

Best Practices for Adopting SOA

Oracle Architect Forums, April 2006

David Shaffer

Director of Product Management, Oracle Integration

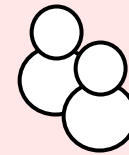
david.shaffer@oracle.com

Customer Needs



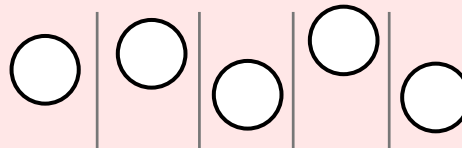
Increasingly Demanding Requirements

End-to-End Processes
Shorter Change Cycles
Better Insight and Auditing



Increasingly Complex Infrastructure

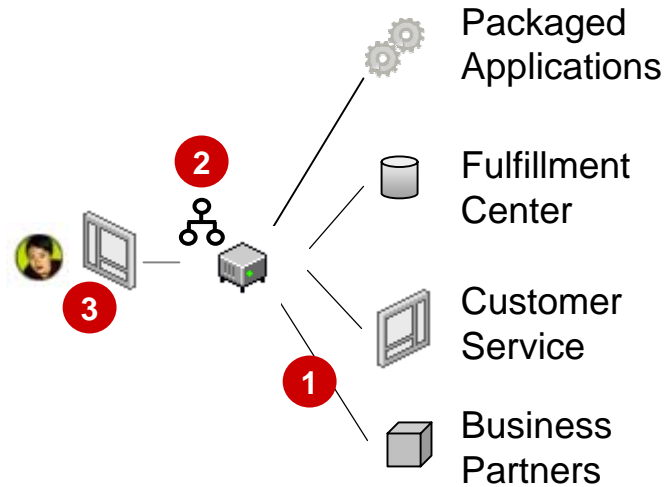
Heterogeneous Systems
Silos
M&A



The Application Model is Evolving...



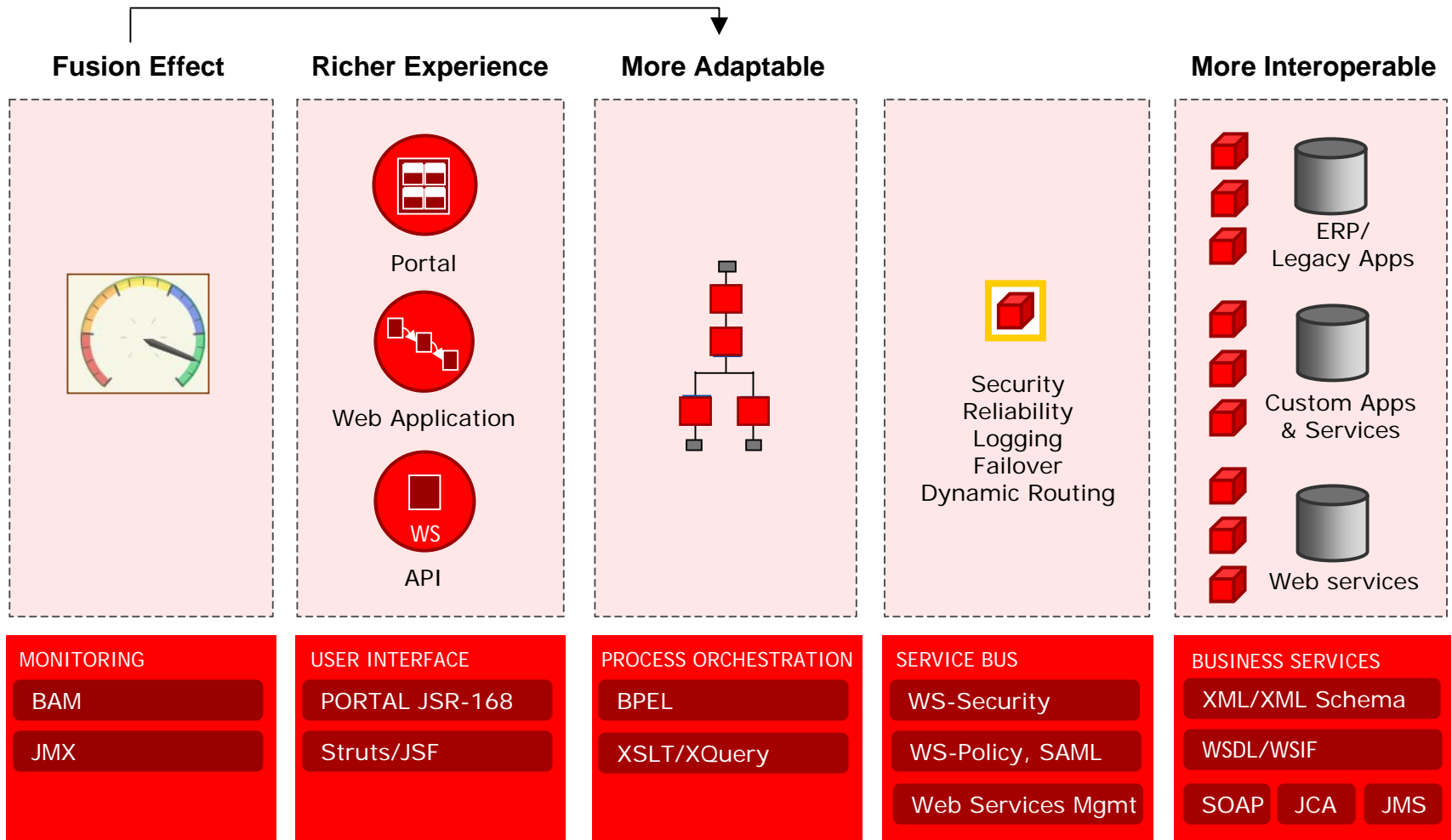
Web Solution



SOA Solution

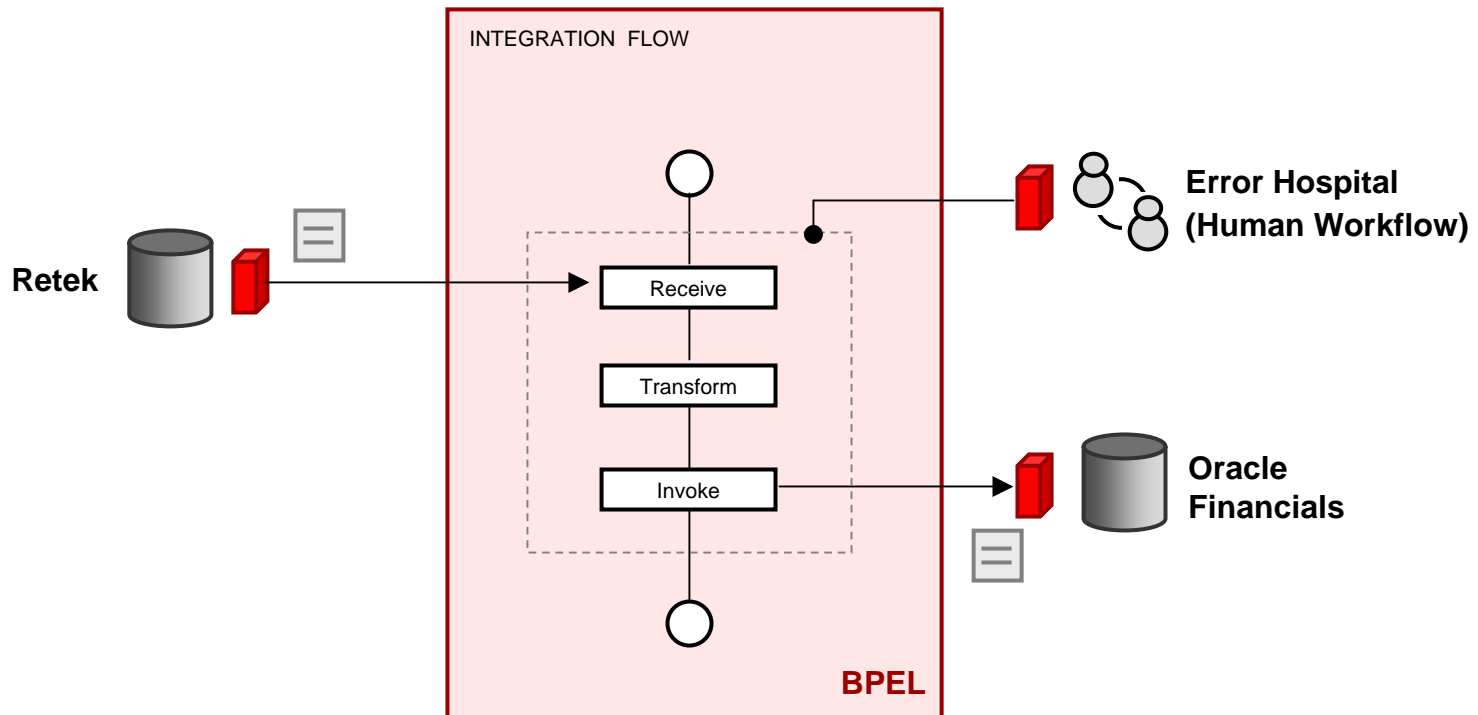
- 1 More Interoperable**
- 2 More Modular Business Processes**
- 3 Richer Clients**

Key SOA Standards



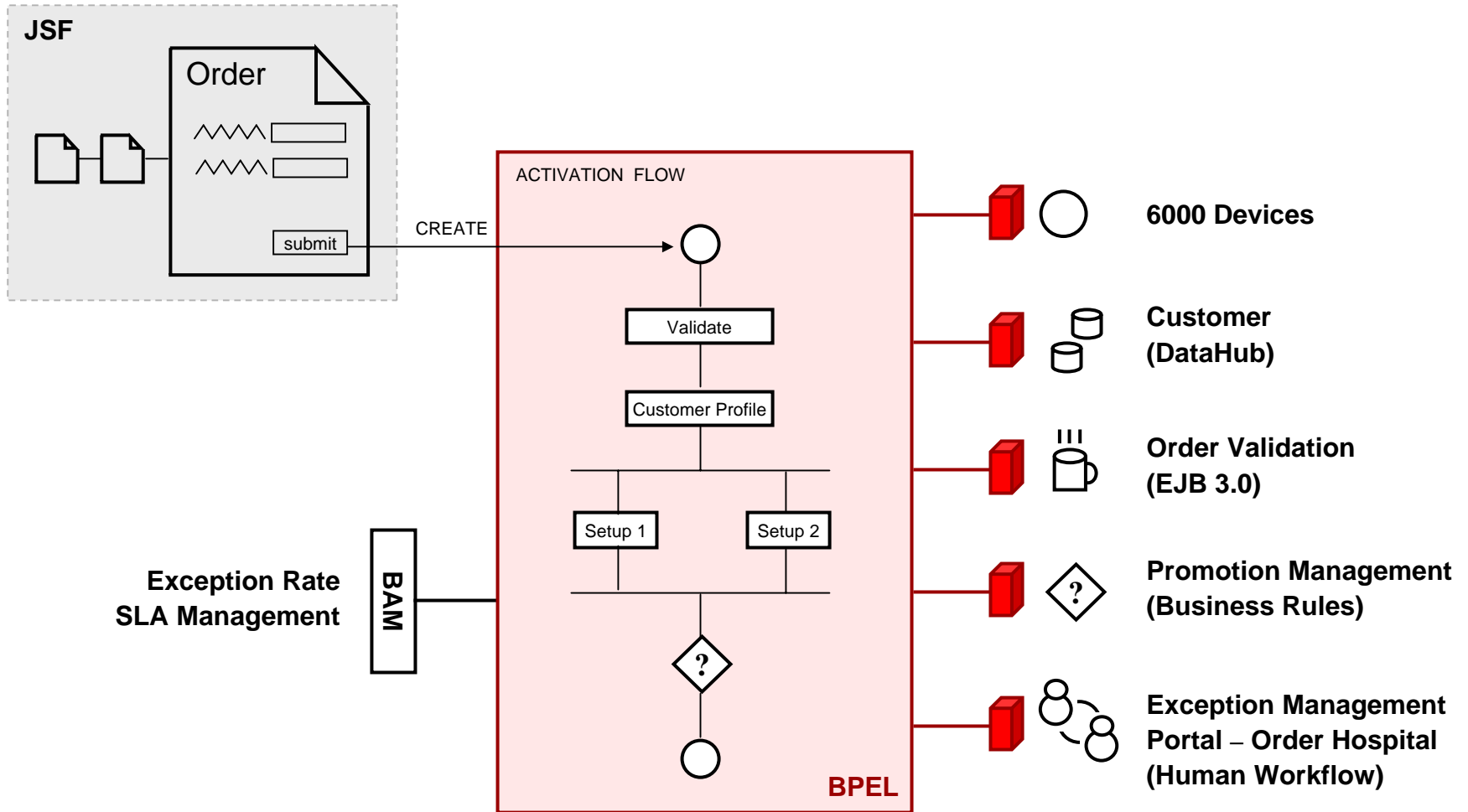
SOA Use-Case (I):

Retek Sales Module - Oracle Financial Ledger Integration



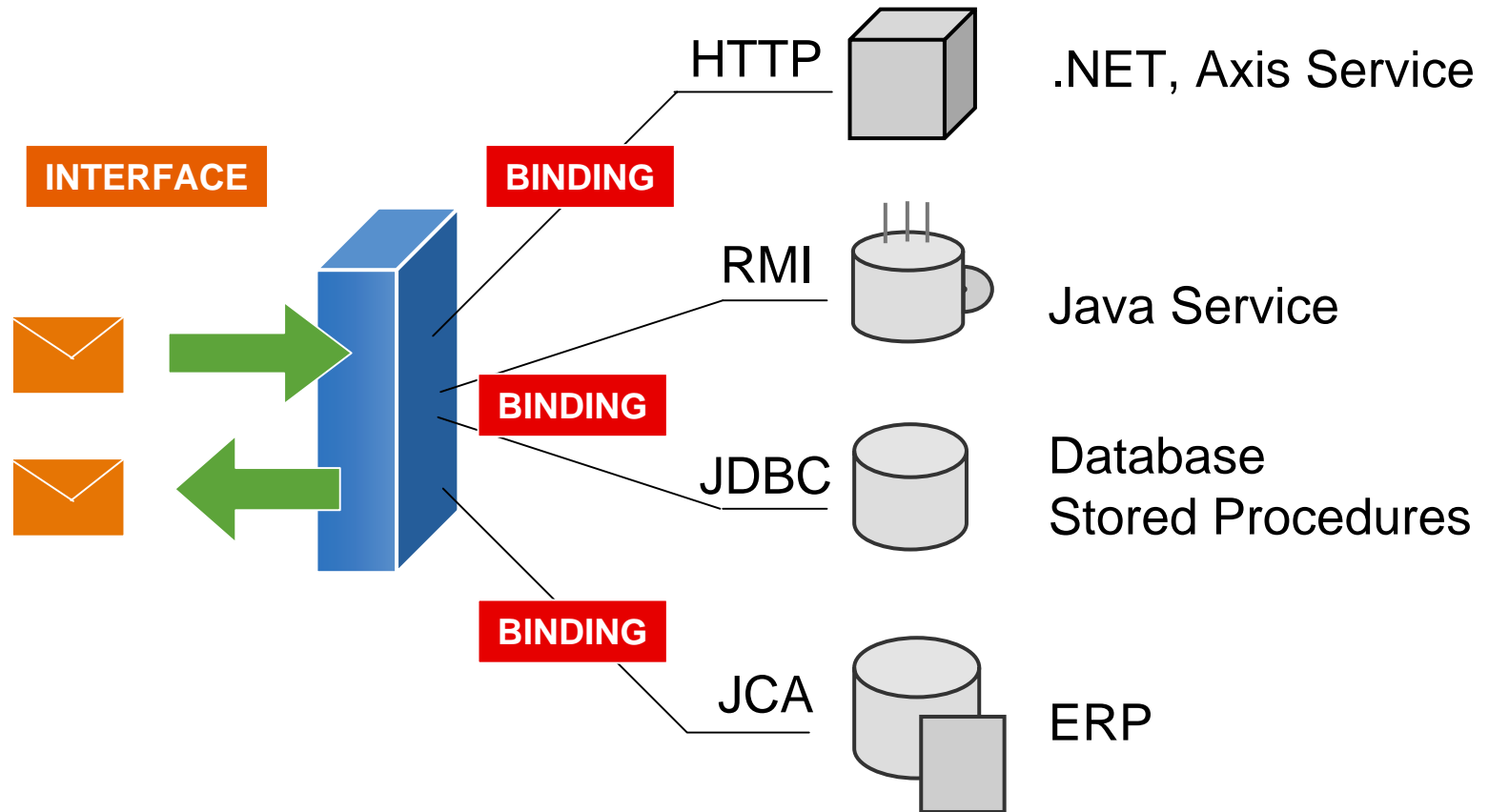
Low complexity, very high volume

DSL Provisioning



Very high complexity, medium volume

Key Standards: WSDL and Non-SOAP Bindings

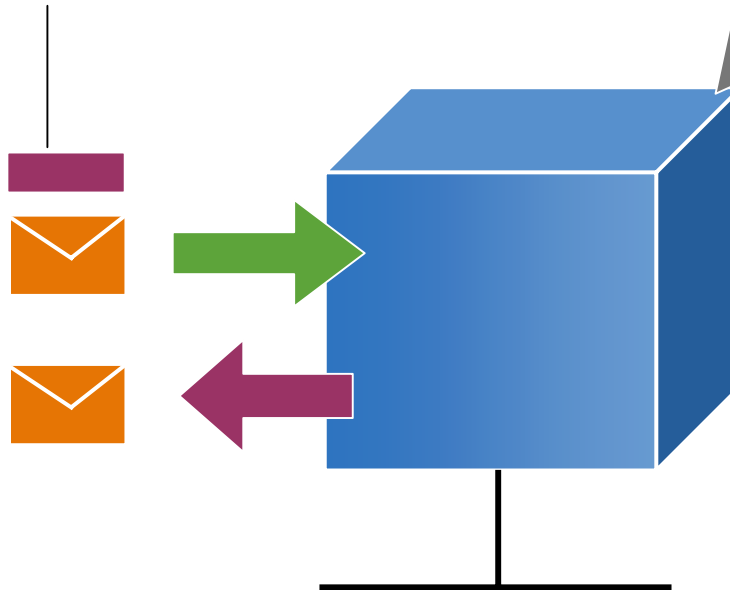


Key Standards: WS-Addressing and Asynchrony

WS-Addressing

Correlation

Callback Location



Performance
Reliability
Business Time

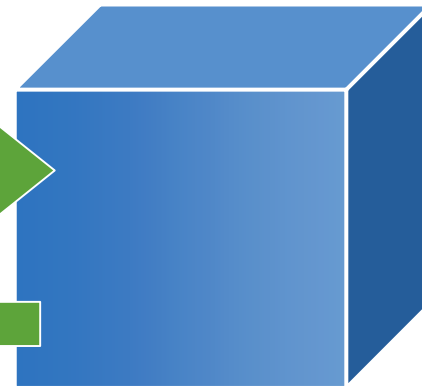
Key Standards: WS-Security

WS-Security, SAML

Signature

Encryption

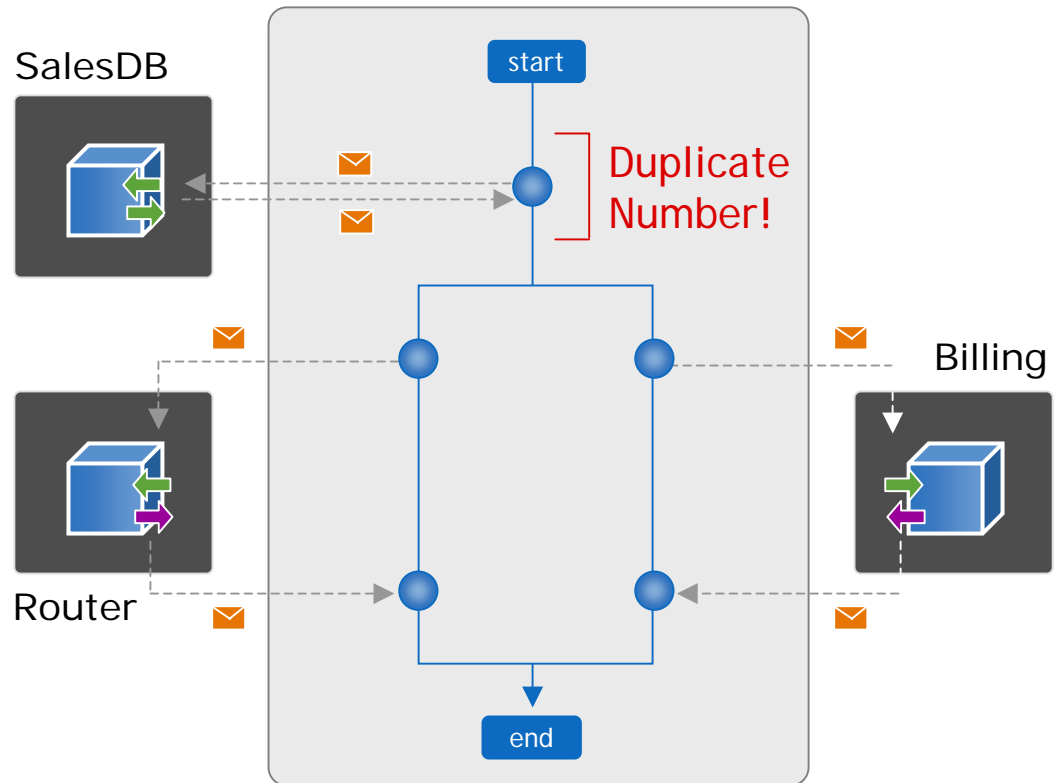
Role and Access Control



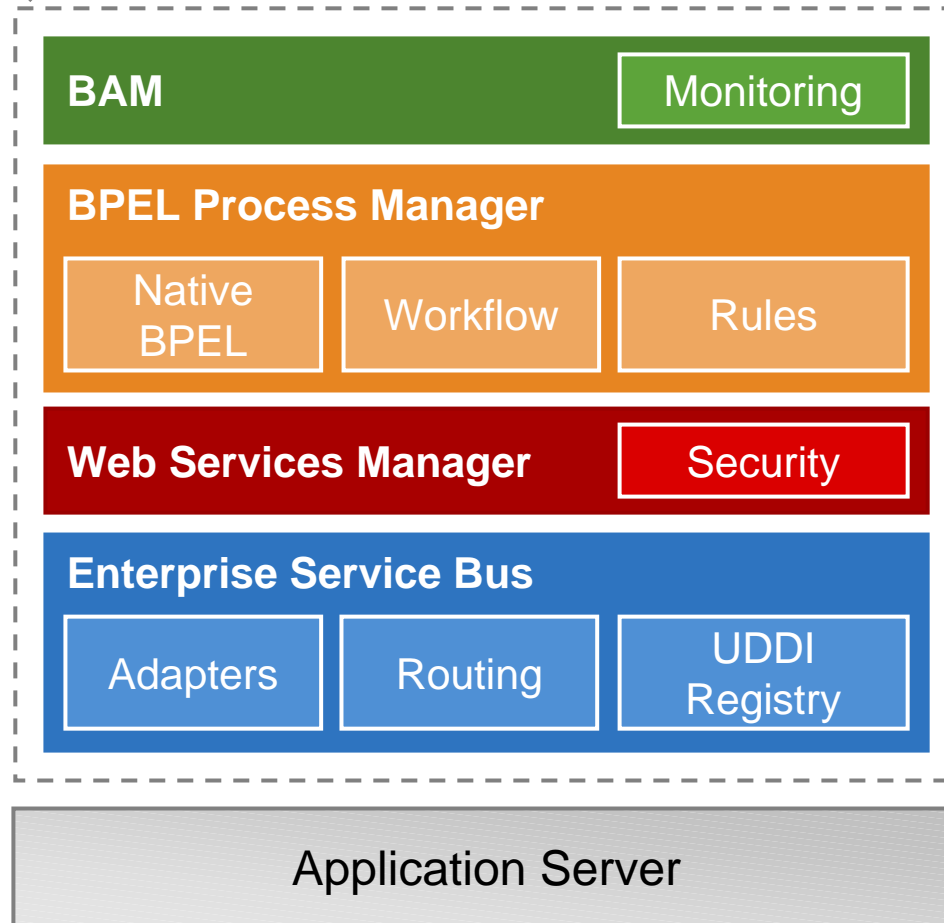
Key Standards: BPEL and Process Orchestration

Markup language for composing a set of discrete services into an end-to-end process flow

- 10+ years of R&D from MSFT and IBM
- Rich Flow Semantics
- Optimized Bindings
- XPATH+XSLT+XQuery
- WS-Security
- A Process is a Service

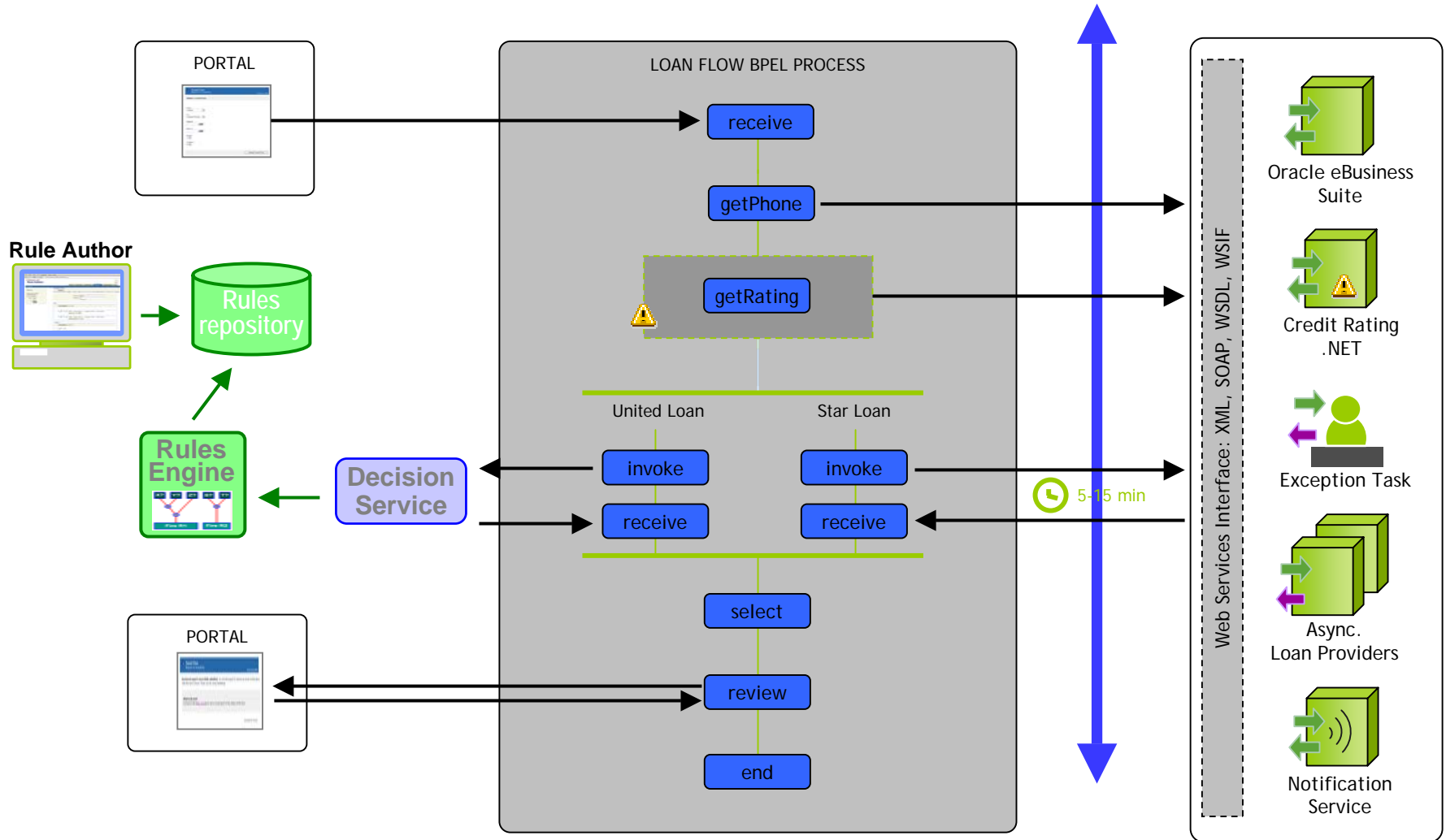
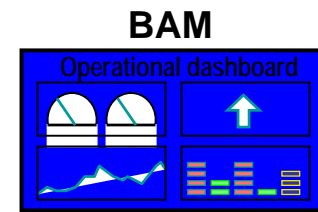


SOA Infrastructure Stack

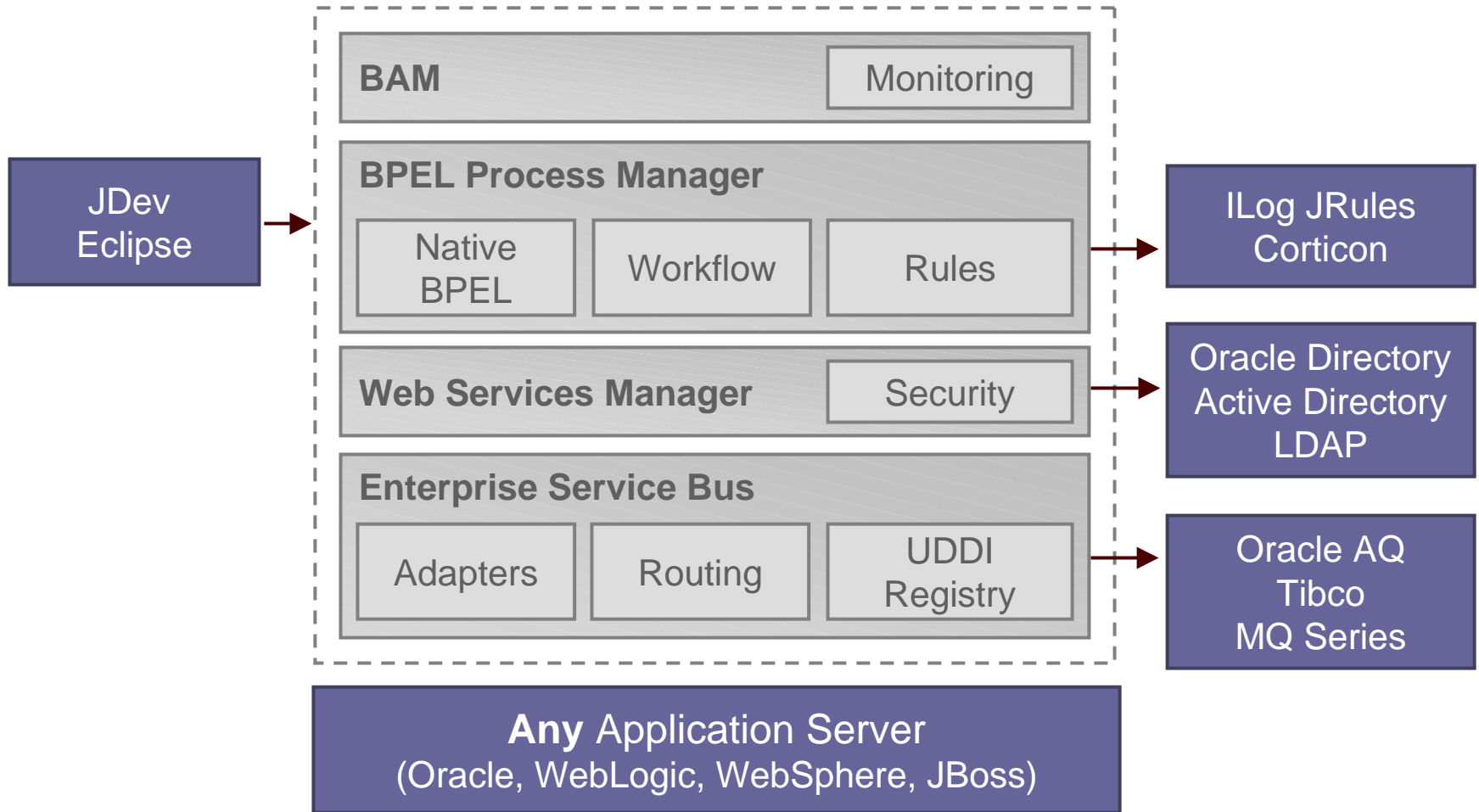


DEMO

Extended Loan Flow Demo



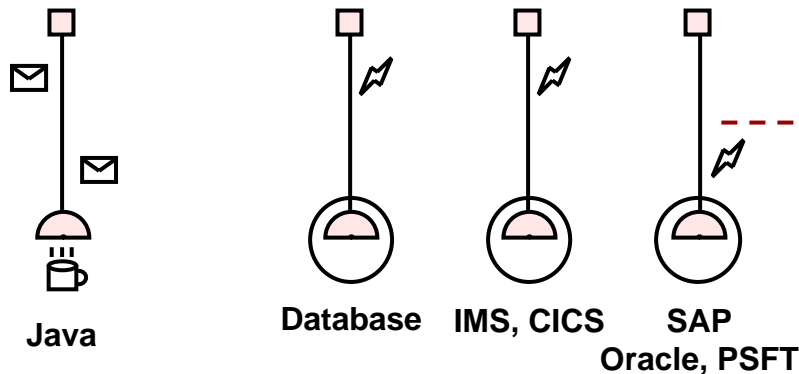
“Hot-Pluggable”



Best Practices for Defining an SOA Strategy



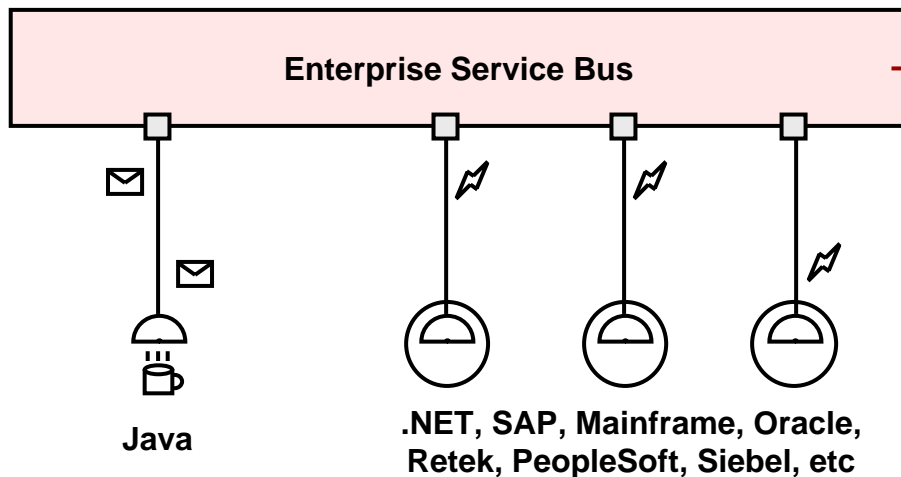
Step 1 | Portfolio of Services



- BEST PRACTICES

- Contract/Interface First
- Coarse Grain Documents
- Asynchronous Interactions
- Undo/Cancel Operations
- Versioning
- WS-I, Wrapped Document Style
- WSIF Binding to Java, JCA

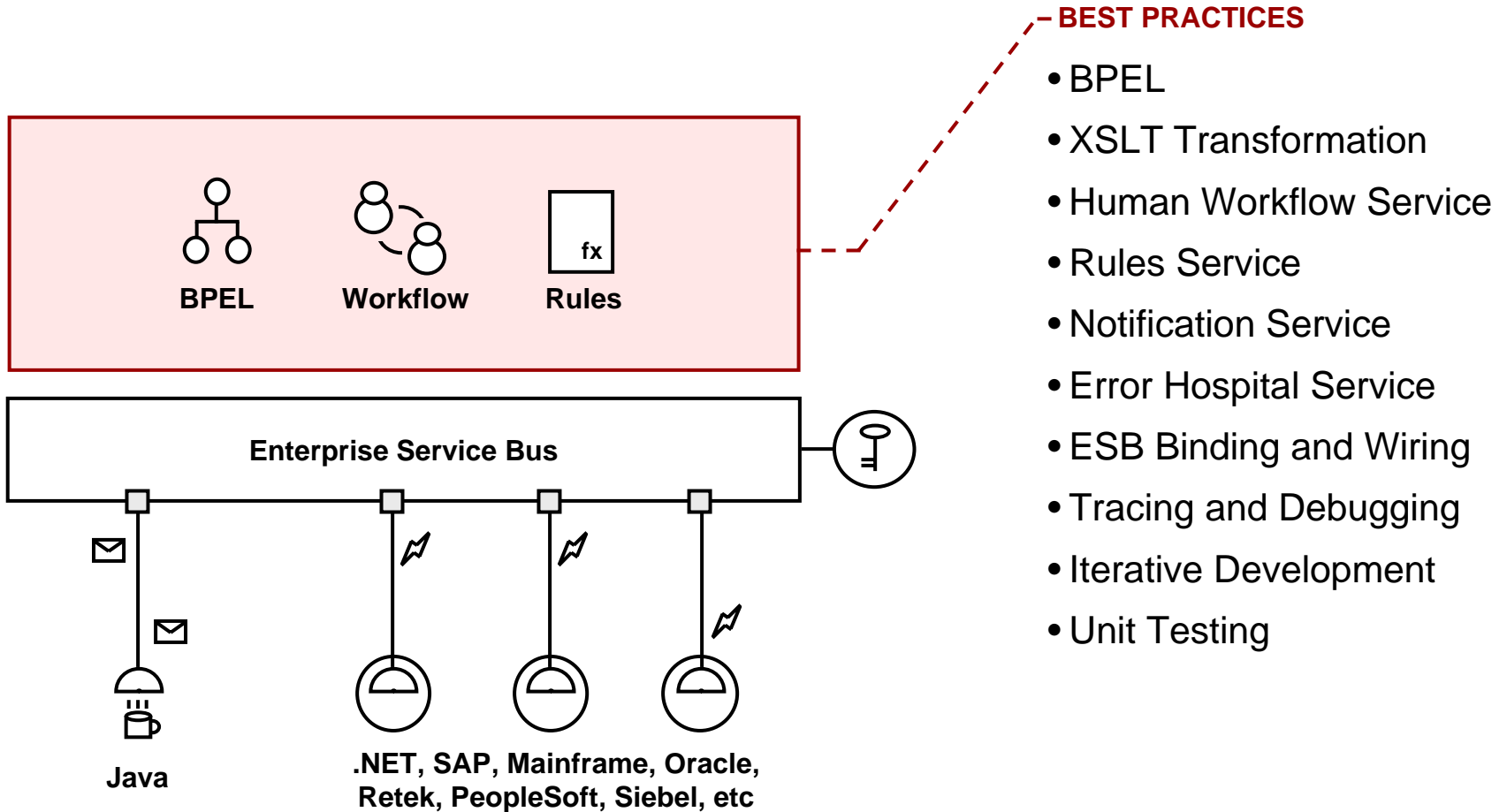
Step 2 | Connectivity and Messaging (ESB)



BEST PRACTICES

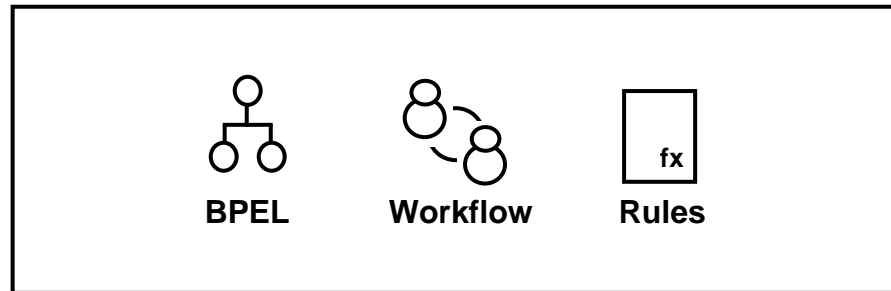
- UDDI Registry
- JCA Adapters
- Service Virtualization
Logical Naming
- Consider Requirements for:
 - Performance
 - Transactionality
 - Quality of Service
 - Interoperability

Step 3 | Process Orchestration, Workflow and Rules

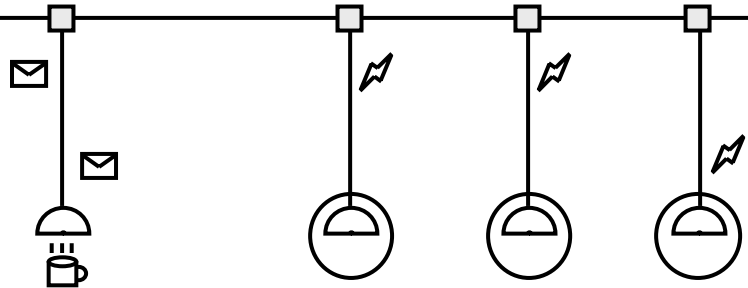


Step 4 | User Interface

Portal, JSF Applications, .NET, Microsoft Office



Enterprise Service Bus



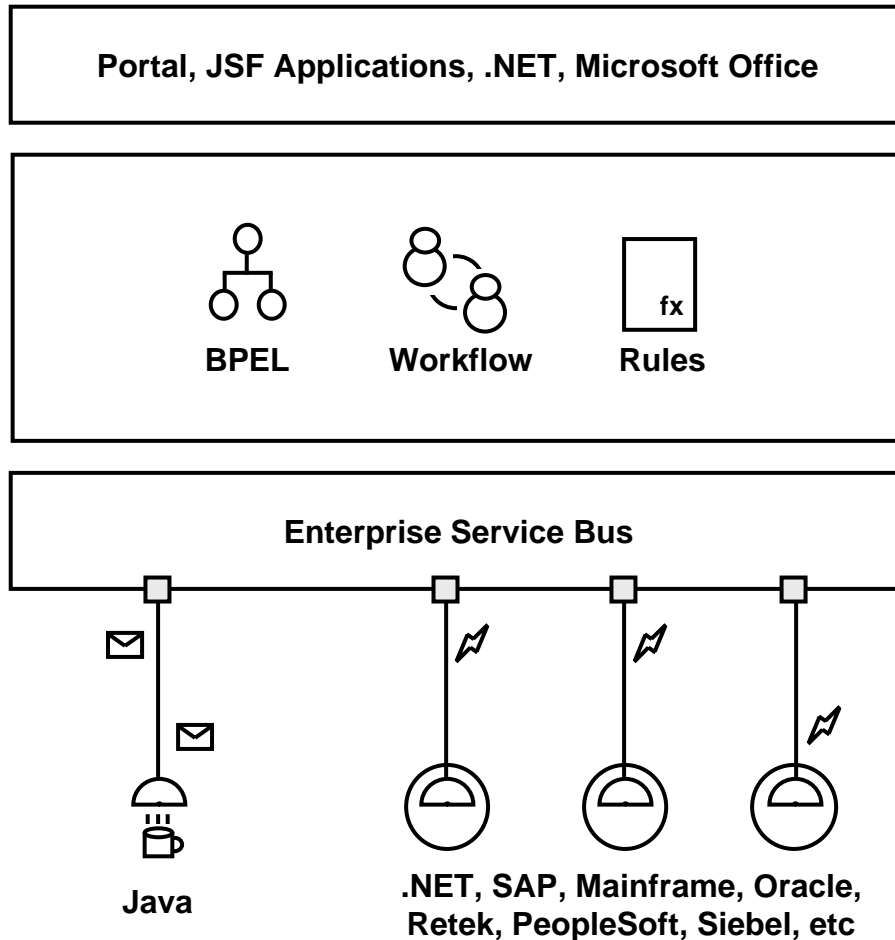
Java

.NET, SAP, Mainframe, Oracle, Retek, PeopleSoft, Siebel, etc

BEST PRACTICES

- MVC – BPEL is a Model (Loose Coupling)
- Workflow Service is a Model
- JSF or Struts
- WSRP, JSR-168

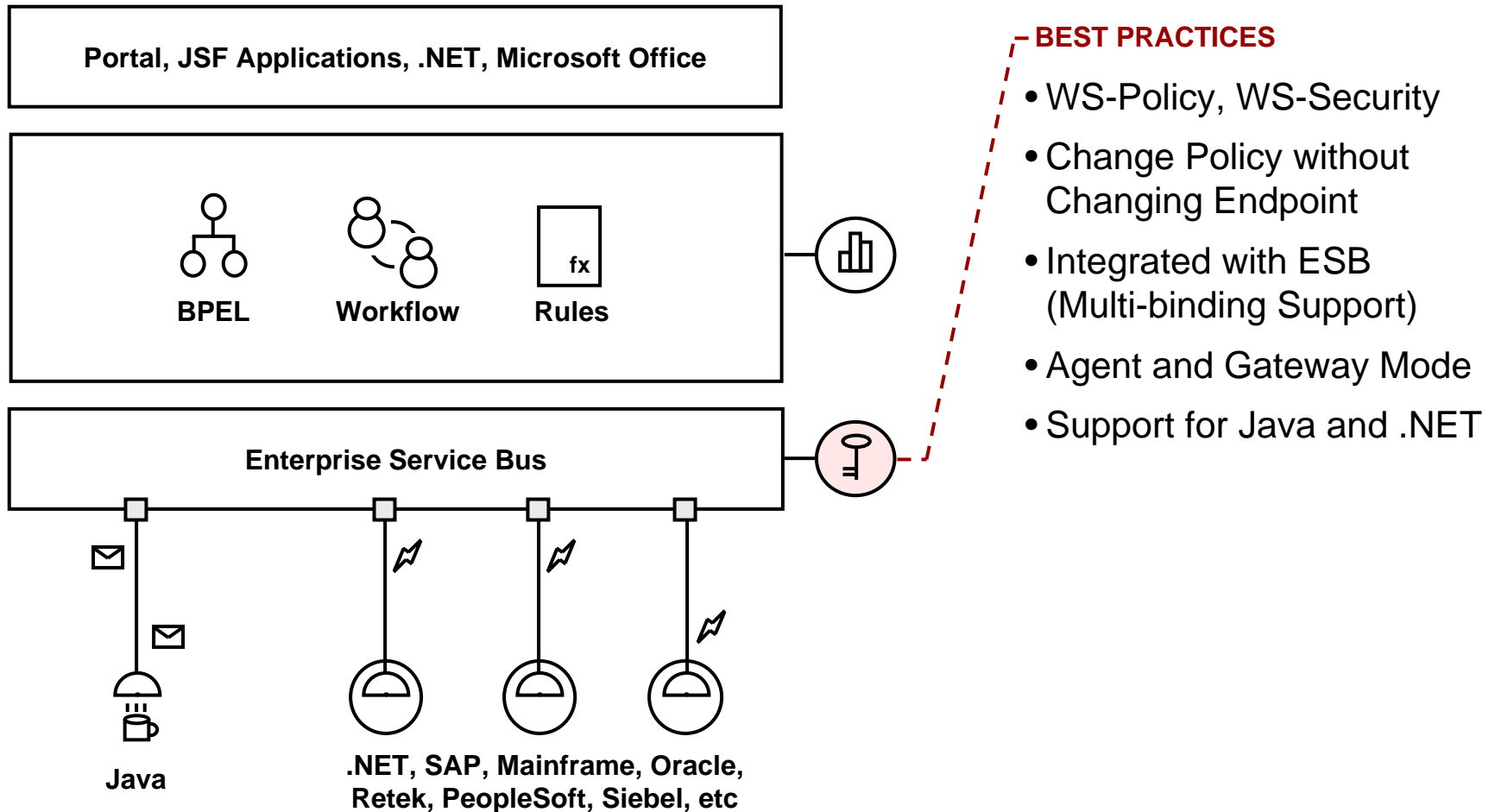
Step 5 | Business Activity Monitoring



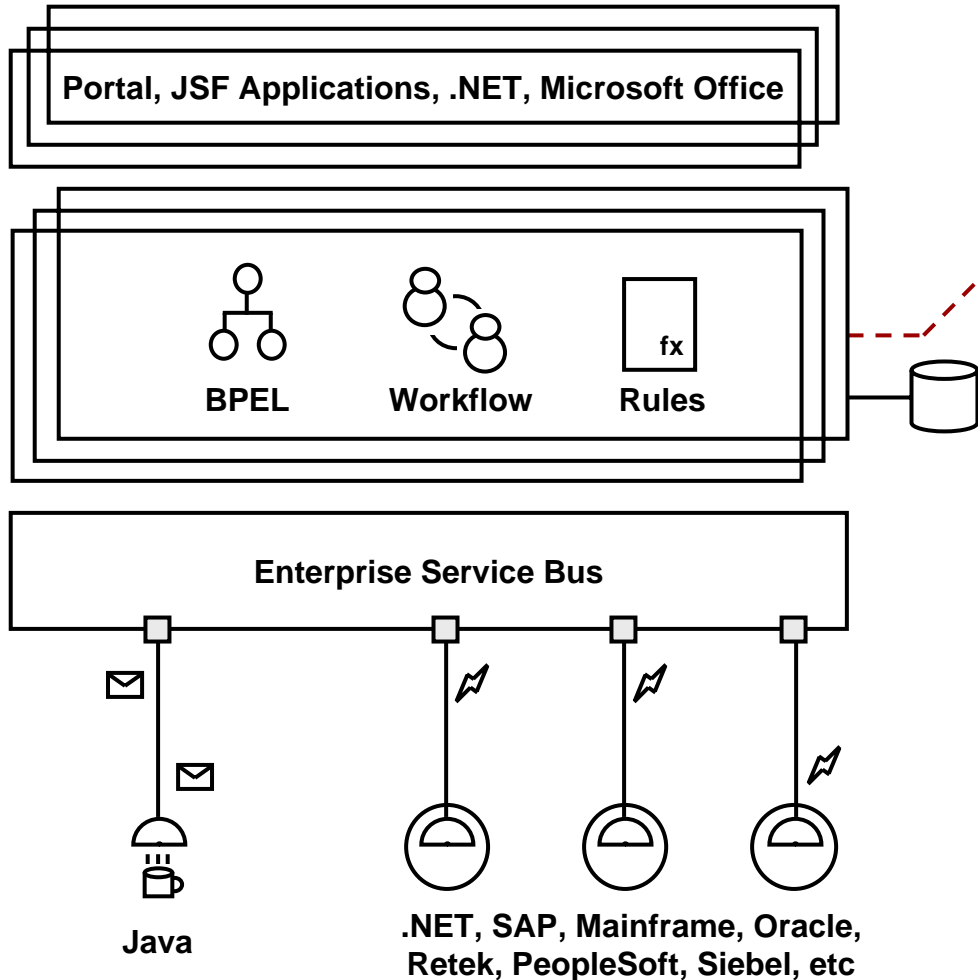
BEST PRACTICES

- KPI First
- Sensors to Collect Events without Process Logic Changes
- Real-time Dashboard
- Alert/Actions (Fusion Effect)

Step 6 | Security Policy Management



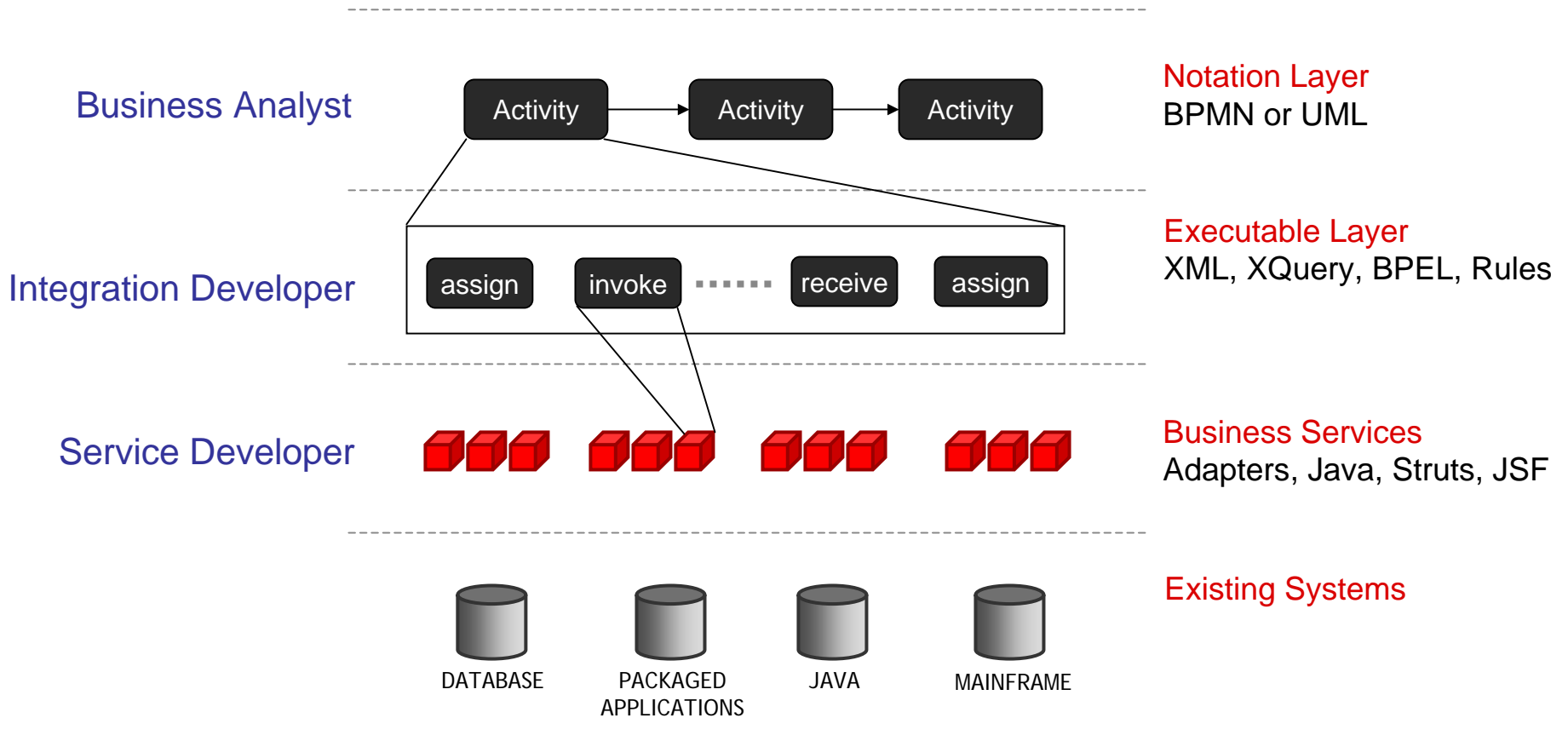
Step 7 | Performance, Scalability and Reliability



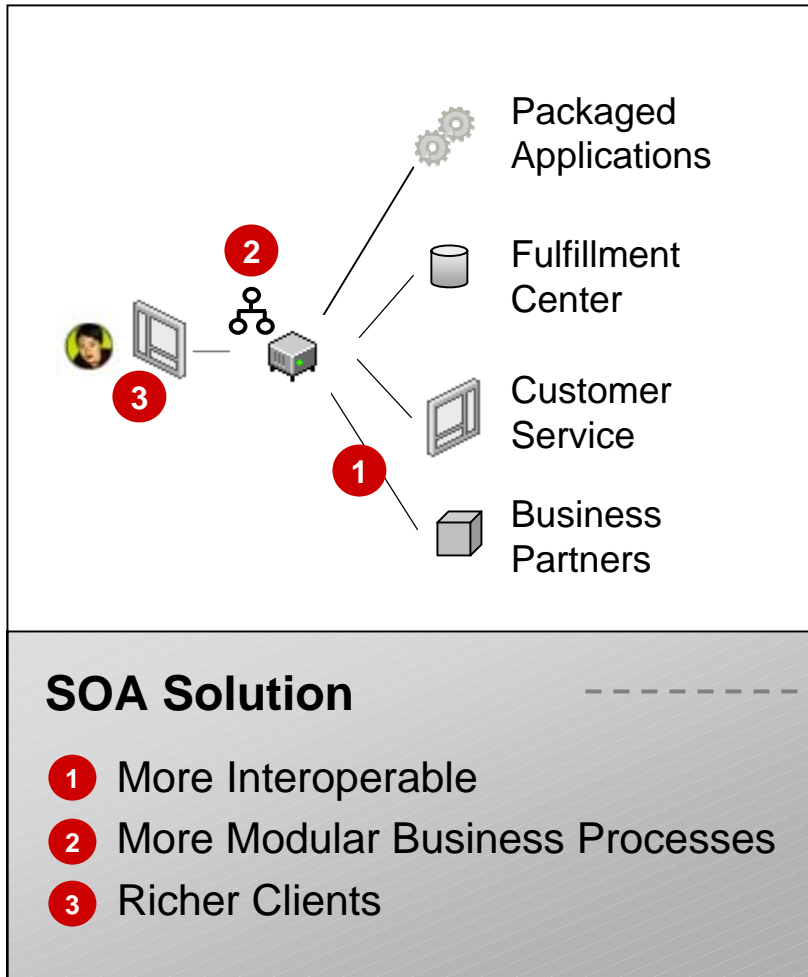
BEST PRACTICES

- Asynchronous Interactions
- WS-Addressing Correlation
- Handle Large XML Documents Appropriately
- “Stateless Architecture” (Grid)
- JCA and Java Binding
- Batch API

SOA: Top Down versus Bottom Up?

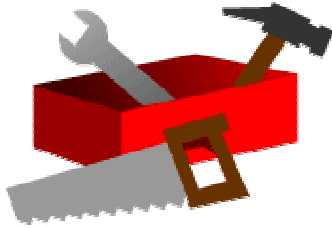


Summary



Best Practices/Strategy

1. Portfolio of Services
2. Enterprise Service Bus
3. Process Orchestration
4. User Interface
5. Activity Monitoring
6. Policy Management
7. Performance



SOA Methodology Workshop

A 2-day practical training class covering specific SOA blueprints and design patterns (open to architects)

16/17 May at Oracle HQ - Redwood Shores, California

Free to attendees of SOA Architect Forum

Please indicate interest on evaluation form

<http://otn.oracle.com/soa>