Enabling Future Business Growth - Leveraging New Technologies to Support New Workloads

Yvonne Perkins, Vice President, Enterprise Platform Software

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The Business Landscape is Changing

Forcing Companies of All Sizes to Respond to a 'Flat World'

Innovation that matters to CEOs:

- Extend the ability to collaborate inside & outside
- Innovate business models & processes
- Leverage information for business optimization
- Integrate globally
- Agile business processes

87% expect fundamental change in next 2 years

78% believe innovation requires business and technology

"The scale and pace [of global economic integration] is unprecedented … the greater part of the earth's population is now engaged."

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Globally Integrated Enterprises Are Agile

From Companies of All Sizes and Across All Industries

Forges a strategy for ***Efficiency***

CAIXA

National Lottery Operations:

Implemented a scalable and efficient new in-house lottery system

Delivers ***Unique Value***

HOPLON Infotainment

Media and Entertainment:

Innovated revenue model for massively multi-player online game (MMOG) with advertising and purchasing capabilities

Taps into the power of ***Globalization***

STANDARD LIFE

Insurance:

Simplified the process of working across its various business channels

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Sustainable Agility Needs the Power of….

… service orientation

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

… a service

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

… service oriented architecture (SOA)

An IT **architectural style** that supports service orientation

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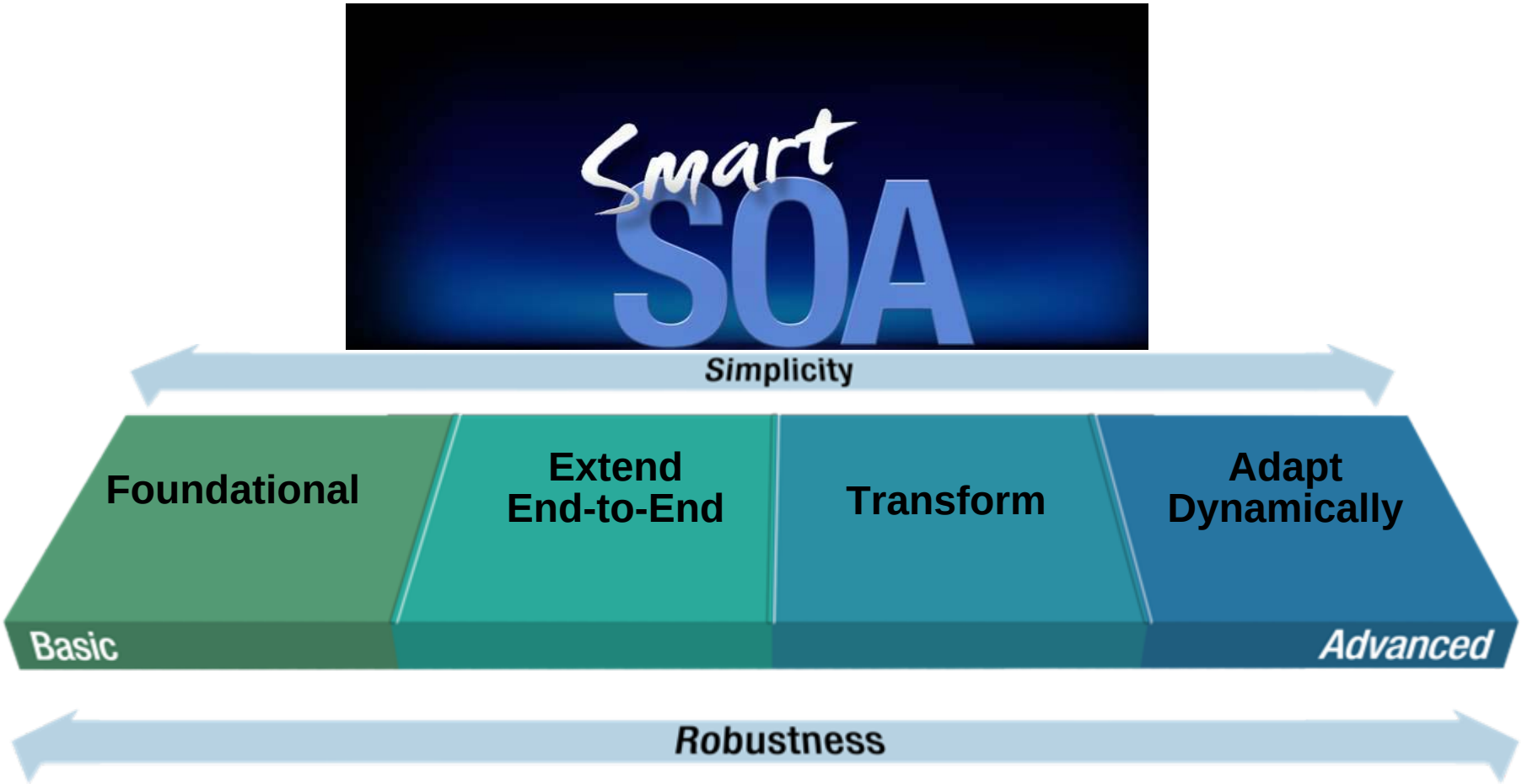
There is a Smarter Way!

Aligning Service Oriented Approaches



A set of guiding principles to extend business value of deployment

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Distinct Value for z Customers with Every Style
Regardless of Where You Choose to Engage

Value to business	Greater agility in specific, departmental business areas	Optimization and innovation across end-to-end business processes	Business model innovation to support the Globally Integrated Enterprise	Predictive business automatically responding to market forces
Scope	Collaboration within a line of business	Coordination across lines of business	Enterprise-wide organizational cooperation	Enact significant shifts without direct IT involvement

Value to IT	Focused, proven, high-ROI projects Start with what you have and what works	End-to-end process management to innovate Draw new value from existing assets	IT for strategic advantage and business model innovation Assets drive new business opportunities	Technology becomes invisible
% functions expressed as services	<10%	<40%	<80%	>80%
% of services reused	<5%	<20%	<50%	>50%

Based on *5700* customers using our SOA offerings

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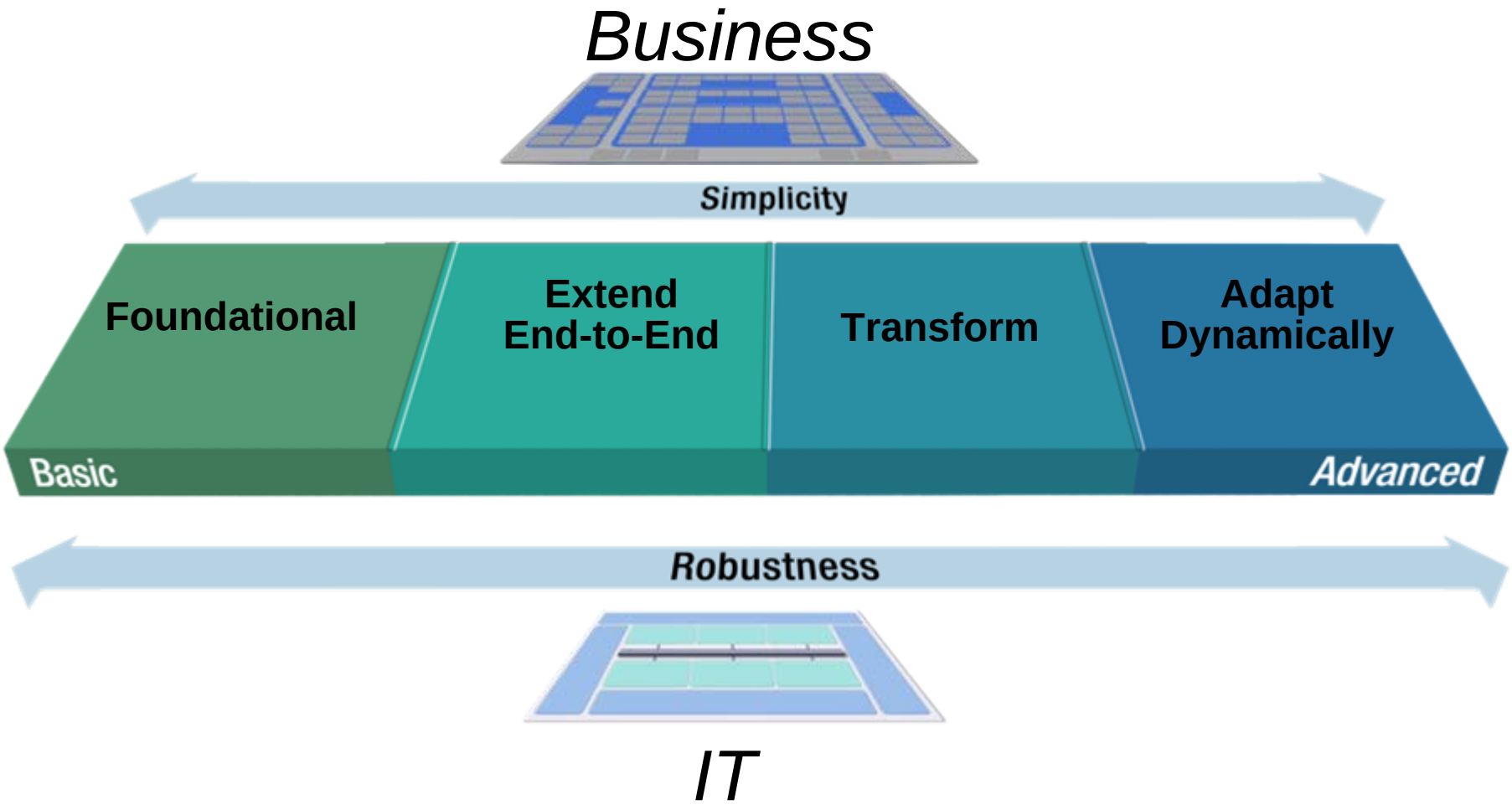
Smart SOA™ Delivers Value to Both Business and IT



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Enterprise Transactions are on System z

… Smart SOA™: Driving the World's Business

8 of every 10 of the largest retail banks in the US, Germany, Japan, and Australia use CICS for their core banking

90% of the World's 100 largest corporations run their businesses on WebSphere Application Server

18 of top 20 Fortune 500 customers use WMQ

CICS is IBM's premier Transaction processor in 90% of the Fortune 500 customers

Government customer processing in excess of $675M message a day on a single WMQ network

IDC estimate that $1 Trillion is tied up in applications, processing 30 Billion transactions a day, for a value of $1 Trillion a day.

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Deploying on System z provides differentiated value
Enabling intelligent IT that works for your business

The New IBM System z10 Enterprise Class

The power of many . . .

. . . the simplicity of ONE

Server Leadership: 40+ years in the making!

Mainframe utilization rates often exceed 80%, and are designed to handle sustained peak workload utilization of 100% without service level degradation.

- Processors, CPU speed, memory, network I/O
  - Growth of traditional workloads
  - Consolidation of hundreds of applications
  - Granularity of WebSphere deployments
  - Access to corporate data
  - Messaging speeds to support SOA
- Price / performance improvement of specialty engines
- Just in Time capacity and management
  - Adapt faster to workload variations such as dynamic SOA
  - Respond automatically to demand from CICS, IMS, DB2, WebSphere, …
  - Deploy new WebSphere workloads in minutes

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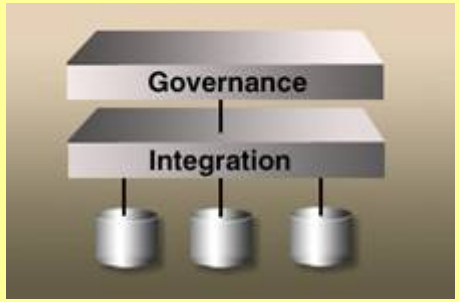
Incremental Benefit Paths for System z Workloads

↑ Reliability & Control

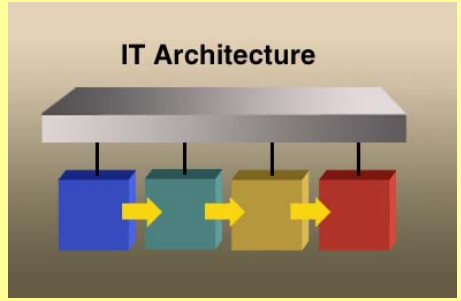
↑ Accuracy/ Control / Reliability

- Information integration
- Data and app governance
- Security hub



Create Dynamic Adaptability

- Composite apps
- Business mash-up
- SOA hub

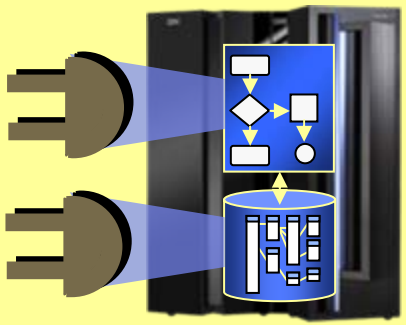


Foundational | Extend End-to-End | Transform | Adapt Dynamically

Basic — Advanced

↑ Access to Function & Information on System z

- Exposing traditional apps & data for quick and easy access: Service enablement



↑ Performance / Manageability

- Creating new Web apps
- Consolidate apps and data
- Web 2.0
- Data warehousing

↑ Performance, cost management, responsiveness

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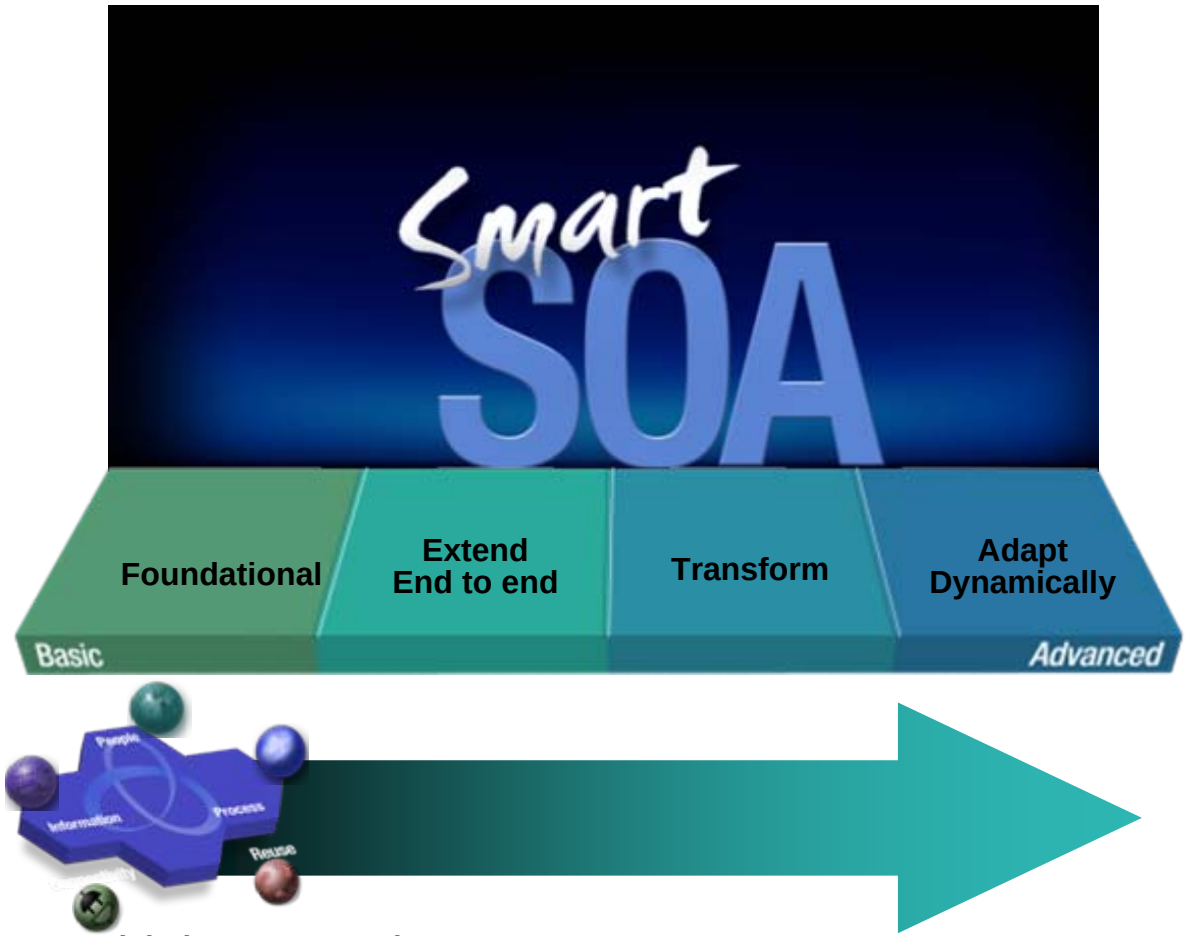
The SOA Entry Points are a great way to build for change

For rapid business return



Focused, proven, high-ROI projects focused on a single application or business unit

Scenarios to get started with SOA Entry Points

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SOA Entry Points: Enhancing Our Portfolio

Reuse, Connectivity, Process

New!

Application Infrastructure Portfolio

- Reuse and extend existing applications
- Build, run, integrate and manage dynamic, On Demand Business™ applications

Reuse

New!

IBM Connectivity Portfolio

- WESB: Better reuse of existing applications
- DataPower: Improved capabilities to prioritize services
- Message Broker: Include more of your business information and assets
- NEW! MQ V7

Connectivity

New!

Business Process Management

- Simplifies integration of business processes by leveraging existing IT assets as reusable services
- Provides simplified tools to describe, create and manage business processes

Process

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Reuse: Service enabling existing applications

CICS Transaction Server V3.2

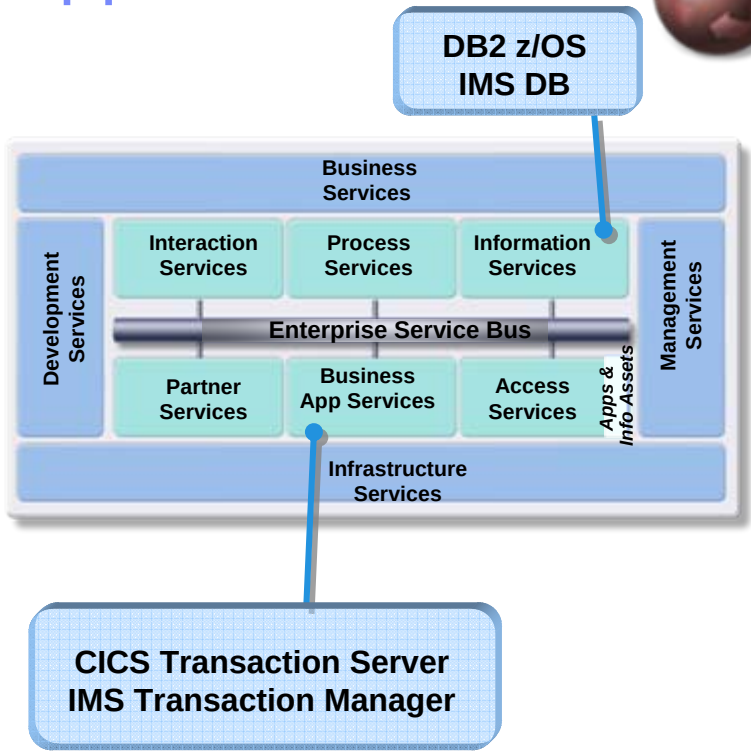
Enhanced!

- Create components from existing applications which are more flexible & configurable for use in new applications
- Extend existing applications beyond their original designs to support integrated business processes via standard APIs and protocols
- Management of large runtime configurations via modern user interfaces

IMS 10

New!

- Reuses your existing and new IT investment for SOA
- Provides business flexibility, eases new application development and management capability
- Lower operating costs through z/OS and zAAP engine exploitation
- New security capabilities for greater control and business flexibility
- Improved auditing and accountability



DB2 9 optimized for SOA

Enhanced!

- Business insight and flexibility with pureXML
- WebSphere integration for trusted applications and web serving
- Security & SOA governance capabilities

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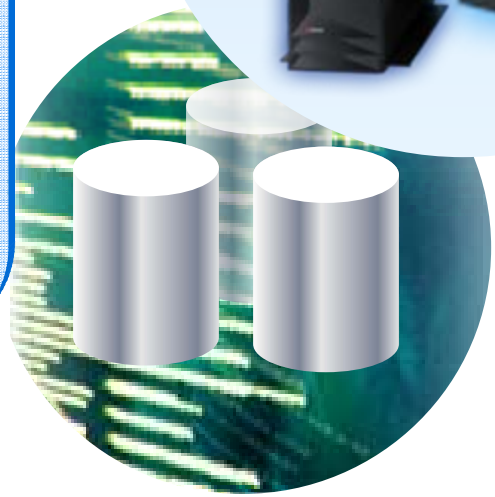
Reuse: Enhancing Our Portfolio

Creating and reusing proven, high-value assets

Enhanced!

WebSphere Extended Deployment V6.1.0.1

- Virtualize SOA applications that optimize operations and improve service lifecycle management
- Delivers QoS and management capabilities to Session Initiation Protocol (SIP) applications
- Complete lifecycle management for WAS Community Edition
- Improved support for older versions of WAS



Enhanced!

WebSphere Application Server V6.1

- Feature packs: free & easy to consume, these optionally installable product components enable new features on top of WAS
- Feature Pack for Web Services
- Feature Pack for EJB 3**
- Feature Pack for Web 2.0

**All statements regarding IBM's plans, directions, and intent are subject to change or withdraw without notice.

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WAS for z/OS - Powerful combination with new z10

Taking advantage of hardware capabilities

- Facilitates transaction workloads with hardware features
  - Increased CPU power (64 CPUs per image)
  - Very large real memory (1 TB)
  - Increased I/O and network bandwidth
  - Hyper Dispatch
- Improves Security
  - Advanced Encryption Standard (AES) using 256 bit key
- Estimate WAS V6.1 (Java5) performance on z10 to be 1.5 times faster
- Java6 promises additional improvements
  - Large page exploitation in managing heap
  - Extensive exploitation of new hardware instructions
  - Decimal Floating Point exploitation through the BigDecimal class

Hardware, operating system, and middleware working together

WAS for z/OS V6.1 Differentiation

- JinsightLive for IBM System z (February 2008)
  - Dynamic, lightweight Java profiler and visualizer for Linux on System z and z/OS
  - Most effective tool for handling tens of millions of events to determine performance bottlenecks
  - Demos and education on tool use provided
- Delivered WAS capability to enable the New Face of z/OS (February 2008)
  - Delivered code for the Embedded WAS on z/OS to support SSRE (WHAT IS SSRE)
  - Base for z Management Facility (zMF)
- Looking at ways to lower the cost of entry on z/OS for selected WebSphere stack products (coming soon)

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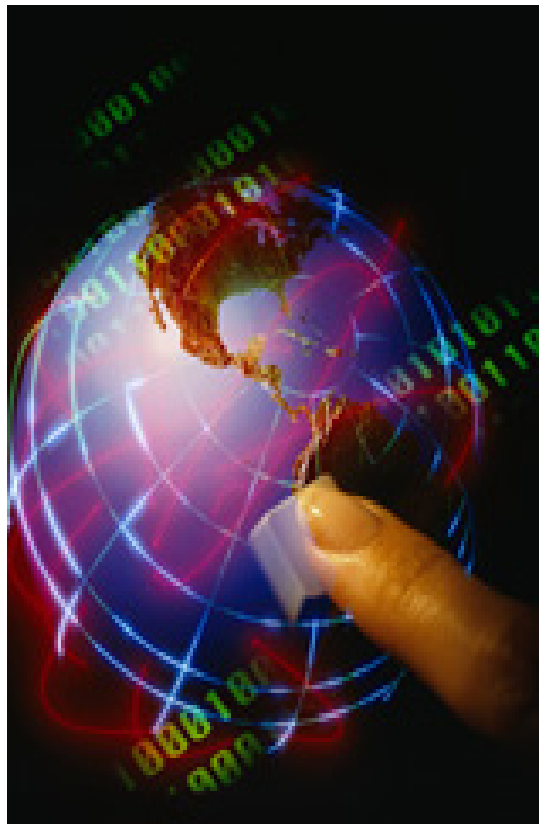
When to Deploy New Services on System z

Combine the availability, scalability and security of System z with the industry leading Application Server for:

- ✓ Integration with existing mainframe assets
- ✓ High performance access to customer information
- ✓ Server consolidation and simplification of spiraling server assets
- ✓ True dynamic scalability for unpredictable workloads
- ✓ Zero downtime for services that drive the business
- ✓ Exploitation of Java/J2EE programming skills
- ✓ Uninterrupted support of unpredictable workloads
- ✓ Lowest TCO for the lifetime of the application environment



Hardware, operating system, and middleware working together to bring true 99.999% application availability to your business critical services.

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WebSphere Application Server for z/OS ISVs

Continuing to build the portfolio of ISV applications on System z

FINEOS — ***Financial / Insurance***

Automatic payment processing, management of billing and payments, comprehensive benefit calculation, and a clear picture of claims cash flow

Pegasystems — ***Financial / Banking***

Rules-driven Business Process Management (BPM) system that combines a patented enterprise rules and process engine with tools for developing, deploying and evolving enterprise-wide business process applications

Viador Inc. — ***Financial / Banking***

Web-based access to business-critical information through any database such as DB2 and Oracle

Finantix — ***Finance***

Conduct a questionnaire process with a customer with a view to reaching a recommendation

China Systems — ***Financial / Banking***

Automate full range of activities and communication needs within the Trade Finance department to meet their processing needs

mValent Inc — ***Industrial / Electronics***

Automate configuration, change and release management processes from QA and staging to production & disaster recovery

Highweb & Page — ***Public / Education / Retail***

Manage content and online business processes such as store fronts and e-commerce applications

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Industry: *Education*
URL: *http://www.ufl.edu/*

"The CICS Web Services Assistant supports rapid deployment of CICS TS applications to provide and request services. The streamlined process requires a minimum of effort."
–Steve Ware, System Coordinator, Computing & Networking Services, University of Florida

University of Florida

Easy linkage between time-proven core business processes and new business models

CHALLENGE

- Develop administrative framework for packaged student health program

SOLUTION

- SOA with Enterprise Service Bus to connect siloed applications without hand-coding individual API calls

BENEFITS

- Lower total cost of ownership than any other implementation on campus
- Subsecond responses on Web
- Ability to complete implementation in a fraction of the time required by other platforms
- Seamless integration with existing, locally written CICS Web-based UF Student Records System

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SOA Connectivity: Enhancing Our Portfolio

Federated ESB – integrated framework to meet your needs

Optimized with WebSphere Application server for an integrated SOA platform

ESB offerings from IBM WebSphere

Purpose-built hardware for simplified deployment and hardened security

Built for universal connectivity and transformation in heterogeneous IT environments

WebSphere Enterprise Service Bus 6.1

Enhanced!

- Leverage existing applications on current SOA environment for better reuse
- Easy interactions with any JMS and HTTP applications
- Leadership in SOA standards for service composition, mediation and hosting
- Enhanced ease of use
- Platform-based ESB built on top of WebSphere Application Server

WebSphere DataPower Integration Appliance XI50 3.6.1

Enhanced!

- Enhanced interoperability and heterogeneous connectivity
- Simplified customization and configuration
- Improved WebSphere Service Registry and Repository support
- Support for WS-RX for guaranteed delivery of mission critical messages
- Integration with DB2 V9 pureXML
- Streamlined multi-step transaction processing

WebSphere Message Broker 6.1

Enhanced!

- Improved developer experience for more flexible and robust business solutions
- Faster processing and validation
- Integrated Adapter and transformation enhancements
- Enhanced administration and management of the ESB infrastructure
- Platform independent ESB for heterogeneous environments

By 2009, Analysts state multiple ESBs will be required to grow your SOA!

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SOA Connectivity: Enhancing Our Portfolio

Accelerate SOA integration

WebSphere Adapters 6.1 — Enhanced!

- Accelerate time to value, and simplify the integration of applications in a SOA
- Improve connectivity for application reuse with new Adapter Nodes for WebSphere Message Broker V6.1
- WebSphere Adapters now available for WebSphere Application Server zOS 6.1

WebSphere Transformation Extender V8.2 — Enhanced!

- Accelerates time to value and simplifies standards compliance
- New Eclipse std Design Studio
- New Edition for Integration Servers supports ESB and BPM
- New ACORD Pack for Insurance
- New NACHA Pack for ePayments
- Enhanced Pack for SEPA
- Linux for System Z
- 64bit tolerance

CICS Transaction Gateway 7.1 — Enhanced!

- Secure, scalable and flexible SOA access to CICS applications
- Leverages CICS TS V3.2 - the flagship SOA release of CICS TS
- Support your enterprise wide management with enhanced systems monitoring capability and integration with other systems management tools.

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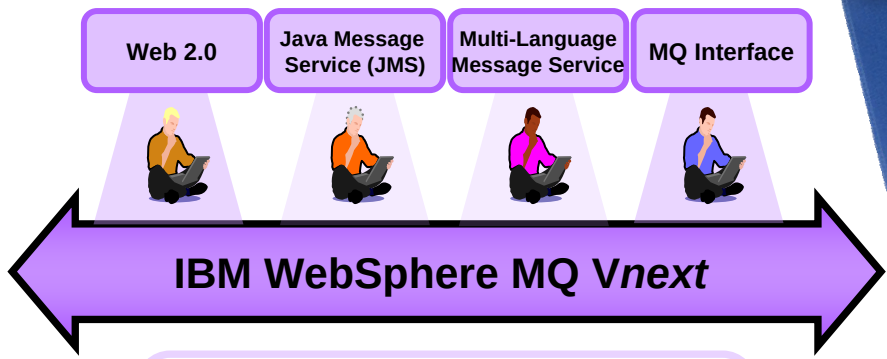
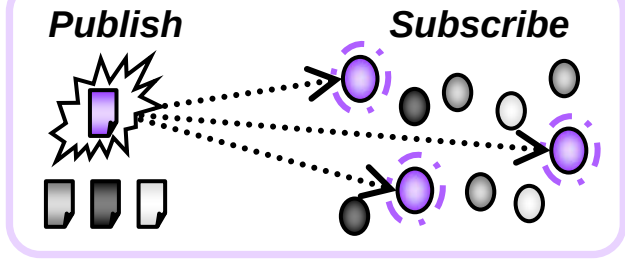
IBM WebSphere MQ *Vnext*
Announcing soon!

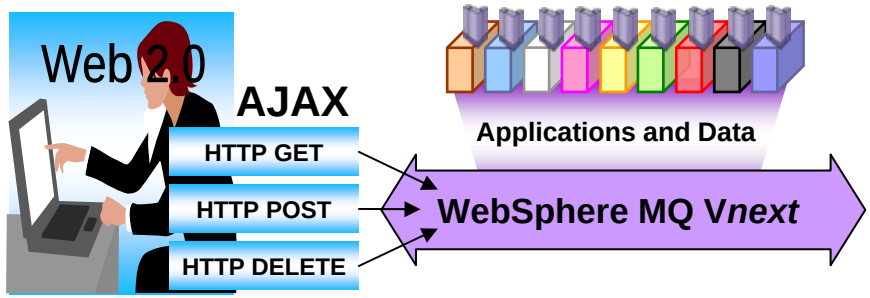
New!

WebSphere MQ V*next*

- Includes WebSphere MQ Bridge for HTTP SupportPac
- Universal Messaging Backbone for SOA and Web 2.0
- Enhanced ease-of-use for publish-and-subscribe and Java Message Service (JMS) messaging
- Enhanced publish –and- describe
- Enhanced JMS performance
- Extended verbs and behaviours for MQI programming interface
- Enhanced WebSphere MQ clients for increased throughput resilience and availability
- Web 2.0 support to help create richer user experience
- Bridges HTTP applications with Ajax and REST to the MQ messaging backbone







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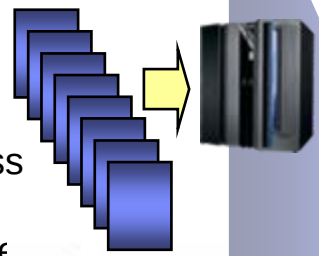
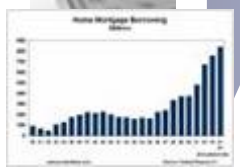
When to use System z as the Hub for your ESB

ESB requirements

- **Integration:**
  - Complex transactions and roll back
  - Monitor end-to-end transactions in complex configurations
  - Allocate resources according to business goals
  - Provide single point of control across the enterprise
  - Meet security and regulatory requirements
- **Business criticality:**
  - QoS is a high-priority factor for shared services
  - Need to handle unpredictable workloads
  - Business services are reused by an increasing number of critical applications
  - Security is key
- **Performance:**
  - Key applications and data reside on System z
- **Growth:**
  - Quickly add new services and capacity with no disruption to apps or users





System z benefits for ESBs

- **Virtualization**
  - High resource utilization
  - Massive consolidation and simplification
  - Enterprise-wide workload management
  - Workload isolation and security
  - Leverage existing infrastructure and skills
- **Handling business critical workloads**
  - Up to 99.999% availability
  - Recovery of whole systems across vast distances
  - Automated recovery from failures
  - Dynamic workload balancing
  - Simplification of security management
- **Performance**
  - ESB performance improvements when co-locating with z/OS data.
  - Customer PoC example - Average CPU time **reduced by over 77%**
- **Efficient growth**
  - Pay for what you use, add capacity and applications quickly and automatically, avoid proportionate people costs growth

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Industry: *Education*
URL: *http://cms.bsu.edu/*

"SOA has been such a gift to us. It enables us to embrace a new technology that provides services at a level that we couldn't even imagine before."
–Dr. O'Neal Smitherman

Ball State University

Ball State University bridges disparate systems and solves key administrative issue with IBM SOA solution.

CHALLENGE

- Coordinate 40 name and address systems to streamline administrative processes and ensure information integrity for users

SOLUTION

- SOA with Enterprise Service Bus to connect siloed applications without hand-coding individual API calls

BENEFITS

- Ability to develop and implement services in an SOA environment for resolving name and address discrepancies in 10 months, as opposed to several years for hand-coding individual application connections
- Confidence that IBM solution can lead to wider use of SOA to further streamline administrative business processes
- Services created here can be reused in later SOA efforts

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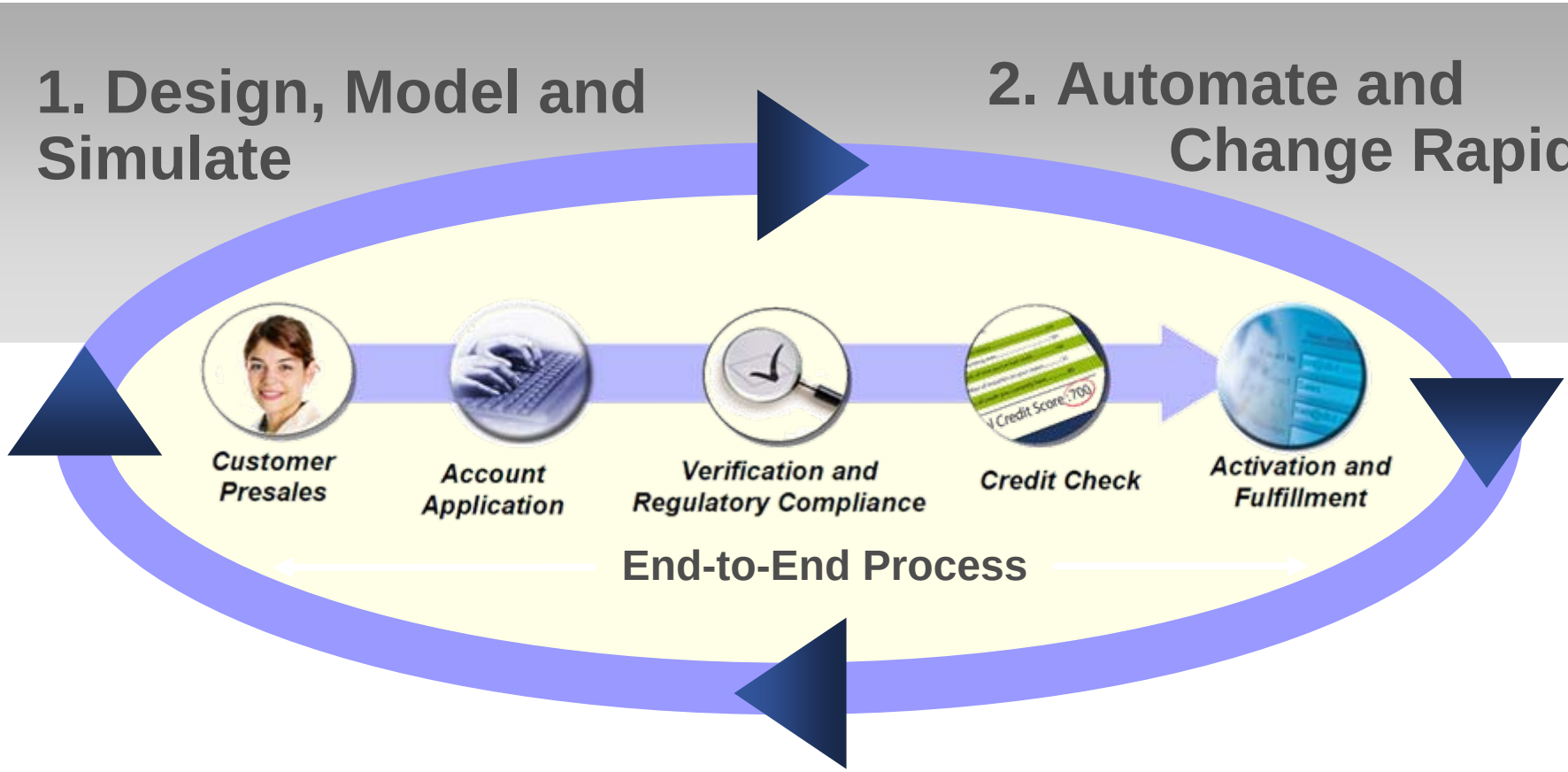
Business Process Management Enabled by SOA

BPM covers the entire lifecycle of your new business process



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Existing System z Customers
Streamline and Automate Existing Processes

Customer Presales

Account Application

Verification and Regulatory Compliance

Credit Check

Activation and Fulfillment

Take individual steps…

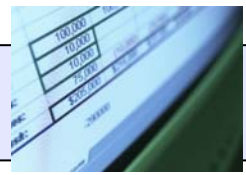
…assemble and automate instead of re-writing!

Customer Presales

Account Application

Verification and Regulatory Compliance

Credit Check



Activation and Fulfillment

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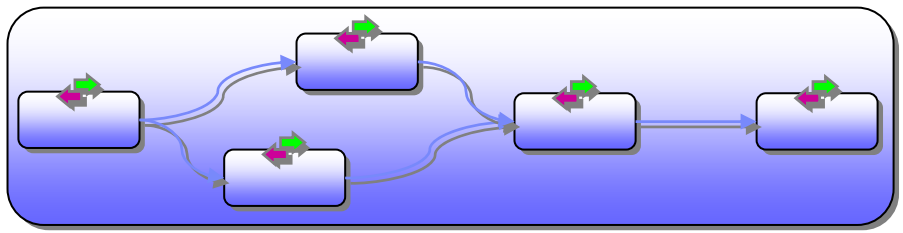
Process Choreography on an SOA-Enabled Platform

"IBM is the first and so far the only infrastructure software supplier to offer a complete BPMS supporting the end-to-end lifecycle from analytical modeling to performance management and optimization – based entirely on service oriented architecture."

Bruce Silver, Bruce Silver Associates – The 2006 BPMS Report

An SOA environment that provides:

- **Process Automation & Execution**
- **Human Task Management**
- **Application Integration**
- **Built on SOA**



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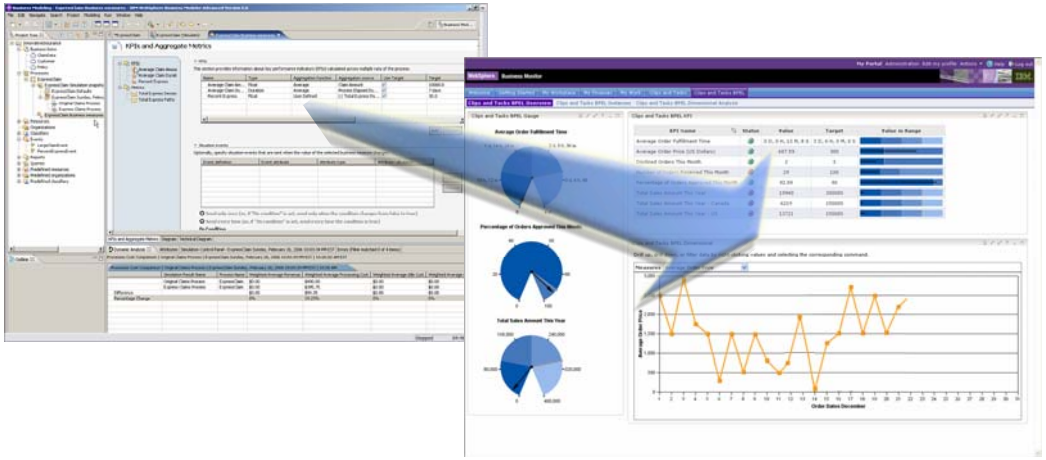
SOA Process: Enhancing Our Portfolio

A discipline enhanced by flexible architecture



Enhanced!

WebSphere Integration Developer V6.1

- Eclipse-based tool for building SOA-based BPM and integration solutions
- Enables rapid assembly of business solutions by wiring reusable service components
- Enables integration developers to assemble complex business solutions
- Enables construction of process and integration solutions using drag-and-drop technology

Enhanced!

WebSphere Process Server for z/OS V6.1

- Accelerate time to value, and simplify the integration of applications in a SOA
- Improve connectivity for application reuse with new Adapter Nodes for WebSphere Message Broker V6.1
- WebSphere Adapters now available for WebSphere Application Server zOS 6.1

Enhanced!

WebSphere Business Modeler V6.1

- Visualize, understand, and document your business processes
- Document processes to better understand your business
- Discover potential areas for process improvement and latent value in processes
- Ability to change the business process to respond to changes in market

Enhanced!

WebSphere Business Monitor V6.1

- Offers comprehensive business activity monitoring of your business performance
- End-to-end visibility of business performance through customizable dashboards
- Early detection and alerts to emerging business situations
- Advanced analytics for decision making based on historical and trending data

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WebSphere Business Services Fabric

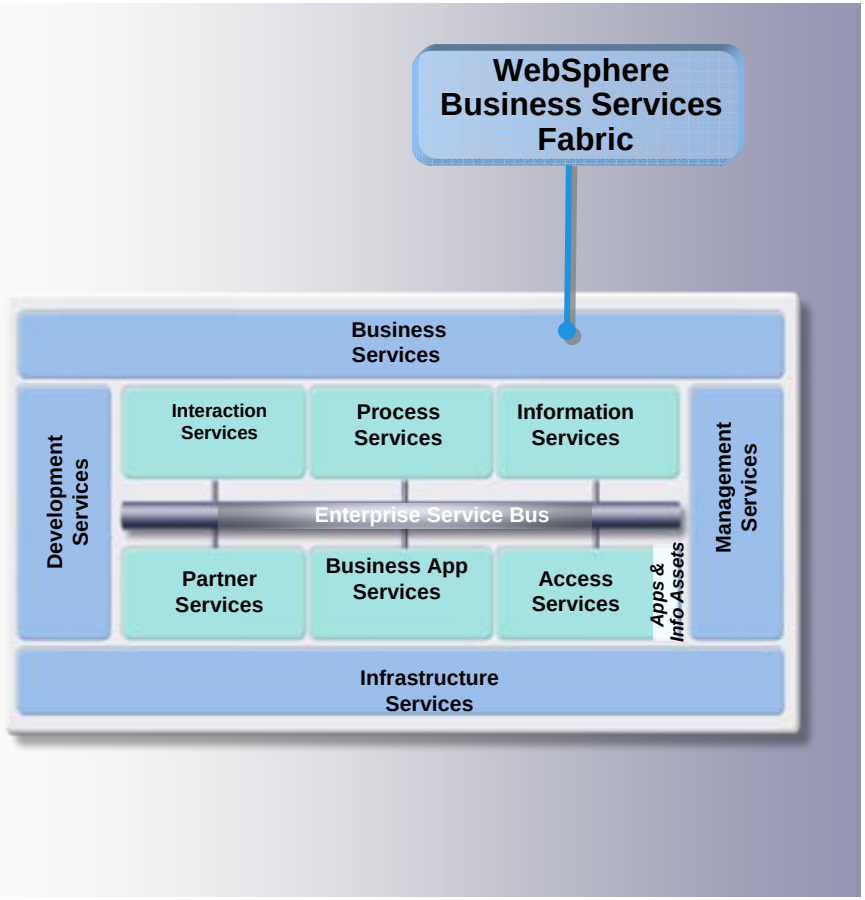
End-to-End Platform for Industry SOA Solutions

WebSphere Business Services Fabric extends the BPM portfolio

Enhanced!

WebSphere Business Service Fabric V6.1

- End-to-end SOA platform for composite business services
- Provides modelling, assembly, deployment, management, and governance of business services
- Includes optional industry content packs with industry reference
- Includes WebSphere Process Server and WebSphere Integration Developer
- Provides access to 2,000+ business partner SOA assets through IBM SOA Business Catalog



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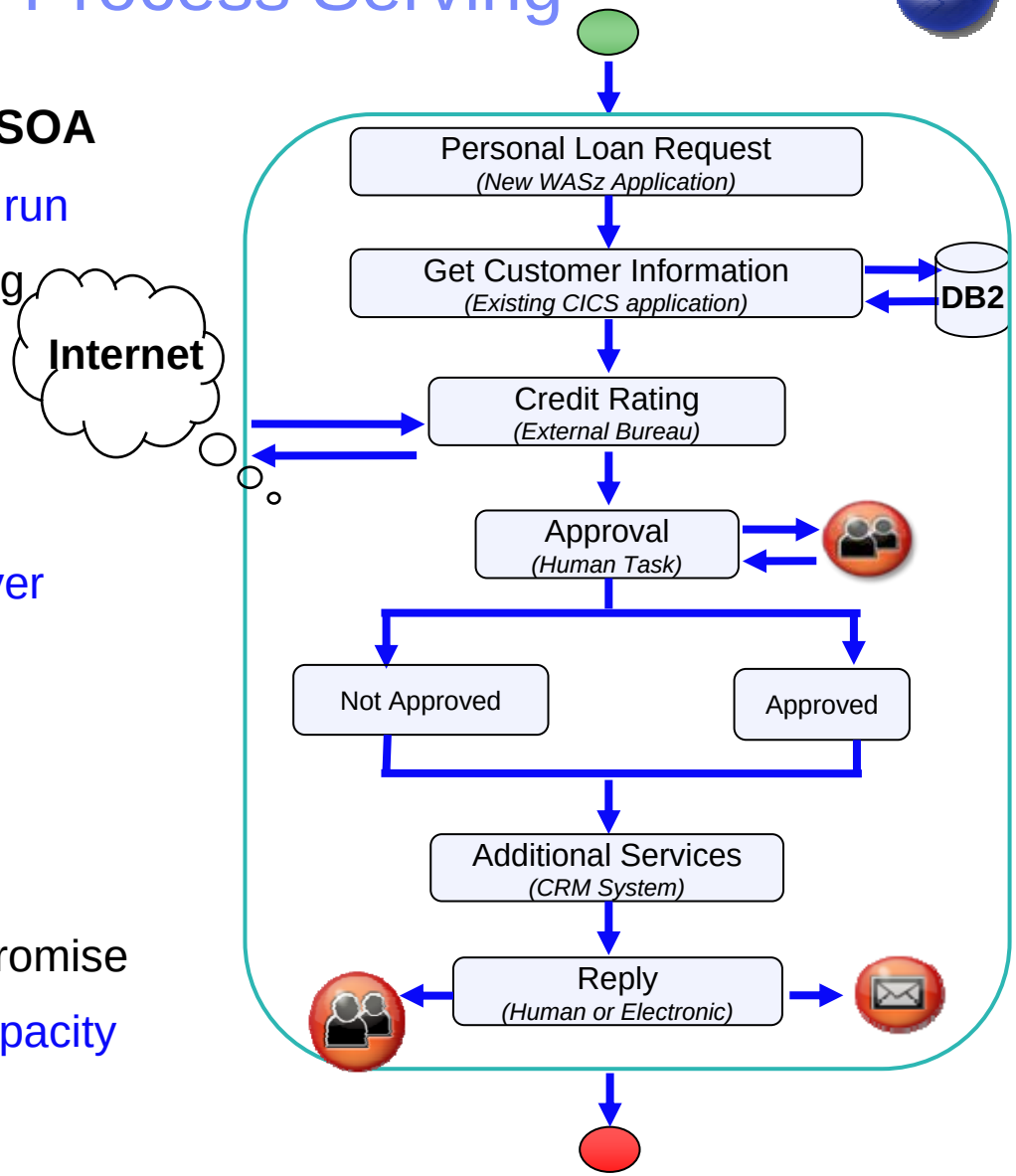
When to Use System z for Process Serving

System z – The choreographer for an SOA

- Efficiency: Control processes where they run
- Integration: Improve the flow of an existing process
- Automation: Remove the human enter keys
- Reliability: Guaranteed connections deliver automated processes
- Workload Management: Integration with workload manager / intelligence resource director
- Security: built into all system layers
- Availability: (zero downtime)/OS brand promise
- Performance: Full utilization of system capacity with same class of service



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Industry: *Telecon*

Customer Example: Telecon

Accelerate the integration of mission-critical systems to improve operations and customer service

CHALLENGE

- Eliminate overlapping redundant systems and data
- Need for flexible systems to meet business needs
- Improve operations and customer service

SOLUTION

- The WSRR and WebSphere Process Server were deployed to improve relationship management and sales systems

BENEFITS

- Convenient way to catalog their services
- Notifications to service supervisors, owners and subscribers
- Governance of the lifecycle of services

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Simpler than ever to use SOA Entry Points

Proven configurations, best practices, and step by step guides

SOA Sandbox

New!

Examples and best practices provide low risk, practical, hands-on path to understanding

ibm.com/soa

Full version software trials

'Try online' hosted environments

Tutorials

Architectural Guidance

SOA Configurations

New and Enhanced!

Solutions for common SOA use cases helps reduce deployment time

- ***System z Configurations for SOA***
- ***Leveraging Legacy and Packaged Applications***
- ***SOA Security and Management***

Configuration guides

Solution Guides

Demos

Tested platforms

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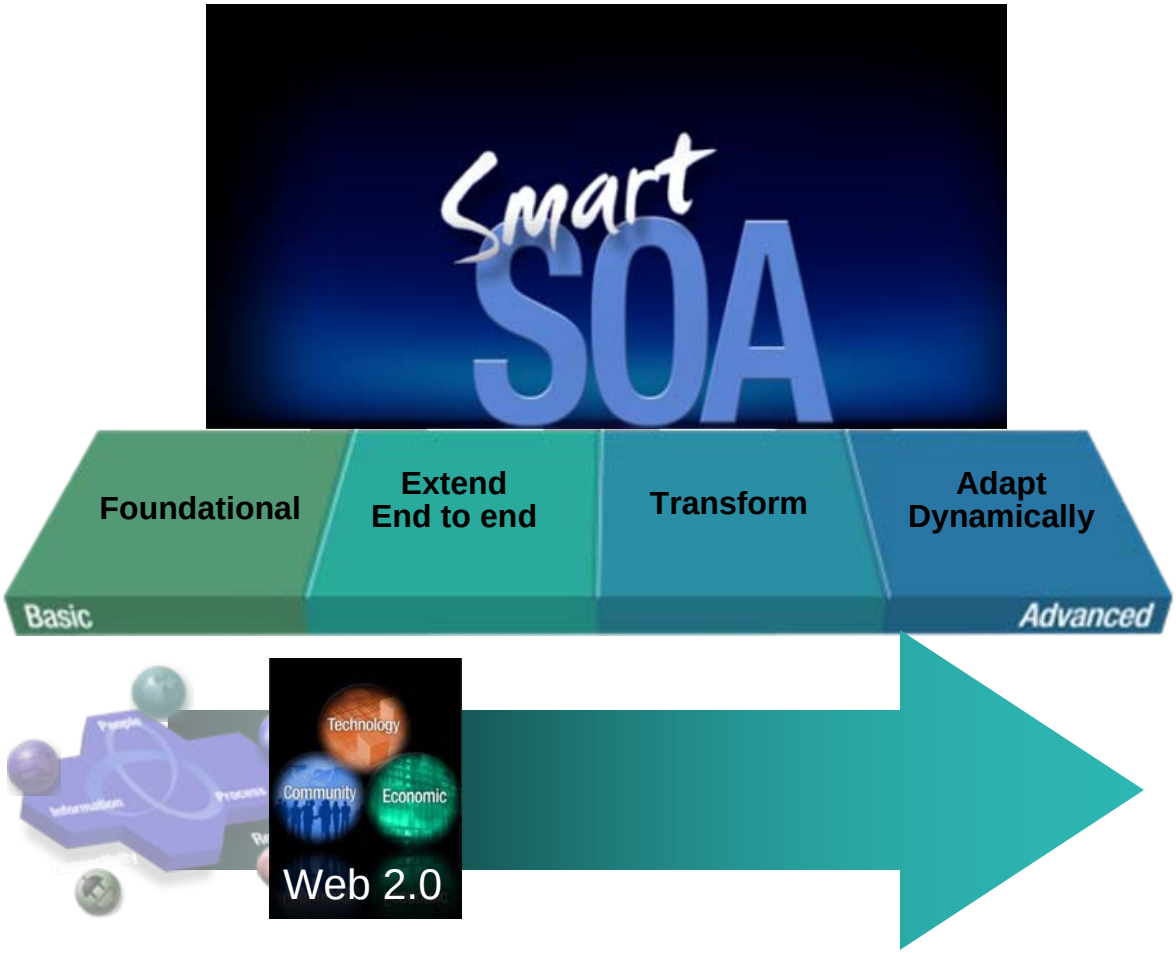
Extend SOA Reach with Web 2.0 to Unlock Content Simply

Helps Serve New Markets with Specific Needs



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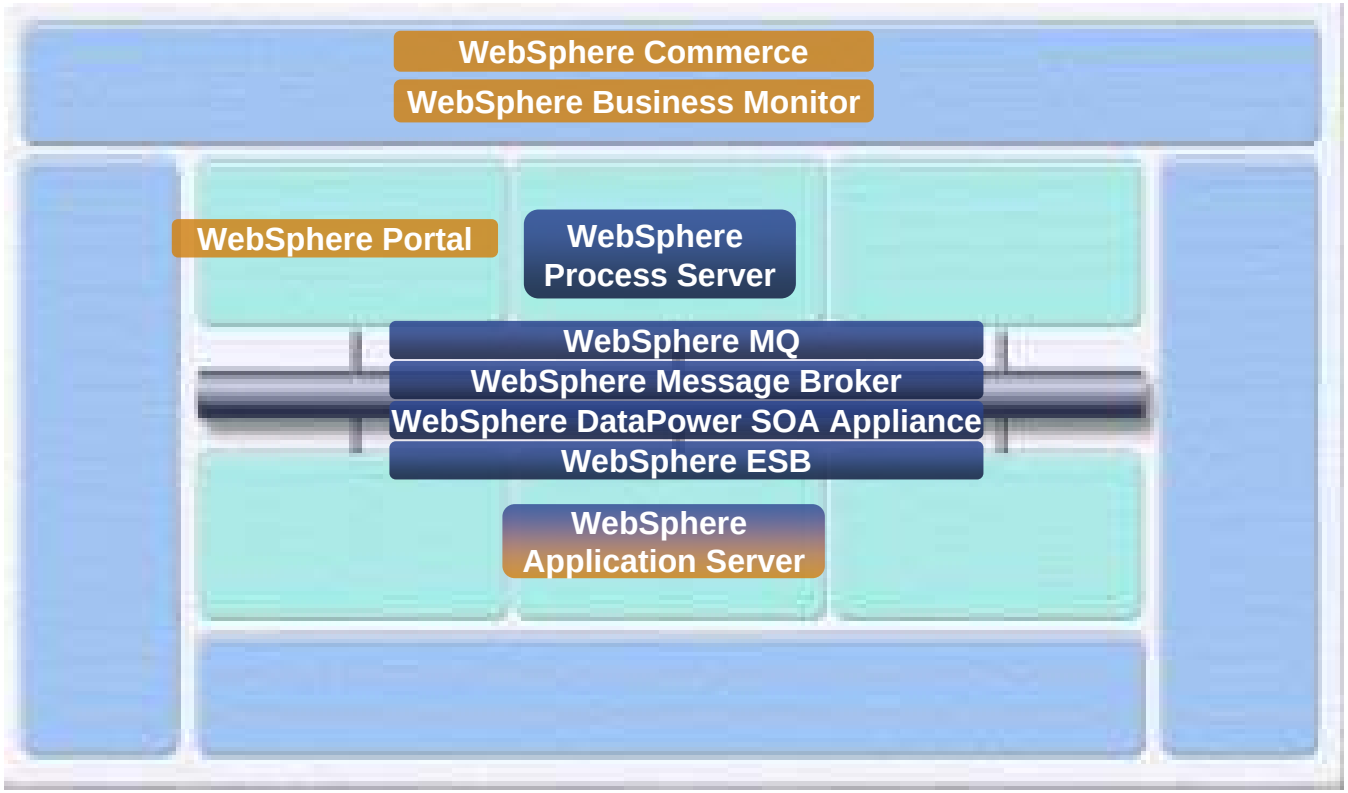
Enhancing the SOA Portfolio to Address Web 2.0

Use the same products for either approach



New and Enhanced!

Simple to Use

Simple to Access

SOA Infrastructure Services

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The SOA Entry Points grow with you

Enabling Agility and Reliability for your Business Needs

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Process Integrity Takes SOA to the Next Level

Supporting Integrity of Transactions, Interactions and Information

Process Integrity **is the ability to conduct reliable business activity in a secure, scalable SOA environment with seamless synchronization between:**
Services* ■ *Human Tasks* ■ *Information* ■ *Domains* ■ *Users

Users Must Be Provided with Up-to-date, Secure Access to Information and Content

Transactions Must Execute Consistently with Ability to Recover as Required

Information Must be Reliable, Complete and Manageable

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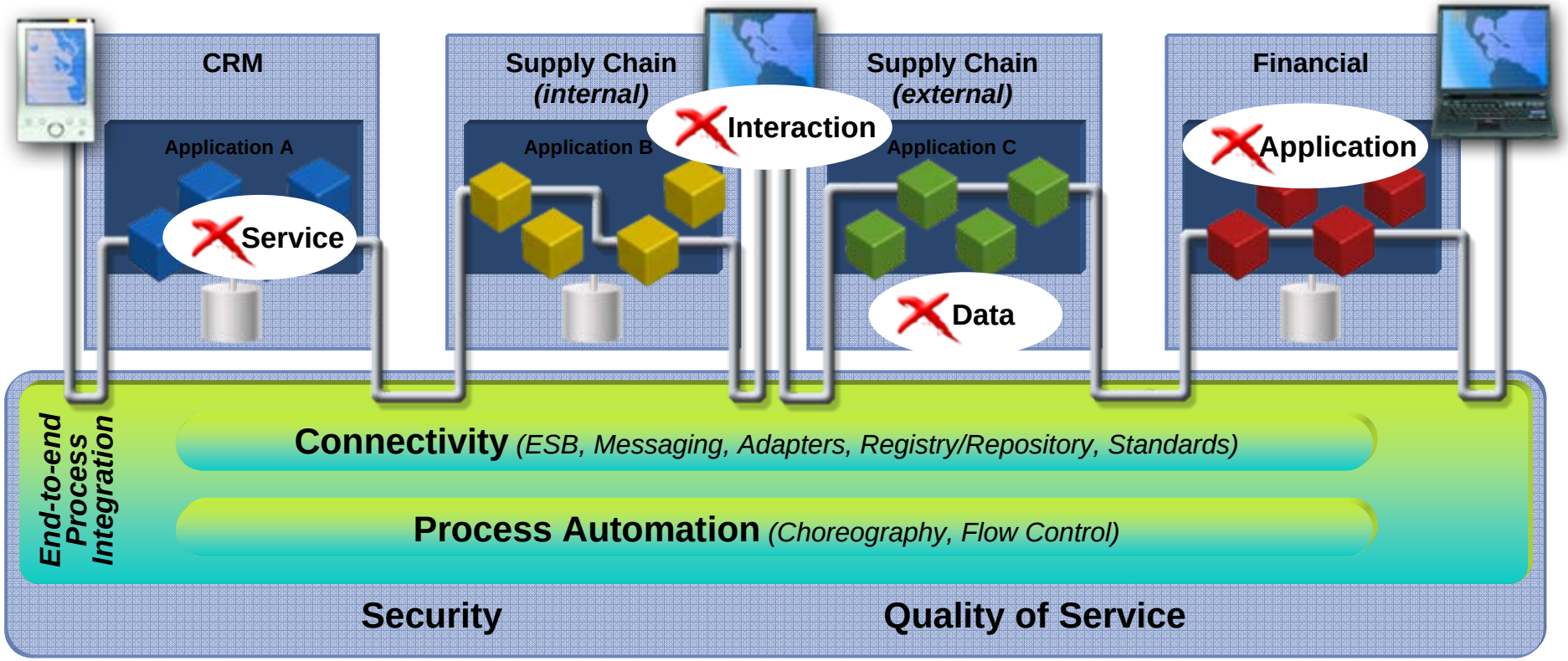
Process Integrity is Critical to Advanced SOA Projects

To Achieve Business Agility Without Sacrificing Integrity

- Process Integrity is the degree to which loosely coupled “open” systems deliver the reliability, consistency, scalability and predictability of tightly coupled “closed” systems



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IBM Offers an SOA Portfolio that Grows with You

Enabling the Right Degree of Integrity for your Processes

- **Transaction Integrity**
  - CICS Transaction Server
  - WebSphere Process Server
  - WebSphere ESB
  - WebSphere Application Server
  - WebSphere Message Broker
  - WebSphere MQ
- **Interaction Integrity**
  - WebSphere Portal
- **Information Integrity**
  - IBM DB2
  - IBM IMS
  - IBM Information Server
  - WebSphere Customer Center
  - WebSphere Product Center

Enabling Products/Services

- **Security**
  - WebSphere DataPower Security Gateway
  - Tivoli Federated Identity Manager
- **Quality of Service**
  - WebSphere XD
  - Tivoli Composite Application Managers
  - IBM Systems Servers
- **Professional Services**
  - SOA Design, Development and Integration Services
  - BPM Enabled by SOA Services

IBM delivers unmatched Process Integrity to support critical business processes!

ftp://ftp.software.ibm.com/software/solutions/soa/Smart1.zip

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SOA Governance provides oversight and control
As end-to-end processes change

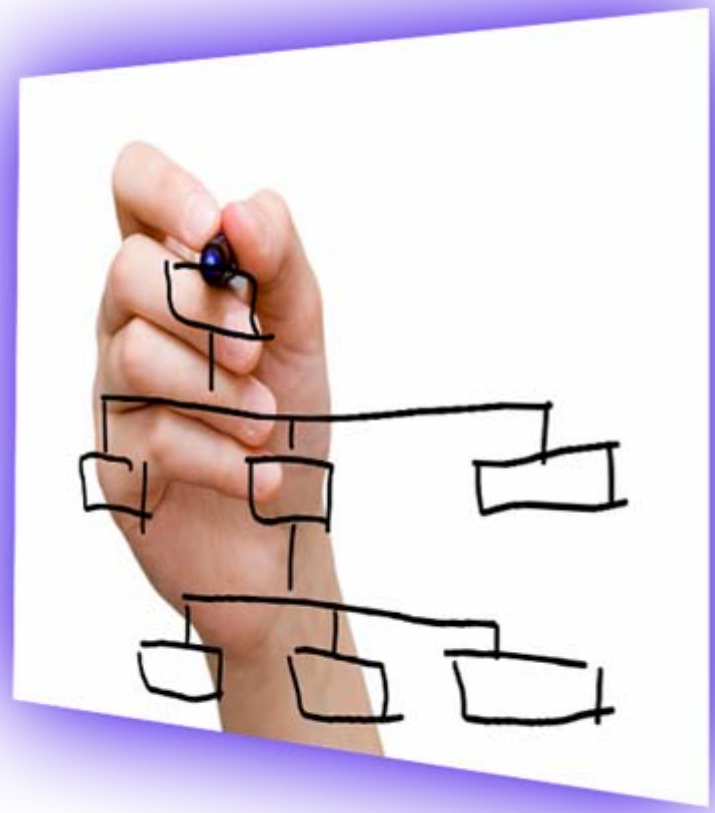
What is SOA governance?

- Decision making rights, and measurements and controls across the lifecycle of services

Value of SOA Governance

- Mitigate business risk and maintain control of services and processes
- Improve team effectiveness

- ***WebSphere Service Registry and Repository***
- ***Proof of Technology for SOA Governance***
- ***Rational Asset Manager***
- ***Rational Tester for SOA Quality***
- ***SOA Center of Excellence professional services***



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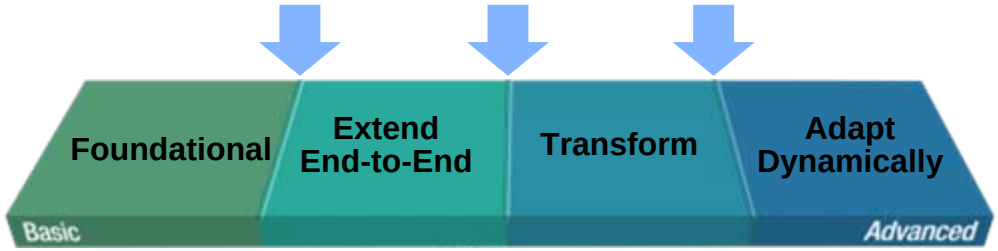
Helping Customers Access Their SOA Health

Are you IT fit enough to handle your SOA needs?

Whether you are here or here or here



Applications and Services Healthcheck Workshop for SOA — New!

Treatment Areas

- Application Reuse
- Service Use
- Service Security

Infrastructure Healthcheck Workshop for SOA — New!

Treatment Areas

- Infrastructure Flexibility
- Service Management
- Middleware Support

Critical for maximizing SOA success and value on the path toward becoming a Globally Integrated Enterprise

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Continued focus on skills for System z Practitioners

Business Partner Program

- New SOA advanced practitioner certification
- New ISV support for IBM SOA Industry Roadmap
- Enhanced SOA Business Catalog
- 218+ new and enhanced SOA product courses

University Program

- 82 additional universities delivering IBM SOA, BPM & Service Science curriculums by year end
- 11 new courseware offerings for SOA
- Launched the Student Opportunity System for Service Science

- **Challenge:** Prepare engineering and computer science students for jobs with System z business systems
- **Solution**
  - Introduce SOA curriculum into courses
  - Developing a specific SOA for System z curriculum
- **Value:** Students exposed to SOA and gained experience applicable to future employment

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Why IBM?

Trusted, experienced guidance based on 5700 customers*

*# of Customers using our SOA offerings

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LAS VEGAS, NEVADA

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Top Customers

- 200+ Customers Will Share Their Stories!
- Featured Customers: Harley-Davidson, State Street, HCSC

IBM's Top Executives

- Steve Mills, Robert LeBlanc, Tom Rosamilia, Sandy Carter

Customers 1:1s

- 1000 1:1s with IBM top executives

Four Tracks (400+ Sessions)

- Technical (400 lecture & 25 labs)
- Alignment of Business and IT (60 Sessions)
- IT Executive (92 Sessions)
- Business Executive (32 Sessions)

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