Connectivity & Application Integration

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SOA in Action
Get smart about SOA.

IBM

| Session 1 9:15am to 9:55am	Session 2 10:10am to 10:50am	Session 3 10:55am to 11:35am
Getting started with SOA - the complete guide Designed for those who want to understand the key concepts of SOA as an enabler of business flexibility, innovation, integration and agility.	**Connectivity and Application Integration** Intended for those who want to learn how to connect any application to virtually any other IT system with extreme reliability, scalability and flexibility.	**Business Process Management enabled by SOA** Designed for those who want to understand how to continuously optimise business processes and adapt them to their rapidly changing business needs.

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Get smart about SOA.

Smarter Planet
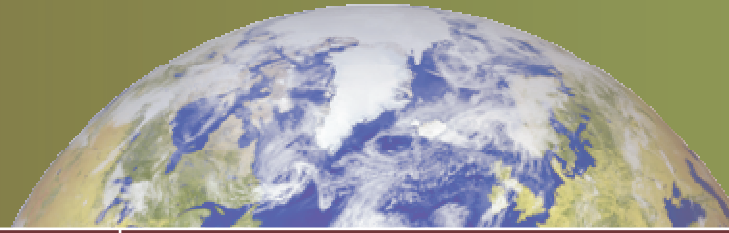
- instrumented
- interconnected
- intelligent

- people
- companies, institutions, industries
- man-made systems
- nature's systems

The Pace of Business Must be Met

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98%
Of CEOs plan business model changes

3X
Increase in gap between expected change and ability to handle change

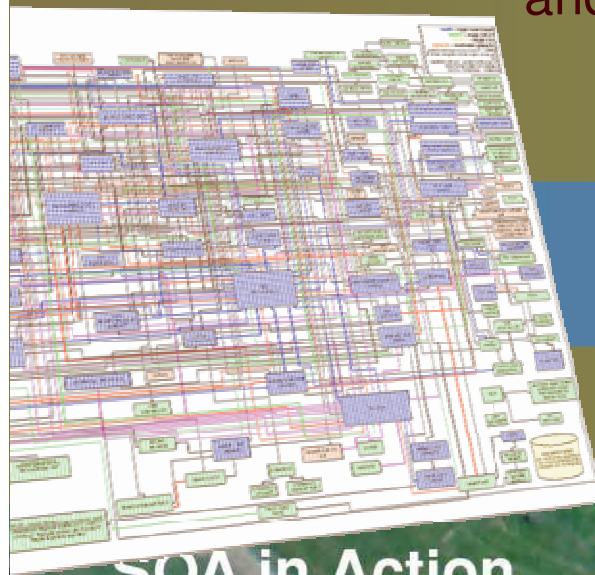*In a Time of Turbulent Change*

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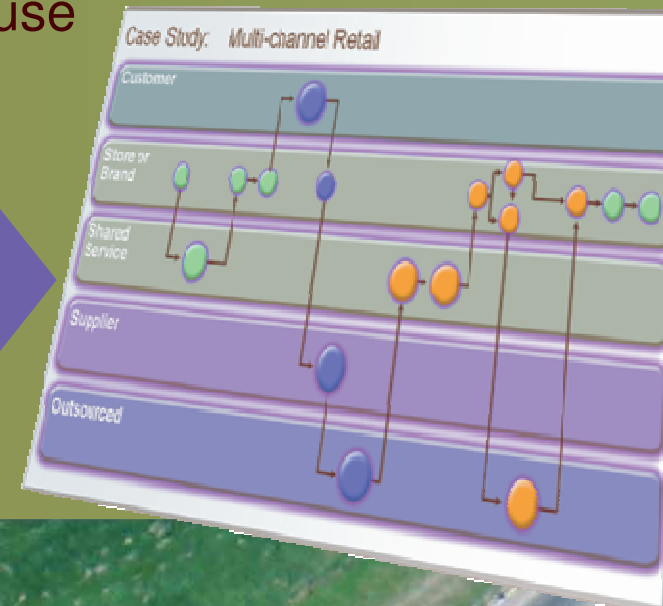
Aligning IT to Business is Critical

- Today's Business-focused IT requires:
  - **Faster** response from IT to enable business to address changing market conditions
  - Increased portion of IT budget to be spend on **new innovation** rather than maintenance
  - **Reduced IT complexity** for better security and management as well as reuse
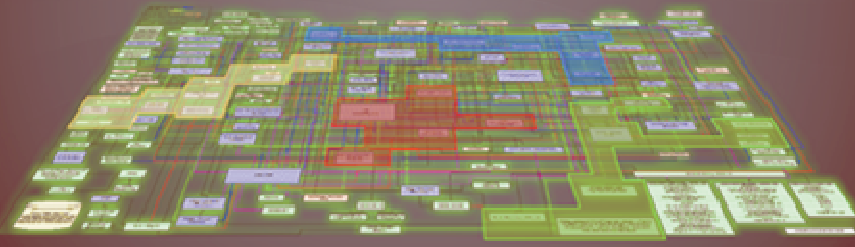
IT
Reality

IT Needs
to Be

Case Study: Multi-channel Retail

Customer

Store or Brand

Shared Service

Supplier

Outsourced

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Why go down this path?

What is SOA?
Extracting services from applications

Services:
Business
Technical
Information

- **Optimise reuse of existing assets**

- **Quickly shift direction to reflect economic realities**

- **Flexibly connect information and application**
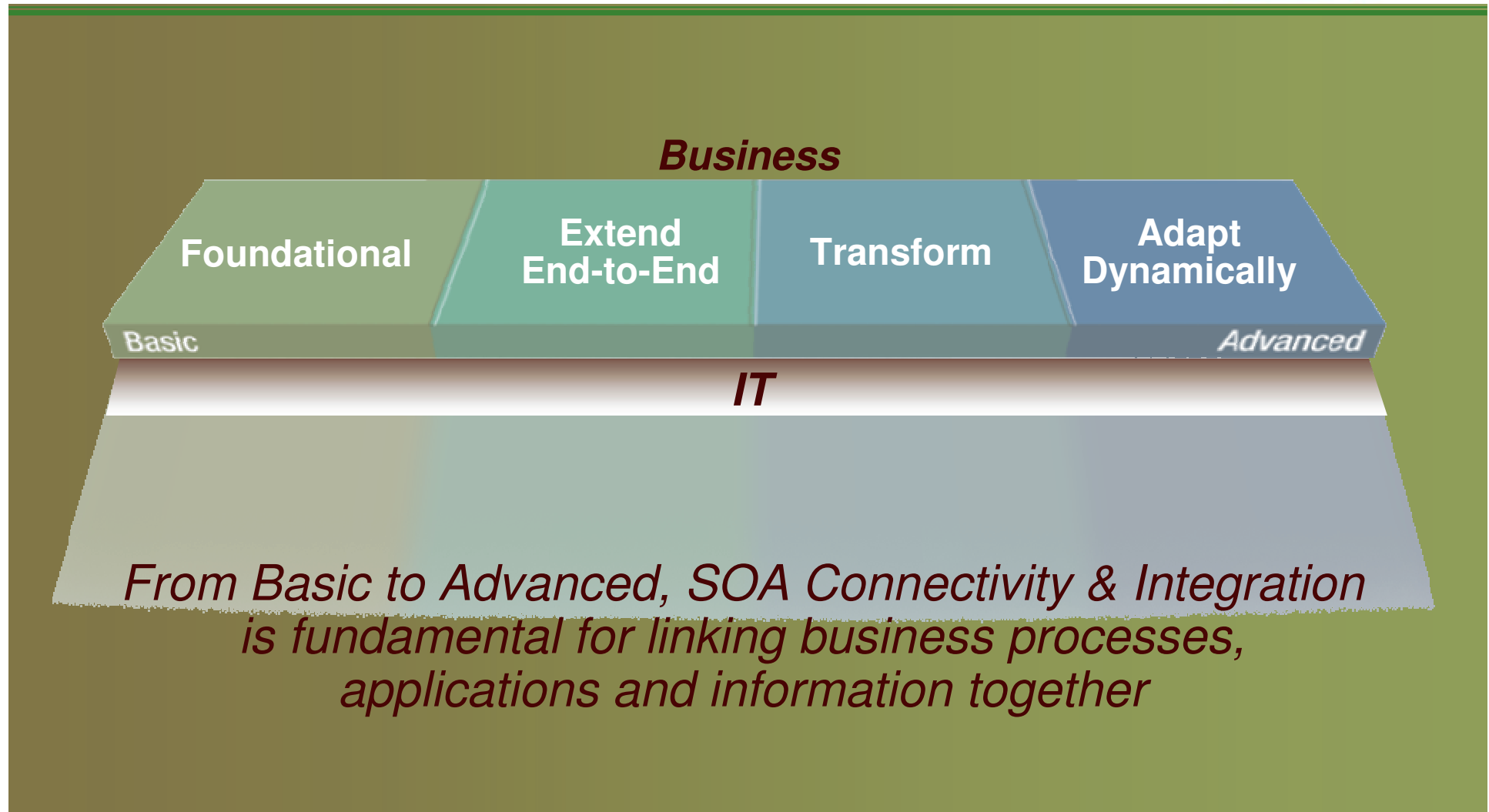
Unlock the value of your own…
Business Resources
Application Resources
Infrastructure Resources

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IBM's Smart SOA
Powers Smarter Business Outcomes Across a Continuum

Business

| Foundational | Extend End-to-End | Transform | Adapt Dynamically |

Basic   *Advanced*

IT

From Basic to Advanced, SOA Connectivity & Integration is fundamental for linking business processes, applications and information together

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Organisations Leverage SOA Connectivity & Integration to *Address Critical Business Needs*
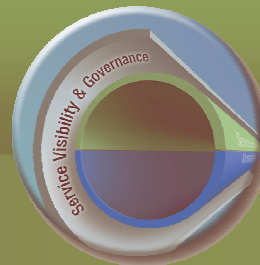
IBM

Business Needs

Common Adoption Patterns

"Fast, flexible & reliable access to business information"

ESB Messaging & Enrichment

"Trust, management & security for business applications"

Service Visibility & Governance

"Make it easy for the Organisation's customers, partners & suppliers to conduct business"
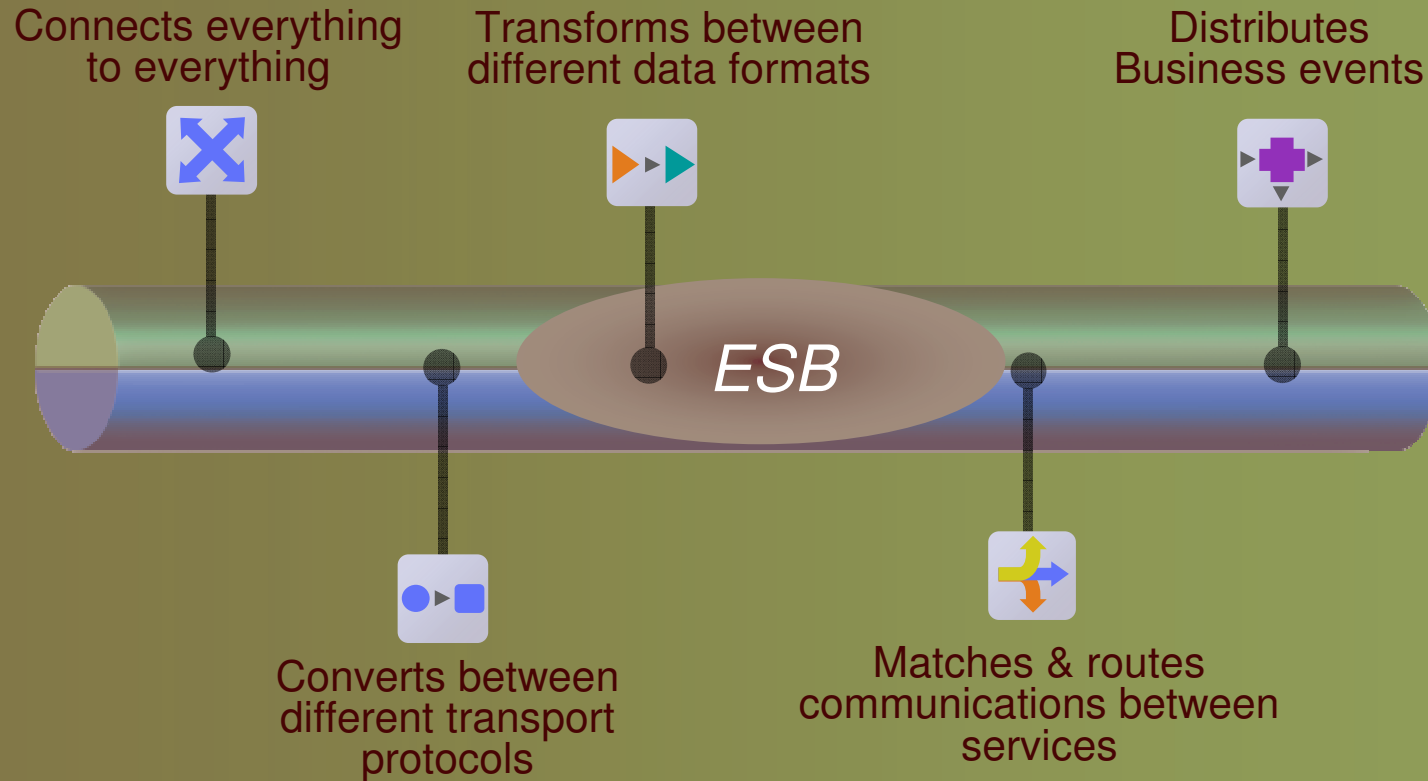
Extend Connectivity to Partners & Customers

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Agile Connectivity Begins with Integration
The Enterprise Service Bus (ESB)

Connects everything
to everything

Transforms between
different data formats

Distributes
Business events

ESB

Converts between
different transport
protocols

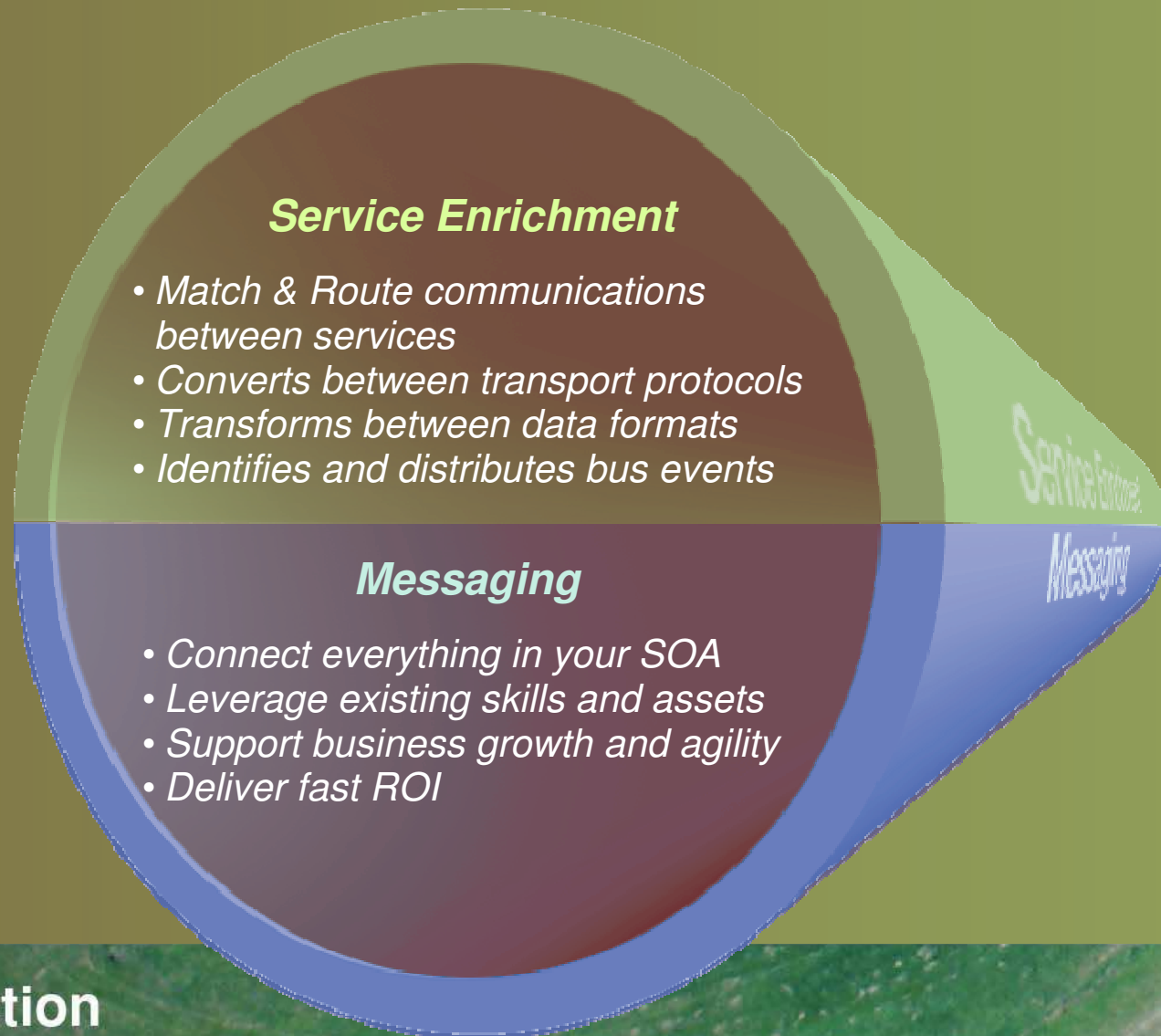Matches & routes
communications between
services

*An ESB enables flexible SOA connectivity for integrating
business applications, services and processes*

SOA in Action
Get smart about SOA.
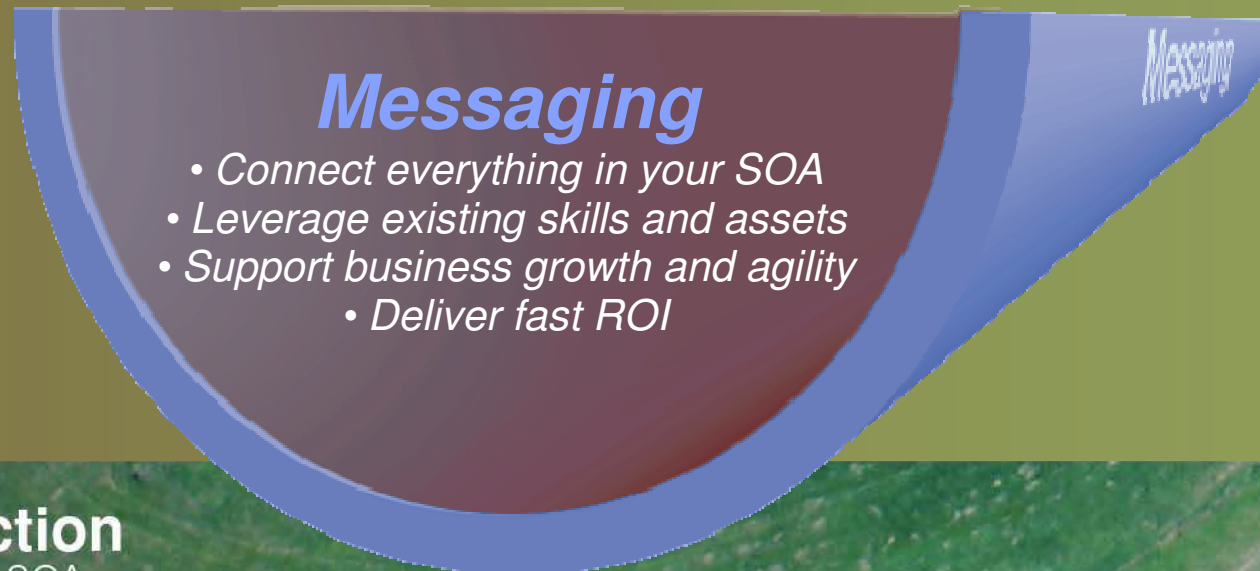
A Closer Look at the ESB

Service Enrichment

- *Match & Route communications between services*
- *Converts between transport protocols*
- *Transforms between data formats*
- *Identifies and distributes bus events*

Messaging

- *Connect everything in your SOA*
- *Leverage existing skills and assets*
- *Support business growth and agility*
- *Deliver fast ROI*

SOA in Action
Get smart about SOA.

Messaging

- Connect everything in your SOA
- Leverage existing skills and assets
- Support business growth and agility
- Deliver fast ROI

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The Power of Messaging

Confirmed Flight Booking

Lower process disruptions with reliable data movement

Real-time System Updates

Execute ***timely business decisions*** by distributing events

Web-based Bank Transfer

Create ***new, low-cost*** Web 2.0 applications leveraging existing IT systems
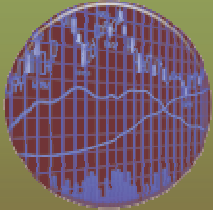
Auditable Stock Trades

Meet compliance goals by preserving data integrity

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Proven & Trusted Messaging
Relied On By Over 10,000 Companies Globally

Financial Markets

- Delivering $1 trillion transactions per day
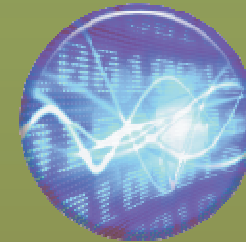
- Exchanging £400B+ in messages

Government

- Agency sends 675m messages per day

- ~ 7,500 agency users & 50,000 citizen transactions daily

Banking

- $7-$35 trillion messaging traffic per day

- 213+ million messages daily

" We needed a single integration platform that would allow all our applications to access and share information and enable them to collaboratively process transactions based on common business rules."

Chief Architect,
Health Insurance

*IBM – 15 years of customer experience totaling 10's of billions of messages **every** day*

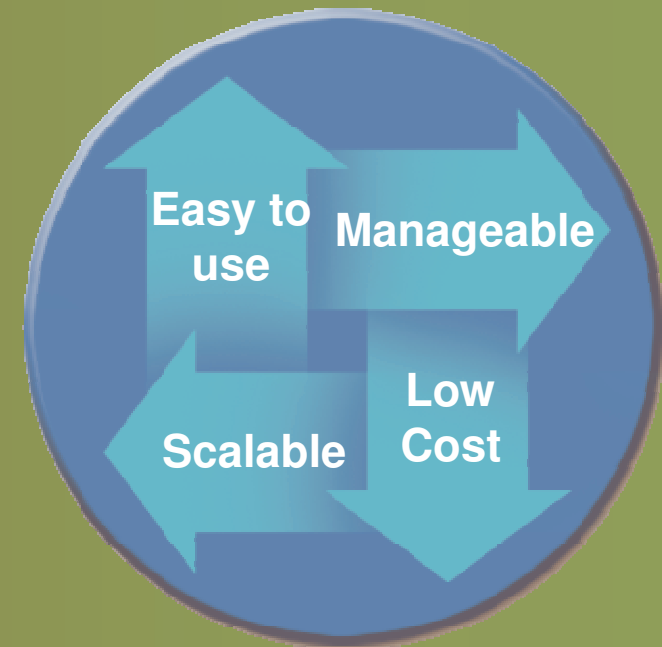## SOA in Action
Get smart about SOA.

Managed File Transfer – Audited & Secure

- Most data moves from application to application using file transfers
- Provide the visibility & manageability to move important business data reliably & securely

WebSphere MQ FTE

- Builds upon WebSphere MQ's proven transport backbone
- Delivers robust solution for Managed File Transfer
- Designed to integrate with IBM's SOA portfolio

Easy to use   Manageable

Scalable   Low Cost

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A Closer Look at the ESB
Enrichment

Enrichment

- Match & Route communications between services
- Converts between transport protocols
- Transforms between data formats
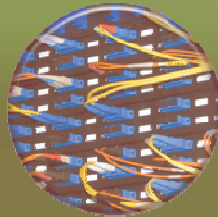- Identifies and distributes bus events

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The Power of Enrichment

Telephony Hub

Save time and money centralising service interfaces

Routing Bank Transactions

Execute business requirements faster by quickly integrating applications and services

Central Airport Checkpoint

Create new revenue-generating services from current core business applications

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Delivering True ESB Enrichment Value

IBM

Insurance

- 95% of the top global insurances firms use ESB enrichment
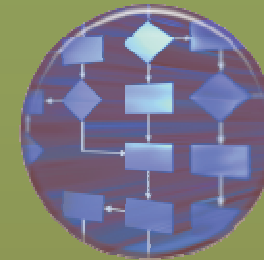- Single firm improved transactional elapsed time by over 39%

Retail

- One store reduced SAP development by 60%
- Global retailer moved to real-time inventory, reduced stock-outs to zero

Banking

- 80% of the top 8 banks in USA use ESB enrichment
- Bank replaced point-to-point interfaces to meet capacity of 1.2M messages per month

Business Flexibility

" *Our business is changing very fast, and the ESB enables us to support upcoming business opportunities immediately by connecting new market places and new dealing systems to our existing system landscape. ESB mediations and service enrichment accelerates the adoption of new business processes and the launch of new products and services.*"

Chief Architect,
Health Insurance

Source: Results reported from actual IBM WebSphere implementations

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Enhancing SOA Through Service Visibility & Governance

- Publish & find Your Services to extend business applications

- Manage & govern your ESB messaging & services

- Ensure consistent policy enforcement

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Service Visibility and Governance
Comprehensive, Scalable and Extensible
Provision services to all SOA consumers

- **Enrich SOA Connectivity**
  - Enable dynamic and efficient interactions between services at runtime
  - New Mediation capabilities allows dynamic endpoint lookup and selection

- **Help optimise service performance**
  - Enable enforcement of policies, Impact analysis

- **Federated service lifecycle support across the enterprise**
  - Integration and federation with other standard registries and repositories providing one reliable authoritative service reference

Enrich

App

Web Service

Find

Publish

Web Service

App

Enterprise Service
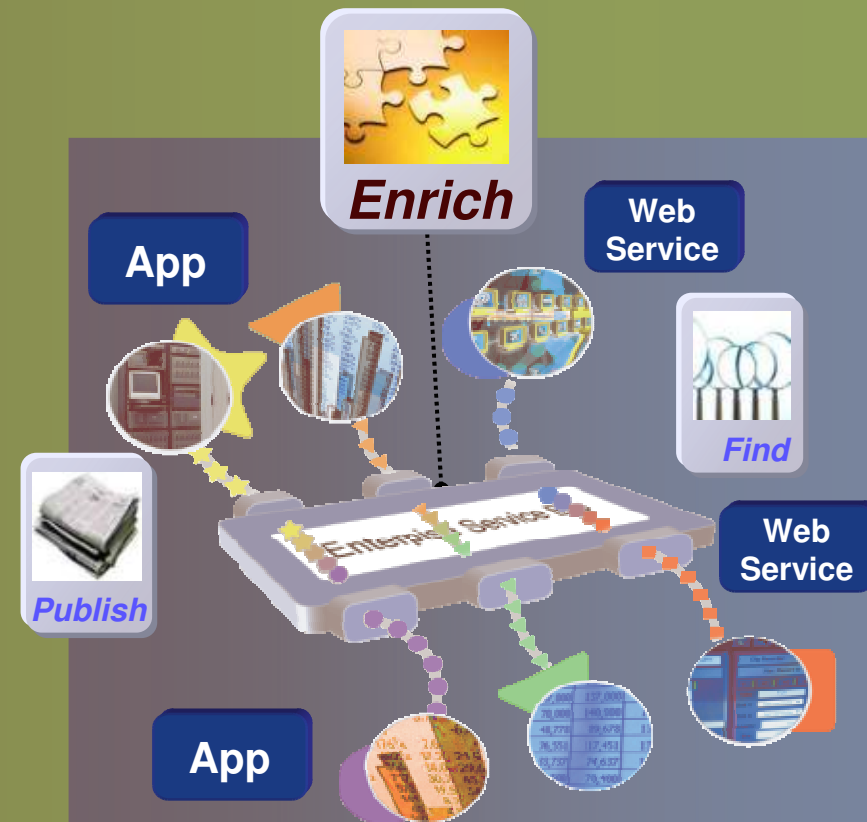
Encourage Reuse, Enhance Connectivity and Enable Governance with WebSphere ESB and WebSphere Message Broker, extended with WebSphere Service Registry and Repository

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Extend Connectivity to Partners & Customers

- Quickly create new business services

- Easily adapt to changing industry standards

- Improve ROI by quickly leveraging existing systems for multi-enterprise collaboration

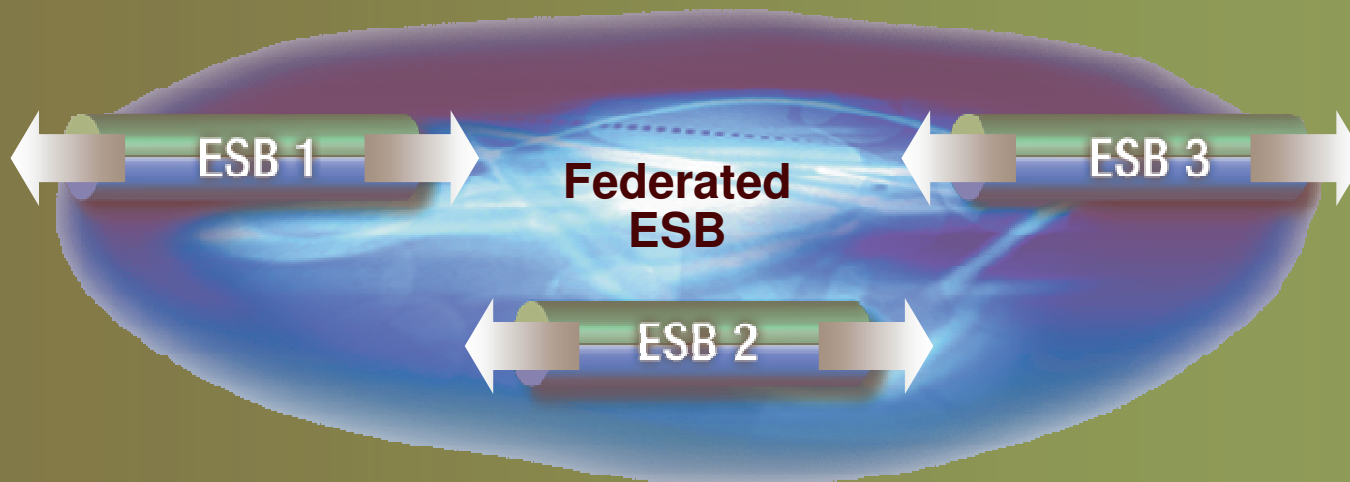*Optimise the value of your SOA connectivity by extending to customers and partners*

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Architect for Advanced SOA Connectivity
Federated SOA Domains

IBM

Today's Globally Integrated, Agile Businesses Requires
End-to-end Transaction Integrity; Unified Governance; and
Security

ESB 1

Federated ESB

ESB 3

ESB 2

A Federated ESB is an enterprise-spanning connectivity infrastructure of multiple ESBs working together to extend service reuse across as well as within domains.

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Analyst Views – the Future is Federated

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ESB Adoption Trends - Forrester

"Some of Forrester's most advanced clients got on the ESB bandwagon years ago and today find that they have an embarrassment of riches, with multiple ESBs. This outcome is almost inevitable for larger enterprises; no single ESB today can satisfy all requirements equally well across the whole of a large enterprise."

– Larry Fulton, Forrester, "Shaping Your Middleware Strategy to Benefit from ESBs, May 2007

ESB Adoption Trends - Gartner

"80% of large companies will have ESBs or similar SOA infrastructure products from three or more vendors in 2009. (0.7 probability)"

"…half of all large companies will apply a systematic, federated approach to managing their disparate SOA domains and ESBs in 2009. (0.7 probability)"

– Roy Schulte, Gartner, "Succeeding With Multiple SOA Service Domains and Disparate ESBs", May 2007

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What is Driving the Reality of Multiple ESBs?
Both historical reasons and explicit choices contribute

Mergers and acquisitions have resulted in multiple ESBs

Distributed geographic locations

Best practice requirement to isolate critical environments

Department ESBs need to be decoupled to allow asynchronous development and deployment

Business or funding models are distributed – multiple business units each with own P&L

Departments have differing ESB requirements which are best met by different products

Distributed governance

Architectural choices – decision for corporate shared service ESB

Legacy RYO ESB exists

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ESB offerings from IBM WebSphere
An ESB without limits to enable SOA and BPM solutions

IBM

Service Orchestration and BPM
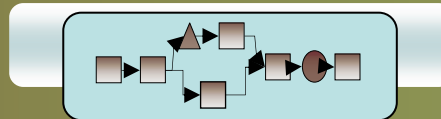
WebSphere Process Server

Service Monitoring

Tivoli CAM for SOA

Service Registry

Publish | Find | Enrich | Manage | Govern

WebSphere Services Registry and Repository

WebSphere ESB

WebSphere Message Broker

ESB Offerings from IBM WebSphere

IBM ESB Family
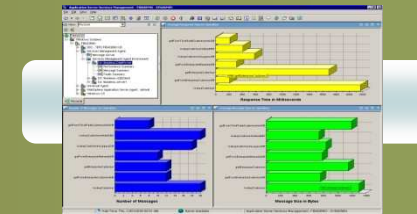
Service Security

Tivoli Security Products

Universal Transformation
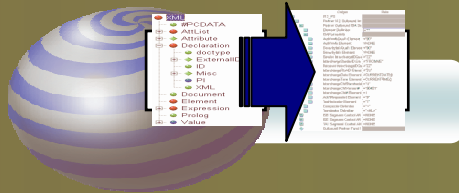
WebSphere Transformation Extender

WebSphere DataPower Integration Appliance XI50

SOA Security Appliance

WebSphere Data Power XML Security Gateway XS40

Enterprise Messaging Backbone

MQI | Java JMS | XMS for .NET C# | XMS for C/C++

WebSphere MQ messaging backbone

WebSphere MQ

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SOA Connectivity – Integration Across Your Business
## Building and Governing Your ESB

WebSphere DataPower
- New appliances for B2B and LLM
- QuickStart – Low-cost, low-risk start for your SOA implementation

WSRR 6.2 and WSRR ALE
- Publish and Find Your Services to extend business applications
- Manage & Govern your SOA
- Ensure consistent enforcement of policies

Service Visibility and Governance

Service Enrichment

Messaging

ESB
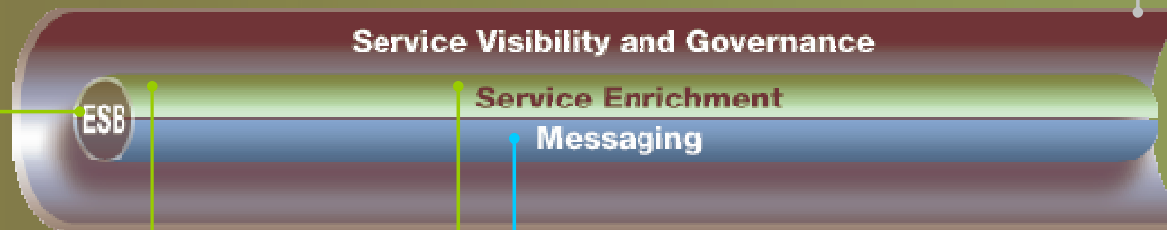
WebSphere ESB
- Leading Web services standard support
- Delivers Policy-driven connectivity

WebSphere Message Broker
- Endless Integration to virtually anything
- Handles complex Messaging

WebSphere MQ and MQ File Transfer Edition
- Leading SOA messaging backbone capabilities
- File transfer scheduling, automation, auditing and triggering
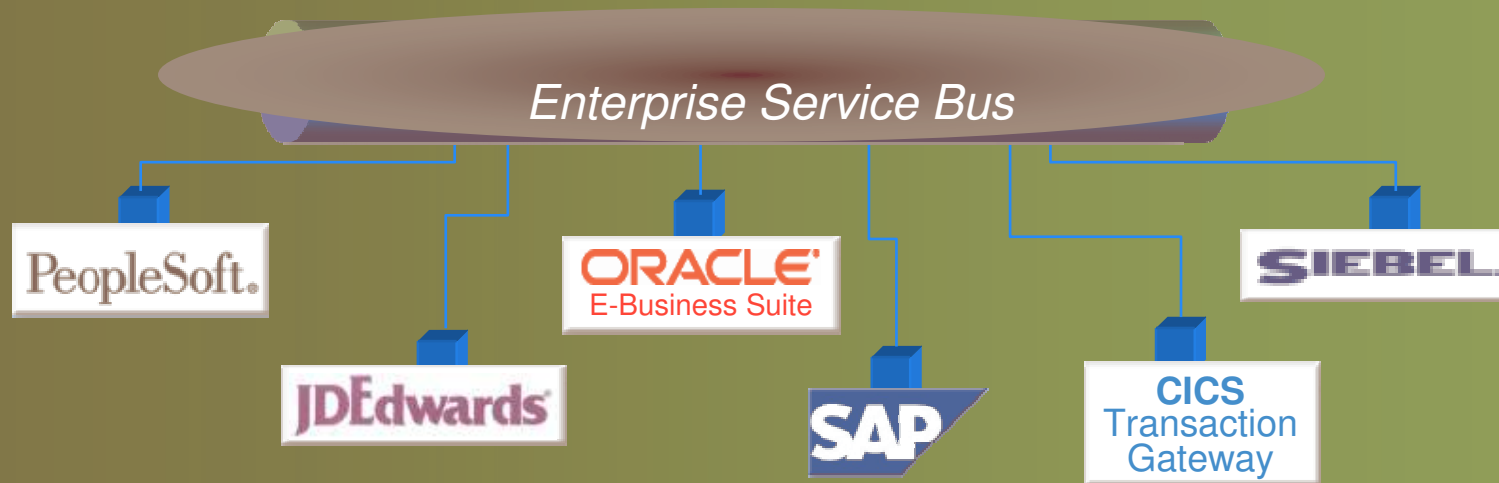
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Extend Package Applications
WebSphere Adapters

IBM

Adapters for IBM WebSphere are pre-built integration components available from both IBM & IBM business partners built to run directly on IBM integration and application servers and to integrate with IBM tooling

- Reduce integration effort
- Improve reliability and manageability

- Ensure maintainability and reusability
- Discover and enable services

Enterprise Service Bus

PeopleSoft.

JDEdwards

ORACLE
E-Business Suite

SAP

CICS
Transaction
Gateway

SIEBEL

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Thank You

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IT and Business Alignment Through SOA

WebSphere Proof of Technologies

- **DataPower   - 1 Day**
- **MQ V7 - Low Latency/File Transfer   - 1 Day**
- **ESB - 2 Day**
- **BPM - 2 Day**
- **Business Modeler - 1 Day**
- **Virtual Enterprise - 1 Day**
- **WSRR - 1 Day**
- **SOA Governance at Runtime - 2 Day**

NEW FOR 2009
- **WS Business Fabric and WS Business Events**
- **SOA in Action Workshop**

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