Integration Through A Service Oriented Architecture

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From CEOs: “Now It Is About Growing The Top Line While Keeping The Bottom Line In Check.”

“In order to grow and differentiate the business, the only way is for us to develop new products and services and in spaces we have never dealt in before. The challenge is also how we execute this.”

Key Focus Area for Strengthening Financial Performance Over the Next Three Years

- Revenue Growth
- Cost Reduction
- Asset Utilization
- Risk Management

Sources: IBM Business Consulting Services, The Global CEO Study 2004
Demands On The IT Organization Continue

“We care most about applying new technology to develop new products and services. The main characteristic of our industry is fast change, so it depends upon who can develop new products and services quickly. If that cannot be ensured, then it is impossible to survive in this industry.”

Source: IBM Business Consulting Services, The Global CEO Study 2004

<table>
<thead>
<tr>
<th>Business Challenges</th>
<th>IT Imperatives</th>
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<tbody>
<tr>
<td>Increase the speed of business changes</td>
<td>Become a more responsive IT organization to quickly adapt to changing business priorities</td>
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<tr>
<td>Improve business efficiency and performance</td>
<td>Align IT more tightly with business strategies in a cost effective manner</td>
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<tr>
<td>Protect the privacy and security of critical information assets</td>
<td>Provide a secure and managed integration environment</td>
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Greater Flexibility Required From Business Models And The Supporting IT Architecture

Flexible Business

- Transformation
- Business Process Outsourcing
- Mergers, Acquisitions & Divestitures

Flexible IT

- On demand Operating Environment
- Service Oriented Architecture (SOA)
  - Development
  - Infrastructure
  - Management
    - Software Development
    - Integration
    - Infrastructure Management

Composable Processes (CBM)
Component Business Modeling

Composable Services (SOA)
A Service Oriented Architecture (SOA) is Key

The flexibility to treat elements of business processes and the underlying IT infrastructure as secure, standardized components (services) that can be reused and combined to address changing business priorities.

Services are the building blocks

- Packaging business functions from new and existing applications in a simple and standardized way creates services that are available for use
- Services are used to help get the right information to the right people at the right time
- Services can be reused and combined to deploy composite applications to address new opportunities
- Increasing use of “Web” services based on open standards complements existing services technology
Why is SOA Important?

**Business Benefits**
- Business flexibility provided by increased granularity of processes enabled through services
- Ability to quickly create business processes and composite applications to respond to changes in the marketplace
- Improved customer service using services without having to worry about the underlying IT infrastructure

**IT Benefits**
- Becoming a more responsive IT organization with a secure and managed integration environment
- Decrease development and deployment cycle times through the use of pre-built, reusable services building blocks.
- Reducing complexity and maintenance costs with common services
- Enhancing existing IT systems rather than replacing them
Service Oriented Architecture Adoption
IBM is Working with Customers at All Levels of SOA Adoption

Entry Points
Based On Business Priorities

1. Implementing Individual Web Services
2. Service Oriented Integration of Business Functions
3. Enterprise Wide IT Transformation
4. On Demand Business Transformation

Entry Points Based On Business Priorities:

1. Implementing Individual Web Services
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3. Enterprise Wide IT Transformation
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Business Value
### Elements Of An SOA

<table>
<thead>
<tr>
<th>BUILD</th>
<th>Creating services from new or existing application functionality</th>
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<tbody>
<tr>
<td>DEPLOY</td>
<td>Making services available for use</td>
</tr>
<tr>
<td>USE</td>
<td>Using services individually or in combination</td>
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#### MANAGED & SECURE ENVIRONMENT

### Examples

- **Expose legacy CICS daily trading results data as a service**

- **Make the service available through an application server**

- **Utilize service to incorporate CICS data as part of an executive dashboard**

- **User Authentication and management of Service Transactions**
Open Standards Progress

Web services collaboration makes “secure, reliable, managed and transacted” a reality

<table>
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<tr>
<th>Business Processes</th>
<th>Business Process Execution Language For Web Services (BPEL4WS)</th>
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<tbody>
<tr>
<td>Quality of Service</td>
<td>Reliability, Transactions, Management, Security</td>
</tr>
<tr>
<td>Description</td>
<td>Web Services Description Language (WSDL)</td>
</tr>
<tr>
<td>Messaging</td>
<td>Simple Object Access Protocol (SOAP), Extensive Markup Language (XML), Other Protocols Other Services</td>
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</table>
SOA Is Evolving With New Standards

The foundation of an SOA is the transaction and transport layer that has the quality of service to handle enterprise workloads and the flexibility to connect diverse multi-vendor IT environments.
Customer Examples

Bank of Tokyo-Mitsubishi

- **Business Need** - Increase online services and Internet banking for corporate customers in the face of increased competition due to customers desire for real-time access
- **Solution** – Web services on the WebSphere Platform running on Linux
- **Benefits** – *Increase revenue* by attracting new customers and charging for the new service, *reuse* the same architecture and *reduce costs* by eliminating dedicated connections for customers desiring a direct link.

Yamato Transport Group

- **Business Need** – Real time parcel tracking, plus system to system access
- **Solution** – Web services on the WebSphere Platform, DB2, MQ and Tivoli
- **Benefits** – information system architecture based on open standards that will provide the flexibility, scalability, 24 X 7 availability, and openness that an on demand business requires
A Prescriptive Approach To SOA Implementation
Level 1 - Implementing Individual Web Services

Core Components

Spectrum of Value

**Products**
- IBM WebSphere Studio Application Developer
- Emerging Technology Toolkit

**Education**
- Speed Start for Web services
- Technical Briefings
- Online Education

**Services**
- IBM Assessments for Web Services
- IBM Architecture & Planning Services for Web Services
Level 2 – Service Oriented Integration

Core Components

Spectrum of Value

**Products**
- IBM WebSphere Studio Application Developer Integration Edition
- IBM WebSphere Host Access Transformation Services

**Education**
- Product Specific Training
- SOA Training
- Redbooks
- SOA Roadmap of Best Practices

**Services**
- IBM Assessments for Web Services
- IBM Architecture & Planning Services for Web Services
- IBM Strategy & Planning Services for Service Oriented Architecture
- IBM Assessments for Service Oriented Architecture
- IBM Application Renovation
- IBM Application Integration
- IBM Infrastructure Readiness Assessment
- IBM Infrastructure Strategy
Level 3 – Enterprise Wide IT Transformation

Core Components

Spectrum of Value

### Products

- IBM WebSphere Business Integration Modeler
- IBM Rational Rose XDE
- IBM WebSphere Business Integration Message Broker
- IBM DB2 Information Integrator
- IBM Lotus Workplaces
- IBM Tivoli Identity Manager
- IBM Tivoli Business System Manager
- IBM Tivoli Monitoring for Business Integration
- IBM WebSphere Business Integration Monitor

### Education

- Product Specific Training
- SOA Training
- Redbooks
- SOA Roadmap of Best Practices

### Services

- IBM Component Business Modeling
- IBM Application Portfolio Rationalization
- IBM Assessments for Web Services
- IBM Architecture & Planning Services for Web Services
- IBM Strategy & Planning Services for Service Oriented Architecture
- IBM Assessments for Service Oriented Architecture
- IBM Application Renovation
- IBM Application Integration
- IBM Infrastructure Readiness Assessment
- IBM Infrastructure Strategy
What’s New

Spectrum of Value

NEW Products

- IBM WebSphere Business Integration Server Foundation V5.1
- IBM WebSphere Studio Application Developer Integration Edition V5.1

NEW Education

- Redbooks
  - Customer Executive Summit on SOA and Web services
  - SOA Architect Training
  - Online Training Modules
  - SOA Roadmap of Best Practices

NEW Services

- Web Services
- Service Oriented Architecture
- IBM Component Business Modeling
Summary of What's New from WebSphere

<table>
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<tr>
<th>IBM WebSphere Studio Application Developer Integration Edition</th>
<th>IBM WebSphere Business Integration Server Foundation</th>
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<tr>
<td>▪ Visual business process designer and debugger for creating BPEL4WS 1.1 process flows</td>
<td>▪ Native deployment support for BPEL4WS processes</td>
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<tr>
<td>▪ Support for building Web Services Interoperability (WS-I) compliant Web services and business processes</td>
<td>▪ Additional platform support adding z/OS (2Q) and OS/400 (3Q) to AIX, HP-UX, Linux (4 platforms), Solaris and Windows</td>
</tr>
<tr>
<td>▪ Automated migration of version 5.0 process flows to BPEL4WS</td>
<td>▪ WebSphere Business Integration Modeler and Monitor support (2H04)</td>
</tr>
<tr>
<td>▪ Unit test environment for WebSphere Business Integration Server Foundation v5.1</td>
<td>▪ Common Event Infrastructure* for managing the creation, transmission, and distribution of business, system, and network events</td>
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<tr>
<td>▪ Full support for all the features included in WSAD 5.1.1</td>
<td>▪ Full support for all the features included in WAS v5.1</td>
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*Tech preview in V5.1, GA delivery later this year

IBM WebSphere Business Integration Server Foundation V5.1 evolved from the development and architectural work on WebSphere Application Server Enterprise combined with the integration experiences of over 600 successful customer implementations.
IGS SOA & Web Services Center of Excellence
Leaving the Ongoing Development and Integration of Leading Capabilities Throughout IBM Global Services

Client implementations of SOA & Web Services
Leading thousands of implementations will drive the ongoing creation of assets, capabilities & offerings throughout IGS

IGS Worldwide SOA & Web Services Center of Excellence
The mission of the Center of Excellence is to help clients realize business value from the implementation of Service Oriented Architectures & Web Services. In addition, the Center of Excellence will lead the cross-IGS community to deliver integrated best practices for our customers.

IGS Solutions for SOA & Web Services
- IBM Architecture and Planning Services for Web Services
- IBM Assessments for Web Services
- IBM Strategy and Planning Services for Service Oriented Architecture
- IBM Assessments for Service Oriented Architecture
- IBM Component Business Modeling Services
- IBM Application Portfolio Rationalization
- IBM Application Renovation
- IBM Application Integration

Business Consulting Services
Application Management Services
Information Technology Services

New
## Summary of New Service Capabilities

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<th>Description</th>
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| IBM Architecture & Planning Services for Web Services | ▪ IBM will assist customers with web services architectural guidance, web services implementation guidelines and web services best practices  
▪ Engagement Duration – 2 to 3 Months |
| IBM Assessments for Web Services | ▪ IBM will conduct a Web Services assessment to address the architecture and usage of web services technologies for one or more planned implementations  
▪ Engagement Duration - 3 Days to 1 Month |
| IBM Strategy & Planning Services for Service Oriented Architecture | ▪ Helps customers identify business and I/T capabilities required currently and in the future to take advantage of service oriented computing.  
▪ Engagement Duration – 2 to 3 Months |
| IBM Assessments for Service Oriented Architecture | ▪ IBM will conduct a SOA assessment to address the maturity of a current or planned SOA in areas of services integration and flexibility, while assessing whether the SOA will successfully deliver on the technical requirements in areas of performance, scalability and availability.  
▪ Engagement Duration - 1 to 3 Months |
IBM’s SOA Leadership
IBM SOA Leadership
Provider of best of breed middleware and industry thought leader

Standards Leadership
- Multi-vendor interoperability
- Investment protection
- Enhanced modularity and reduced cost structure

Product Leadership
- Modular – Integrated, Componentized & Incremental
- Enterprise secure and scalable
- Leader across all SOA Elements
  - Rational
  - WebSphere
  - DB2
  - Lotus
  - Tivoli
IBM SOA Leadership

Unmatched services, support, technical enablement, and practical industry experience

- Mitigate risk
- Leverage best practices – Products, education and services
- Improved time to value – Industry expertise

- IBM investing over $1B a year around SOA and Web services
- Over 50,000 developers in 164 countries actively working on Web services applications through IBM’s Speed start for Developers Program
- 35,000 industry-oriented consultants with experience and expertise in SOA and Web services
- 3 SOA/Web Services Centers of Excellence leveraging IBM’s deep industry knowledge to help clients in specific industries identify opportunities for Web services and SOA
Don’t Just Take Our Word for It

“Today, there is little doubt that IGS is leading the pack of Web services based professional services players.”

_IDC, May 2004_

“Gartner believes that, in the longer term, the combination of IBM’s renewed focus and massive investment in SOAs should propel market adoption of SOAs and Web services and strengthen IBM’s position as a differentiated thought leader.”

_Gartner, April 2004_

Experts saw the announcement as an attempt at presenting a clear strategy of services and technology that will comprise IBM’s offering in what proponents say is the next-generation of distributed computing. … Ronald Schmelzer, analyst for market researcher ZapThink LLC, said. “The reason for this announcement is to put everyone on notice that this is a major emphasis for them over the course of the next 12 months.”

_Asia Computer Weekly, May 3, 2004_
Summary
For More Information …

- on demand Operating Environment and SOA
- Software Group Web Services/SOA Main Page
- IGS Web Services/ SOA Main Page
- SOA and Web services Zone
- Redbooks
- Speed-start Web services
Thank You