In This Presentation We Will Talk About

- 6 Blind Men and an Elephant
- SOA, Web Services and the Agile Enterprise
- Global Delivery Model
- SOA, Web Services, and GDM
## Some Terminology

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>BPO</td>
<td>Business Process Outsourcing</td>
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<td>BPM</td>
<td>Business Process Management</td>
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<td>ESP</td>
<td>Enterprise Service Provider</td>
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<td>GDM</td>
<td>Global Delivery Model</td>
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<td>SOA</td>
<td>Service Oriented Architecture</td>
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<tr>
<td>SODA</td>
<td>Service Oriented Development of Applications</td>
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<tr>
<td>SOBA</td>
<td>Service Oriented Business Applications</td>
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<td>SOE</td>
<td>Service Oriented Enterprise</td>
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<tr>
<td>WS</td>
<td>Web Services</td>
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The Blind Men and the Elephant
SOE: Service Oriented Elephant?
SOA Stakeholders

CEO
- Technology & Vendor Independence
- Greater role in Decision making

CIO
- Positive Role of IT Dept.
- Cost Reduction

ARCHITECT
- Strategic Development
- Code Reuse
- Loose Coupling

BUSINESS OWNER
- Budget Reduction
- Shorter Time to Market
- Agile Strategy
- Future Proof Solutions

PROJECT MANAGER
- Manageable Project Size
- Clearer Requirements
- Reduced Integration Effort

DEVELOPER
- Smaller, Shorter Projects
- Rapid Prototyping
- Simplified Testing
- More Attractive Job
The Service-Oriented Enterprise

Methodologies and technologies for automating business process operations

Business Process Management

Service Oriented Architecture

A Methodology for achieving application interoperability and reuse of IT assets

XML-based technologies for messaging, service description, discovery, and extended features

Web Services

XML

Common, independent data format across the enterprise

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Business Agility – the need of the hour

*An enterprise needs to thrive in a continuously changing business environment by responding at optimal cost and speed to business stimuli*

**Requirements**

1. **Flexibility:** The ease of addition of new business models, services, functionalities in response to changed market conditions, competition etc. with minimal change in existing IT implementation.

2. **Ubiquitous Context Sensitivity:** The availability of context-sensitive information to all stakeholders at any location, irrespective of the channel or medium of interaction.

3. **Virtualization and Standardization:** Standards based IT systems with virtual IT resources to provide abstraction from specialized Hardware and software.
The Agile Enterprise

The ultimate goal of an SOA is the creation of the Agile Enterprise.
Let us recap

- Business needs An **Agile Enterprise**, which requires
- **Service Orientation**, which needs
- a **software platform**, which is
- flexible, technology agnostic, ubiquitous, so that the enterprise can
- sense changes and respond optimally
• Web Services offer a cross-technology standards for realizing the vision of a Service Oriented Enterprise
• Web Services-oriented Architecture is an SOA implemented using Web Services
So far we have talked about

the problem space and

the tools
What has not been discussed

The mechanism to deliver, host, and sustain services for the Service Oriented Enterprise
Challenges in **delivering** the SOA for an SOE

- Economies of scale
- Complexity
- Resource crunch
- Management
- Operational Support
- Governance
- SLA management
- Maintenance
- Licensing
SOA Design needs

- A well-planned IT Strategy for SOA
- An iterative roadmap for SOA adoption
- Robust service identification, location, packaging, orchestration, routing, governance, and proliferation
SOA Development needs

- Cost-effectiveness
- Resource-scalability
- Effective change management
- Reliable deployment and maintenance
- Long term sustainability
- Risk mitigation strategy – distribution of eggs into different baskets
- Modular development of services

SODA – Service Oriented Development of Applications
SOA and Web Services Hosting needs

- Cost-effective and flexible infrastructure
- Robust operation
- Security and reliability
- Trust relationships
- Application service management
- Infrastructure virtualization, such as grid computing

**SOBA** - Service Oriented Business Applications

Hosting in the SOA context is more loosely coupled than the infrastructure-based ASP model that was in place for the B2B markets
SOA and Web Services **Sustenance** needs

- Scalability of services
- 365X24X7 operation
- Customer and application support
- Autonomous operation of External Service Providers
- Efficient Change Management
- Service lifecycle management
- Effective governance
Through 2008, enterprises, outsourcing vendors and software vendors that recognize the value of governance and disciplined development, and that define value in the service-oriented era, will excel.

Introducing the **Global Delivery Model**

- A business model based on outsourcing IT services
- Key focus is on getting appropriate talent across the globe to deliver solutions
- Key benefit is development cost reduction
- Modular Global Outsourcing (MGO)

*Source: ZapThink ZapNote - “Infosys Global Consulting Powerhouse,” Ronald Schmelzer, 2004*
Convergence of GDM vendors

Consulting Companies
Strengths:
- Strategic business expertise
- Deep vertical expertise
Weaknesses:
- High cost structure
- Short-term engagement model

Outsourcing Companies
Strengths:
- Deep and broad technical expertise
- Long-term engagement model
Weaknesses:
- High cost structure
- Cost-focused benefit model

Offshore Companies
Strengths:
- Low cost structure
- Strong focus on internal processes and quality programs
Weaknesses:
- Little vertical expertise
- Short-term engagement model

Challengers: BearingPoint, Deloitte
Leaders: Accenture, Capgemini, IBM, Infosys, Wipro

Integrate capabilities to become...

Next Generation Outsourcing Services Company
Strengths:
- Strategic business expertise
- Deep vertical expertise
- Deep and broad technical expertise
- Long-term engagement model
- Low cost structure - globally sourced
- Focus on process and quality improvements

Source: AMR

The current focus of all the vendors in this space is the development of services which are to be deployed within a Service Oriented Enterprise. The services are not yet hosted by the ESPs in this market.
Distribution Mix of Offshore/Near-shore Employees

Note: Number of respondents = 43

Source: Gartner Dataquest (October 2003)

Source: Gartner - “Market Trends: IT Professional Services Worldwide,” Michele Cantara, 2004
# Service Categories in an SOA

<table>
<thead>
<tr>
<th></th>
<th>Basic Services</th>
<th>Intermediary Services</th>
<th>Process-centric Services</th>
<th>Public Enterprise Services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Implementation Complexity</strong></td>
<td>Low to Moderate</td>
<td>Moderate to High</td>
<td>High</td>
<td>Service Specific</td>
</tr>
<tr>
<td><strong>State Management</strong></td>
<td>Stateless</td>
<td>Stateless</td>
<td>Stateful</td>
<td>Service Specific</td>
</tr>
<tr>
<td><strong>Reusability</strong></td>
<td>High</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Frequency of Change</strong></td>
<td>Low</td>
<td>Moderate to high</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Mandatory Element of SOA</strong></td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Examples</strong></td>
<td>Customer service (data), insurance product engine (logic)</td>
<td>Legacy wrapper (Technology gateway), ERP adapters (Adapters), Service Access Layer (Façade)</td>
<td>Booking an airline ticket, approving a loan</td>
<td>Shipment tracking service, SMS service</td>
</tr>
</tbody>
</table>
Distributing Services for GDM

1. Frontend calls basic services directly
2. Process-centric service coordinates basic service calls
3. Frontend used intermediary service to get to basic services
4. Process-centric service uses intermediary service to get to basic services
Stages of SOA Adoption using GDM

Stage I
Fundamental SOA

- Focus on **enterprise integration**
- Complexity and business logic still in application frontend
- Enable multiple applications to share live data and business logic
- Provide an appropriate base for an enterprise landscape
- Focus on shared services to make data replication obsolete

**FOCUS**

**BENEFITS**
- Creates strong platform for enterprise application landscapes
- Technically easy to implement
- Increased maintainability
- Data sharing

Stage II
Networked SOA

- Focus on basic and intermediary **Stateless services** including facades, technology gateways, adapters, and functionality adding services
- Technical and conceptual abstraction focused on reducing backend complexity
- Service access & coordination
- Reduction in complexity of Application Frontends

Stage III
Process-enabled SOA

- Focus on maintenance of process state in process-centric **Stateful services**
- Process control delegated to the SOA
- Service orchestration
- Encapsulation of complexity of processes
- Sharing of state between clients
- Handling of long-living processes

**Slide 25**
SOA Adoption for SOEs Leveraging ESPs

Source: Gartner Research (April 2004)
Setting up a GDM based service offering

- Establishment of a Center of Excellence
- Establishment of a team based on the Global Delivery Model
- Establishment of a Governance body
- Development of SOA Services
- Deployment of distributed resources
- Clear definition of roles of persons involved
- Development of methodologies and tools
Example SOA Service Offering Model

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*SOAO – SOA Offering

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SOA Implementation Frameworks

Overarching Capabilities

Stage

Assess

Define

Implement

Operate

Framework under development/use

SOA Assessment Framework

SOA Migration Methodology

SOA Implementation Frameworks

SOA Deployment/management Frameworks
SOA Non-implementation Frameworks

- **SOA Assessment Framework**
  - A questionnaire based approach to understand the status of the SOA readiness of the enterprises, with a relative positioning w.r.t to the state of the practice in the area

- **SOA methodology**
  - An end-to-end methodology for enabling enterprises to move to SOA, involving a combination of forward and reverse engineering methods

- **SOA reference models**
  - A comprehensive SOA reference models for different verticals
SOA Reference Enterprise Architecture

Service Integration Layer
- **Interfaces to Other Systems**
  - Connectors
  - Adaptors
  - Gateway and Callback
  - Internal Registry management
- **Core functions**
  - Identity Management
  - Policy Management
  - Service Aggregation
  - Access Control and Security
  - Routing and Transformation
  - Transaction Management
  - Internal Registry Management

Service Access Layer
- **Core Functions**
  - Protocol mapping and conversion
  - Security
  - External Registry Management
  - Load Balancing
  - XML Firewall
- **Functional Services**
  - B2B services
  - B2C services
  - Portal services
  - BI Services
  - SCM services
  - Domain Specific Services

Business Process Management Layer
- Process definition
- Process orchestration
- Process workflow

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Syndeo – Web Services Bootstrap Framework

- Covers WS life cycle – Generation, deployment and monitoring
- Implementation based on Open Source Components
- Implementation of concept of ESB
- Framework for non functional features of Web Services
- J2EE Standards Based
- SOA Based Implementation
- Pluggable into J2EE Application Servers
- Industry Best Practices for WS and SOA incorporated
GDM-based sample engagements for the SOA

• Bank - Service orientation to enable better decisions making
• Courier, Logistics – SOA via an Enterprise Service Bus (ESB)
• Automotive - SOA Migration to re-use business models across geographies and business units
• Information Availability across verticals
• Multi-Channel Integration - Retail, Banking
• Operation and Business Support Systems – Telecom
• Dealer Integration - Auto
The landscape for service adoption

- Intra-departmental
- Cross-departmental
- Cross-Business unit

- Not Cost-effective
- Agility
- Flexibility
- Maintainability

- Not Feasible
- Intra-Enterprise Integration
- Inter-Enterprise Integration

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Why here, why now?

- I’m at an SOA and Web Services conference in China
- I work for a company that has mastered the art of delivering through GDM
- India and China are the leading candidates for SOEs through a robust GDM model
Useful links and contacts

- http://ajitsagar.javadevelopersjournal.com
- http://sys-con.com/webservices/
The Agile Elephant