Using Oracle SOA Suite and Oracle BPEL PM to Integrate and Extend PeopleSoft Applications

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Agenda

- Oracle Fusion Middleware
  - Overview
  - PeopleSoft integration
- Integration scenarios: Oracle SOA Suite + PeopleSoft
- Case study
  - Credit Suisse First Boston
  - Apollo Group
- Q & A
Oracle Fusion Middleware

- User Interaction
- Enterprise Performance Management
- Business Intelligence
- Content Management
- SOA & Process Management
- Application Server
- Grid Infrastructure

Development Tools

Enterprise Management

Identity Management
Oracle Fusion Middleware

User Interaction
- Web 2.0 Portal, Rich Internet Apps, Mobile, Search, Desktop, Presence, VoIP

Enterprise Performance Management
- Planning, Budgeting, Financial Management & Reporting, Scorecards

Business Intelligence
- Data Integration, Query & Analysis, OLAP, Dashboards, Reports, Alerts, Real-Time

Content Management
- Web Content, Document, Records Mgmt, DAM, Capture and Imaging, Archiving, IRM

SOA & Process Management
- ESB, BPM, Workflow, BAM, Rules, B2B, MDM, Registry, Repository

Application Server
- Java EE, Web Services, TP Monitor, Complex Event Processing, XTP, SIP

Grid Infrastructure
- Application Clusters, In-Memory Data Grid, Metadata Services, JVM, Virtualization

Development Tools
- Unified SOA Development Tool & Framework

Enterprise Management
- SOA Management, Provisioning, Diagnostics, Configuration Management, Tuning

Identity Management
- Provisioning, Access Management, Audit, Directory, Role Management, Fraud Detection
Oracle SOA Platform
Oracle SOA Evolution
Key SOA Standards

**Fusion Effect**
- Portal
- Web Application

**Richer Experience**
- WS/SOAP

**More Adaptable**
- Security
- Reliability
- Logging
- Failover
- Dynamic Routing

**More Interoperable**
- ERP/Legacy Apps
- Custom Apps & Services
- Web services

**MONITORING**
- BAM
- JMX

**USER INTERFACE**
- WSRP, JSR-168
- Struts/JSF

**PROCESS ORCHESTRATION**
- BPEL
- XSLT/XQuery

**SERVICE BUS**
- WS-Security
- WS-Policy, SAML
- Web Services Mgmt

**BUSINESS SERVICES**
- XML/XMLSchema
- WSDL/WSIF
- SOAP, JCA, JMS

**ORACLE**
Oracle BPEL Process Manager

Enterprise-strength infrastructure for Service Orchestration

- Comprehensive and native BPEL implementation
- Easy-to-use modeling tool
- Scalable and reliable engine
- Flexible binding framework
- Rich management and monitoring
- Runs on OracleAS, WebLogic, JBoss and WebSphere
- Get up and running in less than 15 minutes!
Realize the Full Benefits of SOA
With an Enterprise-Class Service Bus

Service Mediation & Management

- Location Transparency
- Service Virtualization
- Configuration
- Any to Any Protocol, Payload
- Policy Enforcement
- High Availability & Scale
Oracle Business Activity Monitoring
Event Correlation for Business Users

- **Monitor** business processes & services in real-time
  - Key Performance Indicators (KPIs)
  - Service-Level Agreements (SLAs)

- **Analyze** events as they occur
  - Correlate events & KPIs
  - Identify trends as they emerge
  - Alert users to bottlenecks & solutions

- **Act** on current conditions
  - Event-driven alerts
  - Real-time dashboards
  - BPEL processes & web services integration
## Oracle SOA Suite Adapters

### Applications
- Oracle Applications
- SAP R/3, mySAP
- Peoplesoft
- JD Edwards
- Siebel
- Clarify
- Lotus Notes
- Ariba
- AXIOM mx/open
- Baan
- BroadVision
- Clarify
- Commerce One
- Hogan Financials
- i2 Technologies
- Lawson
- Livelink
- Manugistics
- Microsoft CRM
- Vantive
- Walker Interactive
- Remedy
- Salesforce.com

### Databases
- Oracle 8i and above
- IBM DB/2
- Informix
- Clarion
- Clipper
- Cloudscape
- DBASE
- Dialog
- Essbase
- FOCUS Data Access
- Great Plains
- Microsoft SQL Server
- MUMPS (Digital Standard MUMPS)
- Navision Financials (ODBC 3.x)
- Nucleus
- Paradox
- Pointbase
- PROGRESS
- Red Brick
- RMS
- SAS Transport Format
- Sybase
- Teradata
- Unisys DMS 1100/2200
- UniVerse

### Technology
- SOAP
- HTTP, HTTP-S, REST
- Email – POP3, SMTP, IMAP
- FTP, FTP-S
- Flat Files
- JMS
- Oracle AQ
- IBM MQSeries
- TIBCO Rendezvous
- Socket

### Legacy
- CICS
- IMS/DB
- IMS/TM
- VSAM
- ADABAS
- Natural
- Tuxedo
- CA-Datacom
- Screen Scrapping
- CA-IDMS
- C-ISAM,D-ISAM,K-SAM, QSAM
Best-in-Class Awards

Winner, SD Times 100
• Business Process Management
• SOA & Integration

Oracle SOA Suite “Excellent”
• Highest Rating in SOA Category
• “Hands down, the most comprehensive and easy to use product on the market today”

Winner, Best Business Process Management System

Oracle SOA Suite, Winner, Tech Innovator 2007
Business Software: Enterprise Applications and Infrastructure

SOA World Magazine
Readers’ Choice Awards 2007
Winner in 15 of 20 categories, including:
• Best SOA/Web Services Platform
• Best BPM Engine
• Best Integrated Services Environment
• Best Security Solution

“★★★★” | Oracle BPEL Process Manager

“★★★★” | Oracle Business Activity Monitoring

Oracle BPEL Process Manager
• Winner, Web Services Journal Readers’ Choice Award
• “World class product”

Winner, ebizQ Buyer’s Choice Award
Enterprise Information Integration
Continuing to Win Awards in 2008

Oracle SOA Suite 10g Release 3
The Oracle SOA Suite pulls together top-notch governance, business rules, security, and business activity monitoring into an ESB package replete with native BPEL orchestration and human workflow integration. Tools skew to the developer side (with the exception of EAM) but are well suited to the job. Ease of implementation and affordability make it a standout consideration.

Over 3,000 Oracle SOA customers
PeopleSoft Integration
Evolution of PeopleSoft Integration

Tools 8.12
- XMS Schema Utility
- HTTP BI
- XML Links

Tools 8.40
- Integration Broker
- XMLDoc SOAPDoc

Tools 8.46
- Web Service Foundation
- WS-I Compliance

Tools 8.42
- ISR
- SOAPtoCI
- WSDL Support

Tools 8.47
- BPEL PM Certification

Tools 8.48
- SOA Framework
SOA Based Integration in Peopletools 8.48+

- Application Messages based Services
  - Now known as Services and Service Operations
  - Inbound and Outbound
  - Sync and Async

- Component Interfaces (CI)
  - Inbound Services
  - Reuse Business Logic
Providing Web Services

Provide Web Service Wizard

Confirm Results

View the WSDL Generation Log to confirm the results of the wizard.

WSDL Generation Log:

Service: CL_CI_PERSONAL_DATA has been exported.

Inserted WSDL: CL_CI_PERSONAL_DATA.1 in the repository

Generated WSDL URL:
http://dmcsco1.us.oracle.com/PSGIW/PeopleSoftServiceListeningConnector/CL_CI_PERSONAL_DATA.1.wsdl

Provide Another Service  Generate SOAP Template
Exposing PeopleSoft CIs as Services
Oracle SOA Suite and PeopleSoft: Integration Scenarios
Integration Scenarios

- Simple Integration
  - Route (and transform) incoming messages
  - Oracle Service Bus

- Complex Integration
  - Message correlation using request-response pairs
  - Oracle BPEL Process Manager

- Simple Orchestration
  - Human interactions: Worklist and approvals
  - Process orchestration within a single PeopleSoft pillar
  - Oracle BPEL Process Manager

- Complex Orchestration
  - Multiple endpoints, long running transactions, human interactions, large data volumes
  - Oracle Service Bus, Oracle BPEL Process Manager
Case Study: Information Bus
Credit Suisse

Sridhar Govindarajan
Architect – CTO
Credit Suisse
Agenda

• Background
• Analysis
• Objectives
• Proposal
Background

• HR Transformation is a program to re-engineer HR business and technology
• One of the many requirements is to address data integration issues across the HR space
• Proposal is for an HR Information Services to streamline the integration process
• Current solution has many point to point integrations
• Integrations are primarily built in SQR
• SQR is an outdated technology
Objectives

Business Drivers - Current State Characteristics

- Downstream systems bear responsibility to host HR data, increasing data redundancy and latency
- Redundant data acquisition costs
  - sized for each batch processing peak
  - leading to underutilized server resources
- Redundant data storage and backup costs
- Limited data integration capabilities across systems
  - costly downstream synchronization
  - quality issues
- Data distribution to downstream systems
  - redundant data movement
- Audit Issues
  - Lack of visibility to access to HR data
  - Security issues
- Limited process orchestration
  - redundant workflows
  - many one-off and point-to-point integrations

Current state characterized by redundancy and complexity

Business Requirement - Strategic State Characteristics

- **Employee as a Service**
  - Authorization and Entitlement based access to Employee as and when needed
  - Eliminates the need to transfer and store Employee data reducing redundancy and latency
  - Preferred mode of integration for all new systems
- **Pull HR data into other systems**
  - Authorization and Entitlement based access to Employee as and when needed
  - Read once, write many times
  - Support for existing systems that cannot use the Employee Service
  - Move these systems to a service based integration over time
- **Monitoring**
  - Monitor business processes and services
  - SLA/KPI monitoring
  - Dashboards and user alerts

Major shift of energy from redundancy to reuse
Proposal

Real Time – Web Services

Consumer 1  Consumer 2  Consumer 3

Batch – Nightly (Flat Files)

Routing Service → Interface 1
Routing Service → Interface 2
Routing Service → Interface 3

FTP

BPEL Process → Extract all needed information (Business Data Model) → Service Bus
Case Study:
Apollo Group

Chris Judson
CedarCrestone
Apollo Group - Project Drivers

• Business Opportunity:
  • Congress increased the maximum loan amounts
  • 120,000 students potentially eligible
  • Great opportunity to assist students

• IT Challenge
  • 3 times the normal transaction volume
  • Automate the eligibility determination of 120,000 students
  • Automate the certification for eligible students
  • Route exceptions to the appropriate staff
  • Tracking each student through the automation process
  • Implement solution and process the entire population in 4 months
Manual Financial Aid process

- Determine Student Eligibility
- Determine Student Award Amount
- Create Student Electronic Demographic Info
- Create Student BBAY Info
- Enter Student Loan Award in to PSFT
- Generate Student Award Notification
- Prepare student loan award for transmission to lender
- Track Progress using Checklists, comments

Various reports such as Student Class Schedule (current, prev, future), # of credits/week, Academic year etc.

Business Rules

Automated using PeopleSoft Component Interfaces
Automated Financial Aid Process

Process Flow:
- **Get Student Info**
- **Create Comment**
- **Create Checklist**
- **Determine Student Eligibility**
- **Create Student Award**
- **Award Notification**
- **Prepare for Transmission to Lender**
- **Financial Advisor Review**
- **Update Checklist, Comment**
- **End Event**

Decision Points:
- **Eligible?**
  - Yes: **Create Student Award**
  - No: **Financial Advisor Review**

Data Sources:
- **EBS/Custom Apps**
  - E-Business Receivables
  - Custom student attendance, enrollment

Software Tools:
- **PeopleSoft**
- **Oracle SOA Suite – BPEL PM, Rules**
Project Outcome – Huge Success!

- Certified 50,000+ students providing millions in financial assistance
- 600% ROI over a 4-month time frame
  - Continue to extend SOA vision and BPA to automate 75% of financial aid over the next 5 years
- Architected a framework of reusable services for future automation
- Implemented Cedar Crestone dynamic Exception Management System
- Performance:
  - 20 students/minute or 1200/hr
  - Over 8,000 BPEL activities/min or 480,000 activities/hour
For More Information

- FMW Best Practice Center for Peoplesoft
- PeopleSoft Tools and technology
- Fusion Middleware @ oracle.com
  - [http://www.oracle.com/fusion](http://www.oracle.com/fusion)
- Fusion Middleware @ OTN
- FAQ: Using PeopleSoft Enterprise with Oracle Technology Components
Q & A