

ORACLE FUSION MIDDLEWARE

SOA Architect Days

Best Practices for Adopting SOA

Oracle Architect Forums, March 2005

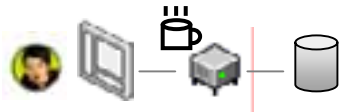
Dr Mohamad Afshar, Director Product management

mohamad.afshar@oracle.com

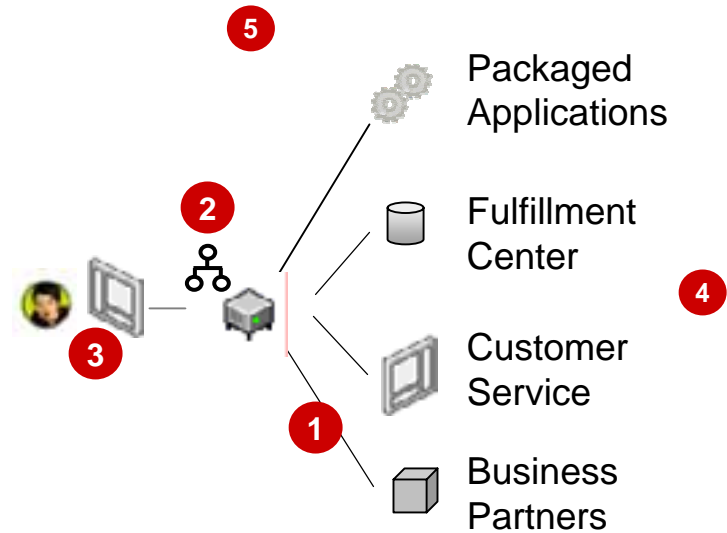
SOA

Defined

Service-Oriented Architecture (SOA)



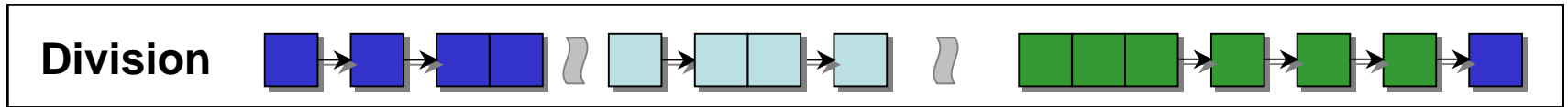
Web Solution



SOA Solution

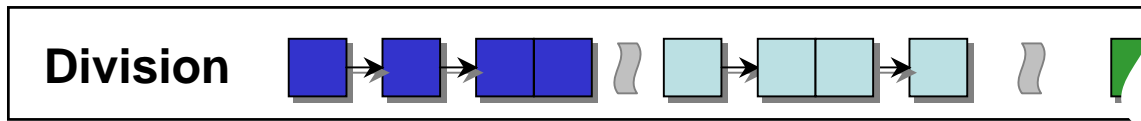
- 1 More Interoperable
- 2 Agile Business Processes
- 3 Improved Visibility
- 4 Improved Reuse
- 5 Quicker Development & Deployment

Business Processes "As Is"

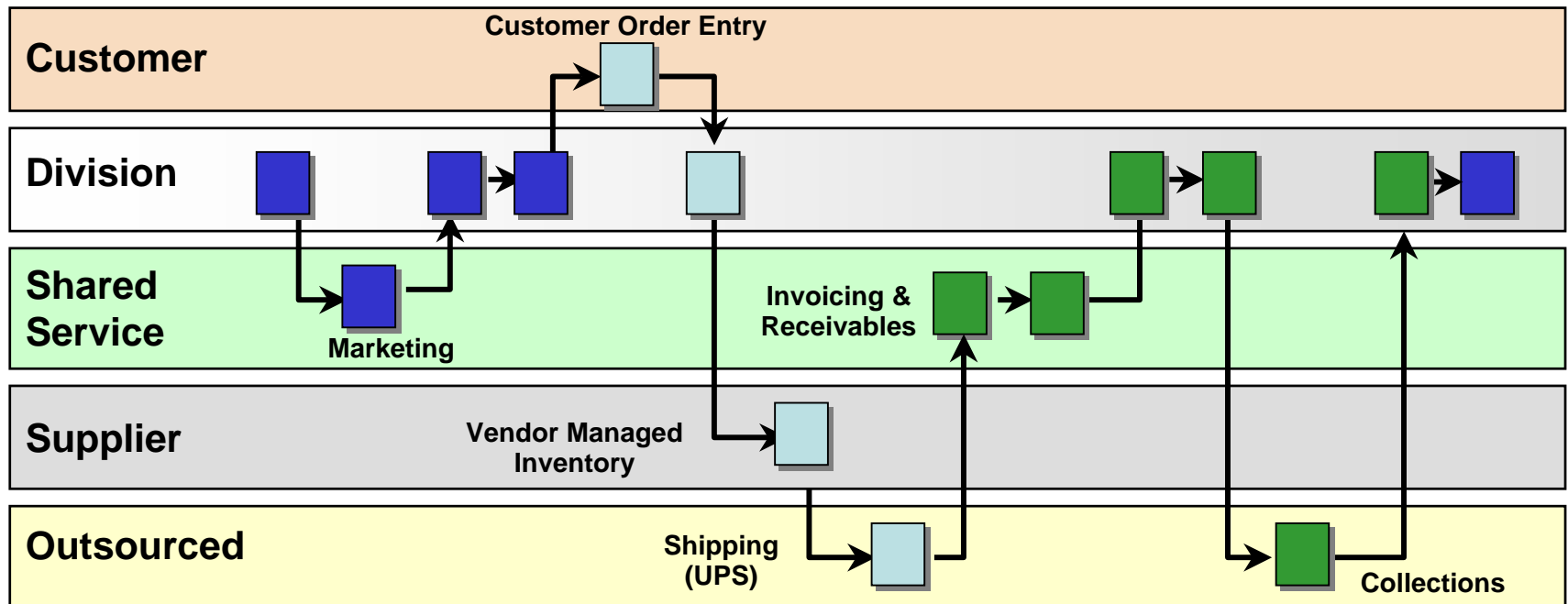


- Hardcoded inside applications
- Mainly sequential
- Silo-ed (divisional and functional)
- One-size fit all
- Fragile point-to-point integration
- Black boxes

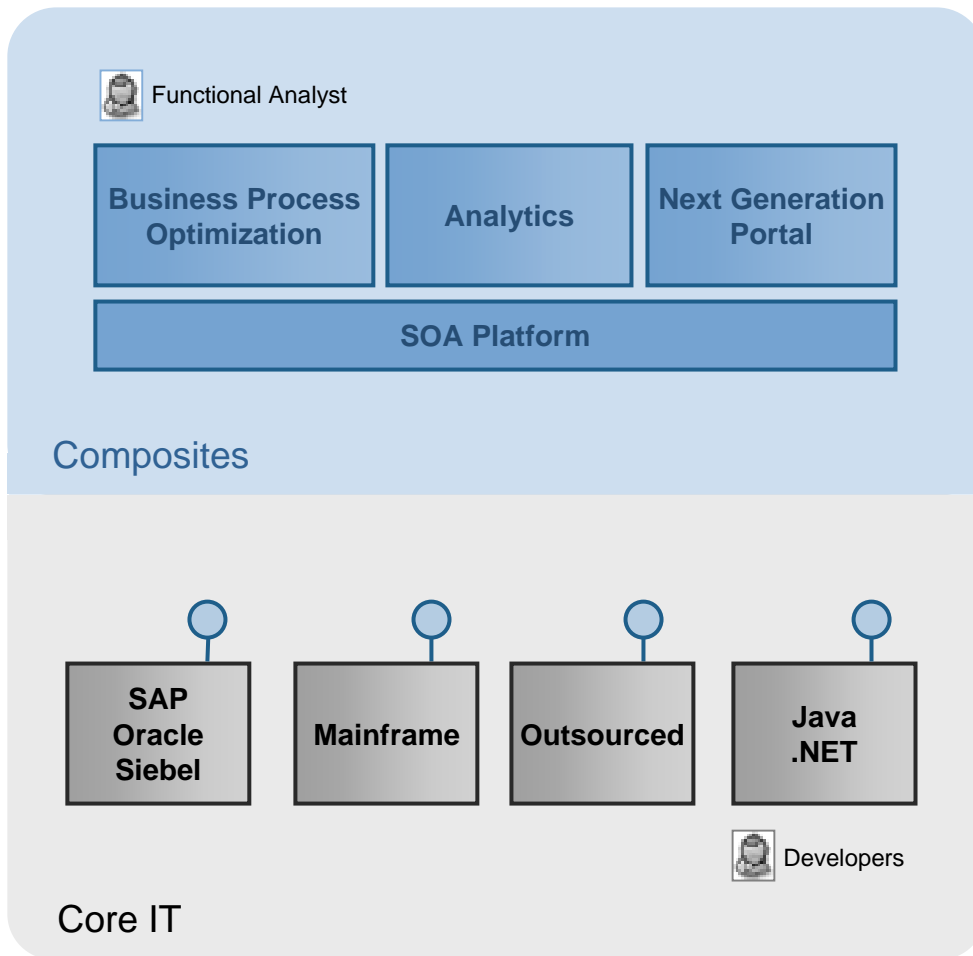
Business Processes "To Be"



- Mainly parallel
- Collaborative
- Boundary-less
- Continuously optimized
- Highly personalized
- Continuously audited



Vision | Composite Applications



Requirements

- Business Savvy Developer
- Façade/Leverage Existing Core IT
- Build-to-change
- Self-Auditing
- Self-Reporting
- End-to-end Security

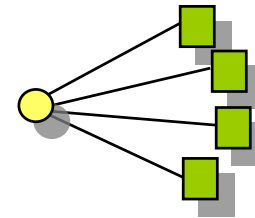
Why Now?

- Network Infrastructure is in place
- Standards (XML, WSDL, WS-*)
- Domain Specific Languages (BPEL, XSLT, Rules, BAML, CEPQ...)
- Support from Packaged Applications

Examples of Composites

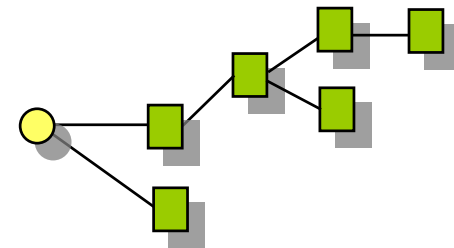
Portal – 360° View

- Customer Support Dashboard
- Supplier Performance Management



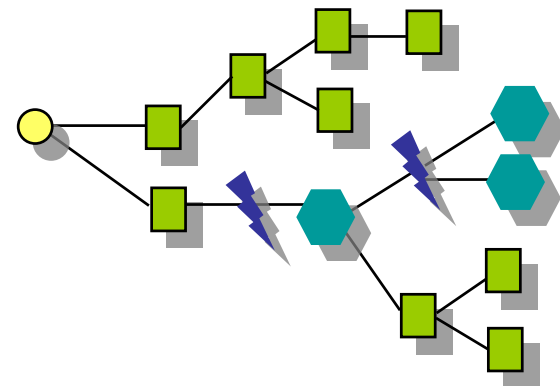
Micro Processes

- Travel Hotel Aggregator
- Aggregate Purchasing
- Advanced Price Calculation



End-to-end Business Processes

- DSL Service Provisioning
- Employee Onboarding
- Order-to-Cash
- Distributed Order Fulfillment
- Procure-to-Pay



Drivers of Customer Adoption | Integration

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

Big Picture

SOA Address Enterprise Trends Going Forward

To what extent will each of the following business, societal or government trends impact your enterprise in 2006?

	Ranking			
	2006		2005	2004
Improving business processes	1	↔	1	**
Enterprisewide operating costs	2	↑	3	2
Attracting, retaining and growing customer relationships	3		*	*
Supporting competitive advantage	4	↔	4	**
Improving enterprise competitiveness (bottom-line profitability)	5		*	*
Expanding use of information/intelligence in products and services	6	↑	7	5
Security breaches and disruptions to the business	7	↓	2	1
The need for revenue growth	8	↓	6	4
Faster innovation	9	↑	10	7
Data protection and privacy	10	↓	5	3

**SOA
Impacts
These**

*New question for 2006 **New question for 2005

SOA Address Key CIO Priorities Looking Ahead

To what extent will each of the following CIO actions be a priority for you in 2006?

	Ranking			
	2006		2005	2004
Delivering projects that enable business growth	1	↔	1	18
Linking business and IT strategies and plans	2	↔	2	4
Building business skills in the IS organization	3	↑	9	1
Demonstrating the business value of IT	4	↓	3	2
Attracting, developing and retaining IS personnel	5		*	*
Applying metrics to the IS organization and IS services	6	↓	4	14
Improving the quality of IS service delivery	7	↔	7	3
Flexible technology infrastructure	8		*	*
Improving IT governance	9	↑	10	11
Consolidating the IS organization and operations	10	↓	8	**

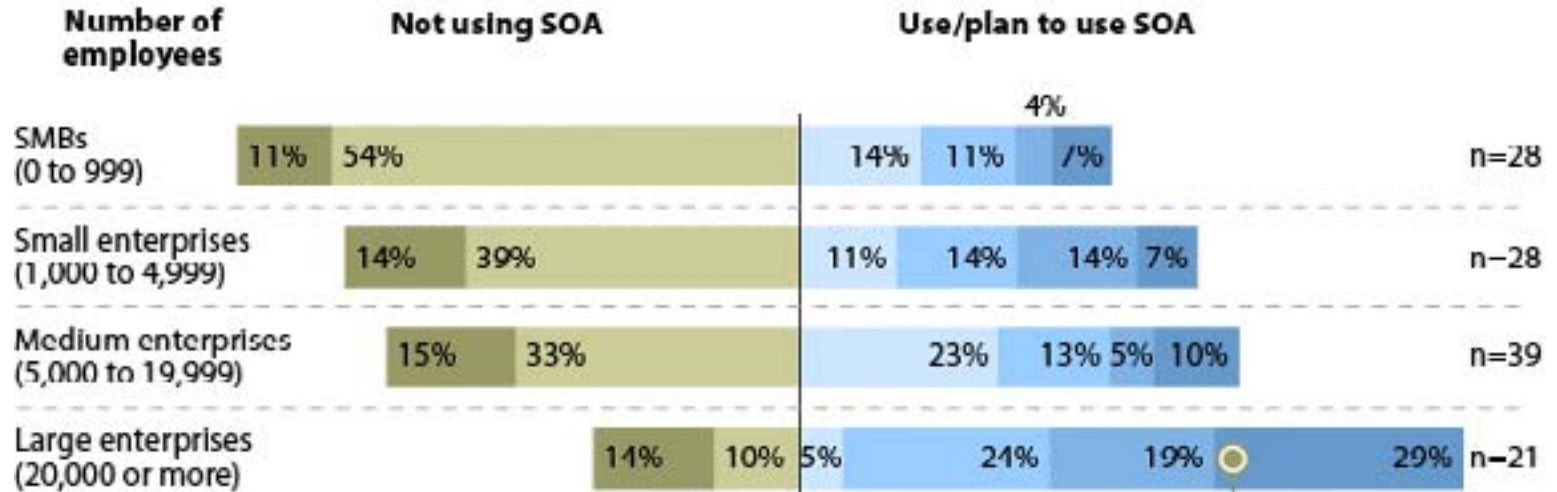
**SOA
Impacts
These**

*New question for 2006 **New question for 2005

Large Firms Lead SOA Adoption

"How would you describe your firm's approach/status to service-oriented architecture (SOA)?"

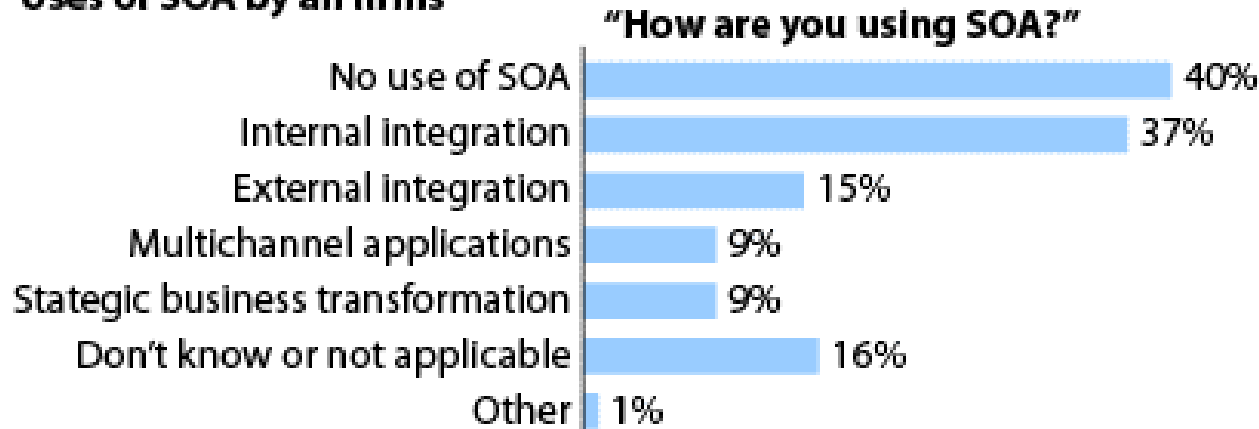
- Don't know or not applicable
- Not pursuing SOA and have no immediate plans to do so.
- Plan to being pursuing SOA within 12 months.
- Selected projects are independently using SOA without a clear strategy at the departmental or enterprise level.
- We have only department-level strategies for SOA.
- We have an enterprise-level strategy and commitment for SOA.



! Large enterprises are the leaders in adopting SOA.

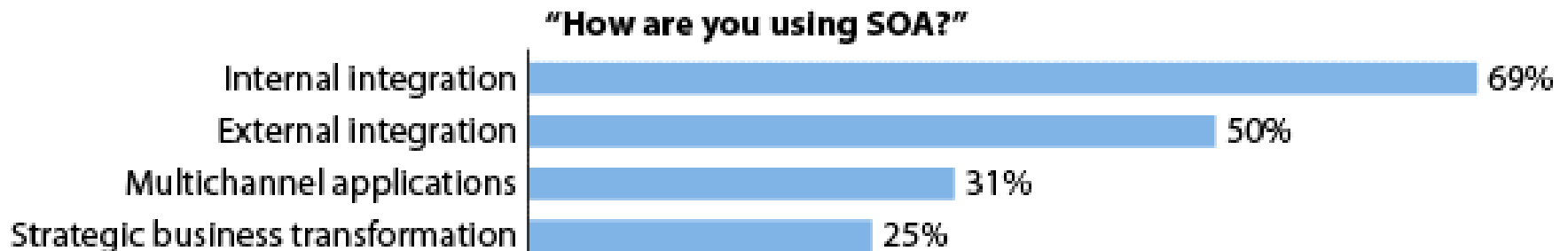
SOA Is Used For Internal Integration – And More

Uses of SOA by all firms



Base: 116 North American decision-makers familiar with programming technologies, application software architecture, and application platforms (multiple responses accepted)

All large enterprises using SOA by the end of 2005



Base: 16 North American decision-makers from large enterprises using/planning to use SOA by the end of 2005 familiar with programming technologies, application software architecture, and application platforms (multiple responses accepted)

SOA | Key Success Criteria

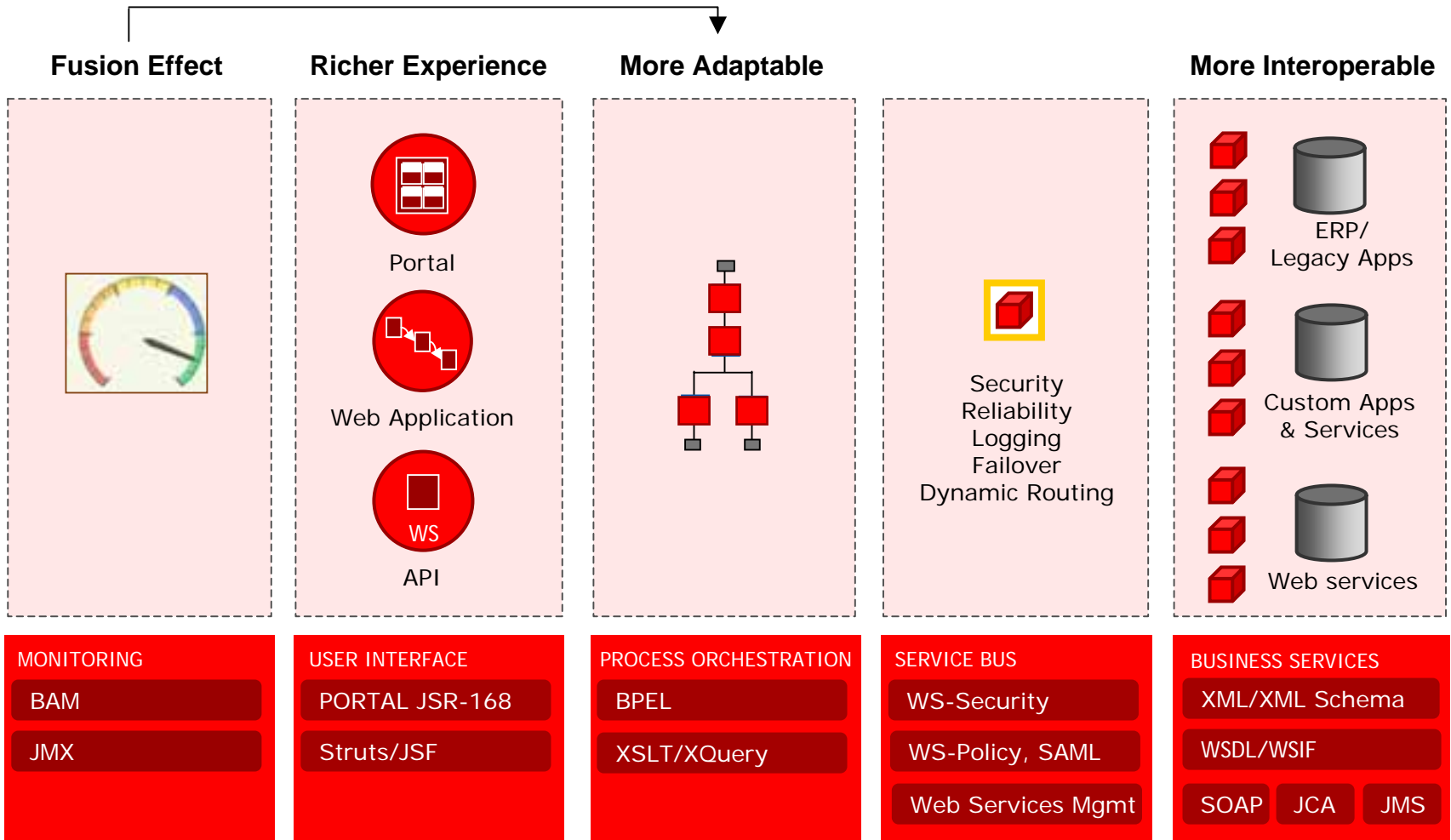
- Infrastructure/ Technologies
- Standards
- Strategy
- Architecture
- Information
- Governance
- Organization
- Processes
- Delivery
- Operations
- Measurement

The diagram consists of a list of 11 key success criteria for SOA on the left. To the right of the list, two curly braces group the items. The top brace groups the first three items: 'Infrastructure/ Technologies', 'Standards', and 'Strategy'. The bottom brace groups the remaining eight items: 'Architecture', 'Information', 'Governance', 'Organization', 'Processes', 'Delivery', 'Operations', and 'Measurement'. To the right of the top brace is the text 'Experiment and Learn'. To the right of the bottom brace is the text 'Get Maximum Benefits'.

Experiment and Learn

Get Maximum Benefits

SOA | Key Standards

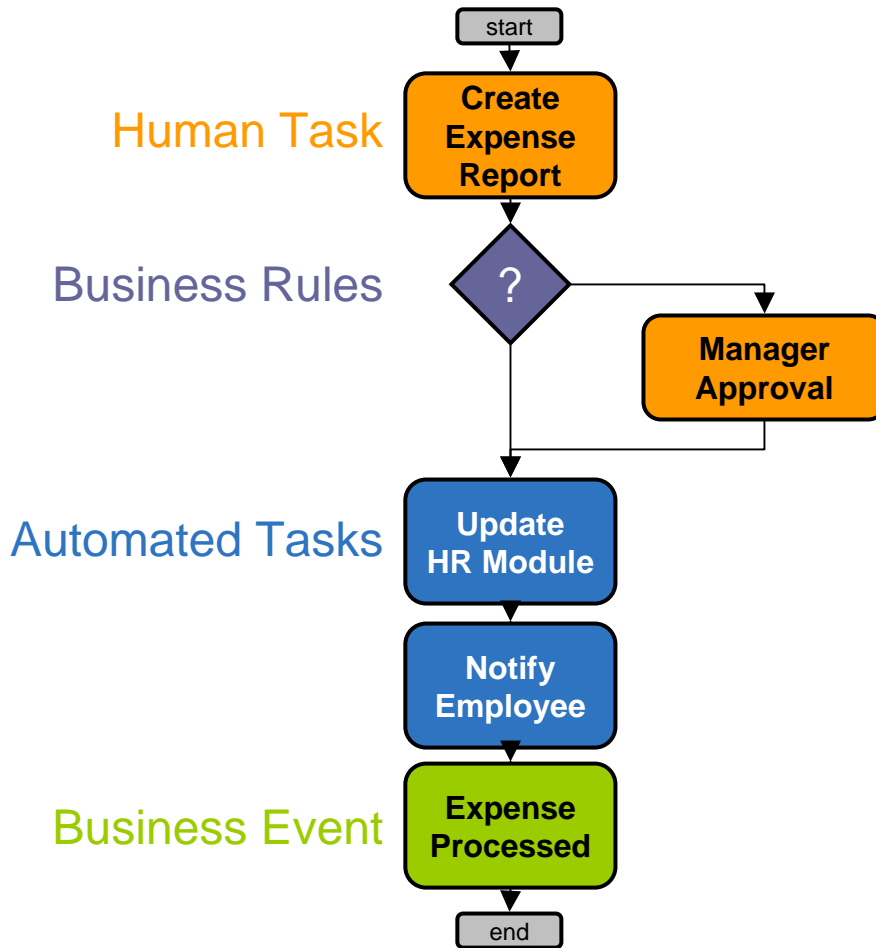


SOA

Best Practices



0 | Select An Application



CRITERIA

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

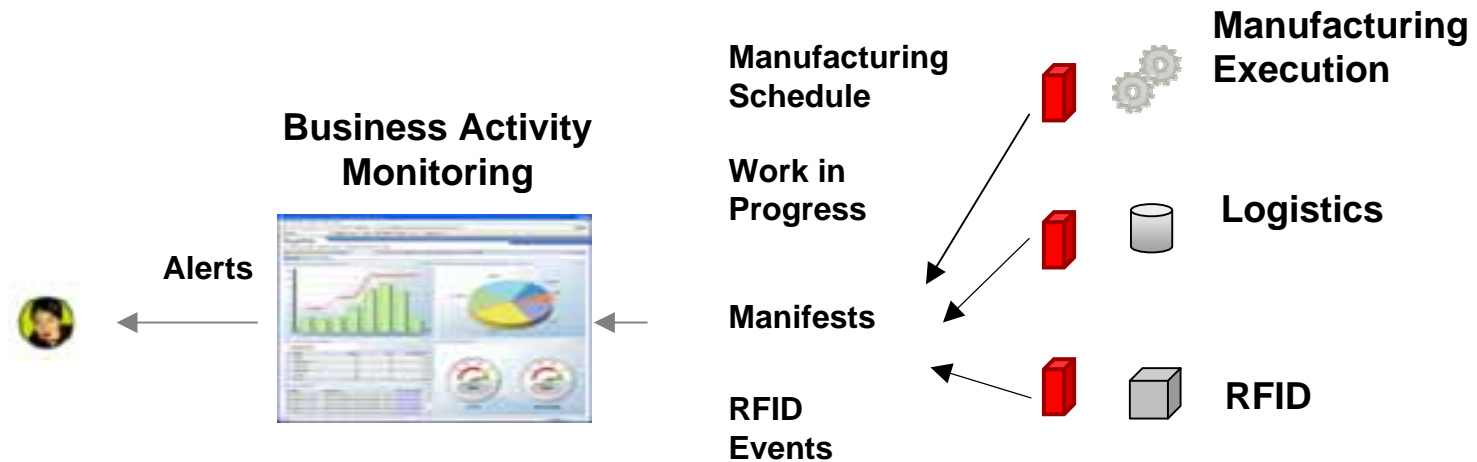
DELIVERABLE

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

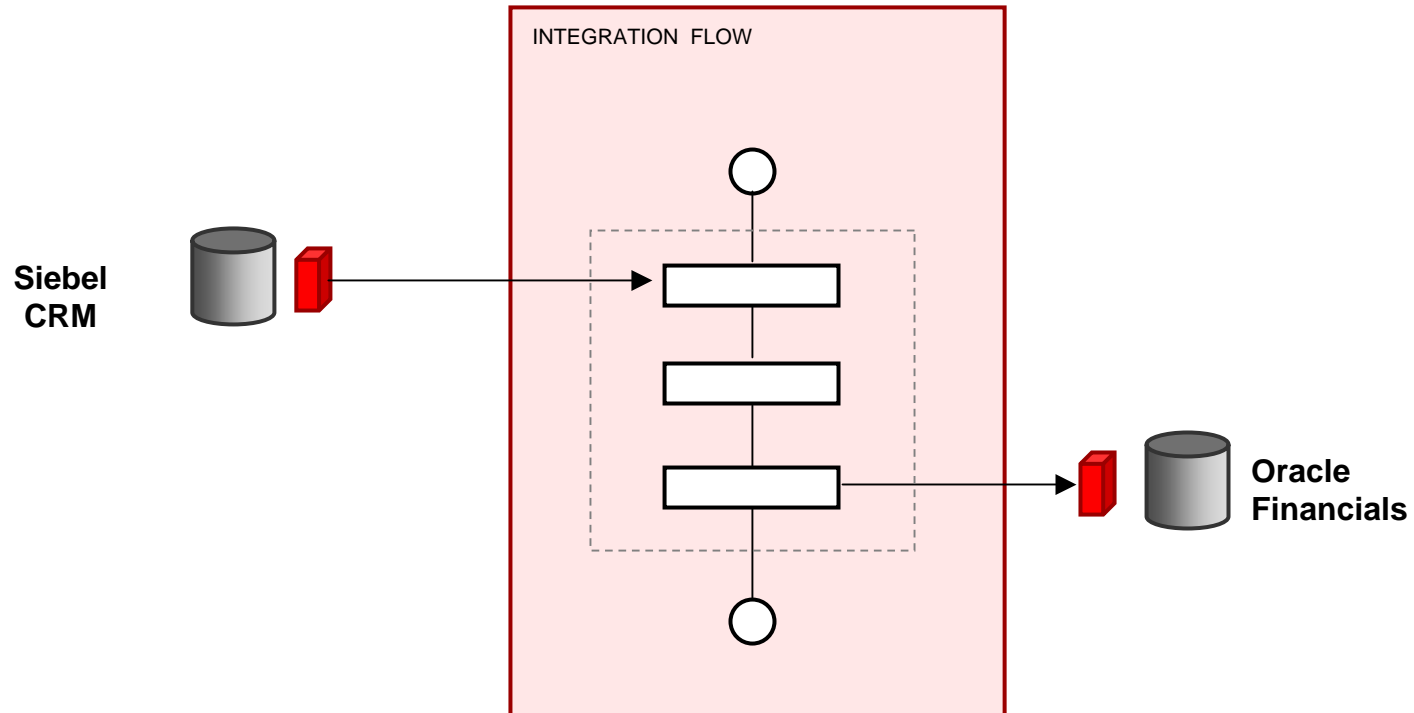
Example - Publish Inventory to Account Reps



Example - Cashflow Management



Example - Synchronizing Customer Information



Example - Reusing Services

Managing Services & Applying Policies

Consumers

Web



Phone



Systems



Business Partners



1



Services

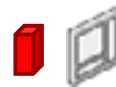
Packaged Applications



Fulfillment Center



Customer Service



1 Apply Policies

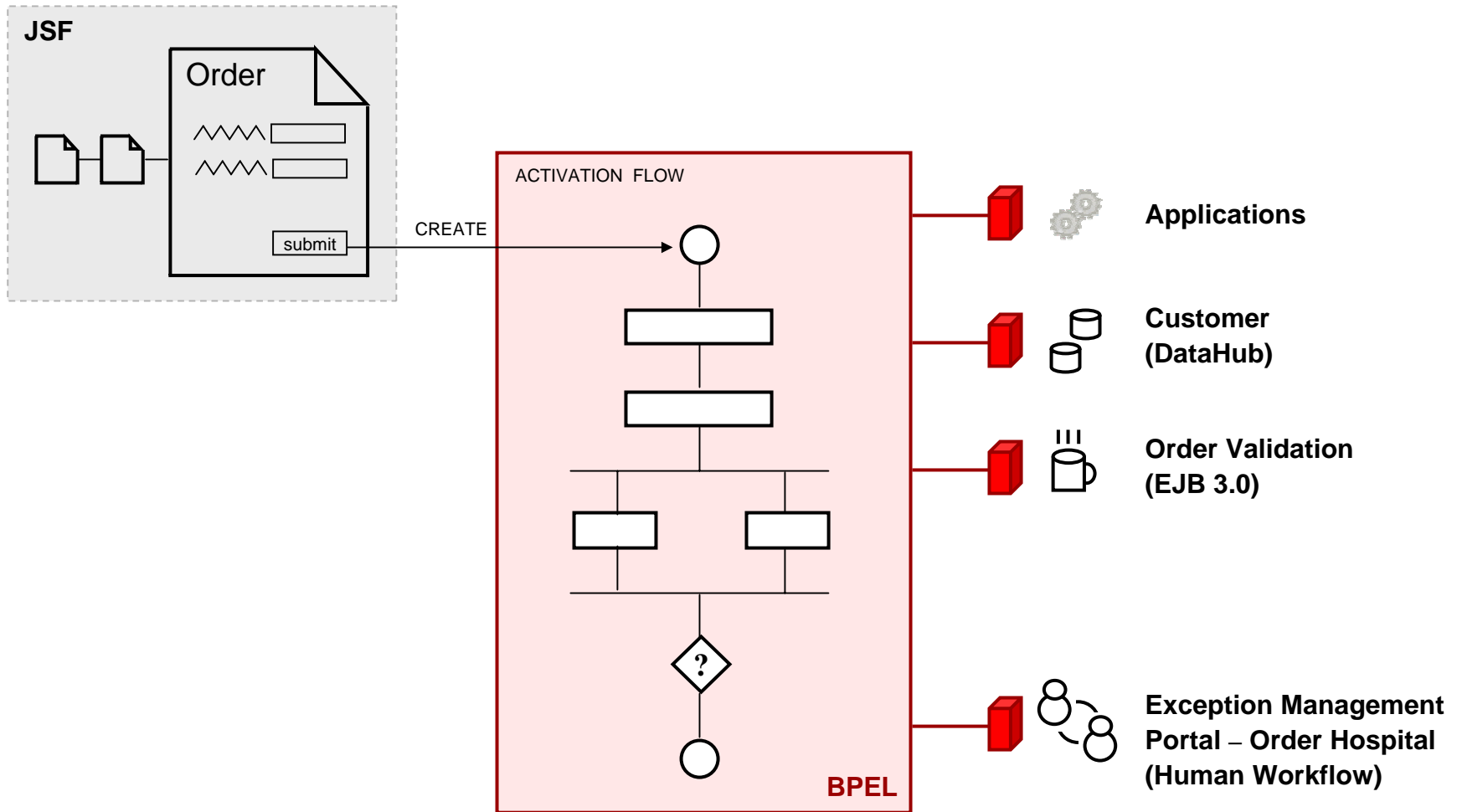
Security

Monitoring

Logging

Auditing

Example - Automated Order Processing



Project Selection | Order of Magnitude Impact with SOA

SOA-Based Integration



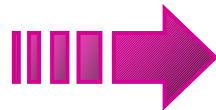
“Only 3 days to completely modify EAI project architected with SOA/BPEL (past experience: 3 months)”

Modern, Composite SOA Applications



“Never seen an IT project completed in less than 2 years; with SOA/BPEL, core biz process automation delivered in <6 months”

SOA-Enabling the Mainframe

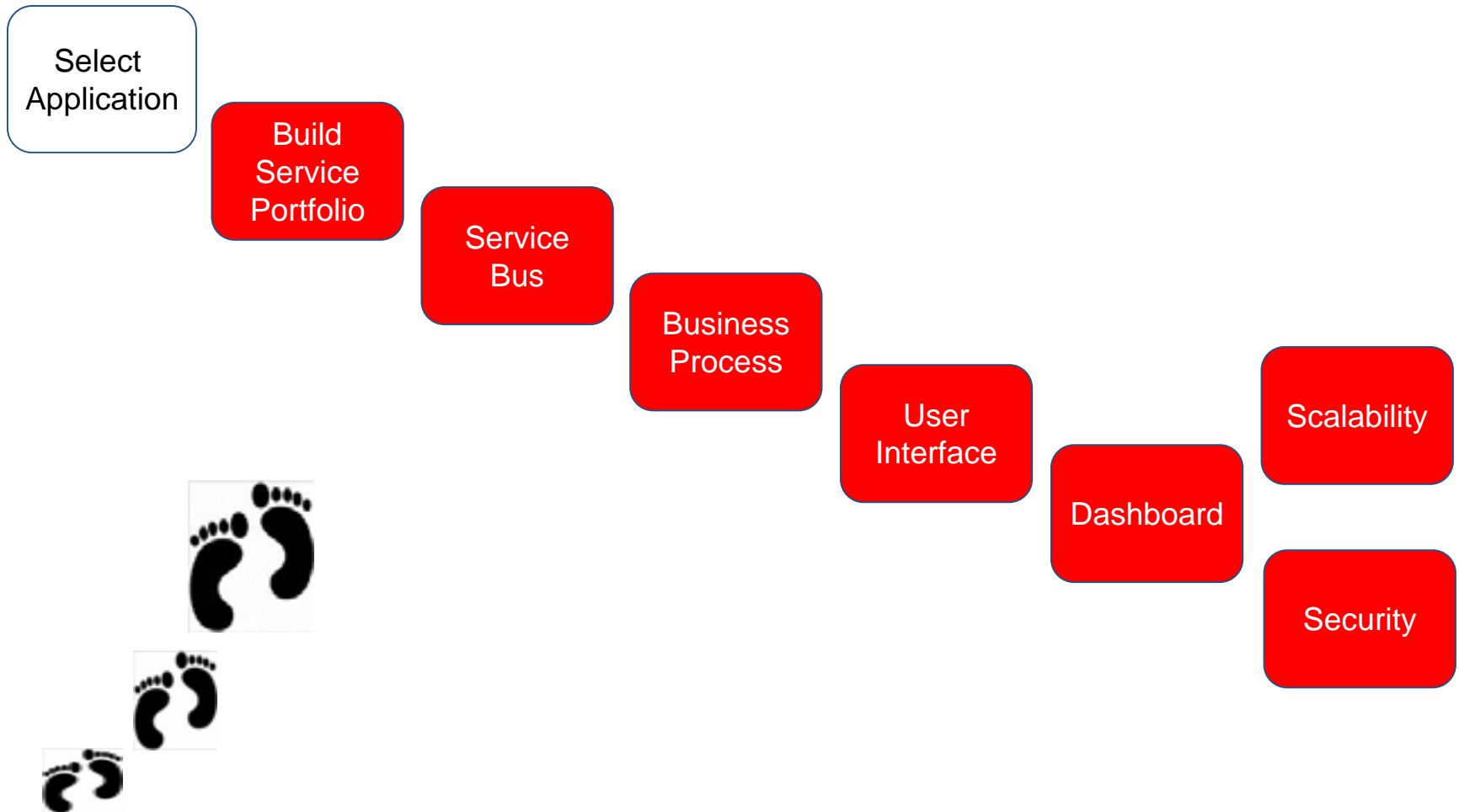


“SOA reduces bug fixing cycle from 3-4 months / 30 people to 3-4 weeks / 5-8 people”

Project Selection | Additional SOA Value Accelerators

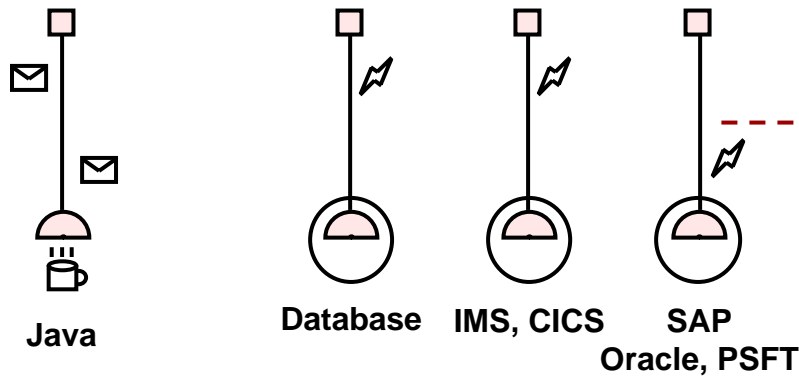
Accelerator	Impact	Metric
Constant Industry Change	<ul style="list-style-type: none"> SOA minimizes the impact of change from frequent changes to biz processes 	<ul style="list-style-type: none"> Max. time allowed to respond to process changes
Industry Consolidation	<ul style="list-style-type: none"> SOA helps to consolidate duplicate functionality across acquired/ merged companies 	<ul style="list-style-type: none"> # of mergers & acquisitions
Customizations from Common Base	<ul style="list-style-type: none"> Shared service platform powers a biz model able to deliver "variants" ("repeatable solutions") of a generic platform service 	<ul style="list-style-type: none"> # of customers and customer growth on platform Degree of customer flexibility
Multi-Channel Applications	<ul style="list-style-type: none"> Multiple channels (agents, online service, distribution through partners etc.) share services platform 	<ul style="list-style-type: none"> # of channels replicating common service capabilities
B2B Services Network	<ul style="list-style-type: none"> SOA allows to flexibly incorporate electronic partner services into a "virtual service offering" 	<ul style="list-style-type: none"> # of partners providing B2B web services

The Path to a Successful SOA Project





1 | Build Portfolio of Services



- BEST PRACTICES

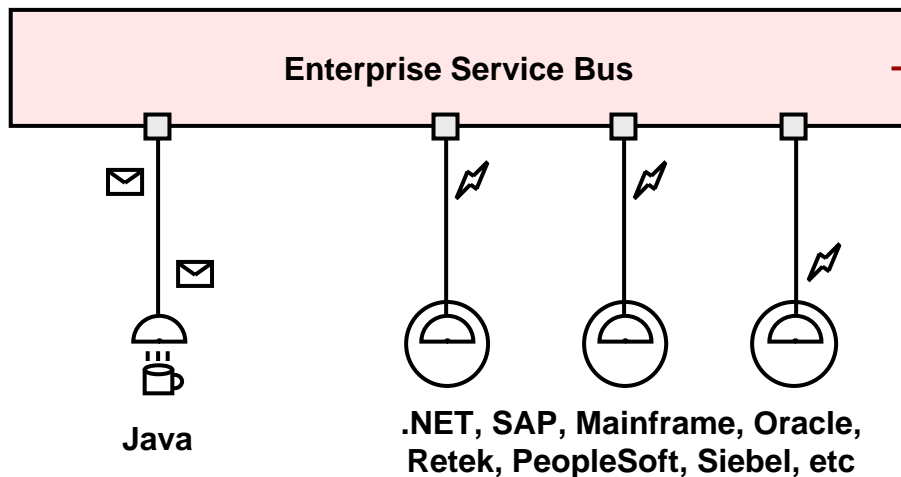
- Contract/Interface First
- Coarse Grain Documents
- Asynchronous Interactions
- Undo/Cancel Operations
- Versioning
- WS-I, Wrapped Document Style
- WSIF Binding to Java, JCA



2 | Wire Through An Enterprise Service Bus

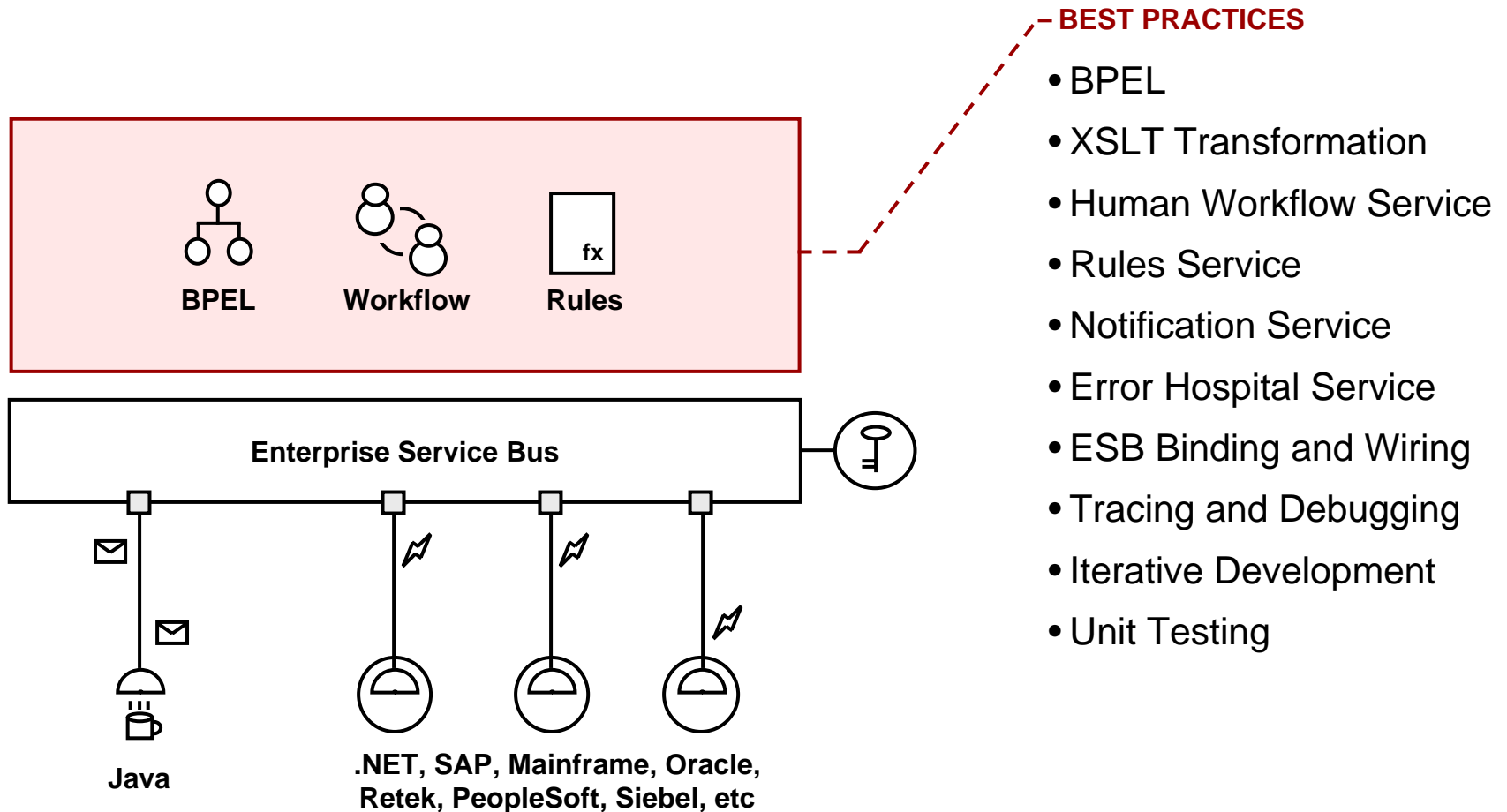
BEST PRACTICES

- UDDI Registry
- JCA Adapters
- Integration with Policy Management Framework
- Service Virtualization Logical Naming
- Differed, Reliable Delivery (Configurable)





3 | Orchestrate into End-to-End Processes



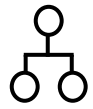


4 | Expose through Rich User Interfaces

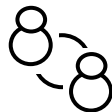
Portal, JSF Applications, .NET, Microsoft Office

BEST PRACTICES

- JSF
- WSRP, JSR-168



BPEL

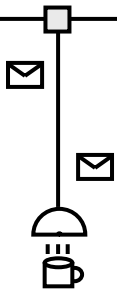


Workflow

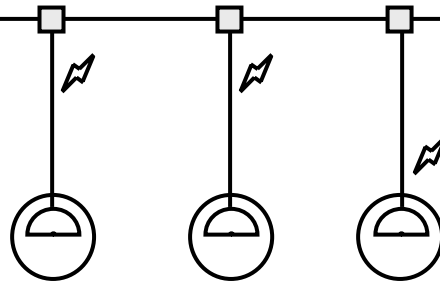


Rules

Enterprise Service Bus



Java

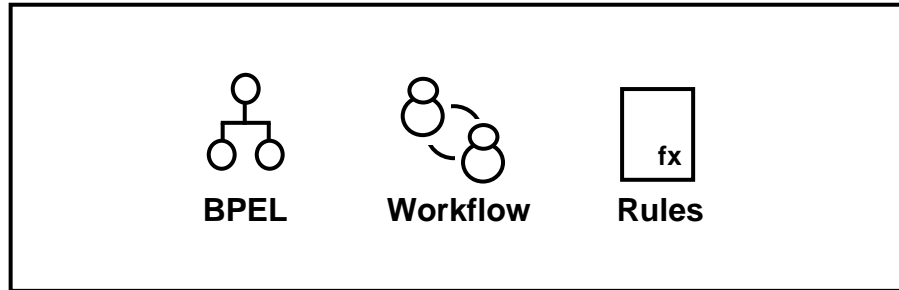


.NET, SAP, Mainframe, Oracle, Retek, PeopleSoft, Siebel, etc

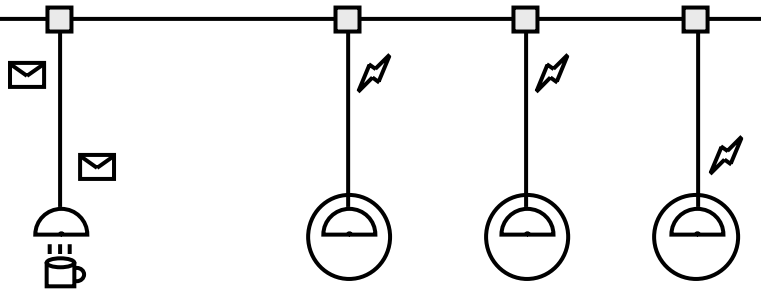


5 | Deliver Real-time Dashboards

Portal, JSF Applications, .NET, Microsoft Office

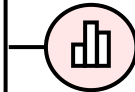


Enterprise Service Bus



Java

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



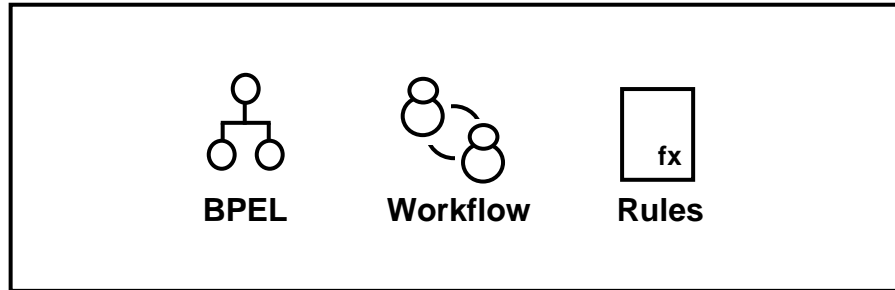
BEST PRACTICES

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

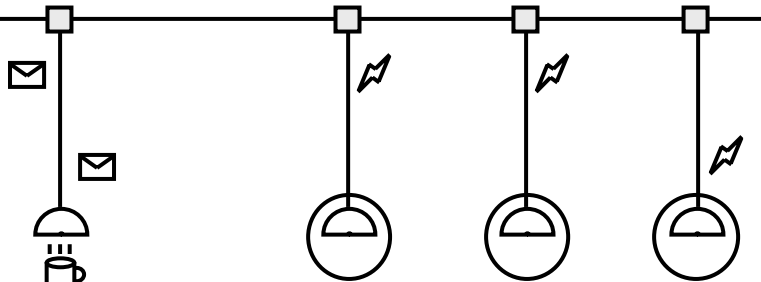


6 | Secure Interactions

Portal, JSF Applications, .NET, Microsoft Office



Enterprise Service Bus



Java

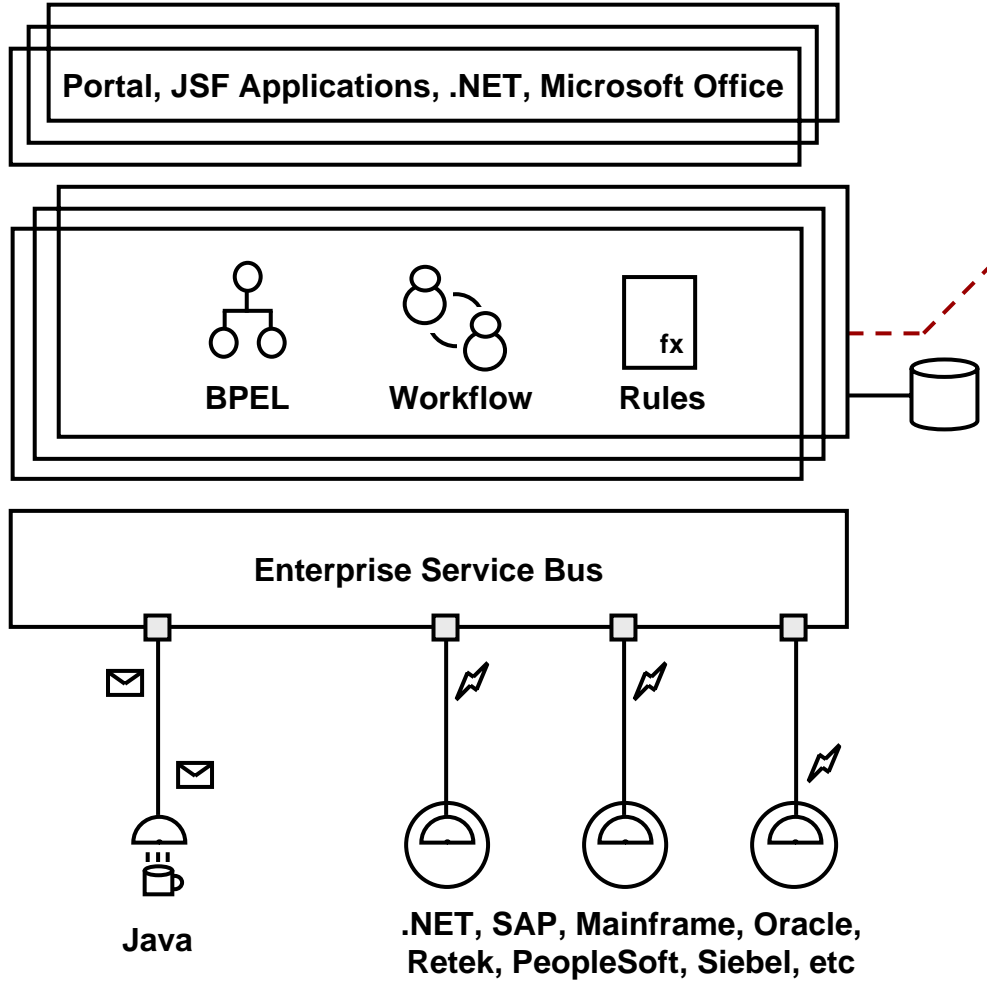
.NET, SAP, Mainframe, Oracle, Retek, PeopleSoft, Siebel, etc

- BEST PRACTICES

- WS-Policy, WS-Security
- Change Policy without Changing Endpoint
- Integrated with ESB (Multi-binding Support)
- Agent and Gateway Mode
- Support for Java and .NET



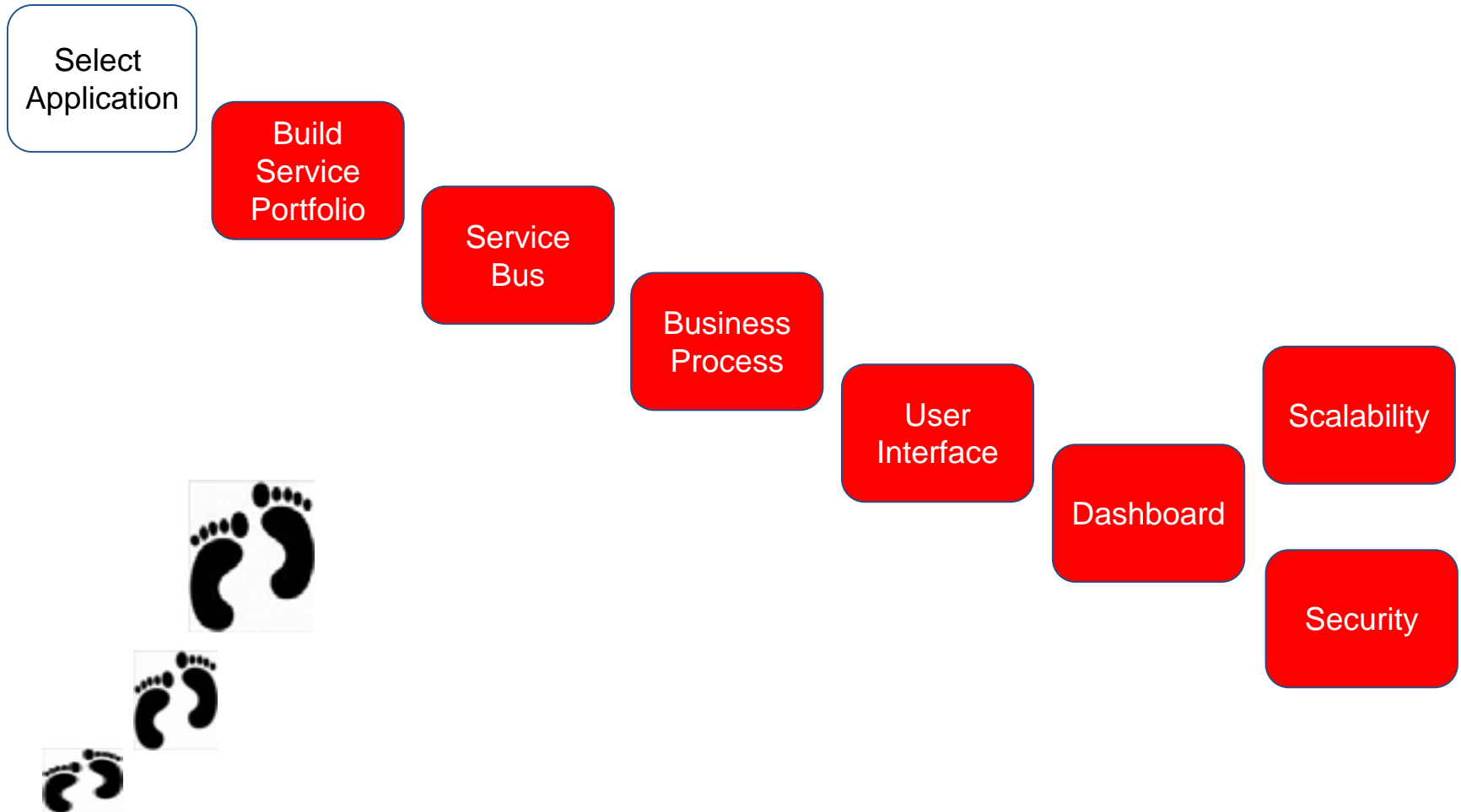
7 | Scale On Demand



- BEST PRACTICES

- Asynchronous Interactions
- Support for Large XML Documents
- Clustering-Friendly
- JCA and Java Binding
- Batch API

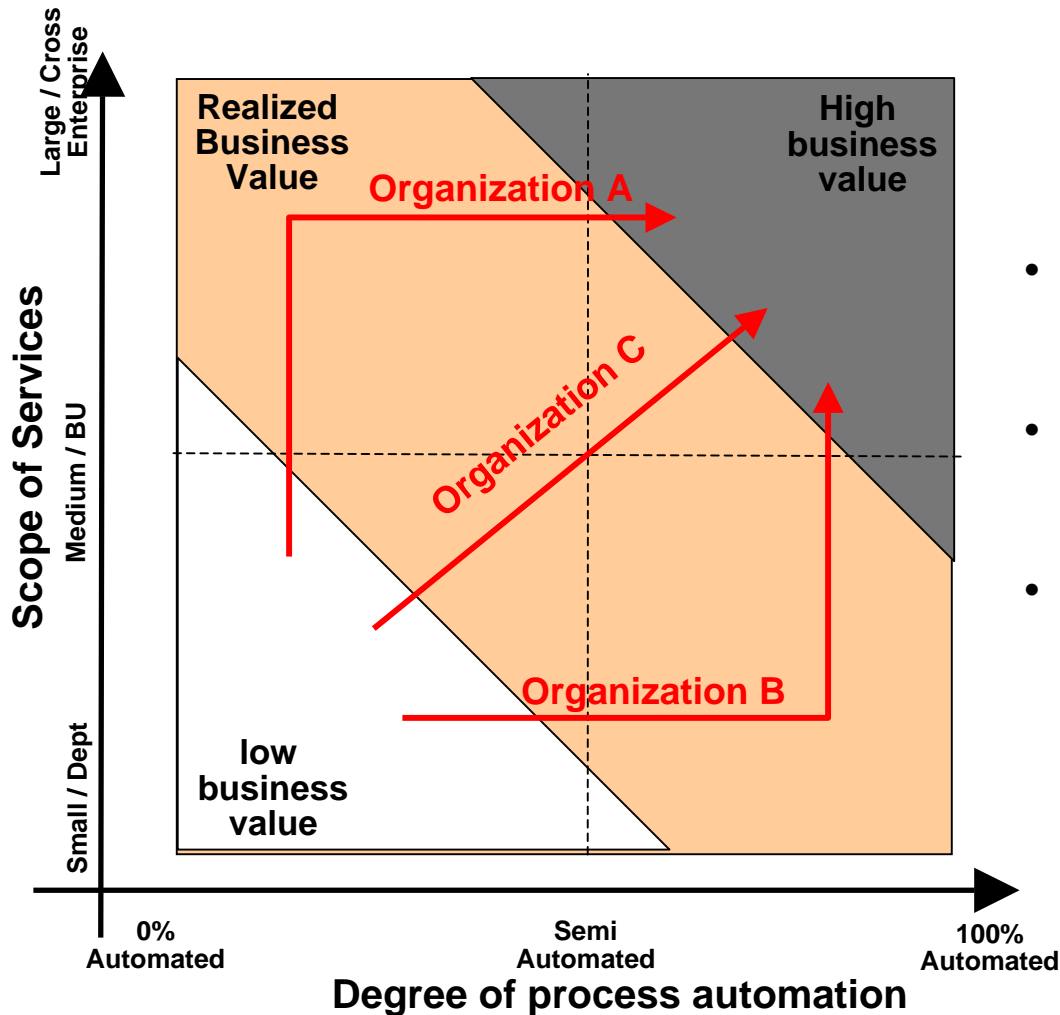
The Path to a Successful SOA Project



SOA

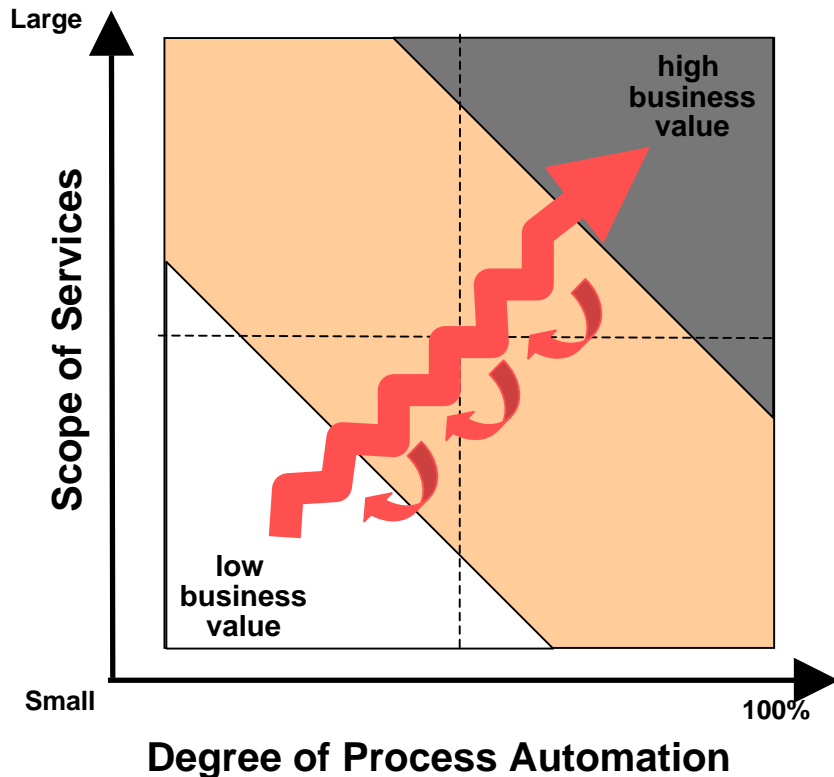
Adoption Best Practices

Service Portfolio Evolution - Top Down? Bottom Up?



- Organization A
 - Services Focus
- Organization B
 - Processes Enablement
- Organization C
 - Iterative Processes/ Services Focus

Executing the “Iterative Processes/Services Focus”



- Early focus will be on a core process with high ROI
- Start with simple processes so that underlying services layer remains simple
- Put in place simple services layer to support the business process.
- Evolution of the services layer will be “in concert” with the evolution of the processes layer. The service layer will evolve
- Lessons learned will be used to improve the next iteration

Real-life SOA Adoption



Business-Driven

Process automation focused



Infrastructure-Driven

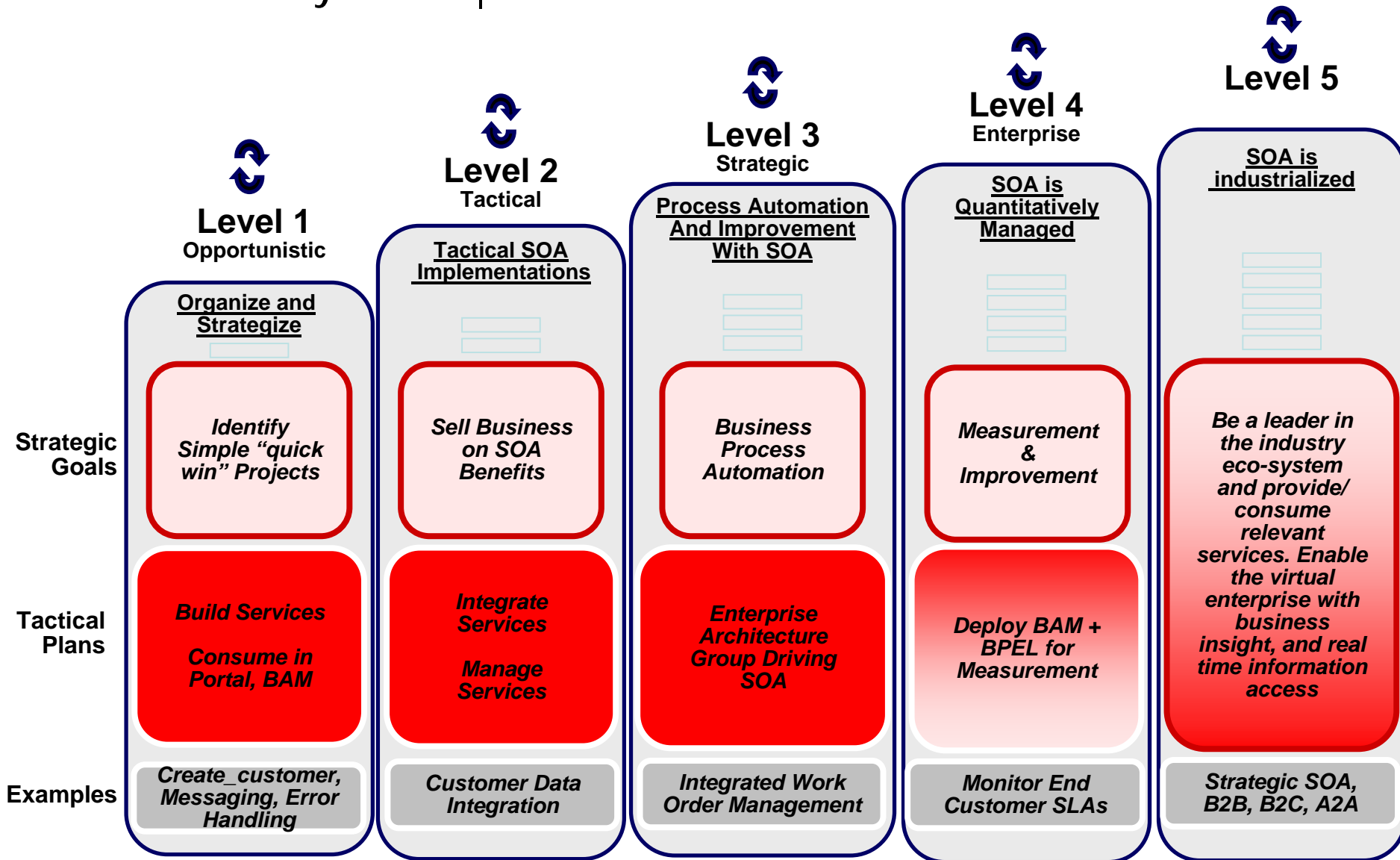
Service portfolio focused

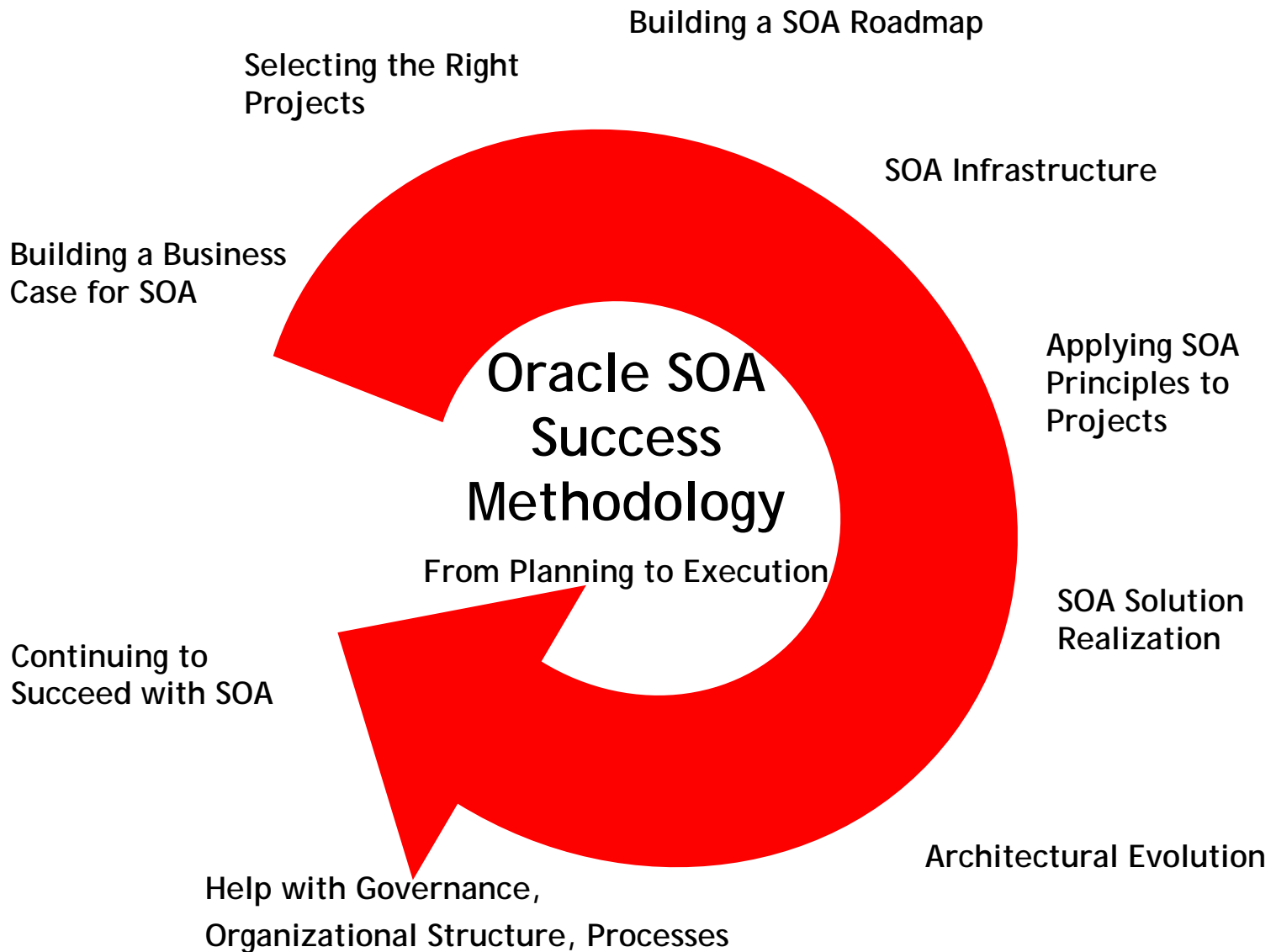


Architecture-Driven

Managed Evolution

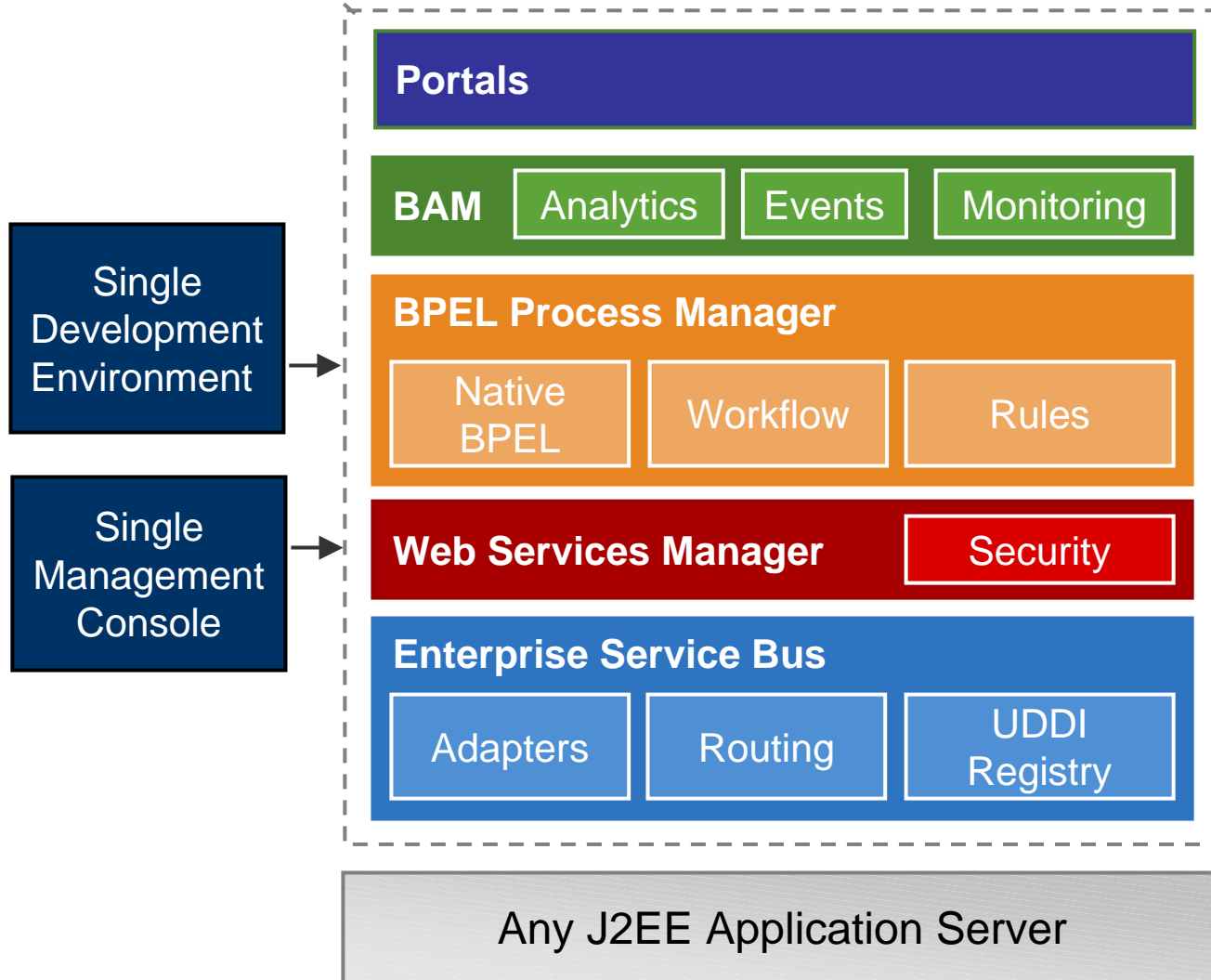
SOA Maturity Model | The Path to Level 5 SOA



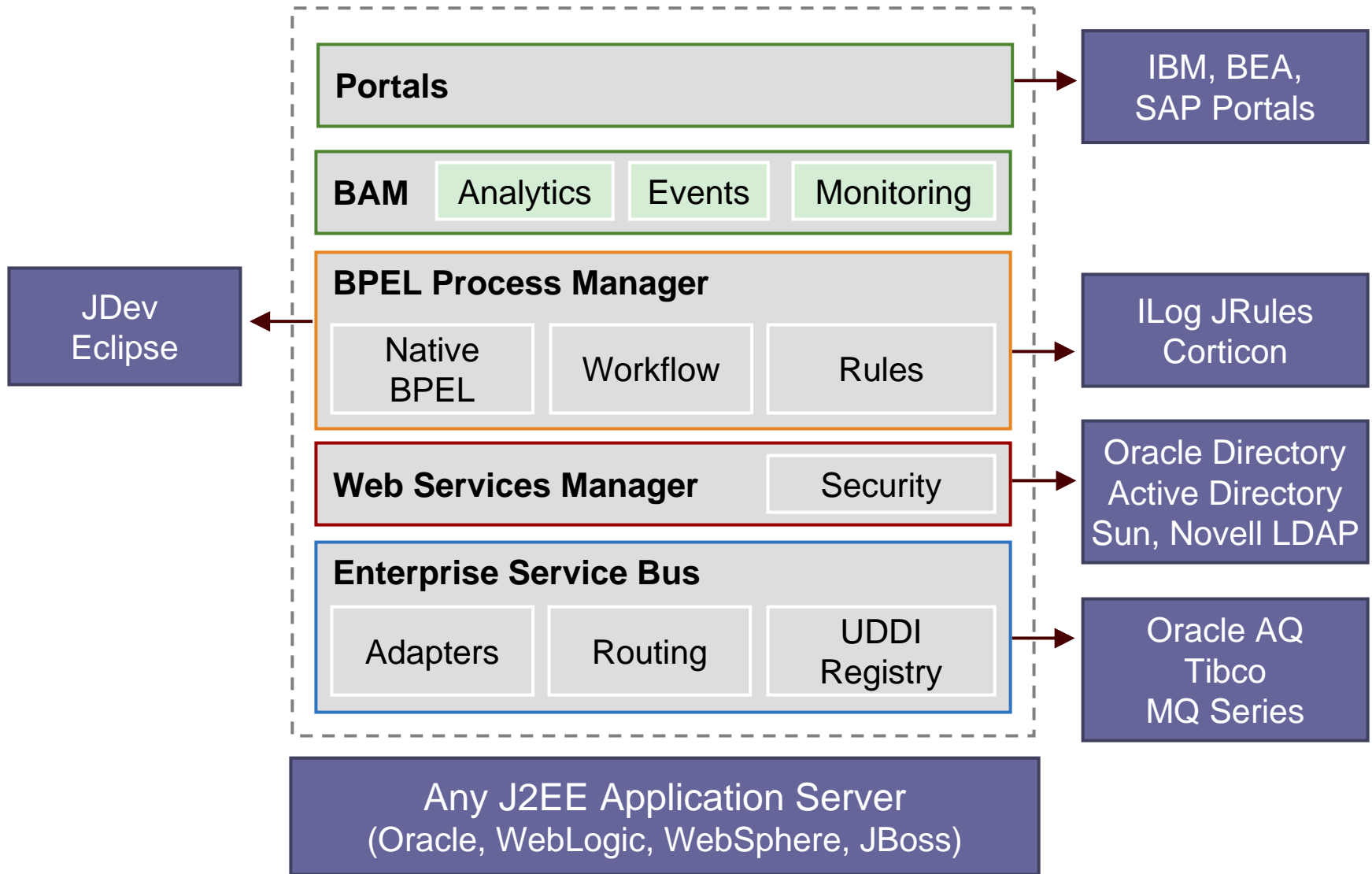


Oracle SOA Strategy

Oracle SOA Suite

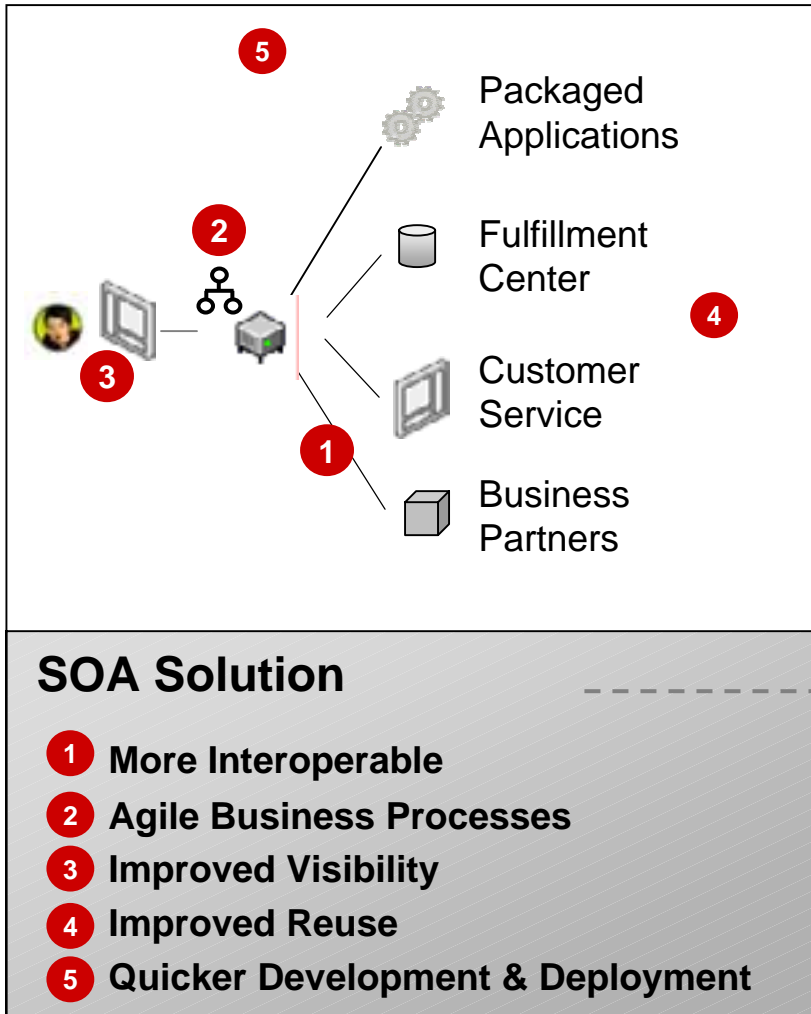


“Hot-Pluggable”



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 Environment

SOA Best Practices: Methodology

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

ORACLE FUSION MIDDLEWARE