Einführungsstrategien für eine SOA

Markus Keppeler
IBM Deutschland GmbH

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The History …

Progress

Client/Server

Distributed Technologies

Web Services

SOA

Monolithic Applications

DCE
DCOM
CORBA
MQ
RMI/IIOP
Business Innovation

- Today it is about Business Flexibility
  - On-Demand Business

- Need to quickly react to changes in your business environment
  - Exploit new market opportunities
  - Adapt to customer demand
  - React to competitive threats

- Innovation is about change
  - SOA makes it easier to change

Business Flexibility involves bringing people, processes, and information together.
Customers & Analysts Agree:

SOA Enables Rapid & Incremental Change Leading to Innovation

Innovation That Matters *

“The IBM and GenXus SOA-based solution has made our product more innovative, expanded our market and made us more competitive. It will let us grow our business significantly in the years to come.”

“SOA is the heart of the next wave of innovation. The leaders that do this well are able to rapidly change …”

“SOA is critical for … executing the on-demand vision and in preparing … for the incremental changes … over time. Companies … make better decisions.”
The Cost of Business Integration …

70% of IT development budgets are spent on integrating different systems

ZapThink, LLC
Solutions are composed …

- IT Solutions are made from parts
The Service …
Solutions are composed … of Services …

- IT Solutions are made from Services
Standards for interoperability …
Summary of Standards …
WSDL …

- Web Services Description Language
- Open Standard for describing Interfaces to Services
- Characteristics
  - Describes data expected to be sent and received
  - Describes what the Service can do
  - Describes how to reach the service
- WSDL description is an XML document that conforms to the WSDL standard
- If you have a WSDL file, you know how to interact with a service!!
Assembling the Services …
BPEL …

- **Business Process Execution Language**
- A specification for Business Process description and execution
- Invented by a core set of companies led by IBM and Microsoft
- Now progressing towards standard through OASIS

**OASIS**

- Current Technical Committee

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Process Choreography ...

- The decision of which Services are invoked
- The decision of what order Services are invoked
- The transformation of data output from one Service and input to another

Process is a “Flow Chart” of execution paths!!
What is SOA? ...

SOA is the architectural style that supports loosely coupled services to enable business flexibility in an interoperable, technology-agnostic manner. SOA consists of a composite set of business-aligned services that support a flexible and dynamically re-configurable end-to-end business processes realization using interface-based service descriptions.

Or

![Diagram of SOA services](image-url)
What is...

... a service?

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

... service orientation?

A way of integrating your business as linked services and the outcomes that they bring

... service oriented architecture (SOA)?

An IT architectural style that supports service orientation

... a composite application?

A set of related & integrated services that support a business process built on an SOA
IBM WebSphere Software for SOA ...

WebSphere Integration Developer
Easy-to-use integration to simplify and speed the assembly of composite applications

WebSphere Business Modeler
Simple to use process modeling for the business analyst to help maximize process and business resource re-use

WebSphere Process Server
Flexible deployment of business processes, making plug-and-play of components a reality, powered by WebSphere ESB

WebSphere Business Monitor
Real-time visibility into process performance enabling process intervention and continuous improvement
IBM WebSphere Business Modeler …

Best In Class Business Modeling, Simulation and Analysis

- Simple to use business modeling tool
  - Allow the people who know the business to model the business
  - Attach resource, roles and costs to each activity

- Sophisticated simulation and analysis
  - Understand your business models and make informed decisions before deployment
  - Compare simulations against historical actuals

- Collaborative modeling
  - Enable communication and participation across your enterprise via web based collaboration

- Visio import
  - Import existing process pictures previously created in Visio as a starting point for true business Modeling

- Clean hand-off to I/T
  - Rapid and accurate deployment of your solutions
  - Business modeling is the starting point for I/T deployment
IBM WebSphere Software for SOA …

**WebSphere Integration Developer**
Easy-to-use integration to simplify and speed the assembly of composite applications

**WebSphere Business Modeler**
Simple to use process modeling for the business analyst to help maximize process and business resource re-use

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**WebSphere Business Monitor**
Real-time visibility into process performance enabling process intervention and continuous improvement
Assemble—What Makes WebSphere Unique …

- **BPEL Without Coding**
  - Standards based process support

- **Full Workflow Support**
  - Built-in human task support

- **State Machines**
  - For complex transactions

- **Dynamic processes and assembly**
  - For flexibility and responsiveness
  - Business rules to determine the process flow
  - Selectors to determine which components are in the flow

- **Assembly with WebSphere Integration Developer**
  - Tooling and architecture for composite applications
Deploy- What Make WebSphere Unique …

- A Single Process Server
  - Integrated runtime for all SOA based process automation
  - Runtime engine for all the components defined in Assemble (Assemblies, BPEL, State Machines, Business Rules…)
  - Fully leverage the breadth and capability of IBM WebSphere Application Server
  - Reliable, scaleable, secure

- Integrated ESB For Range And Reach
  - Provides seamless access to all available services
  - Adapters provide the service on-ramp for existing applications
  - B2B to interoperate with your extended partner network

- Service Components and Business Objects
  - Build processes without knowledge of existing applications
  - Simplifying and accelerating, providing flexibility and reuse

IBM WebSphere Process Server
WebSphere Process Server – Components

Service Components
- Business Processes
- Human Tasks
- Business State Machines
- Business Rules

Supporting Services
- Interface Maps
- Business Object Maps
- Relationships
- Selectors

SOA Core
- Service Component Architecture
- Business Objects
- Common Event Infrastructure

WebSphere Application Server, Version 6
IBM WebSphere Software for SOA …

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WebSphere Business Monitor
Real-time visibility into process
performance enabling process
intervention and continuous improvement
Manage – What Makes WebSphere Unique …

- **Business Dashboards**
  - Scorecards of Key Performance Indicators
  - Track cost, time and resources
  - Identify bottlenecks, balance workloads, reduce latencies

- **Process Intervention**
  - Business event triggers and notifications
  - Dynamic response to alerts

- **Continuous Process improvement**
  - Real data in WebSphere Business Modeler to understand your business performance
  - Real data in WebSphere Business Modeler to design the next release of your business process
Integrated ESB for Range and Reach …

Enterprise Service Bus - extend the reach into your IT with flexible options

- WebSphere Process Server is powered by ESB
  - ROUTING messages between services
  - CONVERTING transport protocols between requestor and service
  - TRANSFORMING message format between requestor and service
  - HANDLING business events from disparate sources

- Standards based Integration
  - Web Services connectivity
  - JMS messaging

Shape = Protocol
Color = Data type
Adapters provide the service on-ramp for existing applications …

**Enterprise-ready connections based on industry best practices**

**Broadest reach in the marketplace**
- Part of IBM’s Access Services portfolio, which delivers reach to hundreds of integration endpoints

**Enterprise Ready**
- Mission-critical quality of service
- Full portfolio of integration products available through a single vendor

**Best Practices**
- First-class support for top ISVs
- Established relationships with top-tier ISVs
- Based on first-hand experience gained from integration services
Real Results From An SOA Approach To Processes ... 

- **Flexibility**
  - Rapidly change process behavior to keep pace with business requirements
  - Adapt to changes with minimal operational disruption

- **Responsiveness**
  - Respond quicker and make proactive changes to processes dynamically

- **Optimization**
  - Powerful, intuitive tools to understand, analyze, and improve your business processes
  - Provides a true understanding of business operations as they are today and for predicting their future performance

- **Solution Building Efficiency**
  - Deploy business process solutions at lowest cost
  - Import and work with business process models directly from the business analyst

*Sources: CBDi*
Thank You