Business Process Management enabled by SOA - Use case:

Why? ...... and How?

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Roman Verhovšek – Mobitel d.d.
Gartner: CIO Top Priorities in 2008

Enterprises are accelerating their expectations for IT to make the difference in supporting growth

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving business processes</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Attracting and retaining new customers</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Creating new products or services (innovation)</td>
<td>3</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Expanding into new markets or geographies</td>
<td>4</td>
<td>9</td>
<td>**</td>
</tr>
<tr>
<td>Reducing enterprise costs</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Improving enterprise workforce effectiveness</td>
<td>6</td>
<td>4</td>
<td>**</td>
</tr>
<tr>
<td>Expanding current customer relationships</td>
<td>7</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Increasing the use of information/analytics</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Targeting customers and markets more effectively</td>
<td>9</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Acquiring new companies and capabilities (M&amp;As, etc.)</td>
<td>10</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

* New question for 2008  ** New question for 2007

Source: Gartner – CIO Agenda 2008
Its all about Innovation, Flexibility & the Ability to Change

- CIOs and CTOs recognize Innovation as the most important capability for Growth
- 87% of CEOs believe fundamental change is required in next two-years to drive innovation
- Yet: Only 1 in 10 CEOs believe their organization has the ability to be very responsive to changing market conditions

![Ability to innovate chart]

Source: March 2005 McKinsey Quarterly survey of 9,345 global executives
Flexible Business Models

- Need Flexible IT
- But Today’s IT Systems are Roadblocks
  - Complex
  - Monolithic and siloed applications
  - Inconsistent information sources
  - Custom coded connections
- Not designed for change

“Today’s IT architectures, arcane as they may be, are the biggest roadblocks most companies face when making strategic moves.”

McKinsey “Flexible IT, Better Strategy”
The Issue with driving Innovation ……

Complexity Inhibits Business Innovation

The CEO said something about “flexible and agile”
The SOA Value Proposition - Why SOA:

1. Flexible IT Support for always changing Business Models & Processes
2. Real Business Process Management
3. Reuse of Existing IT Functionality
4. Alignment of Business & IT (“Bridging the Gap”)

How? By reducing complexity ……
SOA is about a different, more flexible way to build Applications and support Business Processes.

**What is**

... a service?

A **repeatable business task** – e.g., check customer credit; open new account

... service oriented architecture (SOA)?

An IT **architectural style** that supports integrating your business as linked services

"Anything that changes can do that much better if the system is architected in SOA.”

-Gartner
Package Business Functionality as (Web-) Service

A Service is:
- a Component
- loosely coupled
- Standards based
- a Blackbox

Service Interface defined in **WSDL** stored in **UDDI**

Calling the Service
Access via **SOAP**

Receiving the result
Service Consumer finds the service via **UDDI**

Implementation can be:
- J2EE App
- Human Task
- SAP, Siebel, Oracle
- Lotus Notes App
- CICS Transaction
- IMS Transaction
- .NET application

void main()
{
    int i;
    do i = 1 to 10
calc()
process()
if SUCCESS
    rc = 0
else
    rc = 1
(...)

.................
SOA Solution Layering, Reuse & Separation of Concern
Improving Business Processes is the #1 Priority for CIOs
SOA allows for a flexible, powerful Business Process Management

- **Clean hand-off to IT with Business Models, Metrics**
- **Integrated deployment of policies, rules, and services based on an SOA platform**
- **Workflow and Choreography**
- **Real time collaboration and management of business processes**
- **Feedback for continuous improvement and optimization**
- **Business Monitoring, Dashboards and Analytics**
- **Assemble, Model, Deploy, Manage**
- **Collaborative Development**

**LOB**

- **Business Modeling and Simulation**
  - WebSphere Business Modeler

- **Business Monitoring, Dashboards and Analytics**
  - WebSphere Business Monitor

**IT**

- **WebSphere Integration Developer**
- **Workflow and Choreography**
  - WebSphere Application Server (WAS) Runtimes
- **Process Server**
Composite Business Services:

A Business Service consolidates business-level usage **information into one place** for easier discovery, change and re-use; and enables behavior to be **dynamically personalized** based on **business context**.

![Composite Business Services Diagram](image)

**Business Function**

- **Customization info for different delivery channels**
- **Personalization info for different types of users**
- **Details on operational capabilities**
  - Credit Lookup: 3rd Party Service
  - Credit Eligibility: Legacy System
  - Customer Profile: Packaged CRM
  - Customer Notification: Custom J2EE
- **Info on technical and industry standards usage**
  - WS-I for service interfaces
  - MISMO, IFW for messages and transactions
- **Business policies to govern usage**

**WebSphere Business Business Services Fabric**

- Web Portal
- IVR
- CRM
- Pre-Approval Policies
- Risk Assessment Policies

**Consumers**

- CSR

**Credit Lookup: 3**

**IVR CRM**

**Customer Notification: Custom J2EE**

**Business Policies**

- Pre-Approval Policies
- Risk Assessment Policies

**Details on operational capabilities**

- Web Portal
- IVR
- CRM

**Business Services Fabric**

- Composite Business Services

**WebSphere**
BPM with Fabric and Business Services

Process segment with many different permutations and complex service mediation needs → apply Fabric

Business Process

Services:
End Points:

Composition Studio

Business Services:

End Points: b1 b2 b3 c1 c2 c3 c4 ....... N

Business Services Dynamic Assembler

Catalog

Business Service Repository

ESB

Registry

• Flexibility in change through policy-driven, dynamic end point selection
• End-point mediation and optimization
• Manage processes and assert policies at a higher level, e.g. across multiple lines of business
**Comparison: SOA Solution with Ongoing Change**

<table>
<thead>
<tr>
<th>Typical Enhancements Supporting Business Model Innovations</th>
<th>SOA Without Fabric (% effort)</th>
<th>SOA With Fabric (% effort)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New endpoint for a business service¹</td>
<td>100%</td>
<td>20%</td>
</tr>
<tr>
<td>Change business service for a new Policy based on customer status²</td>
<td>100%</td>
<td>40%</td>
</tr>
<tr>
<td>Addition of temporal constraint for use of Internal Customer DB Service³</td>
<td>100%</td>
<td>20%</td>
</tr>
<tr>
<td>Provision to a New Customer¹⁰</td>
<td>100%</td>
<td>25%</td>
</tr>
<tr>
<td>Personalisation based on location⁴</td>
<td>100%</td>
<td>12%</td>
</tr>
<tr>
<td>Addition of new consumption channel to support end customer role⁶</td>
<td>100%</td>
<td>45%</td>
</tr>
<tr>
<td>Add a service with temporal, location and status constraints</td>
<td>100%</td>
<td>8%</td>
</tr>
<tr>
<td>Turn off a customer⁹</td>
<td>100%</td>
<td>8%</td>
</tr>
<tr>
<td>Load sharing by customer type to accommodate peak loads¹¹</td>
<td>100%</td>
<td>15%</td>
</tr>
<tr>
<td>Personalisation of content based on consumption channel⁷</td>
<td>100%</td>
<td>16%</td>
</tr>
<tr>
<td>Addition of new type of end-customer role⁵</td>
<td>100%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: IBM SWG Services

Key: Generic BPM difficulty

Easy | Medium | Complex
SOA Delivers Business Value … Today
*Flexibility, growth, reuse, decreased cost*

**Revenue, Flexibility**
- 97% of customers justified their SOA project on cost
- 100% saw increased business flexibility
- 71% reduced risk
- 51% saw revenue growth

**Costs**

**Benefits Resulting from SOA Solution**

- Improve flexibility: 100%
- Decrease cost: 97%
- Reduce risk: 71%
- Increase revenue: 51%
- Enable new products: 43%
- Enable compliance: 26%

*Source: The Business Value of SOA, 2006 Institute for Business Value Study*
Goals

- Migrate IT systems to SOA
- Offer set of reusable services
- Encapsulate functionality into business processes
- Align business and IT worlds
- Speed up implementation of change requests
- Converge fixed and mobile telecommunications
- Introduce SOA governance
Business and IT World

- Business people are owners of business processes
- Business processes are modeled jointly by business and IT people
- Migration to BPEL (passing business processes to development teams)
- Intention to have standardized business processes and services
• NGOSS

- A need for supporting NGOSS standards (TMF)
- Creation of eTOM processes
- Using TAM application definition
- SID data schemas and its extensions
- Contracts (business services’ interfaces)
Choreography, long-running processes and human tasks

- Separate business logic from monolithic applications
  - Choreography in BPEL business processes
  - Refactoring applications into smaller chunks – technical services
- Human interaction: using long–running processes
- Business processes contain activities and human tasks
  - development of Universal human task manager for GUI clients
Flexibility with Fabric

- Simplifying the models of business processes
- Separating business processes from technical ones
- Using policies (context, content and contract) to dynamically select proper technical service
- On-the-fly adding new services
Telco Pack

- Defines business services, TAM applications and application suits
- Defines interfaces (contracts) for Operations (inventory, assurance, billing and fulfillment)
- Using SID data schemas
- Combined with Fabric it connects Telco business services with technical implementations
- Offers reference architecture and best practices
Using Fabric

Consumer

Channels

Business Process Layer

Integration Services Layer

Service Endpoints

ESB

Process Logic

Integration Logic

Application Logic

Business
Prepaid
Residential

Customers

B2B

3rd Party Service Providers

Call Center
Web
Email
Phone/PDA
Fax
Text Msg

Policies
Business
Prepaid
Residential

Business Services

Consumer Integration Services Layer Process Logic

Application Logic

Legacy Applications
Existing Infrastructure
Packaged Applications
Outsourced Services

Service Enable IT Assets

Apps, Data Stores, etc
Synergies

IBM

SOA

University of Maribor

Mobitel
What does this mean for me? What to do next?

- We discussed the „Why?“ and „How?“ of SOA
- Established the Value & Benefits of SOA
- Have seen examples that it works
- The market believes in SOA
- IBM is the clear market leader
- So ...... „take your lead from an experienced vendor such as IBM“
- Get in contact with us and let’s discuss the next steps for YOUR journey to SOA