An SOA Roadmap

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Agenda

- SOA Vision and Opportunity
- SOA Roadmap Concepts and Maturity Levels
- Roadmap Planning
- Summary
## SOA Vision and Opportunities

### Vision

**Business Transformation** – introducing greater flexibility into the way the business is organized as well as the capability to utilize that flexibility for rapid response to continuous change

### Supporting Opportunities

<table>
<thead>
<tr>
<th>Opportunity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Joined-up Delivery</strong></td>
<td>Orchestrating complex services across multiple organizations</td>
</tr>
<tr>
<td><strong>Process Improvement</strong></td>
<td>Enabling a fundamental upgrade in process design</td>
</tr>
<tr>
<td><strong>Service-Based Procurement</strong></td>
<td>Outsourcing appropriate operations in an efficient and flexible way to a healthy ecosystem of competing service providers.</td>
</tr>
<tr>
<td><strong>Shared Services</strong></td>
<td>Removing duplication and inconsistency within and between business “silos” – delivering both cost reduction and process improvement</td>
</tr>
<tr>
<td><strong>Standardization</strong></td>
<td>Facilitating standardization of many aspects of business including security, semantics, utility services and business process components such as case handling</td>
</tr>
</tbody>
</table>
Shared Services

[Public Sector Example]

Citizen Portal

Student Portal

Apply for parole

Apply for student place

Apply for student loan

Apply for creche

Justice Sector

Education Sector

Education Service Bus

Resource Service Parole

Resource Service Prisoner

Resource Service Student

Resource Service Univ Application

Resource Service Univ Place

Resource Service Creche Place

Government Service Bus

Resource Service Identity

Resource Service Citizen

Resource Service Application

Resource Service Allocation

Resource Service Place

[Public Sector Example]
Maturity Models and Common SOA Roadmap Mistakes

- Tactical, LOB based
- Technology driven
- Focus on types of services (initial, architected, collaborative, measured . . . )
- Architecture left until Level 5
- Project ROI driven

Source: AmberPoint, BearingPoint, Sonic Software, Systinet

Source: IBM

Source: BEA Systems
SOA Maturity and Roadmap Critical Success Factors

Critical Success Factors

- Business value driven
- Meld strategic and tactical view
  - Long and short term
  - Direct and indirect
- Capability based
- Spans all roles and responsibilities
  - business, technology, architecture, life cycle process, organization
- Evolving architectural focus

CBDi SOA Maturity

Vision

- Cultural Integration
- Reengineering
- Integration
- Early Learning
What Needs to be Done?

Who does what?

Common service infrastructure

What Capabilities?

Trust

Semantics

SDLC

Joined up processes
Core SOA Characteristics

**Consuming Solutions**

- **Loose Coupling**
  - Enabling rapid Process Integration & Optimization

- **Functional standardization**
  - Reuse to reduce cost and deliver consistency across different solutions

- **Abstraction**
  - Virtualization of Who, How and Where

- **Differentiation**
  - Consumer (solution) flexibility using alternative and or specialize services

- **Modularity**
  - Componentization and encapsulation of functionality

- **Usage decisions determined by Policy**

- **Differentiation**
  - Supplier flexibility
  - Use alternative and consolidated resources

**Functional Capabilities/Resources**

- **Capability A**
  - Y
  - X
  - Z

- **Capability B**
  - B
  - A
  - C
SOA Governance

**Consuming Solutions**

- **Loose Coupling**
  - Formality of service specification

- **Functional standardization**
  - Use of standard functionality in right context

- **Abstraction**
  - Delivery of implementation independence

- **Modularity**
  - Component integrity

- **Differentiation**
  - Usage decisions determined by Policy
  - Architecture for specialization
  - Testing and change management
  - Supplier architecture

**Functional Capabilities/Resources**
## Strategic Choices by Maturity Level

<table>
<thead>
<tr>
<th>Strategy or Tactic</th>
<th>Early Learning</th>
<th>Integration</th>
<th>Reengineering</th>
<th>Cultural Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role</td>
<td>Service builder</td>
<td>Service builder</td>
<td>Service supplier</td>
<td>Service supplier</td>
</tr>
<tr>
<td>Consumption scope</td>
<td>LOB/Division</td>
<td>Enterprise</td>
<td>Process partners and ecosystem</td>
<td>Customers (supply chain) Suppliers</td>
</tr>
<tr>
<td>Supply scope</td>
<td>LOB/Division</td>
<td>Enterprise</td>
<td>Process partners</td>
<td>Channels, Customers, Suppliers</td>
</tr>
<tr>
<td>Planning sequence</td>
<td>Concurrent plan &amp; provision</td>
<td>LOB services in advance</td>
<td>Enterprise services in advance</td>
<td>Process partners, ecosystem</td>
</tr>
<tr>
<td>Provisioning tactics</td>
<td>Solution driven; services by opportunity</td>
<td>Services in advance</td>
<td>Services as product,</td>
<td>Services for sale</td>
</tr>
<tr>
<td>Planning scope</td>
<td>LOB/Division</td>
<td>Domain/Value Chain</td>
<td>Joined up business process/value chain</td>
<td>Process partners, ecosystem</td>
</tr>
<tr>
<td>Source of commitment</td>
<td>IT</td>
<td>CIO</td>
<td>LOB Management</td>
<td>Senior business management</td>
</tr>
<tr>
<td>Realization technology</td>
<td>Java services; Web services</td>
<td>Hub ESB architecture</td>
<td>Federated ESB Infrastructure</td>
<td>Virtualized infrastructure</td>
</tr>
<tr>
<td>Service application strategy</td>
<td>Wrapping</td>
<td>Componentization</td>
<td>Commoditization</td>
<td>Virtualization</td>
</tr>
<tr>
<td>Stability strategy</td>
<td>Extensions &amp; new versions</td>
<td>Context or Non core</td>
<td>Commodity – no change allowed</td>
<td></td>
</tr>
<tr>
<td>Triage strategy</td>
<td>Informal</td>
<td>Formal – core/context split</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design style</td>
<td>Specific</td>
<td>Generalized, standardized</td>
<td>Customizable</td>
<td></td>
</tr>
</tbody>
</table>
Roadmap Planning

- Provides framework for managing the adoption and transition to SOA
- Separates planning activity into dedicated streams to establish and manage
- Organizationally neutral, supports federated environment
- Facilitates communication, measurement and monitoring
## Stream Definitions

<table>
<thead>
<tr>
<th>Stream</th>
<th>Focus</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>WHY</td>
<td>Driving and coordination of the whole adoption program.</td>
</tr>
<tr>
<td>Architecture</td>
<td>HOW</td>
<td>Alignment between the demands of the organization (WHY) and the constraints imposed (via Policy and Process) over the Projects (WHAT).</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>WHERE</td>
<td>Creating the technology platforms and standards (WHERE) Split into <em>Operational Infrastructure</em> and <em>Service Lifecycle Infrastructure</em></td>
</tr>
<tr>
<td>Process</td>
<td>WHEN</td>
<td>Alignment between the Infrastructure (what the technology is capable of) and the Projects (how the organization is using the technology)</td>
</tr>
<tr>
<td>Organization</td>
<td>WHO</td>
<td>Developing the individual and collective capability, through assignment of role and responsibilities.</td>
</tr>
<tr>
<td>Projects</td>
<td>WHAT</td>
<td>WHAT is being done that uses the SOA technology within the SOA organization</td>
</tr>
</tbody>
</table>
One Sample – Architecture

Early Learning / Integration / Re-engineering / Cultural Int.

- Basic Minimum Technical Standards
- Canonical Business Type Model
- Defined Business Standardization
- Service Portfolio Plan
- Basic Governance Reviews
- Service Specification Templates
- Service Contract Templates
- Sector Taxonomy
- Fully Detailed Service Portfolio Plan
- Mature Policy Set
- Resource Virtualization Architecture
Architecture Maturity

Early Learning / Integration / Re-engineering / Cultural Int.

Interop  Process Optimization  Reuse/Agility  Federation  Virtualization

Portal

Solution  Solution  Solution
### SOA Reference Architecture

**Conceptual**
- **Data (What)**: Business Ontology, Business Capability Model
- **Function (How)**: Business Intelligence, Value Chain Model
- **Policy (How)**: Business Rule & Policies
- **Network (Where)**: Orchestration
- **People & Participants (who)**: Business Workflow Model
- **Time (when)**: Business Event Response Model
- **Motivation (Why)**: Business Outcome Model

**Logical**
- **Data Model**: Service Portfolio Plan
- **Service Specification**: Service Policies
- **Service Provisioning Policies**: Business Collaboration Model
- **Service Implementation Model**: Ownership Model
- **Service Synchronization**: Service Synchronization

**Physical**
- **Data Source**: Data Source
- **Operational Services**: Service Deployment Policies
- **Service Mediation Model**: Service Operation Policies

**QoS**: QoS

**Acknowledgement to Zachman principles**
Coordinated Roadmaps

Business interoperability requires shared understanding and alignment of:
- Business Outcome & Goals
- Business Obligations
- Business Process
- Business Semantics

SOA requires shared understanding and alignment of:
- Services
- Message Format
- Protocols
- Status (manageability)
- Security

What do we expect the result to be?
What do we have to do?
When do we do it?
What do we mean by…?
What are the Services that we provide to each other?
What are the messages we will exchange?
What are the protocols of the exchange?
What is the status of the process, etc?
How do we identify each other, and manage privacy and integrity?
Summary

- SOA adoption requires:
  - blend of strategic and tactical perspectives
  - understanding of real business opportunity and value
  - more than just architecture – it needs project profiles, processes, organization and management

- A structured roadmap allows enterprises and ecosystems to:
  - Develop collaborative plans
  - Communicate
  - Sell
  - Manage
  - Measure
CBDI on SOA Maturity and Roadmap

Publicly Available
- CBDI Roadmap site
  http://roadmap.cbdiforum.com/

Premium Service
- SOA Maturity Models
- Developing the Architectural Framework for SOA - Part 6 – Transitioning to SOA
- SOA Governance – from Chaos to Order – The Transformation of Enterprise Architecture