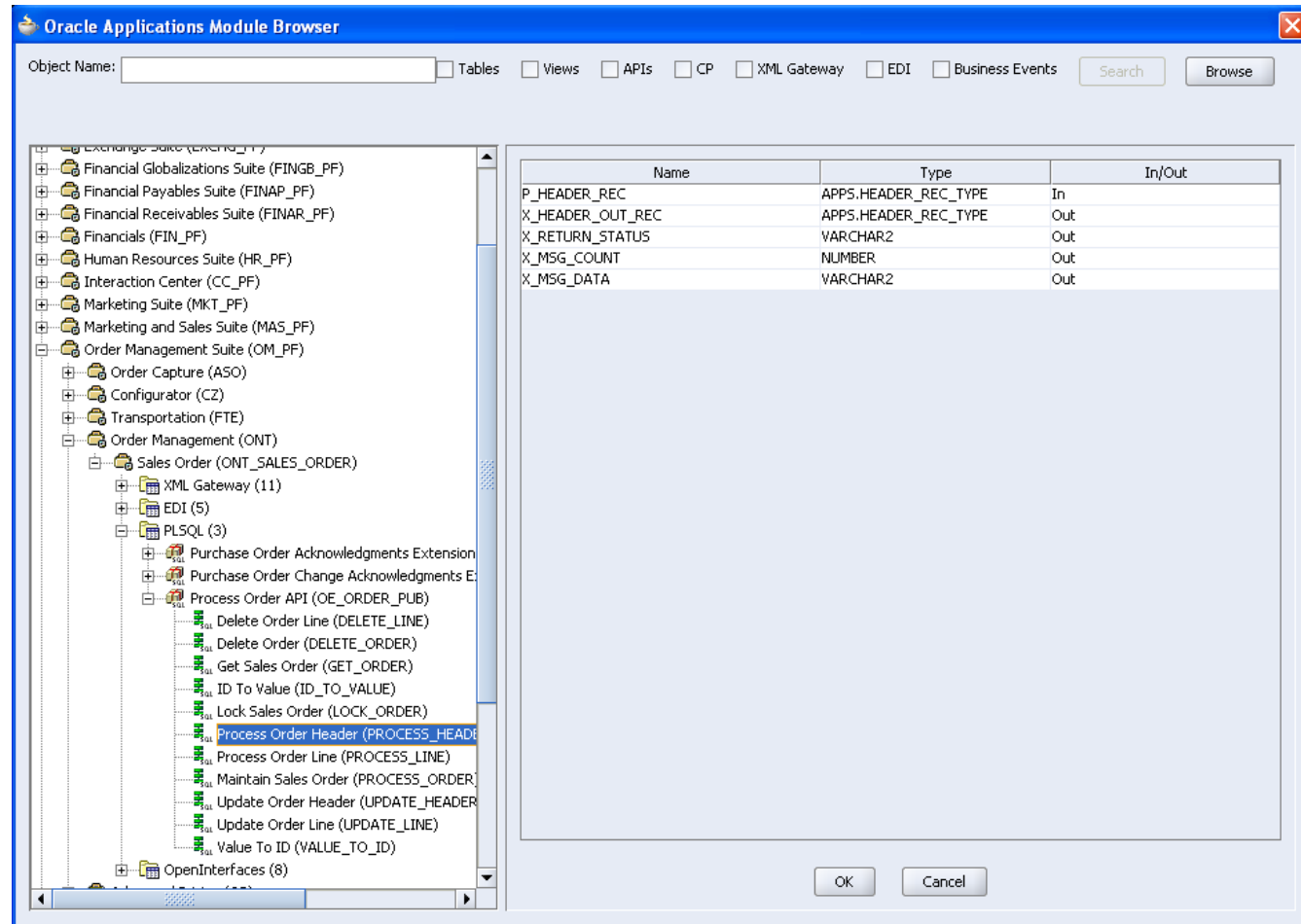
Key Features

- Leverages Integration Repository
- Supports widest range of interfaces
- Secured and Trusted Connection
- Functional Security Enabled
- Application Context Ready
- Transaction Support
- Supports Multiple Oracle EBS versions

Oracle E-Business Suite Adapter

Leverages Integration Repository

- Version aware design-time
- Content Meta Data File
- Packaged with Adapter for 11.i.10
- Live Connection and Cache in R12



Oracle E-Business Suite Adapter

Widest Range of Integration Interfaces

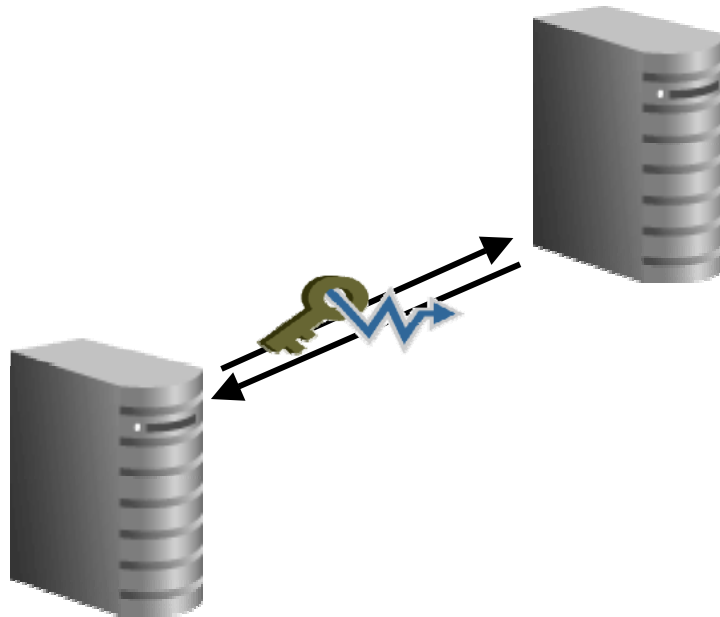
- PL/SQL APIs
- Business Events
- Open Interface Tables
- Concurrent Programs
- XML Messages
- eCommerce Gateway Messages
- Interface Views

- More than **2500+** integration points...

Oracle E-Business Suite Adapter

Secured and Trusted Connection

Oracle Fusion Middleware



Oracle E-Business Suite

- FND Username / Password works
- APPS Schema name / Password not required
- FMW, a trusted client
- Connection Managed by the EM

Oracle E-Business Suite Adapter

Function Security Enabled

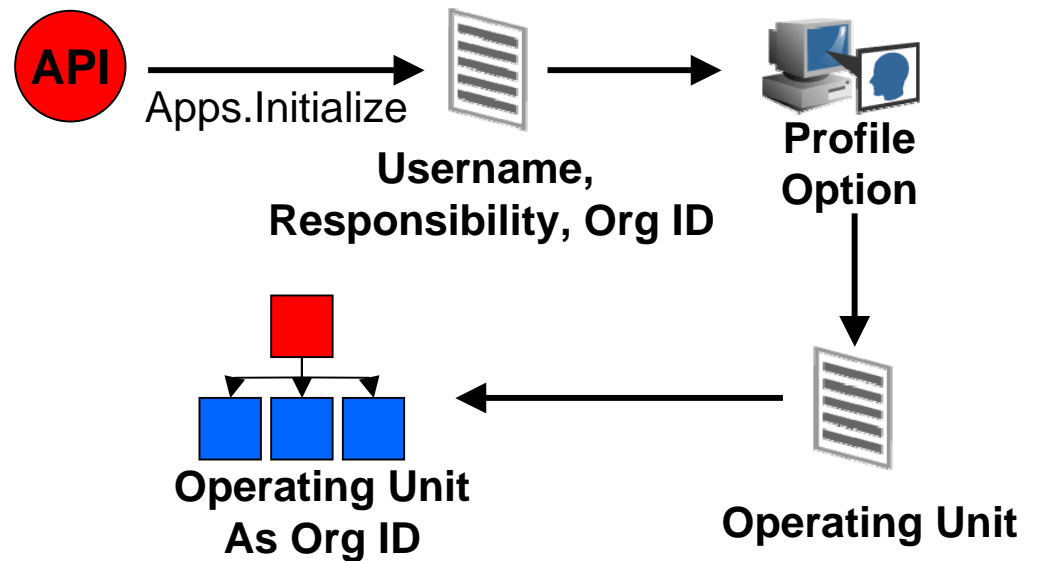
Function Security is the authorization mechanism used in Oracle E-Business Suite to restricts user access to individual menus and menu options

- Enforces User Authorization for execution
- Implemented for EBS R12 as well as EBS 11i10
- Profile Option EBS ADAPTER FUNCTION SEC ENABLED
 - By Default it will be set to N
 - To implement Function Security set to Y
- Available via Metalink Note: 464164.1

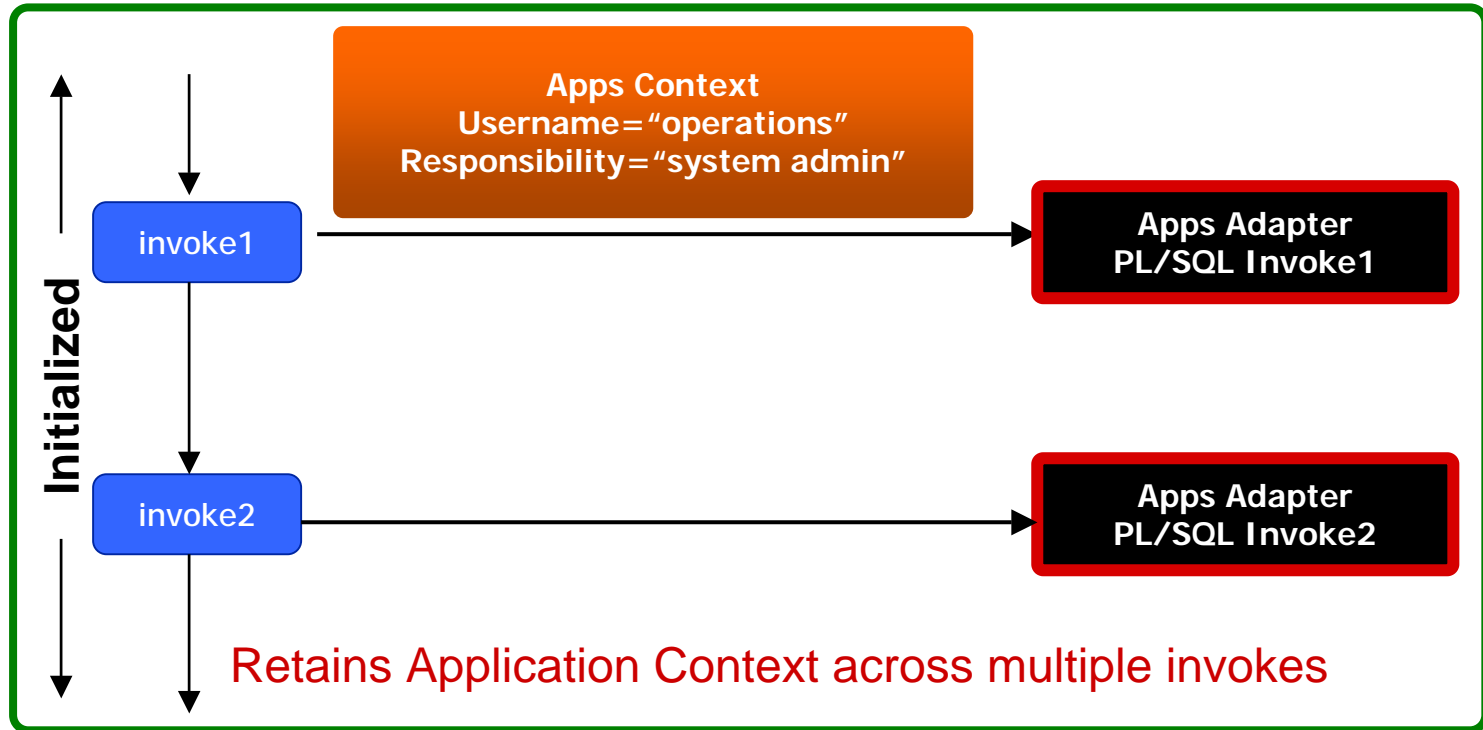
Application Context

Application Context:

- Organization ID
- Username
- Responsibility
- NLS

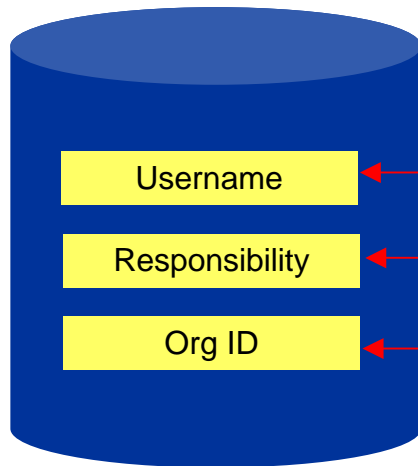


Passing the Application Context

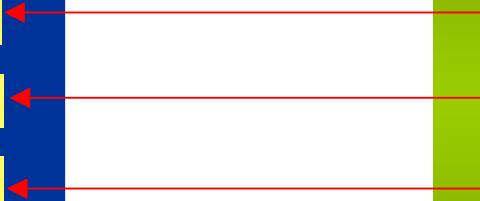
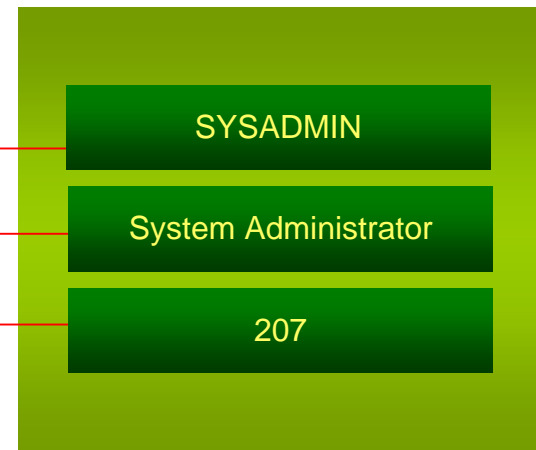


Multi-Org support in R12.0

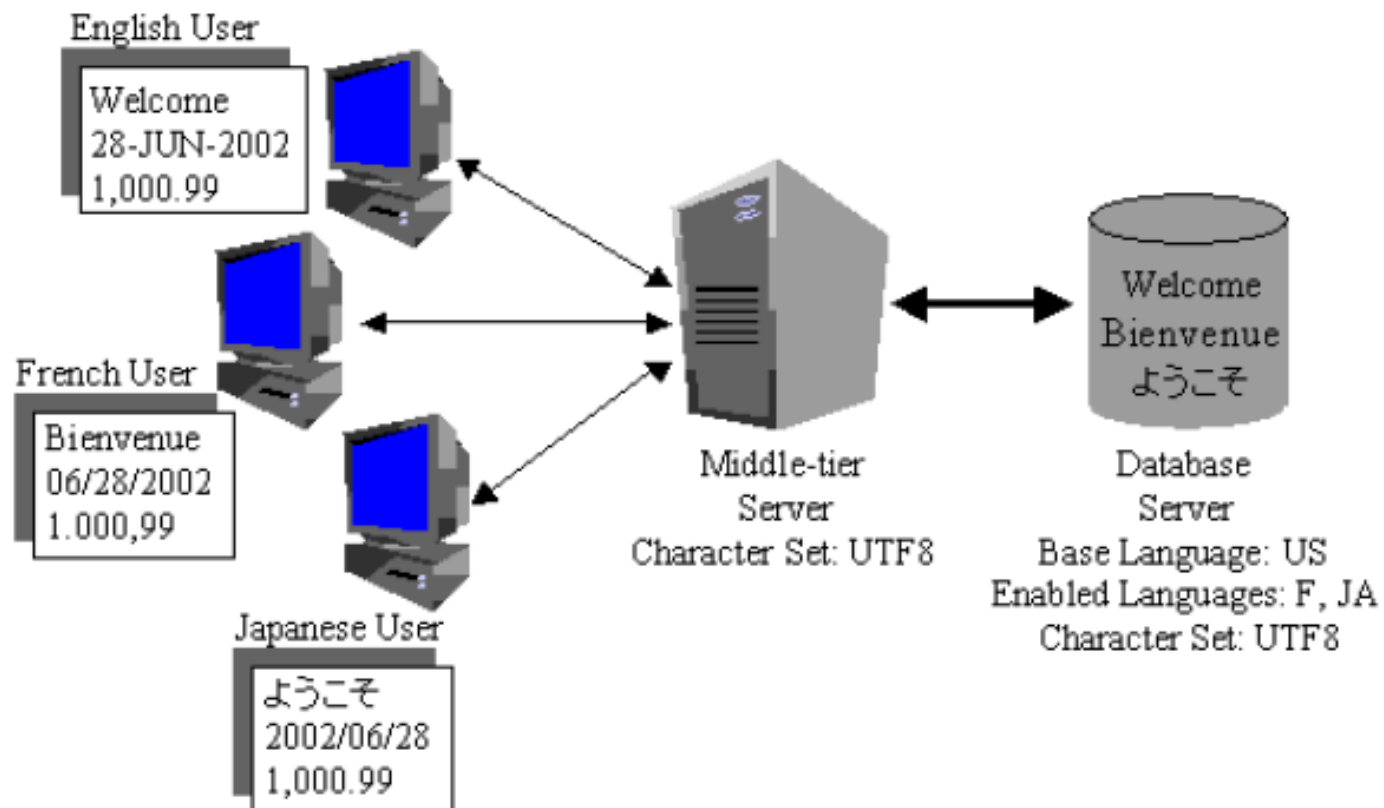
Header Variables



Assign Values

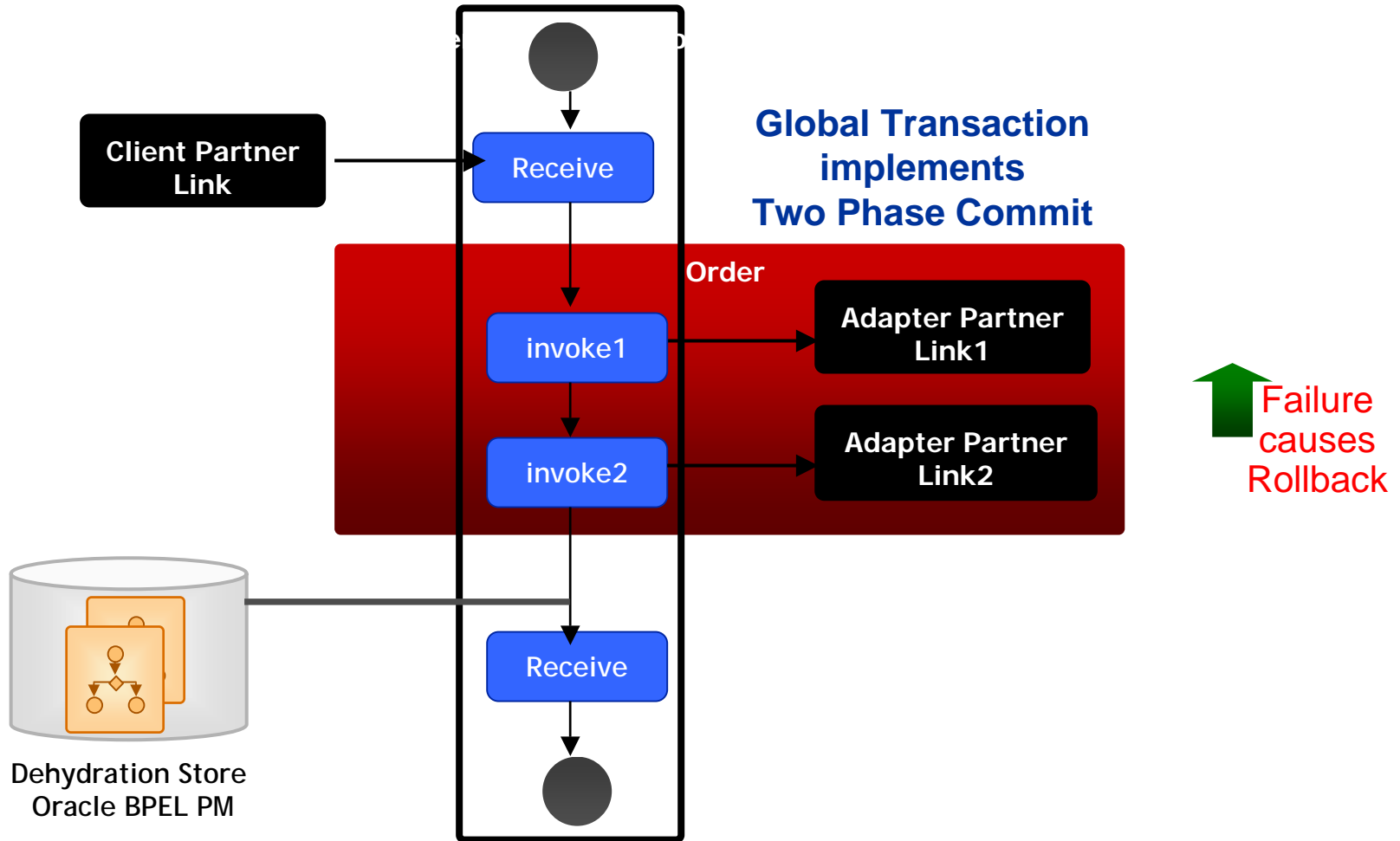


Support for NLS



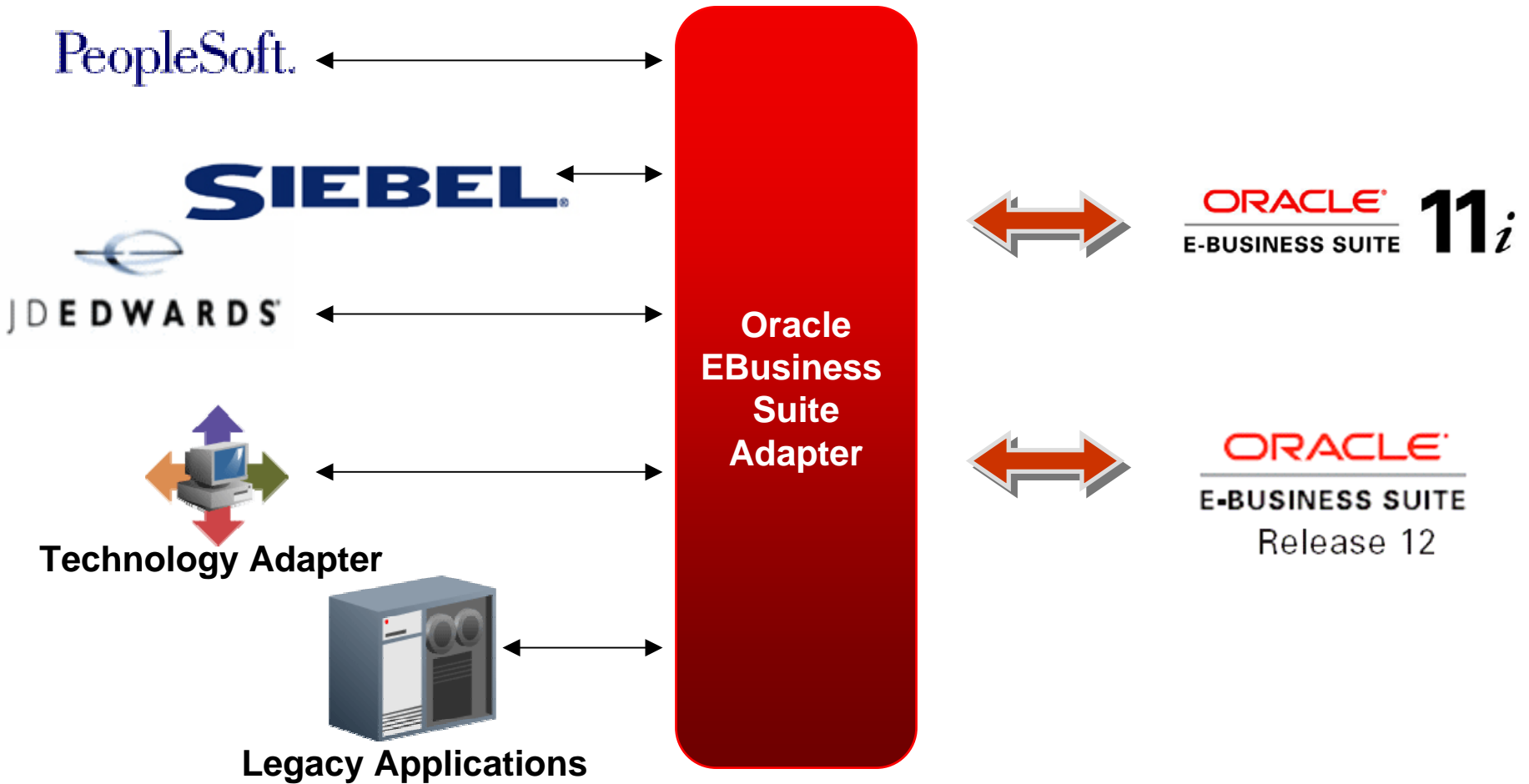
Oracle E-Business Suite Adapter

Global Transaction



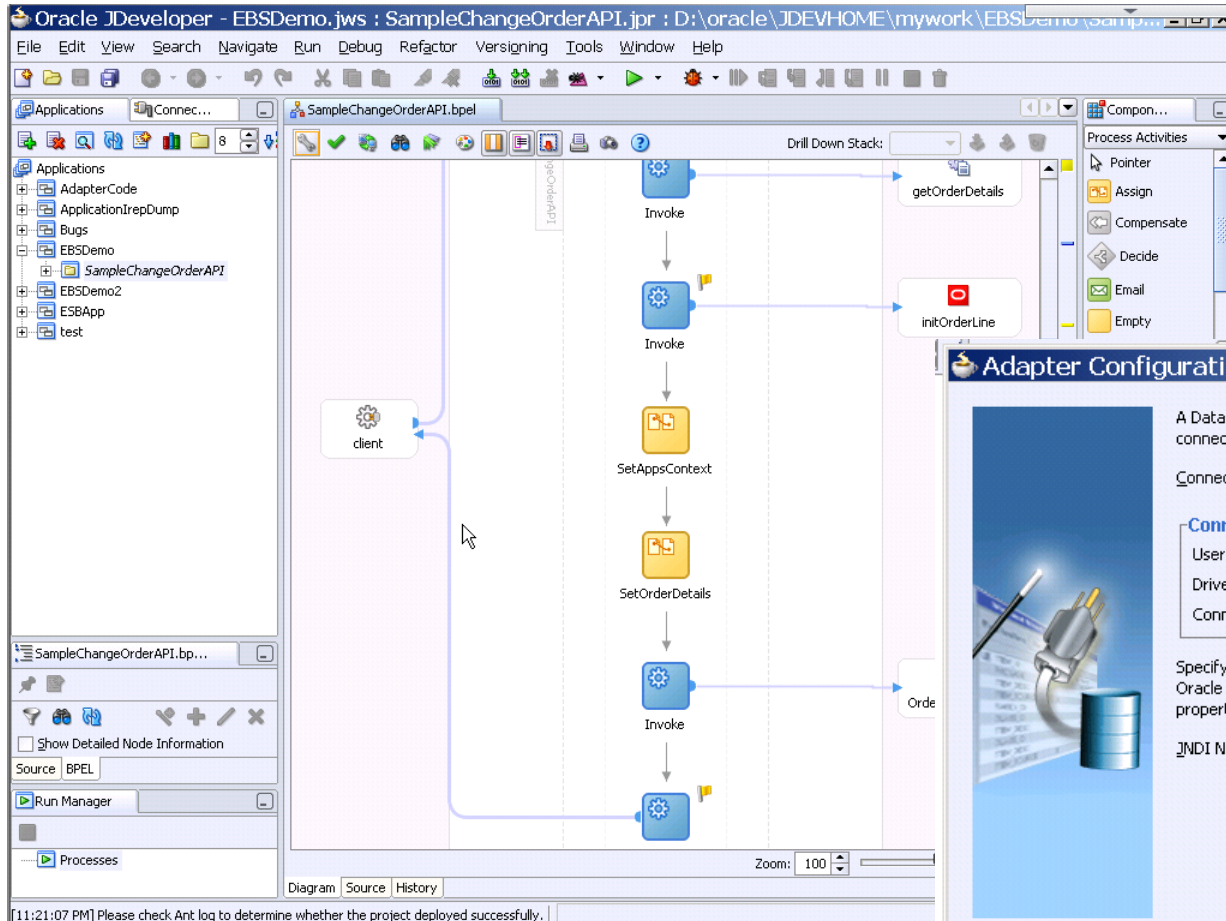
Connects to multiple EBS Instances

Flexibility in deployment



Visual and Declarative Development

Faster development to implementation time



Wizard steps based on connected instance version

Adapter Configuration Wizard - Step 2 of 2: Service Connection

A Database Connection is required to configure this adapter. Select a database connection already defined in your project or create a New Connection.

Connection:

Connection Information

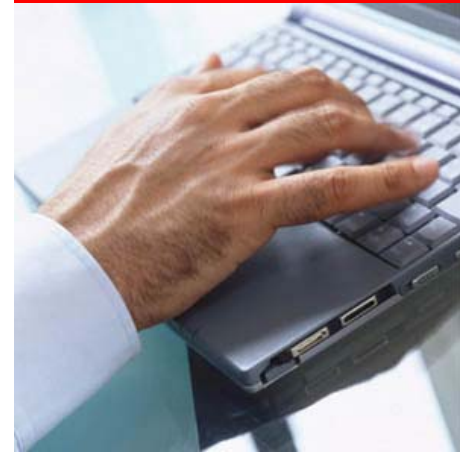
User Name: apps
Driver: oracle.jdbc.OracleDriver
Connect String: jdbc:oracle:thin:@ap9027pc.us.oracle.com:1521:viszb

Specify the JNDI name for the database. Note: The deployment descriptor of the Oracle Applications adapter must associate this JNDI name with configuration properties required by the adapter to access the database.

JNDI Name:

Complexity is abstracted from User

Leveraging **FMW SOA Suite**



Oracle BPEL PM

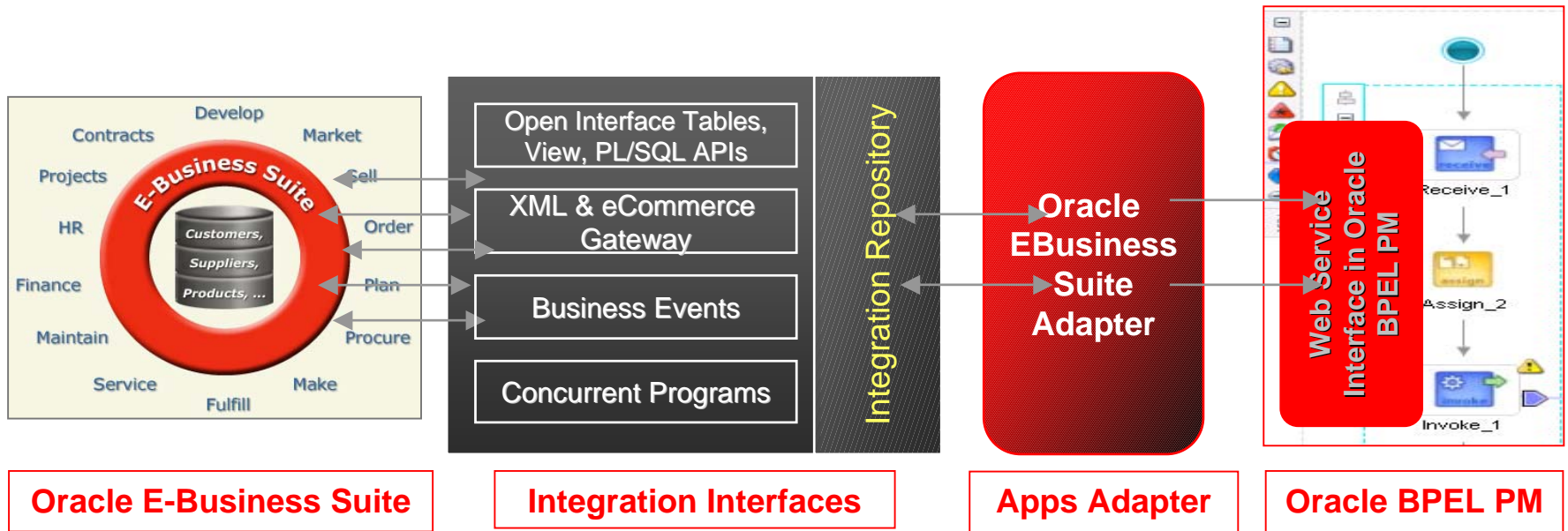
Process Orchestration

Orchestrate

Human Workflow

Transform & Integrate

Process as a Service



Oracle E-Business Suite

Integration Interfaces

Apps Adapter

Oracle BPEL PM

Oracle Business Activity Monitoring

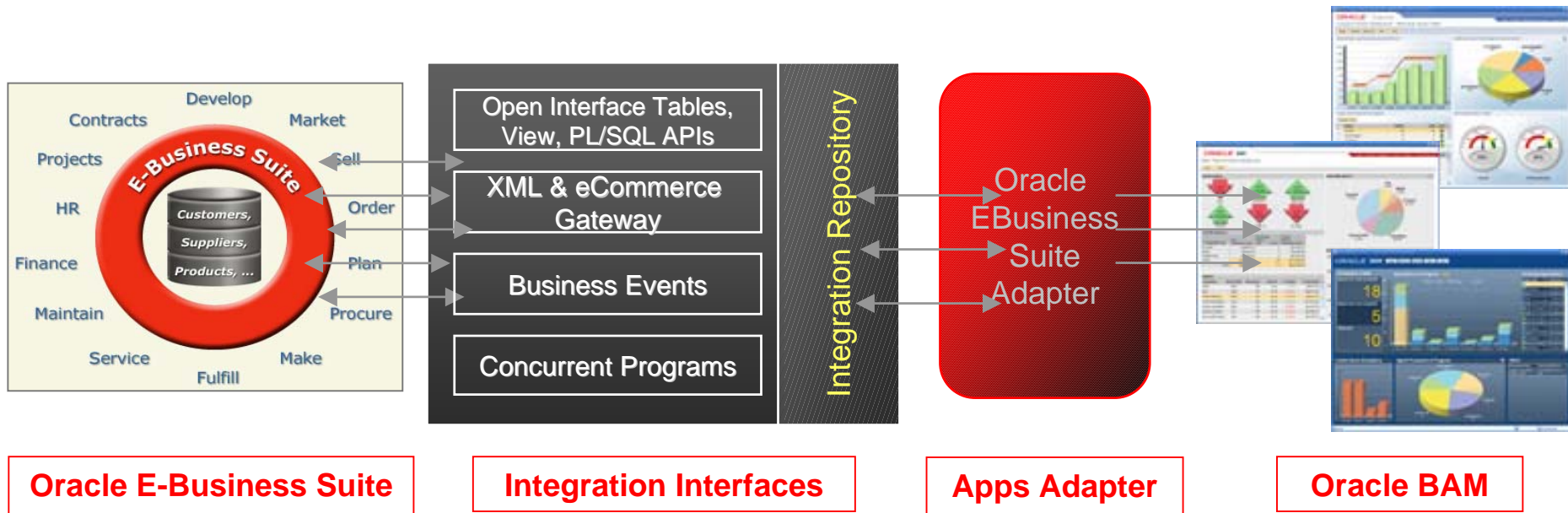
Real-Time Dashboards

Real-Time KPIs / SLAs

Thin Browser GUI

BAM Sensor Action

Actionable Business Intelligence



Oracle E-Business Suite

Integration Interfaces

Apps Adapter

Oracle BAM

Leveraging Oracle BAM

Order Fulfillment Use Case

- Sales Order book in Oracle E-Business Suite
- Business Event Raised (Order Entered)
- Business Event propagated to Oracle BPEL PM Process
- BAM Sensors pickup the Business Event
- Order Number and Order Status – Data
- Order Number and Order Status process by BAM Server
- Data viewed on the BAM Monitor
- Entire Order Fulfillment process tracked for KPIs/SLAs



D E M O N S T R A T I O N

SLA / KPI Monitoring

Forsythe Technologies

Success Story



About Forsythe



- Proven IT infrastructure integrator
- 37 years of providing data center solutions to enable innovation, reduce cost and manage risk
- Strong tradition as a trusted, independent advisor
- North American base with international reach
 - 800+ employees
 - 44 offices in the U.S.
 - Canada (4 offices) and UK
- Support 36% of Fortune 100



Forsythe Vision



Forsythe is a leading, **independent** provider of expert technology **infrastructure solutions**, and is focused on helping customers **optimize their technology investment**.

Forsythe's Growth is Through Our Clients' Growth



International:

Aligning our reach with that of our clients

Advisory services:

IT and business alignment, prioritization, sequencing

Reseller and integrator of technology platforms:

Integrating interdependent technologies

Foundation in financing and legacy systems:

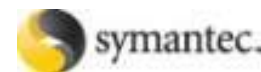
Economics and high availability disciplines

Recent Client Engagements



- \$93M storage cost savings for a business unit of one of the largest US banks
- \$22.6M server consolidation savings over three years for a client with global database complexity.
- \$6.5M storage savings annually for a large insurance company.
- \$2.5M annual savings strategy to address 200% year-over-year storage growth, for a financial institution.
- \$1M savings per month for a 10,000 handset IPT deployment at a national risk services and staffing consulting company.
- \$20M savings annually by optimizing and consolidating maintenance contracts at a \$50B pharmaceutical company

Forsythe Partners



Case Study



Business Problem



- Back-office Procurement volume increasing dramatically
- Workloads increasing
- Total number of data errors increasing
- Order error tracking remediation more difficult due to increasing volumes
- Response/turnaround time slow

Drive to decrease costs and improve productivity

The IT Ecosystem at Forsythe



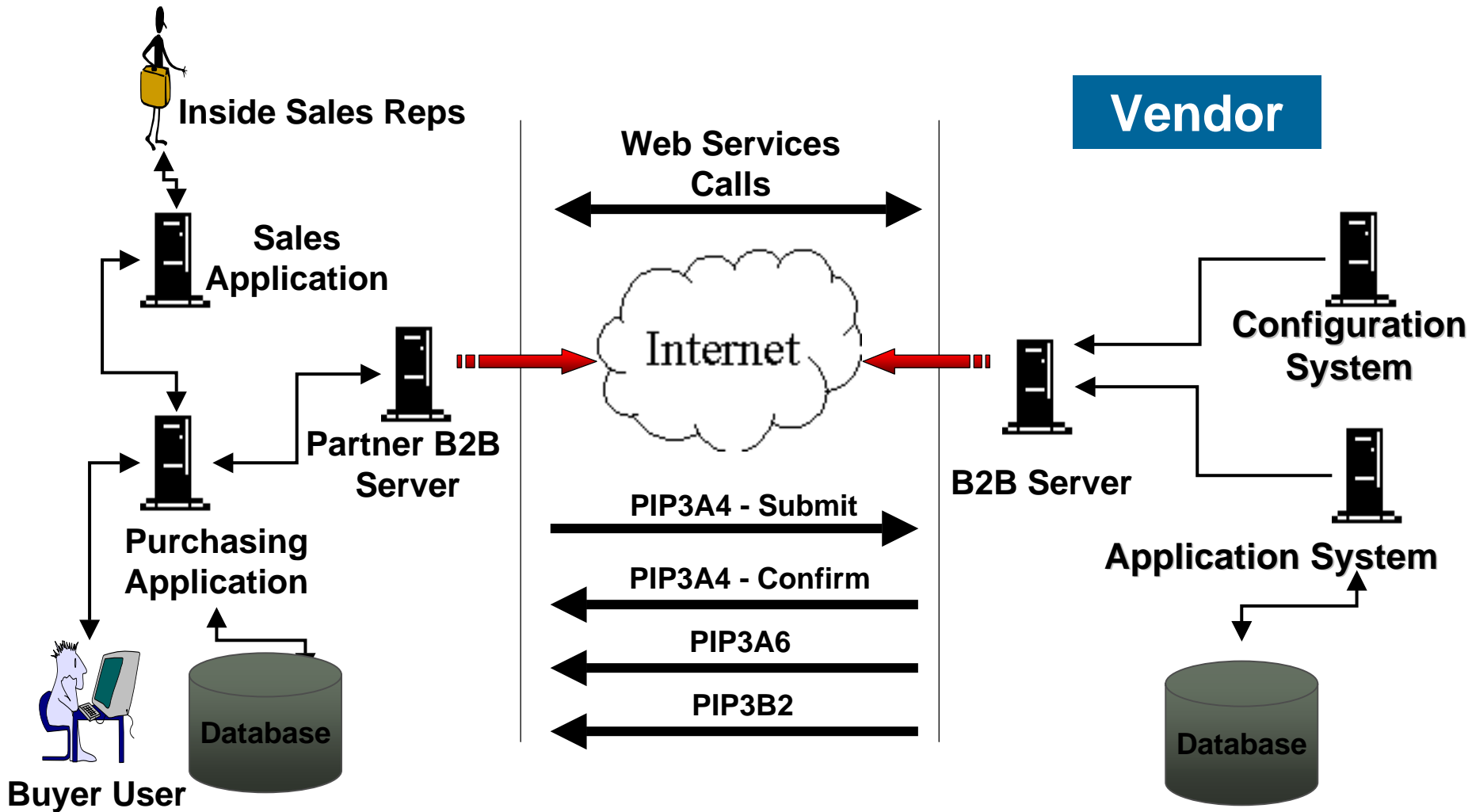
- Heterogeneous Environment
 - Mini
 - Solaris, HP-UX
 - OEL, Red Hat
- Oracle E-Business 11.5.10.2
 - HR
 - Financials
 - OM, CRM
 - Projects
- Custom Applications, Third Party Packages
- Oracle Fusion Middleware
 - BPEL
 - B2B

Solution Highlights

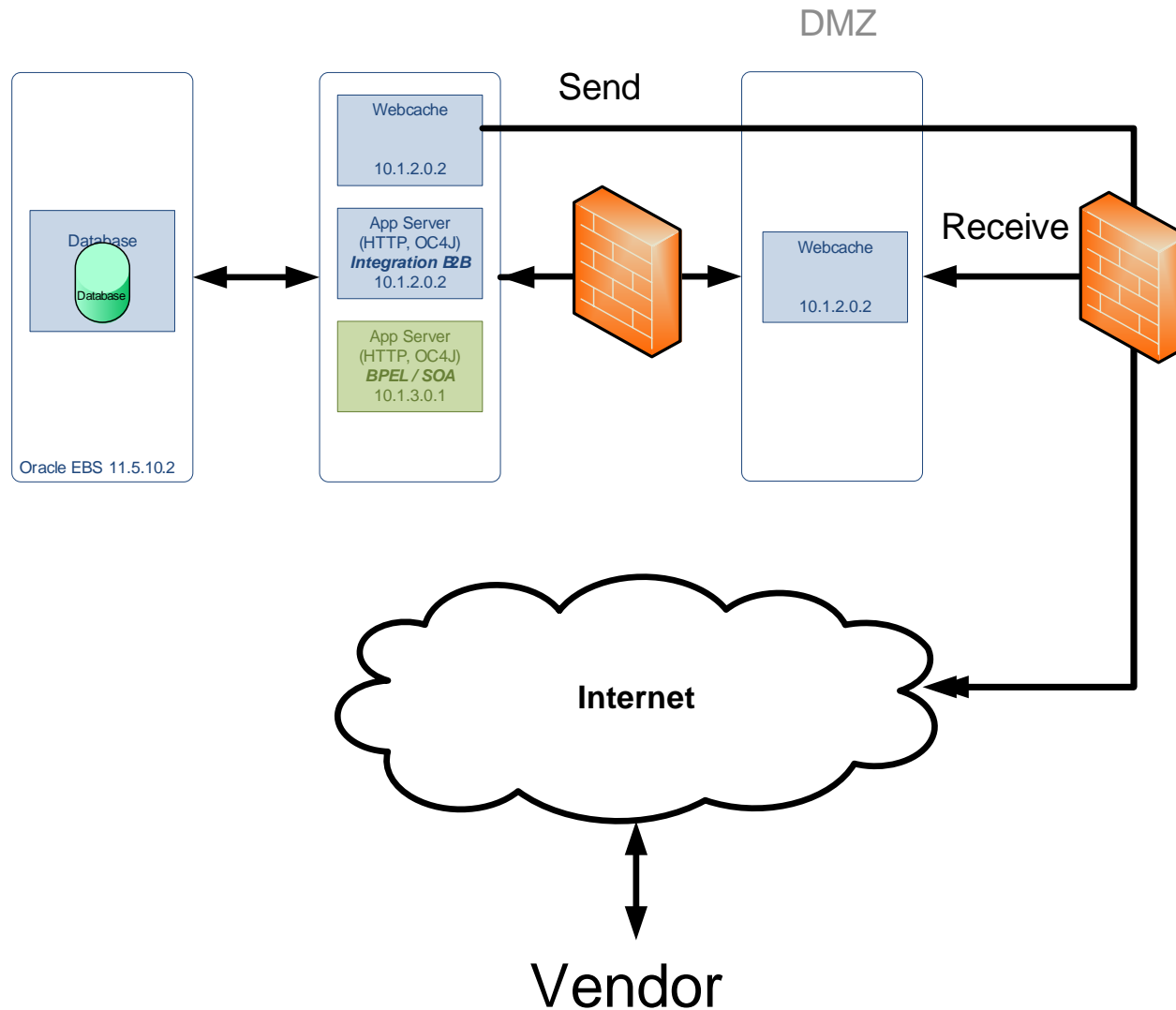


- Connectivity
 - RNIF 2.0
 - SSL 1024 bit Certificates
- Transactions
 - RosettaNet Standard
 - 3A4 – Purchase Order
 - 3A4c – PO Acknowledgement
 - 3A6 – Order Status
 - 3B2 – Ship Notice
- Multiple Web Services Calls

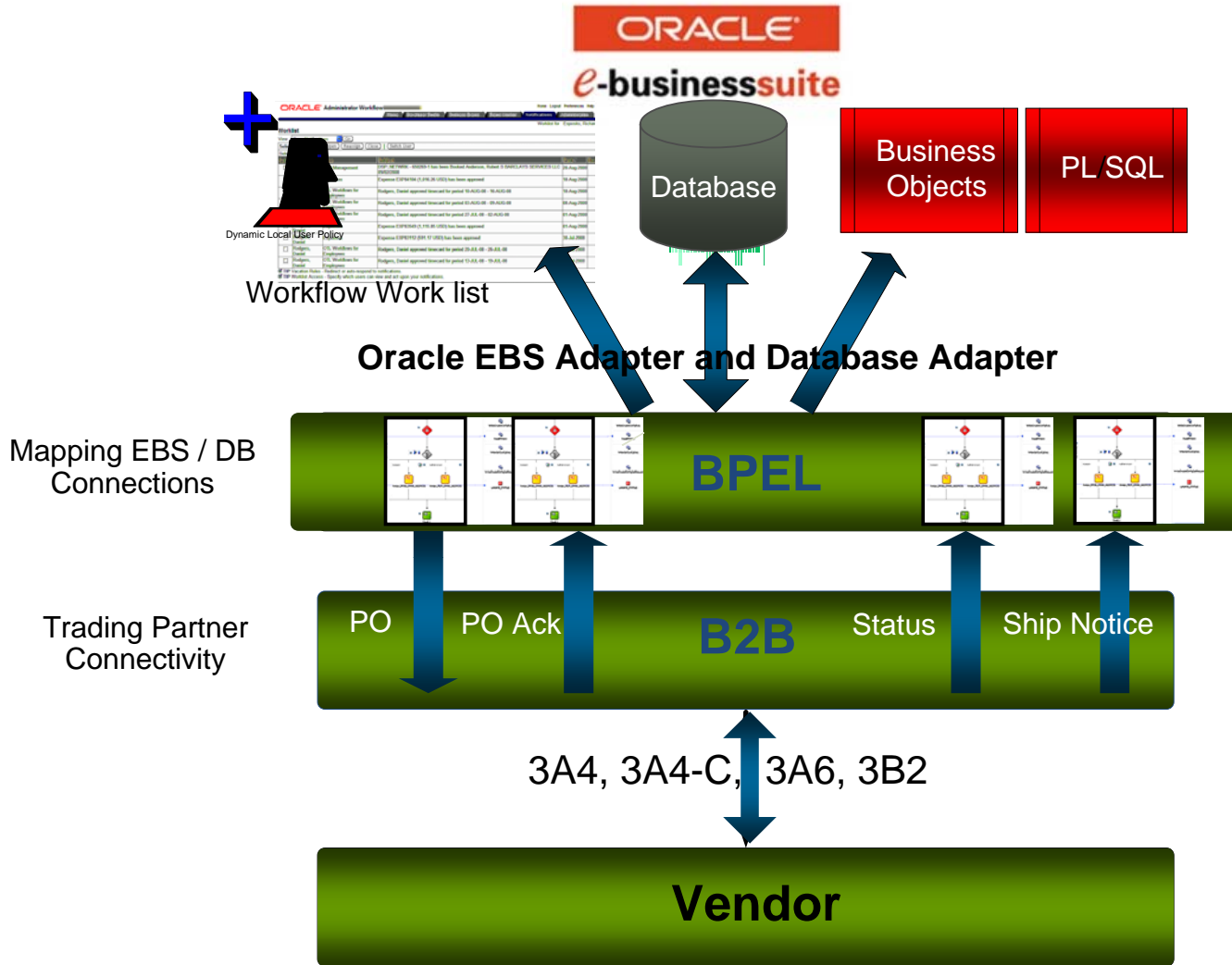
Business Process Flow



Logical Architecture



Solution Architecture

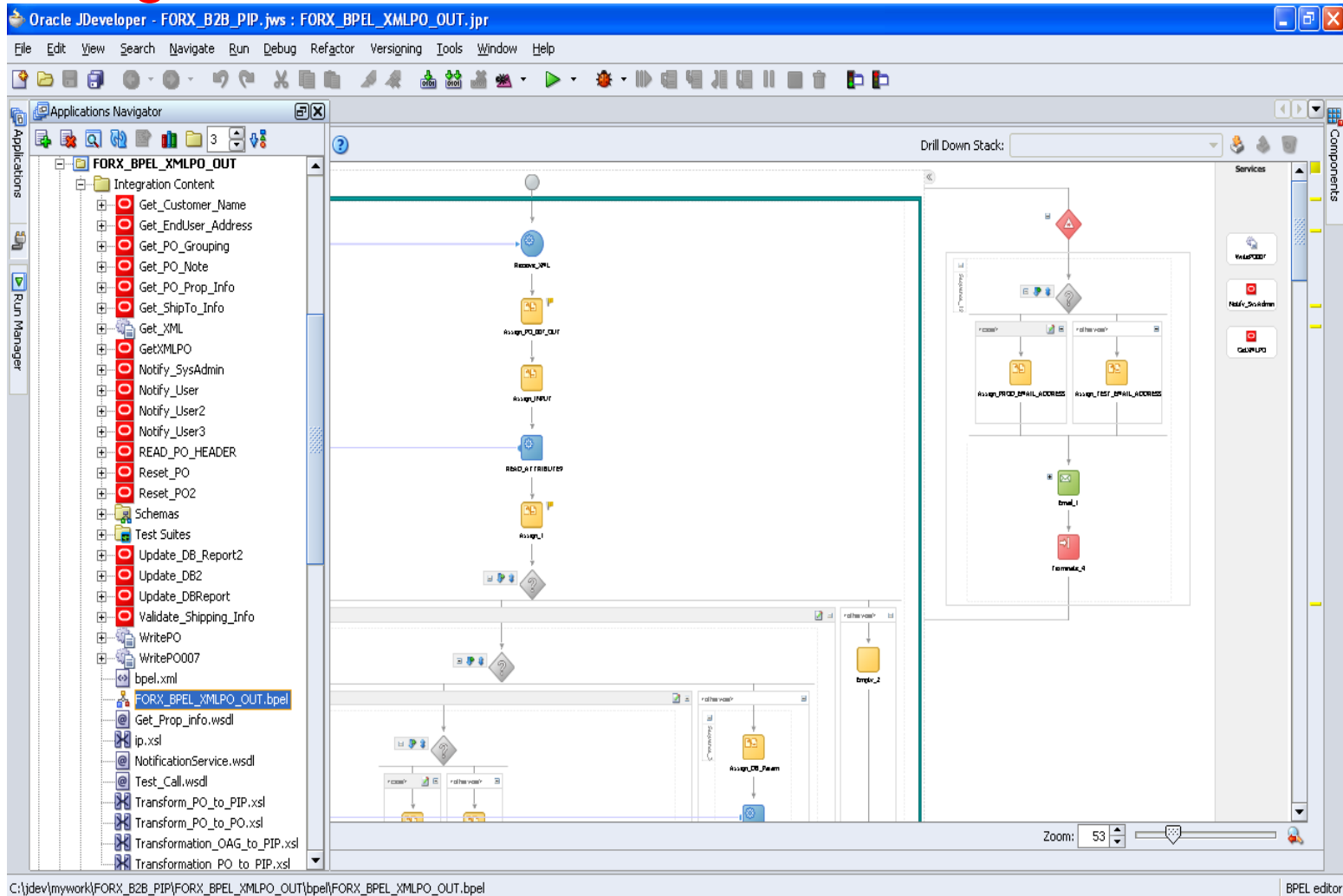


D E M O N S T R A T I O N

PO Automation

Purchase Order Automation

Design View



Oracle JDeveloper - FORX_B2B_PIP.jws : FORX_BPXL_XMLPO_OUT.jpr

File Edit View Search Navigate Run Debug Refactor Versigning Tools Window Help

Applications Navigator

FORX_BPXL_XMLPO_OUT

- Integration Content
 - Get_Customer_Name
 - Get_EndUser_Address
 - Get_PO_Grouping
 - Get_PO_Note
 - Get_PO_Prop_Info
 - Get_ShipTo_Info
 - Get_XML
 - GetXMLPO
 - Notify_SysAdmin
 - Notify_User
 - Notify_User2
 - Notify_User3
 - READ_PO_HEADER
 - Reset_PO
 - Reset_PO2
 - Schemas
 - Test Suites
 - Update_DB_Report2
 - Update_DB2
 - Update_DBReport
 - Validate_Shipping_Info
 - WritePO
 - WritePO007
 - bpel.xml
 - FORX_BPXL_XMLPO_OUT.bpel**
 - Get_Prop_info.wsdl
 - ip.xsl
 - NotificationService.wsdl
 - Test_Call.wsdl
 - Transform_PO_to_PIP.xsl
 - Transform_PO_to_PO.xsl
 - Transformation_OAG_to_PIP.xsl
 - Transformation PO to PIP.xsl

Drill Down Stack:

Services

- ValueOf
- Notify_SysAdmin
- CallOut

Components

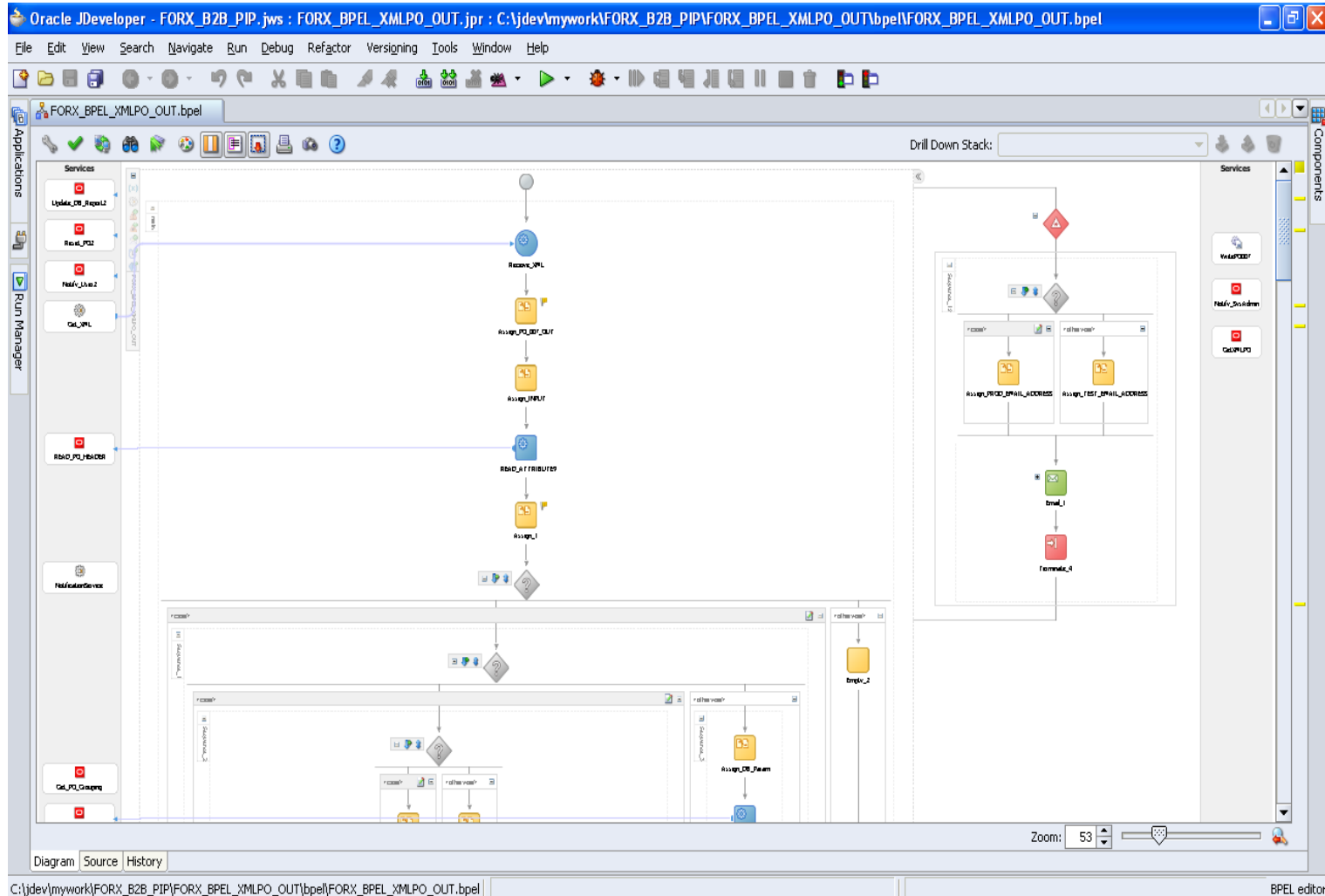
Zoom: 53

C:\jdev\mywork\FORX_B2B_PIP\FORX_BPXL_XMLPO_OUT\bpel\FORX_BPXL_XMLPO_OUT.bpel

BPEL editor

Purchase Order Automation

Design View

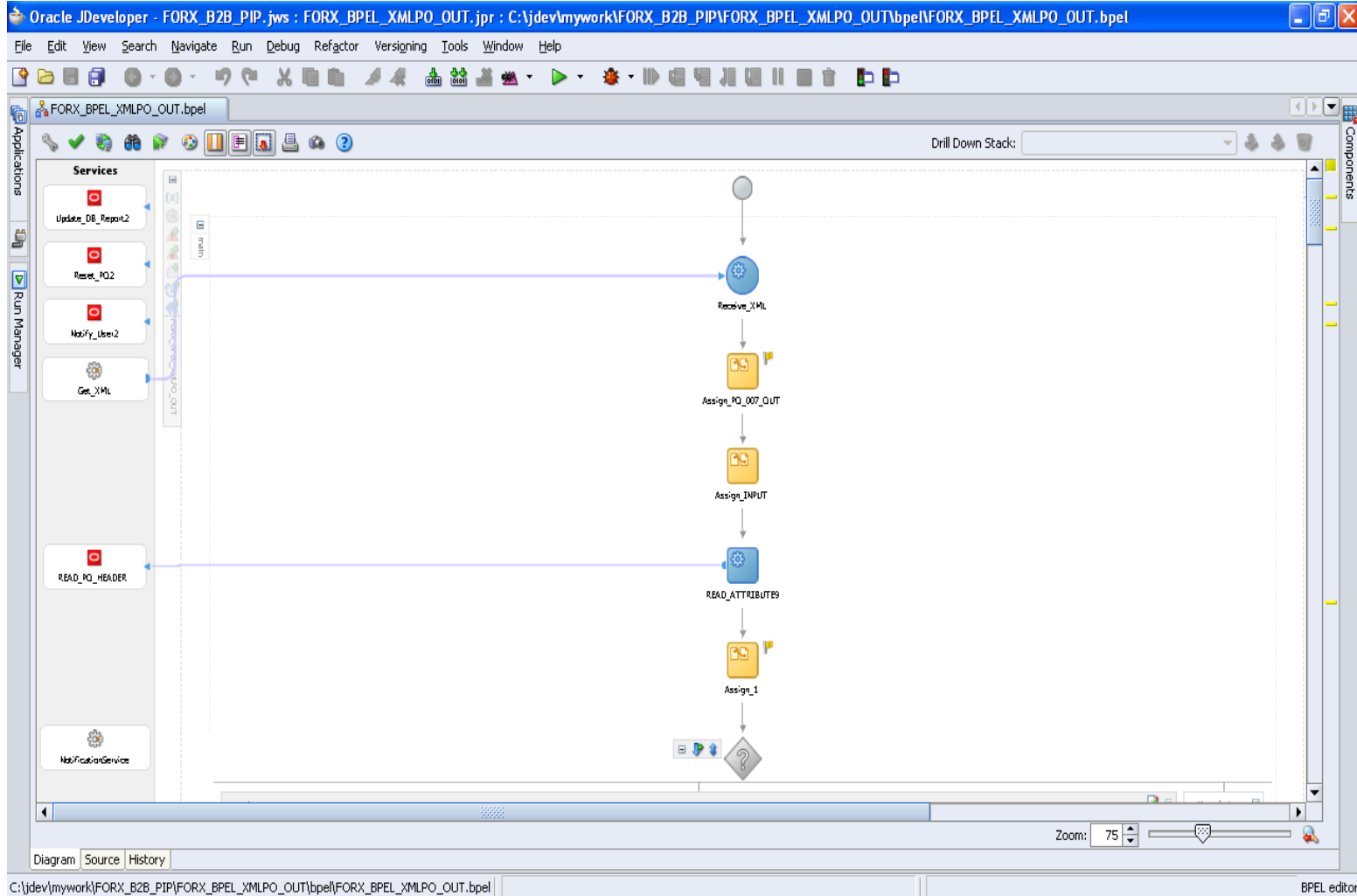


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BPEL editor

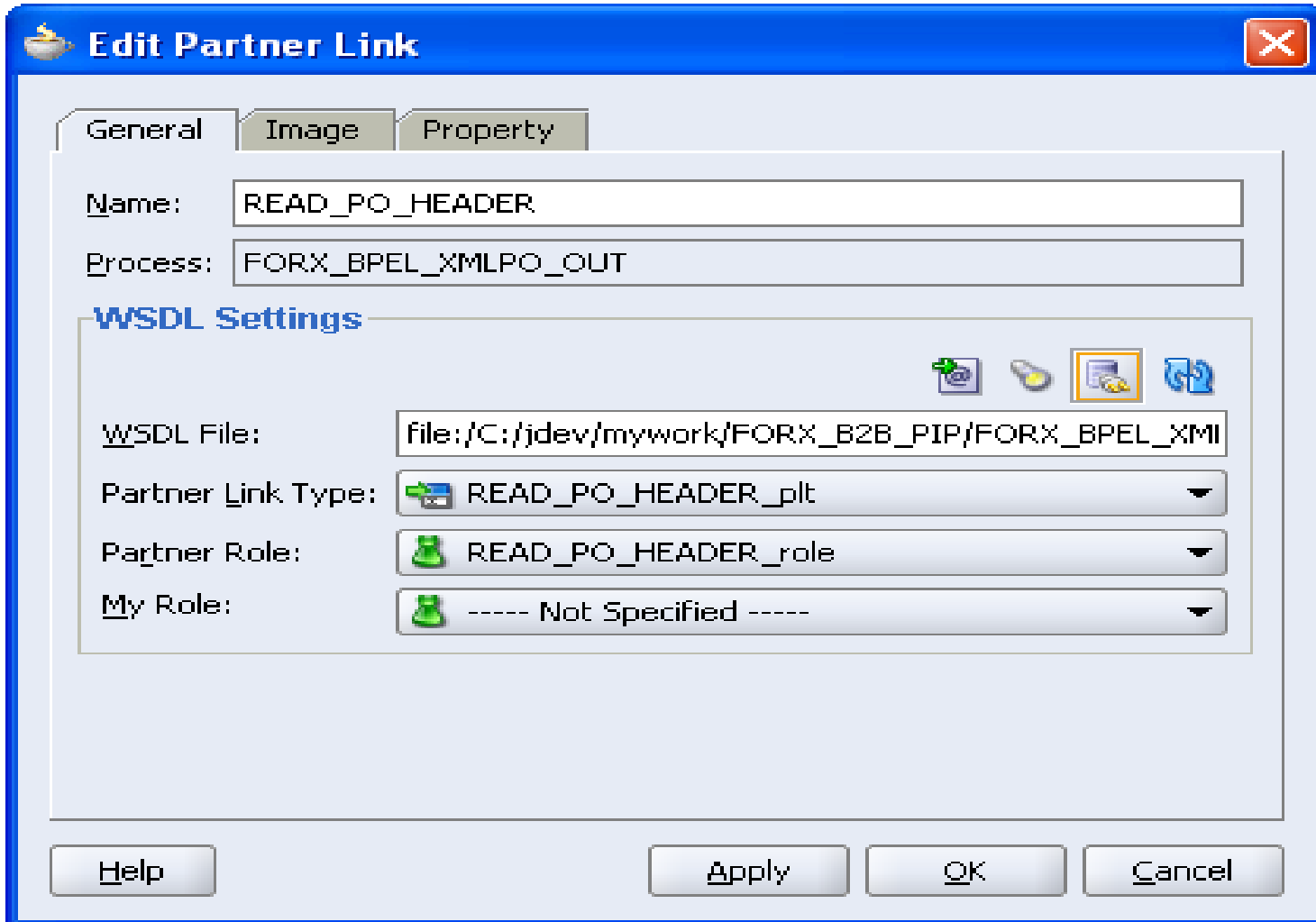
Purchase Order Automation

Design View



Purchase Order Automation

Design View



Edit Partner Link

General Image Property

Name: READ_PO_HEADER

Process: FORX_BPEL_XMLPO_OUT

WSDL Settings

WSDL File: file:/C:/jdev/mywork/FORX_B2B_PIP/FORX_BPEL_XMLI

Partner Link Type: READ_PO_HEADER_plt

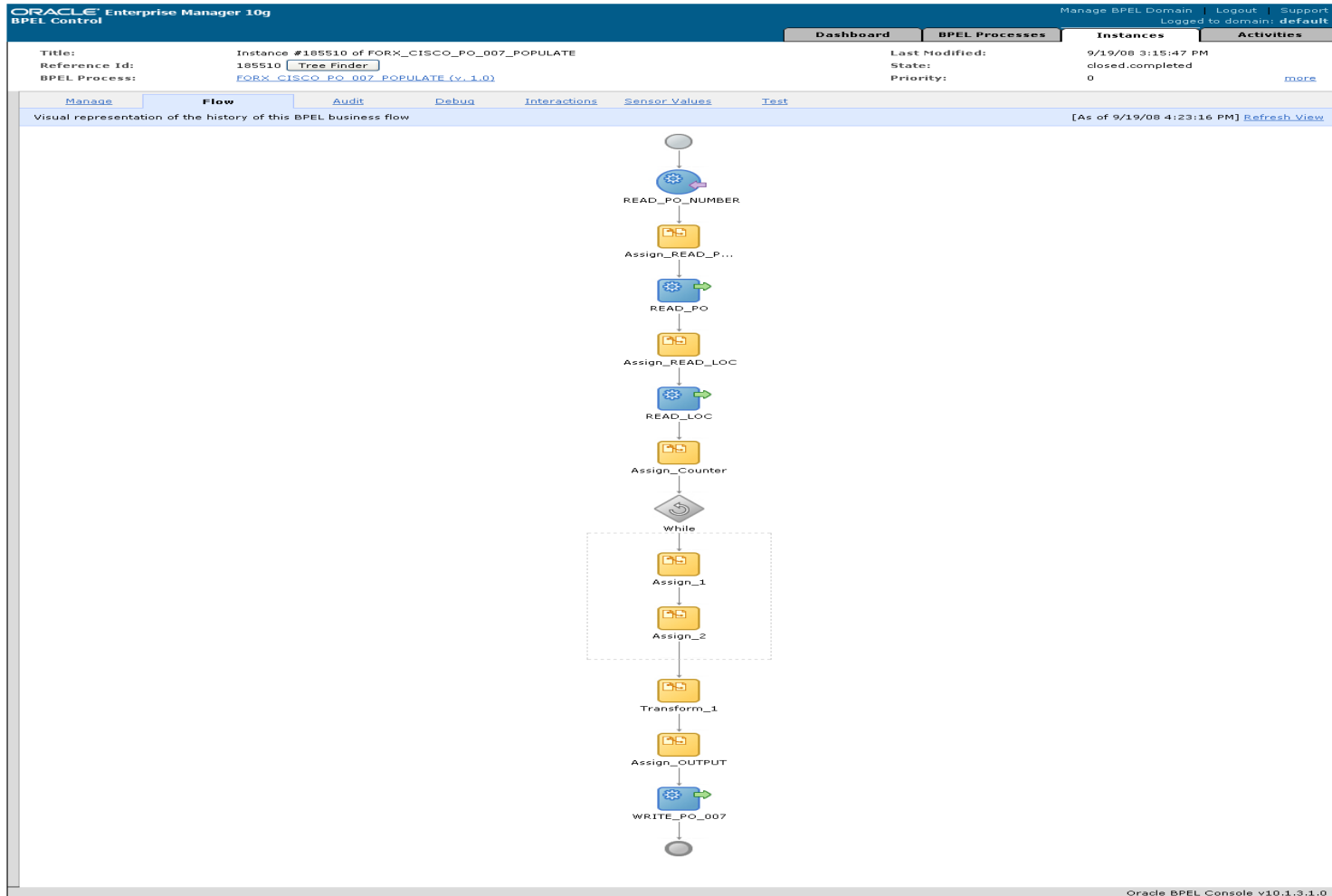
Partner Role: READ_PO_HEADER_role

My Role: ----- Not Specified -----

Help Apply OK Cancel

Purchase Order Automation

Run Time View




Purchase Order Automation

Run Time View

Dashboard		BPEL Processes		Instances		Activities	
Title:	Instance #185528 of FORX_BPEL_XMLPO_OUT	Last Modified:	9/19/08 4:16:18 PM				
Reference Id:	185528 <input type="button" value="Tree Finder"/>	State:	closed.completed				
BPEL Process:	FORX_BPEL_XMLPO_OUT (v. 2.0)	Priority:	0		more		

Manage	Flow	Audit	Debug	Interactions	Sensor Values	Test
--------	------	-------	-------	--------------	---------------	------

Visual representation of the history of this BPEL business flow [As of 9/19/08 4:31:21 PM] [Refresh View](#)



```
graph TD; Start(( )) --> Receive_XML[Receive_XML]; Receive_XML --> Assign_PO_007[Assign_PO_007...]; Assign_PO_007 --> Assign_INPUT[Assign_INPUT]; Assign_INPUT --> READ_ATTRIBUTE9[READ_ATTRIBUTE9];
```

Purchase Order Automation

Run Time View

READ_ATTRIBUTE9

[2008/09/19 16:16:11]

Invoked 2-way operation "READ_PO_HEADER" on partner "READ_PO_HEADER".

```
- <messages>
- <READ_ATTRIBUTE9_READ_PO_HEADER_InputVariable>
  - <part xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    name="InputParameters">
    - <InputParameters xmlns="http://xmlns.oracle.com/pcbpel/adapter/db/APPS
      /FORX_BPEL_PO_HEADER_API/GET_ATTRIBUTE9/">
      <P_DOCUMENT_ID>146661</P_DOCUMENT_ID>
    </InputParameters>
  </part>
</READ_ATTRIBUTE9_READ_PO_HEADER_InputVariable>
- <READ_ATTRIBUTE9_READ_PO_HEADER_OutputVariable>
  - <part xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    name="OutputParameters">
    - <db:OutputParameters xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xmlns:db="http://xmlns.oracle.com/pcbpel/adapter/db/APPS
      /FORX_BPEL_PO_HEADER_API/GET_ATTRIBUTE9/">
      <P_ATTRIBUTE9>Y</P_ATTRIBUTE9>
      <ERRBUF>Normal completion</ERRBUF>
      <RETCODE>0</RETCODE>
    </db:OutputParameters>
  </part>
  <part xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" name="response-
    headers">[]</part>
</READ_ATTRIBUTE9_READ_PO_HEADER_OutputVariable>
</messages>
```

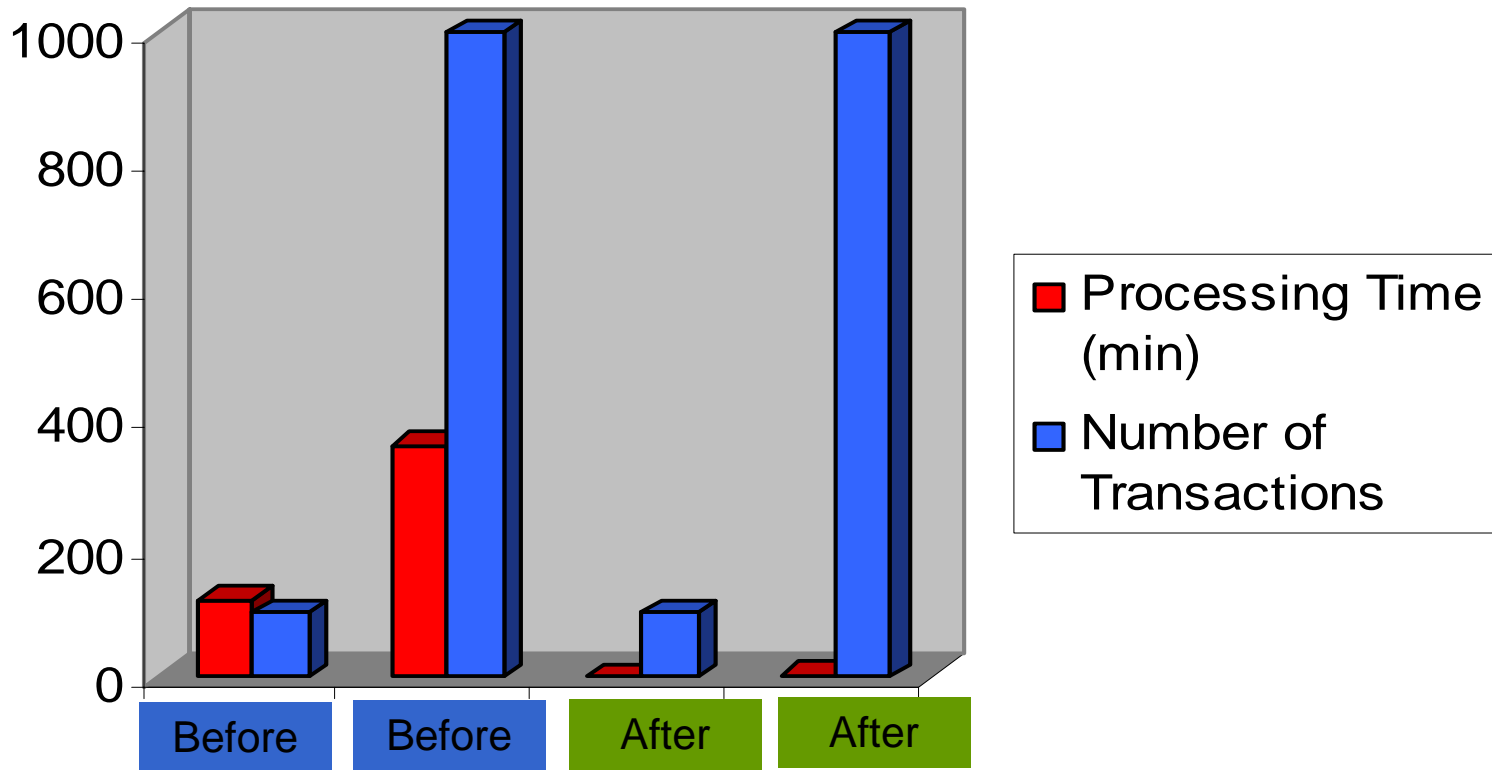
[Copy details to clipboard](#)

Solution Benefits

- Create B2B connection to a top vendor to achieve back-office efficiencies
- Transactions
 - PO
 - Order Status
 - Ship Notice
- Business Benefits
 - Automated Population of Data
 - Faster Problem Resolution
 - Decreased Time to Create Customer Invoices
 - More Timely Order Status Information
 - Increased Visibility into Business Processes

Transaction Volume / Processing Time

Before and After PO Processing

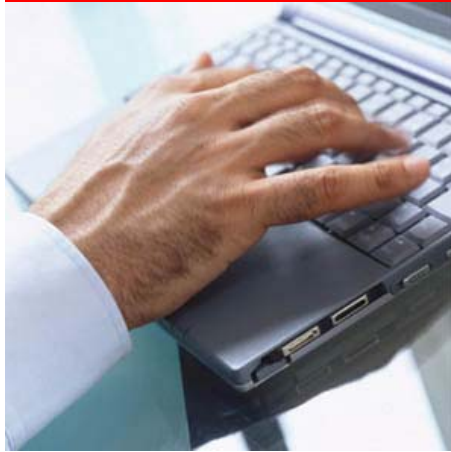


Lessons Learned

- Leverage BPEL Adapters
 - Oracle EBS Adapter
 - Database Adapter
 - Direct table access – Selects
- XML Gateway
- Use BPEL for linking B2B into the User's existing process
- Leverage Workflow Worklists
 - Instead of Emails

Customer Benefits

- Agile and Flexible Integration Architecture
 - Service Enablement of E-Business Suite
- Low Cost of Ownership
 - Standards based integration
- Faster development to implementation time
 - Visual and Declarative development of integration solutions
- High Value Proposition
 - Enables Business Insight by leveraging Oracle BAM



In a Snapshot

Key Take Aways

- Integration Architectures
- Secured Integrations
- Leveraging Oracle BAM
- Success story – PO Automation with BPEL, B2B, EBS Adapter & XML Gateway



ORA