

Adopting A Service Oriented Architecture: Best Practices & Strategies

Detroit,

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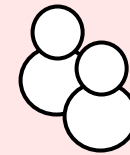
Oracle Fusion Middleware

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Business Needs

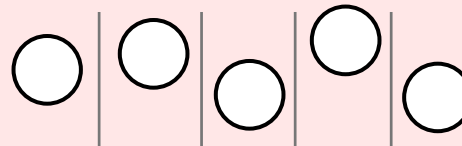
➤ Increasingly Demanding Requirements

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

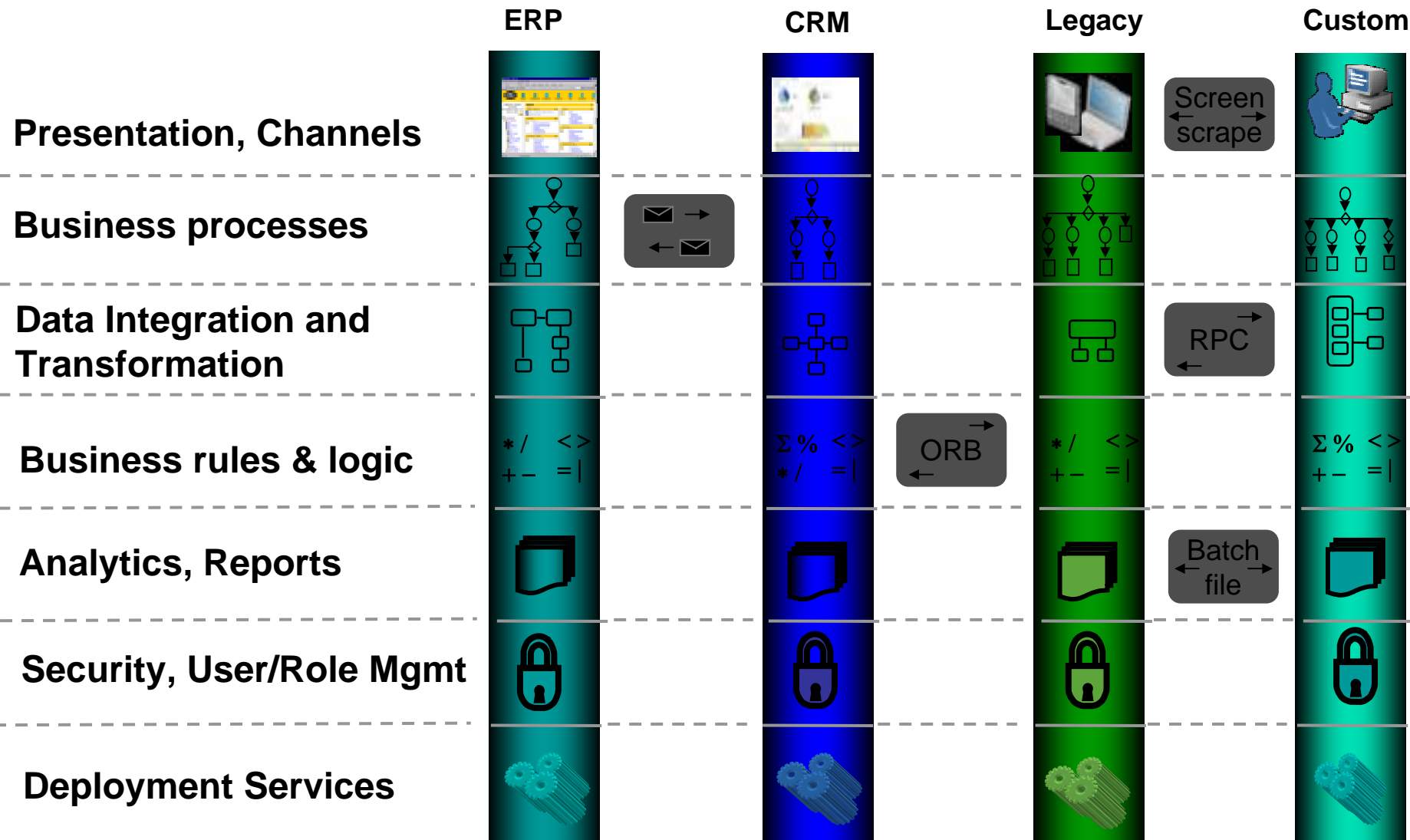


➤ Increasingly Complex Infrastructure

Silos
Heterogeneous Systems
M&A



Stove-piped Applications: Multiple Proprietary Technology Stacks

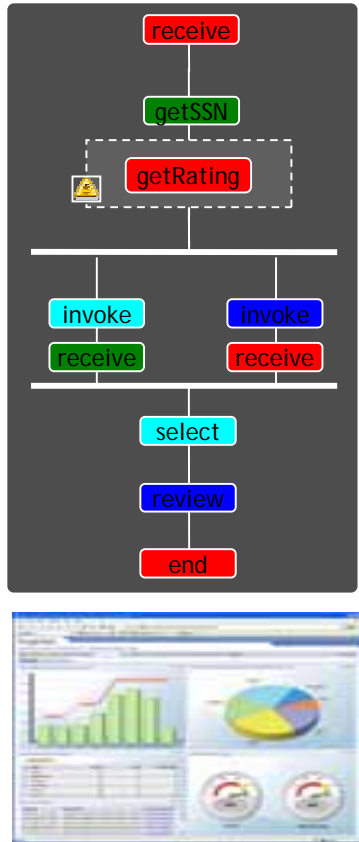


Evolution To Service Oriented Architecture

Multi-Channel Access



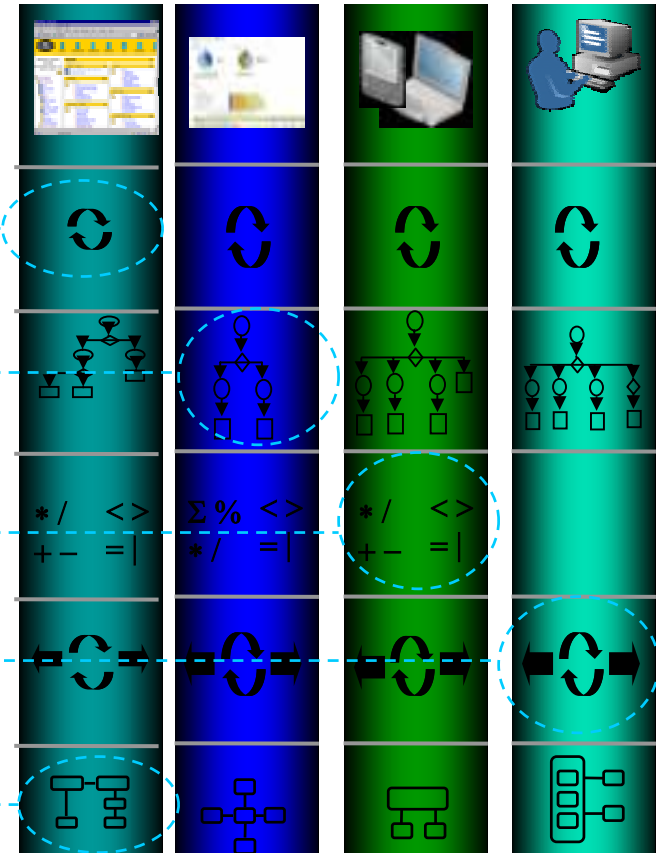
Business Processes



Services



Legacy Applications

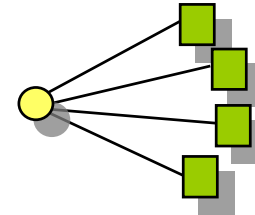


New Services

Examples of Composite Applications

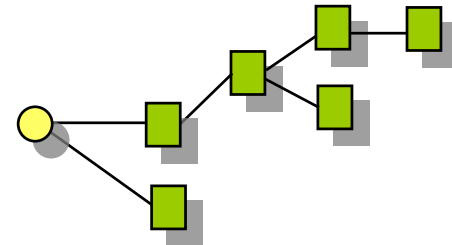
Portal – 360° View

- Customer Support Dashboard
- Supplier Performance Management



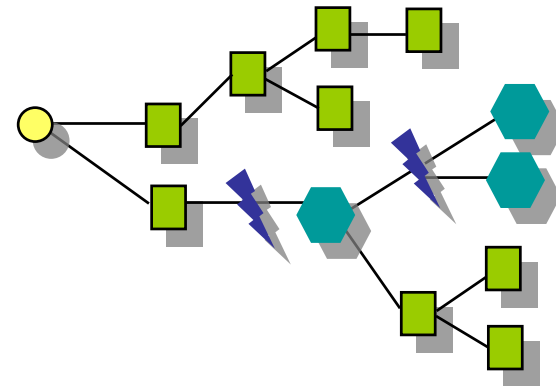
Micro Processes

- Travel Hotel Aggregator
- Aggregate Purchasing
- Advanced Price Calculation

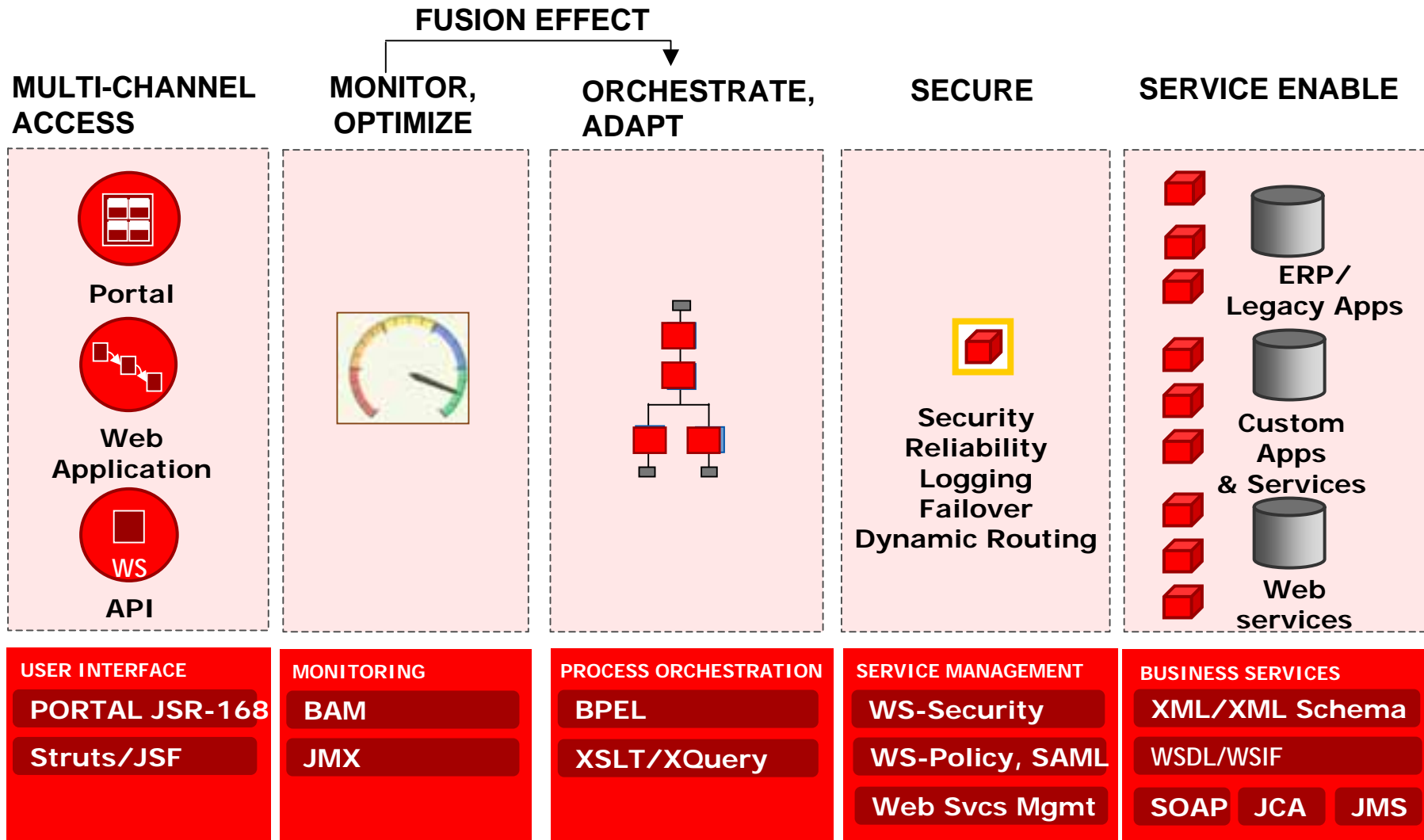


End-to-end Business Processes

- DSL Service Provisioning
- Employee Onboarding
- Order-to-Cash
- Distributed Order Fulfillment
- Six Sigma



Emergence of SOA Standards



Customer Adoption of SOA

Drivers of Customer Adoption: Automation, Cost

Financial Services



Process Automation
("Open/ Close Account")

Logistics
(Diversified)



Reduce Cost of Integration,
Rationalize IT following M&A

Outsourcing



"Asset Data Hub"
(Integration, Process Automation)

Drivers of SOA Adoption: Re-Use, Legacy Migration

Insurance



Mainframe Migration,
Reduce Time of Delivering Systems

Public
Sector



Preserving IT Assets,
New Business Requirements

Financial
Services



Reduce Time of Delivering System
Phased Modernization

Drivers of SOA Adoption : Agility, Flexibility, Compliance

Telco



Agile Process Introduction,
Change Management

Airlines



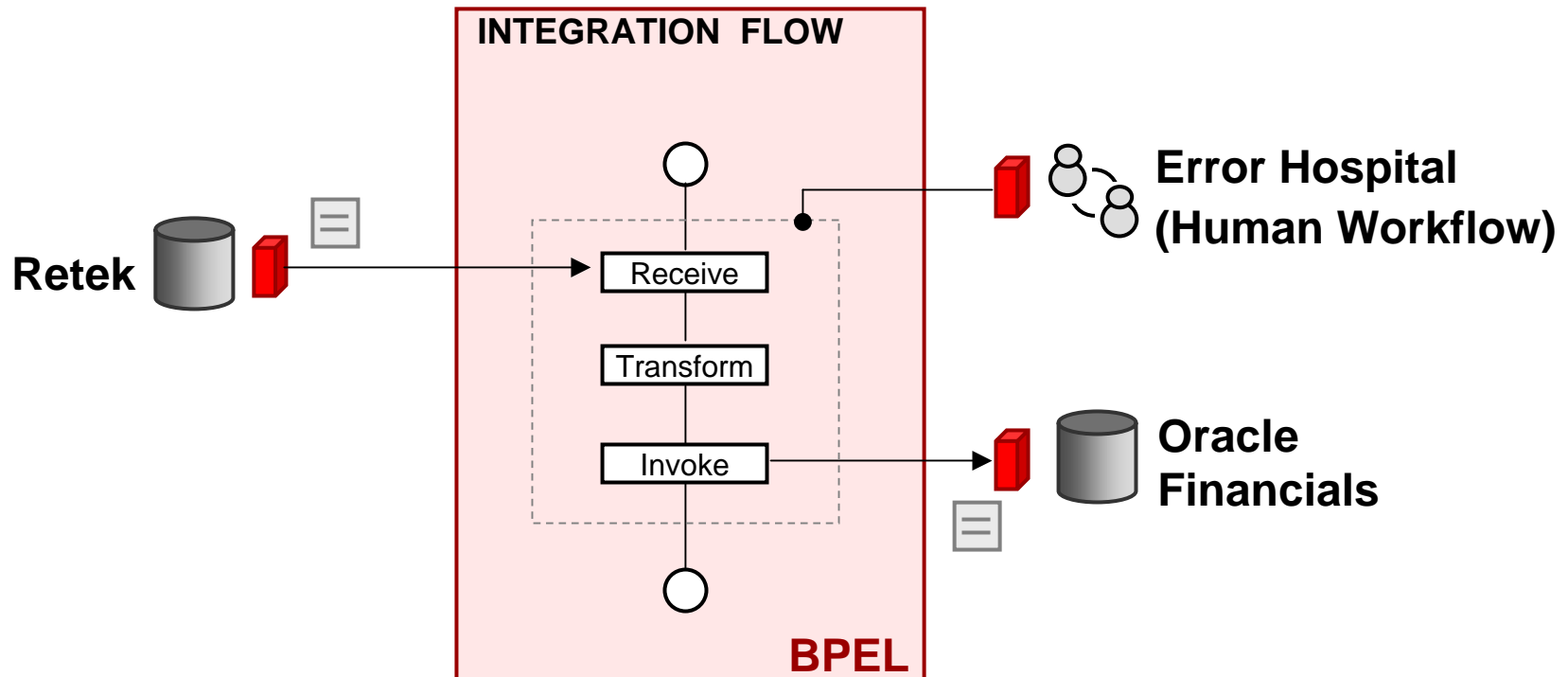
Process Flexibility (Create, Refine)
Single View of Customer

Financial
Services



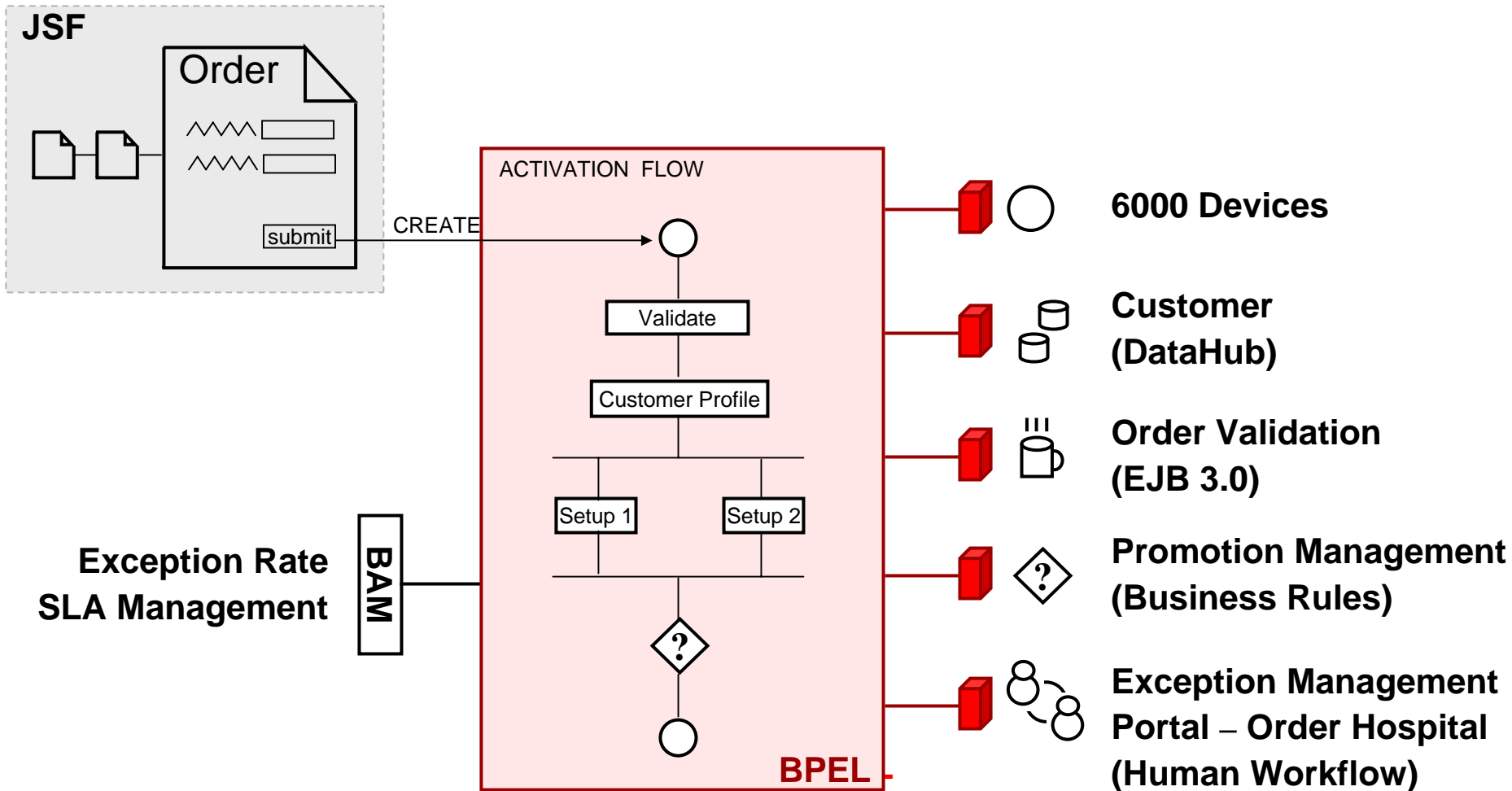
Compliance, Transparency
For Mutual Fund Initiation Processes

SOA Use-Case (I): Retek Sales Module - Oracle Financial Ledger Integration



Low complexity, very high volume

DSL Provisioning



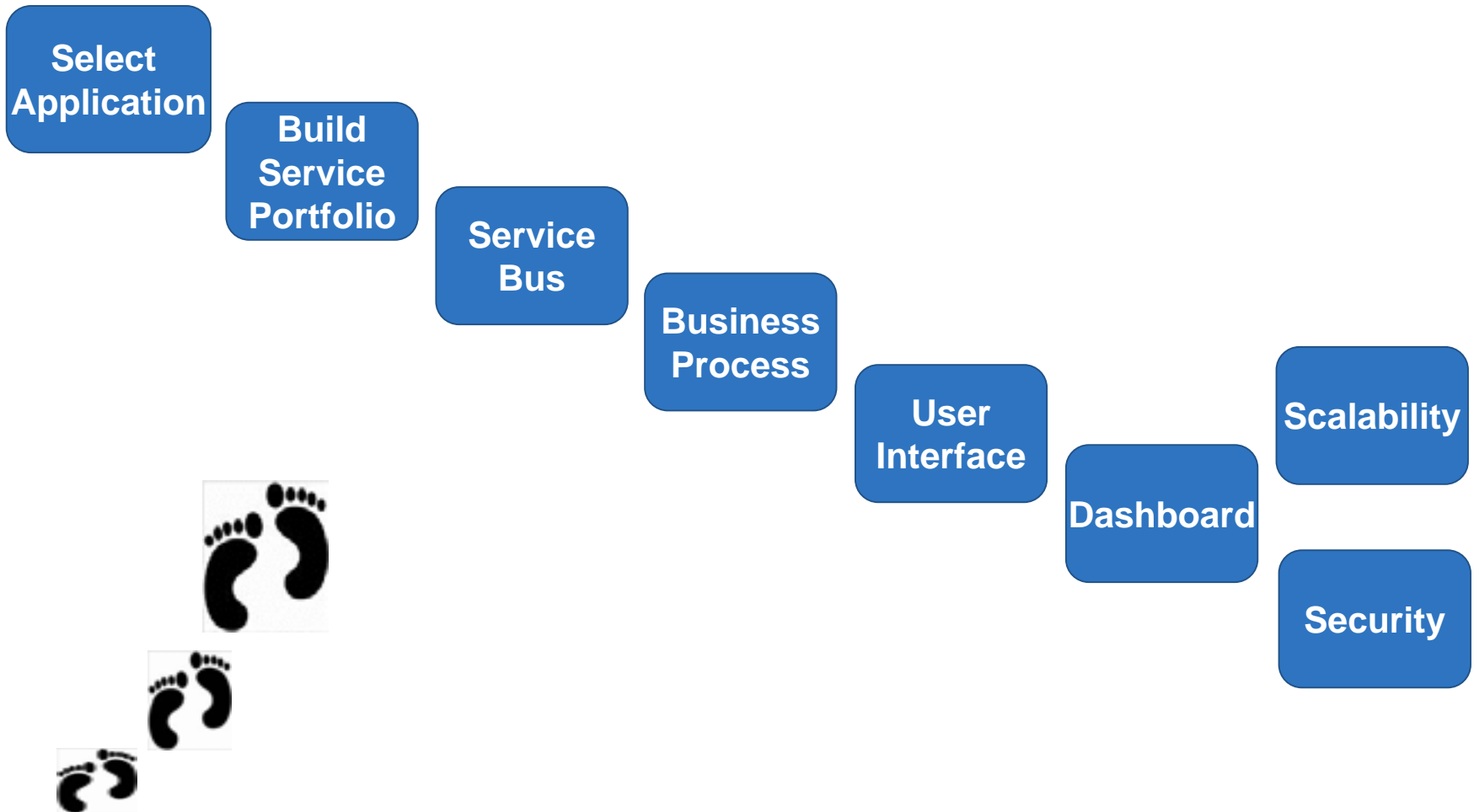
Very high complexity, medium volume

SOA Success Factors

1. Unified Development Environment for SOA
 - Vs. Multiple Tools One Each for ESB, BPM, Rules, Portals..
 - Standards Based Building Blocks (WS-*, BPEL, XSLT, Rules..)
2. Declarative, Model Driven Development
 - Simpler to Build, Easier to Adapt ('Built for Change')
 - Vs. Coding Oriented ("Built to Last")
3. Mainframe "QoS" for Deploying, Running Services
 - Define, Manage, Enforce SLAs
 - Deliver Availability, Scalability, Performance for Services
4. Security and Manageability
 - Built-in Policy Management for Authentication, Access, Usage
 - Services Lifecycle Management
5. Interoperability In Heterogeneous IT Environments
 - Vs. Vertically Integrated, Closed SOA Platforms
 - Most Companies Have Existing Middleware Standards

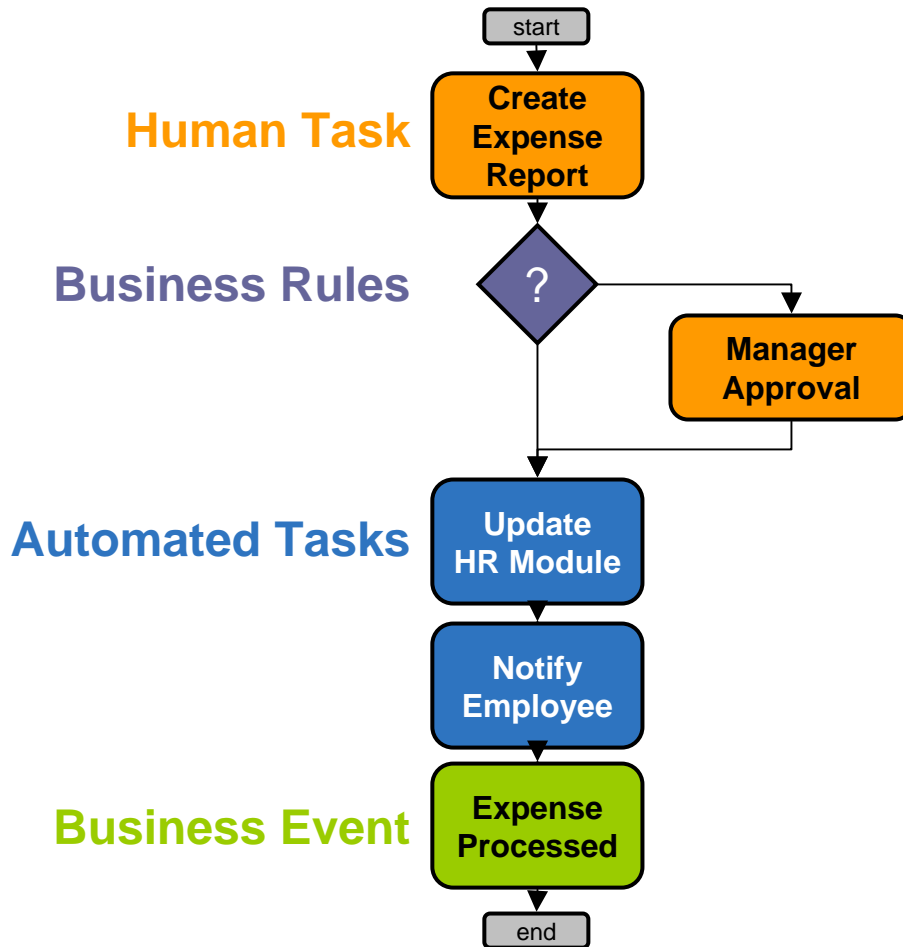
SOA Adoption Best Practices: Technology Platform

The Path to a Successful SOA Project





Step 0 | Select An Application



CRITERIA

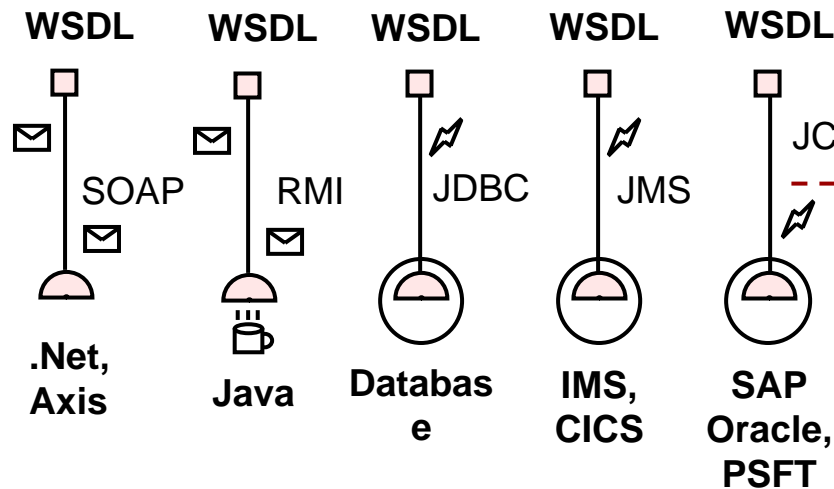
- Broken Process
- Lack of Visibility
- Variance
- Integration Points
- Clear Metrics

DELIVERABLE

- Process Sketch
- Set of Human Tasks
- Set of Automated Tasks
- Set of Business Events
- Set of Business Rules



1 | Build Portfolio of Services



- BEST PRACTICES

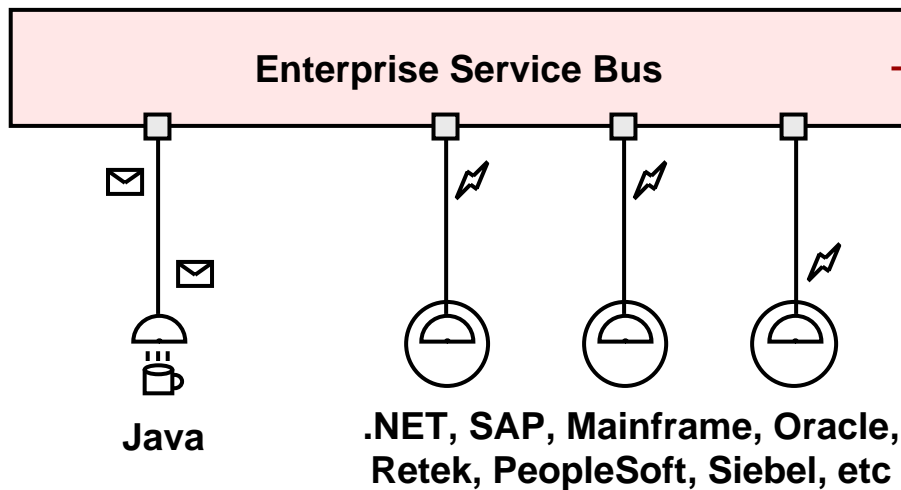
- Contract/Interface First
- WS-Addressing - Asynchronous Interactions
- Undo/Cancel Operations
- Versioning
- WS-I
- WSDL/WSIF Bindings to Java, JCA, .Net, Axis



2 | Integrate With Enterprise Service Bus (ESB)

BEST PRACTICES

- UDDI Registry
- JCA Adapters
- Integration with Policy Management Framework
 - SLAs
 - Security
 - Transactionality
 - Interoperability
- Service Virtualization & Logical Naming
- Deferred, Reliable Delivery (Configurable)

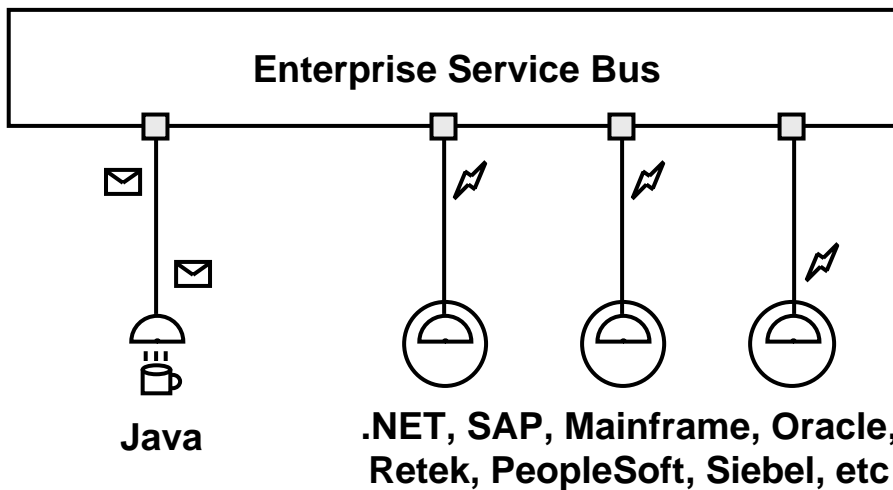
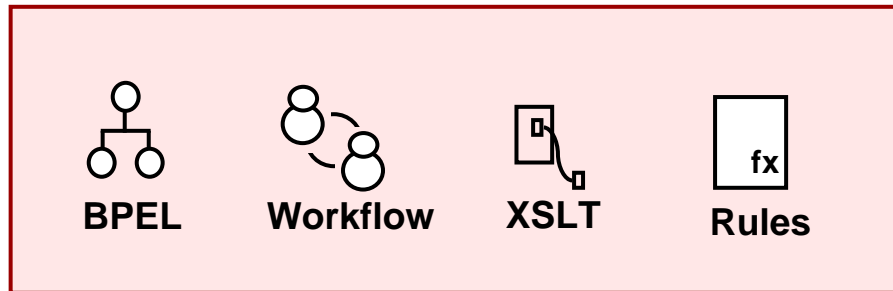




3 | Orchestrate into End-to-end Processes

BEST PRACTICES

- BPEL
- XSLT Transformation
- Human Workflow Service
- Rules Service
- Error Hospital Service
- Tracing and Debugging
- Iterative Development
- Unit Testing



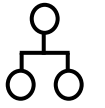


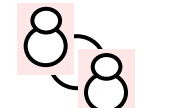
4 | Expose through Rich User Interfaces

Portal, JSF Applications, .NET, Microsoft Office

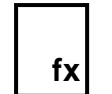
BEST PRACTICES

- JSF
- WSRP, JSR-168

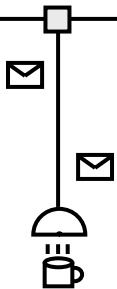

BPEL


Workflow


XSLT


Rules

Enterprise Service Bus

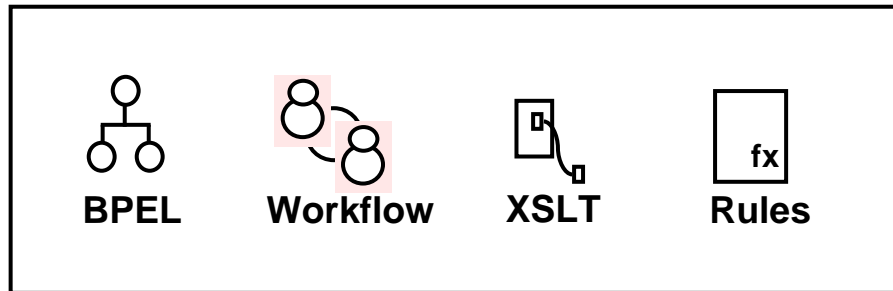

Java


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

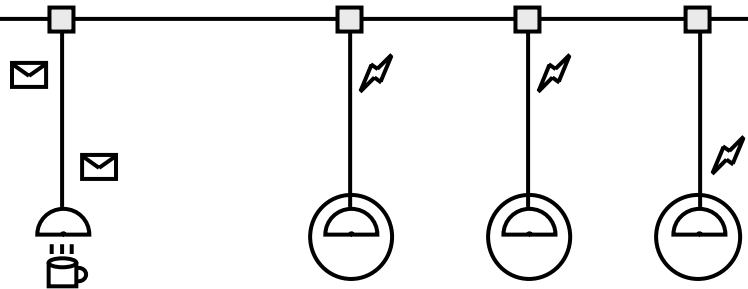


5 | Deliver Real-time Dashboards

Portal, JSF Applications, .NET, Microsoft Office

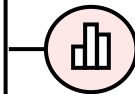


Enterprise Service Bus



Java

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



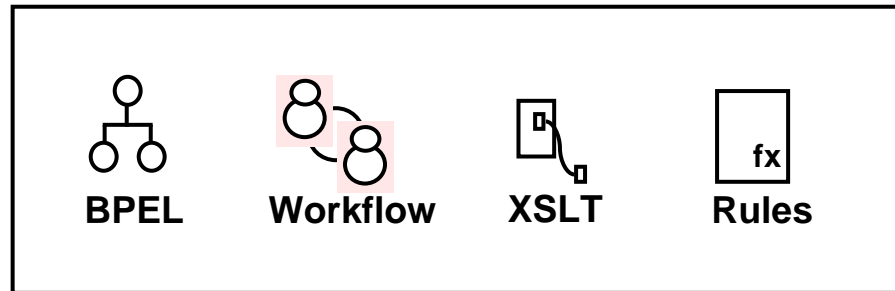
BEST PRACTICES

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

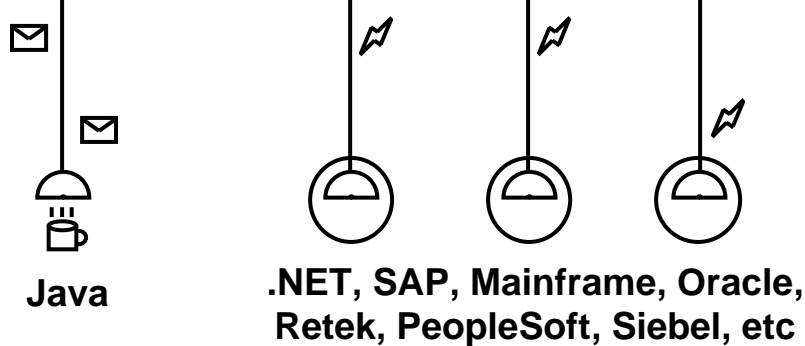


6 | Secure Interactions

Portal, JSF Applications, .NET, Microsoft Office



Enterprise Service Bus

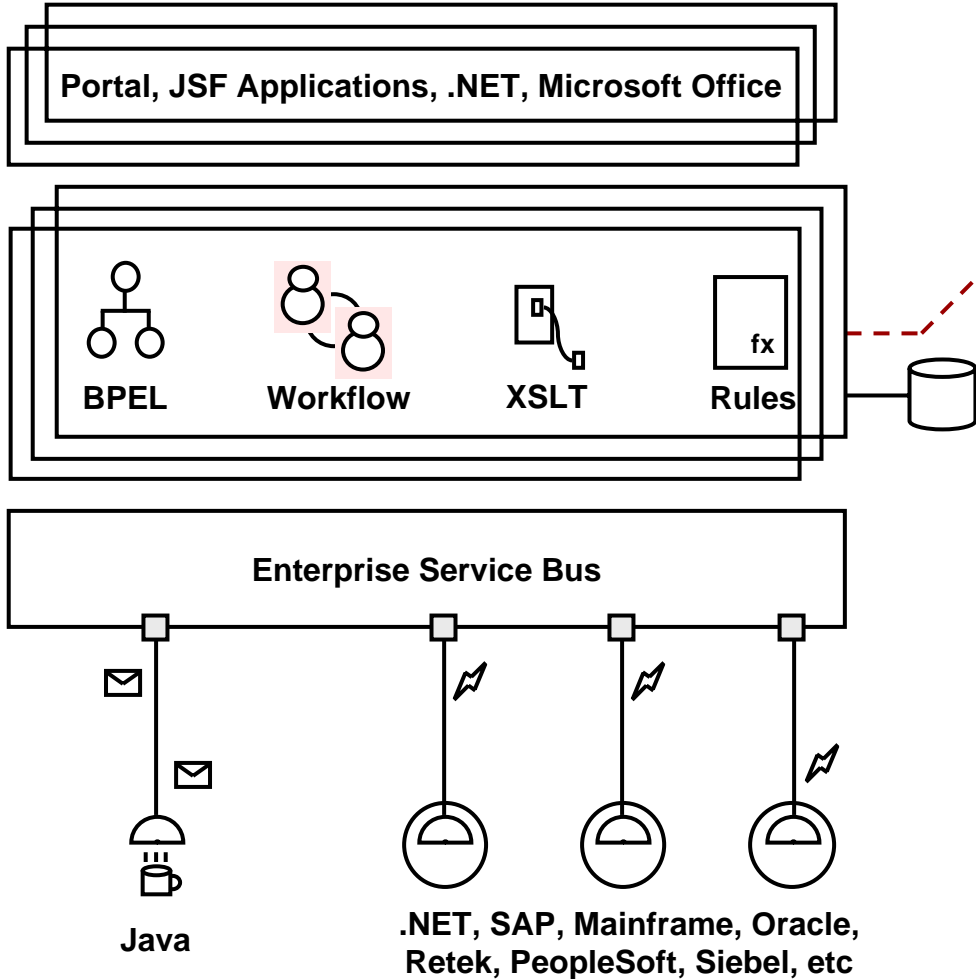


BEST PRACTICES

- WS-Policy, WS-Security
- Define Policies
 - Authentication
 - Access Control
 - Encryption
 - Usage/Audit
 - SLAs
- Change Policy without Changing Endpoint
- Integrated with ESB
- Agent and Gateway Mode
- Support for Java and .NET



7 | Performance, Scalability and Reliability

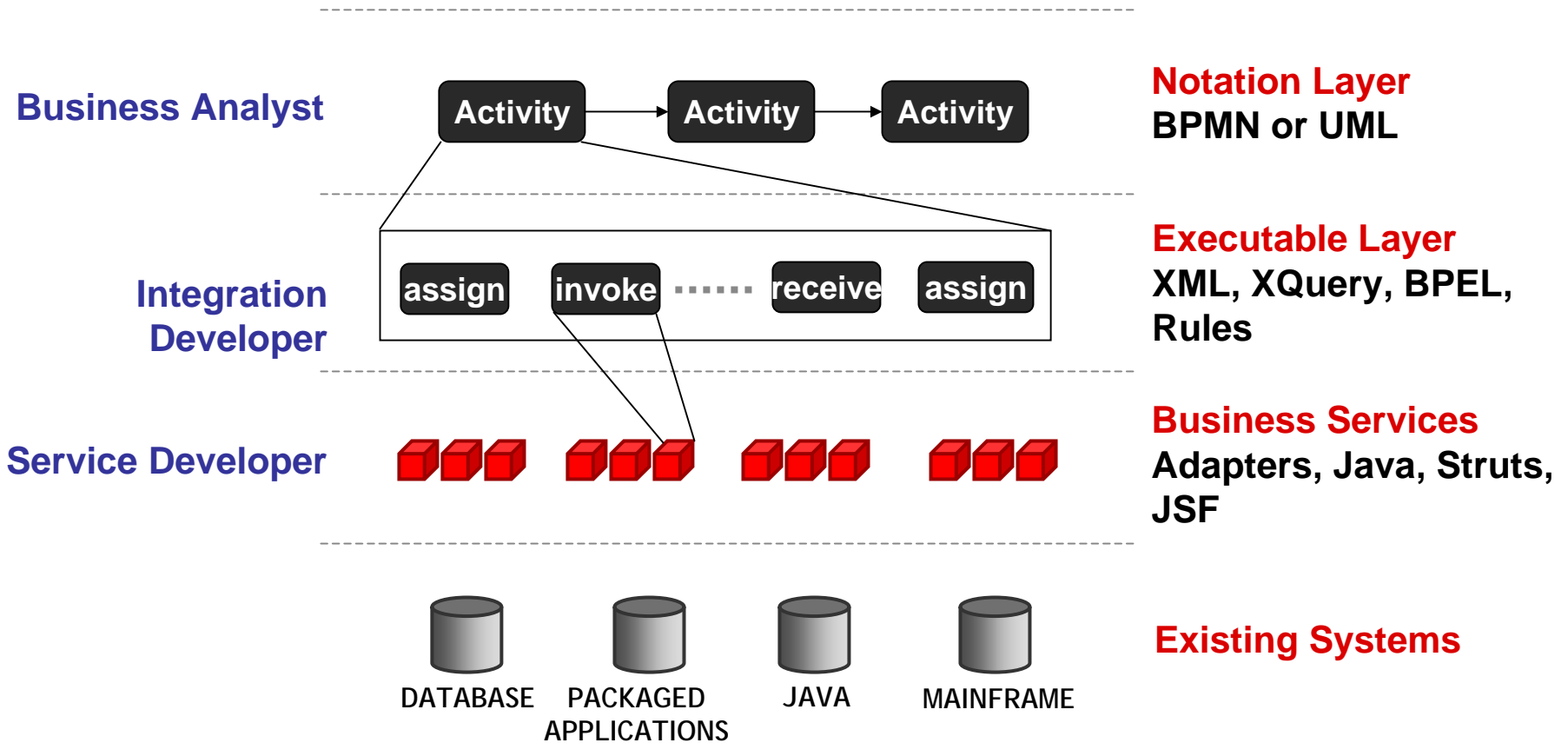


BEST PRACTICES

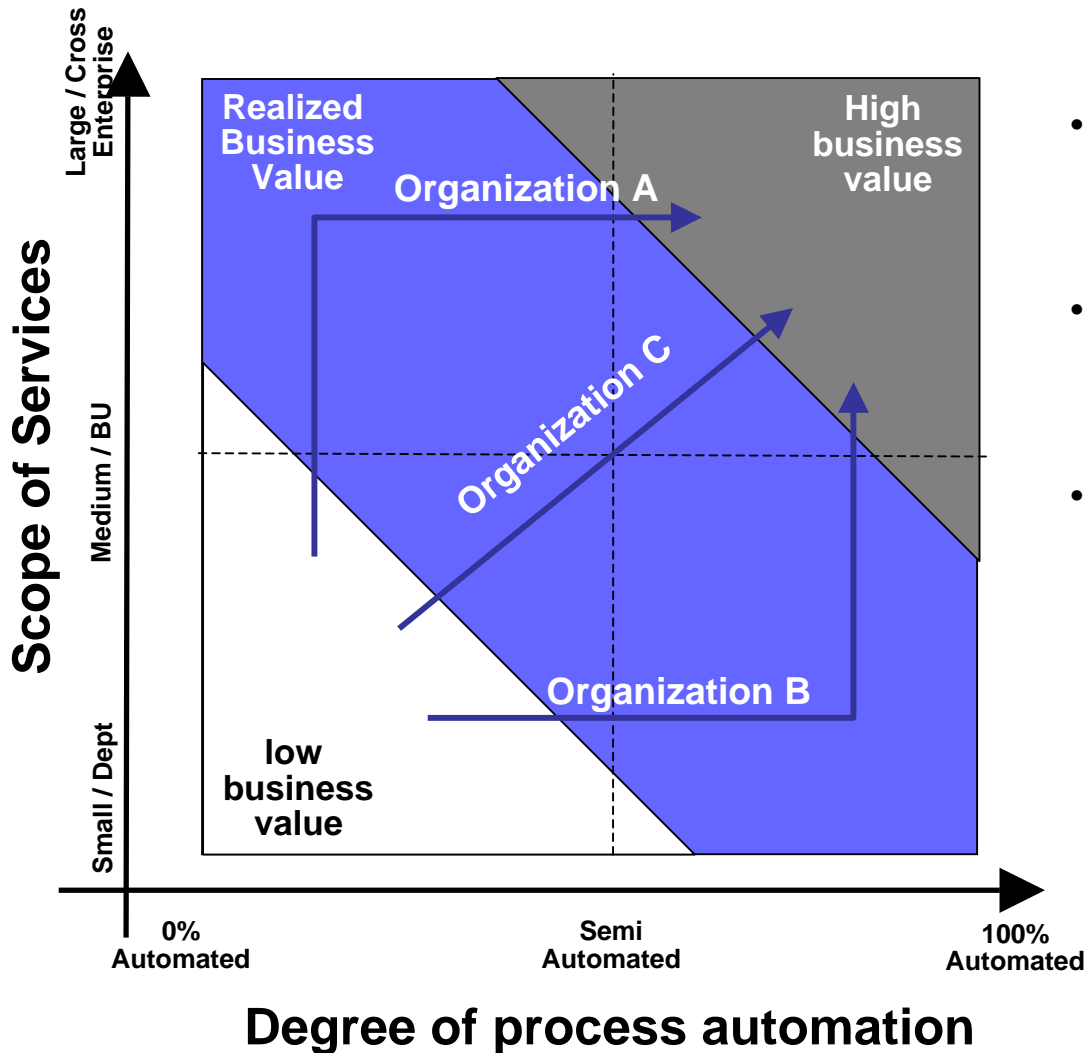
- Asynchronous Interactions
- WS-Addressing Correlation
- Handle Large XML Documents Appropriately
- “Stateless Architecture” (Grid)
- In-flight Process Monitoring/Troubleshooting
- JCA and Java Binding
- Batch API

SOA Adoption Best Practices: Methodology

SOA: Top Down versus Bottom Up?



SOA Adoption Plan

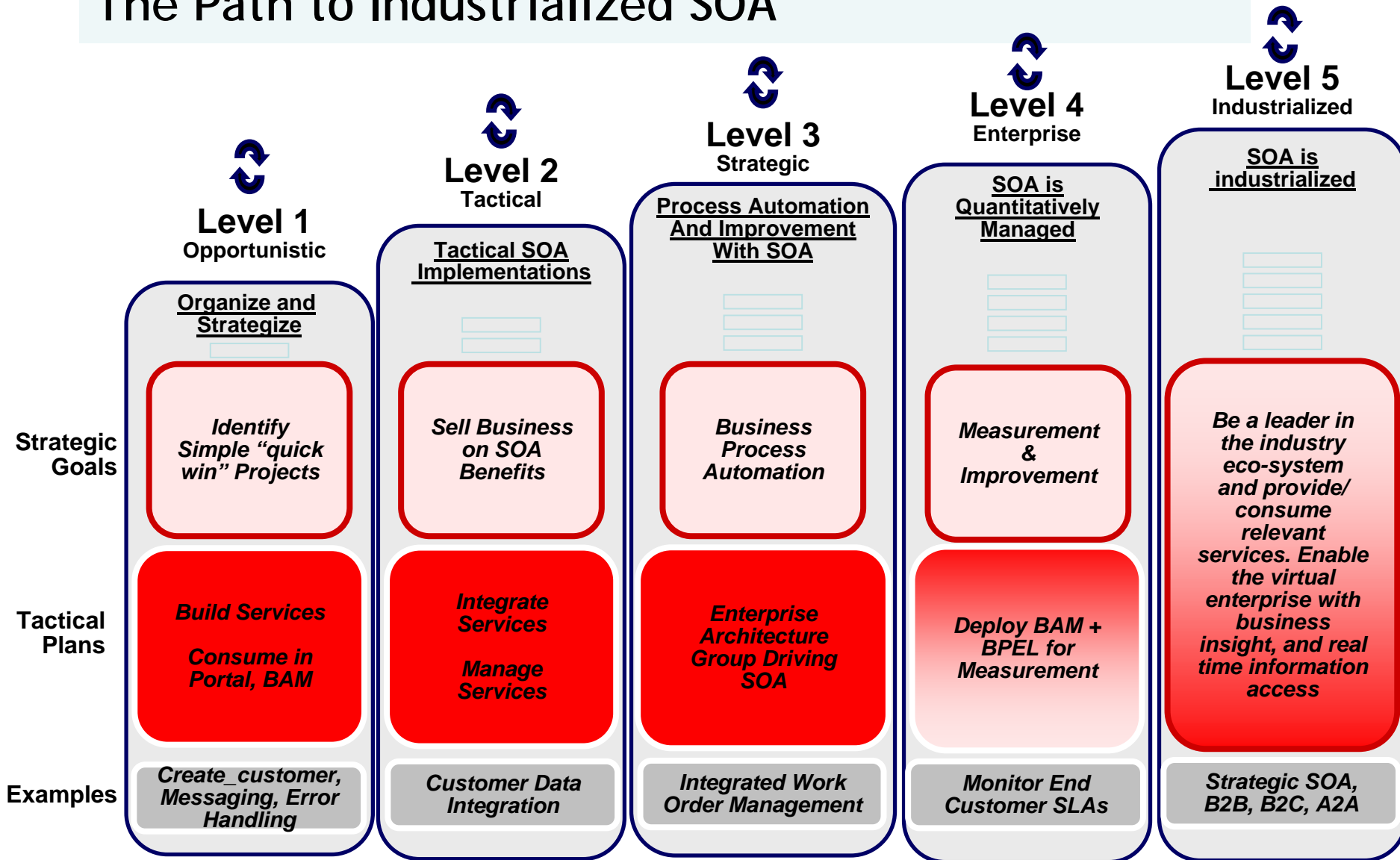


- Organization A
 - Services Focus
 - Reuse, Legacy Migration
- Organization B
 - Processes Focus
 - Flexibility, Agility, Compliance
- Organization C
 - Iterative Processes/ Services Focus
 - Recommended For Most Orgs.

Adoption drivers will push an organization down one of three paths, focusing on a combination of service foundation and process enablement.

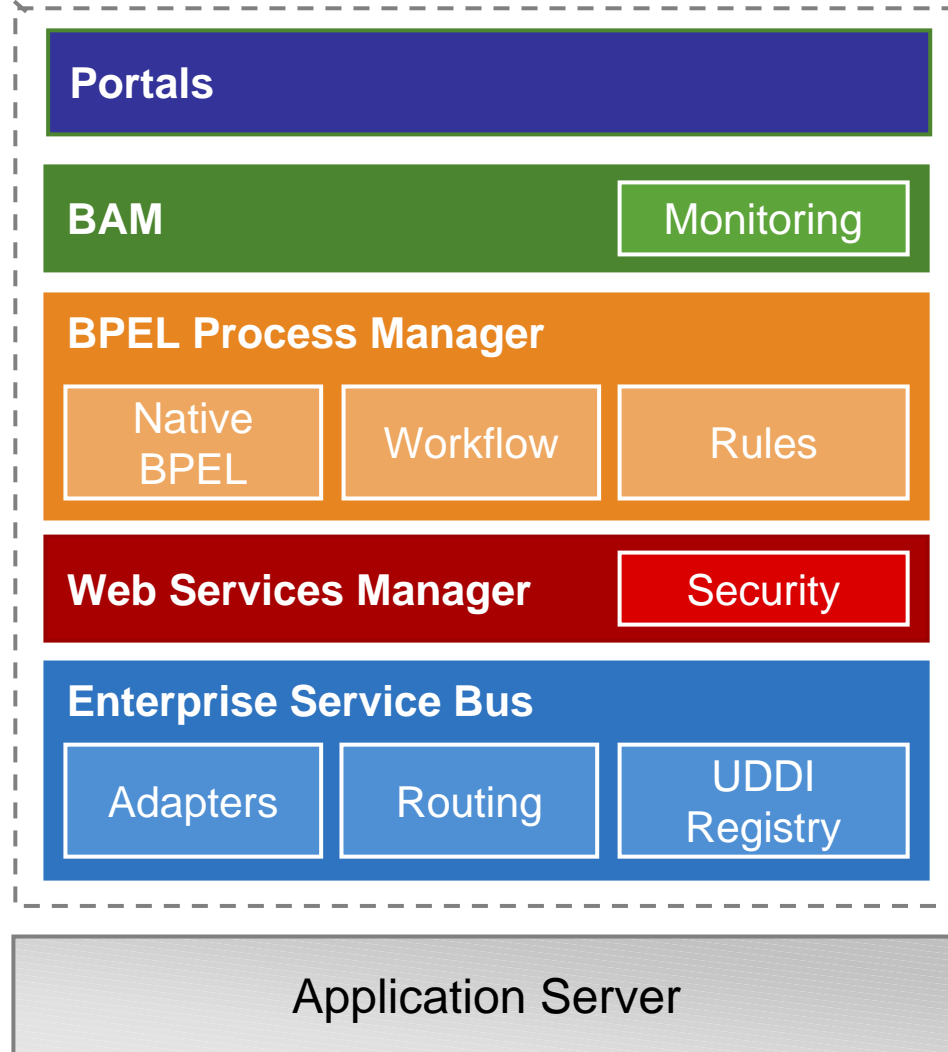
SOA Maturity Model* :

The Path to Industrialized SOA

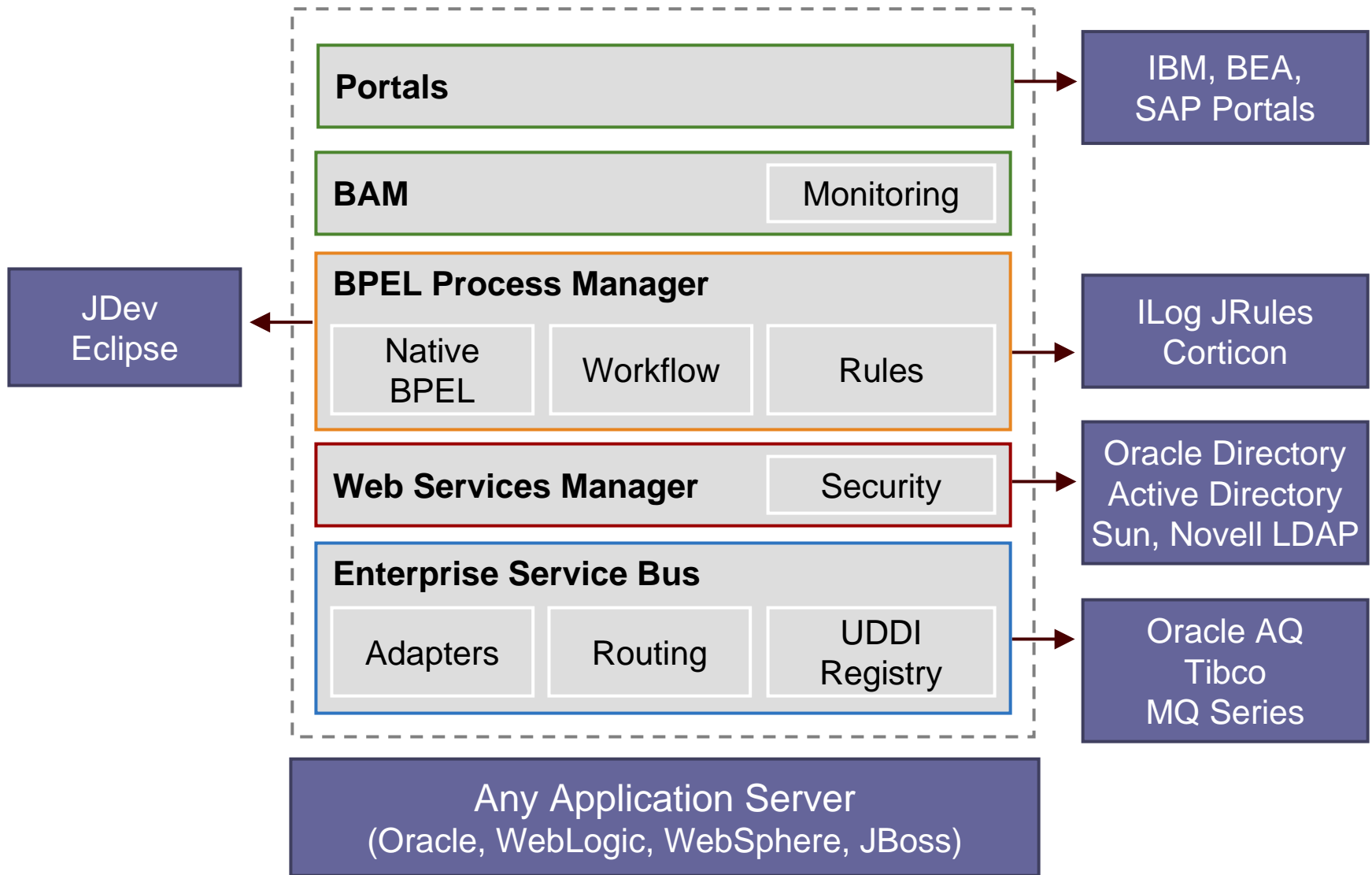


Oracle SOA Strategy

Oracle SOA Suite



“Hot-Pluggable”



Unified Development Studio

Standard Abstractions. Simpler Development Experience

Higher Level of Abstractions



BPEL



XSLT



Human
Activities



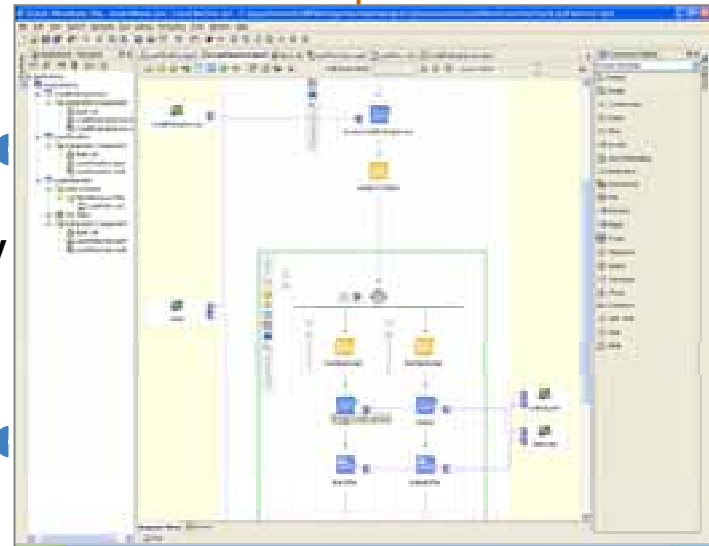
Portlet



Events



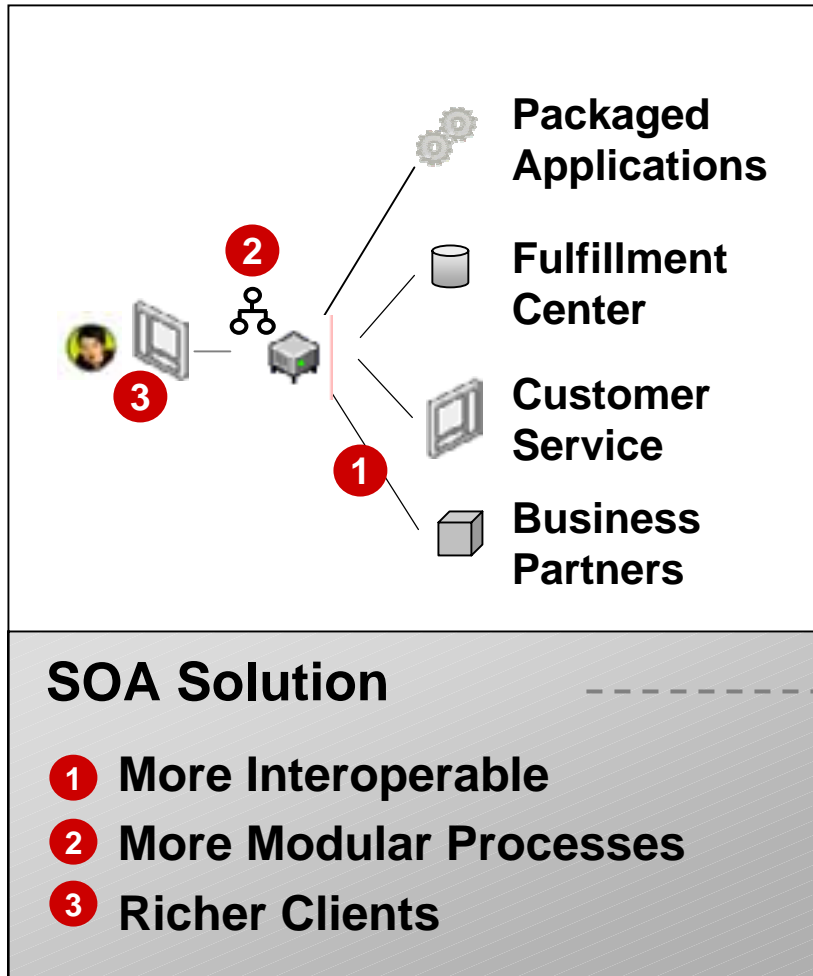
Rules



Fusion Studio

Summary

Summary



SOA Best Practices: Platform

1. Portfolio of Services
2. Enterprise Service Bus
3. Process Orchestration
4. Rich User Interfaces
5. Real Time Activity Monitoring
6. Security & Policy Management
7. Integrated Services Env.

SOA Best Practices: Methodology

1. Iterative Process/Services Focus
2. Incremental, Realistic Adoption
3. Business Driven Priorities
4. Measurable Results
5. Continuous Improvement

Q&A