When and Why to Deploy New Workloads on System z

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GM, Application and Integration Middleware

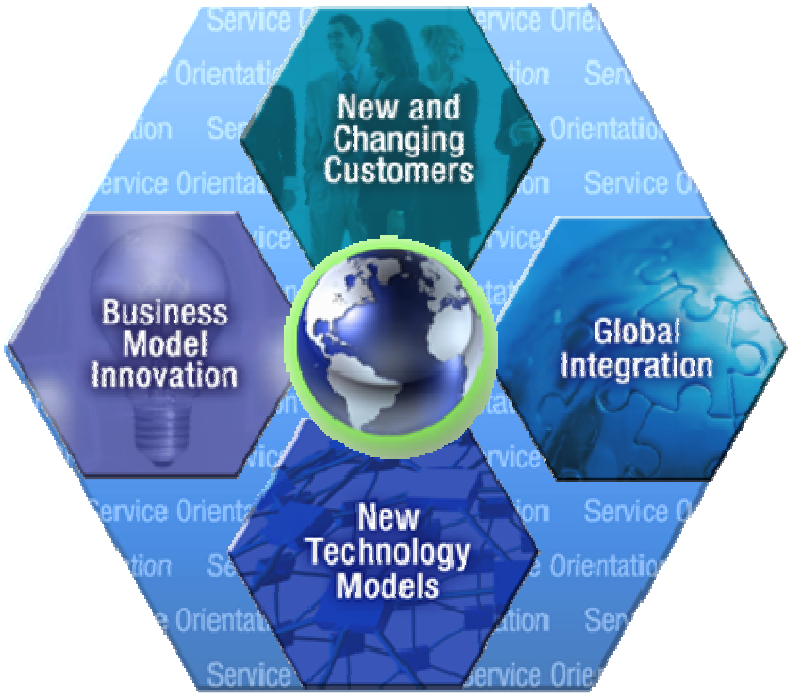
November 14 2007

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

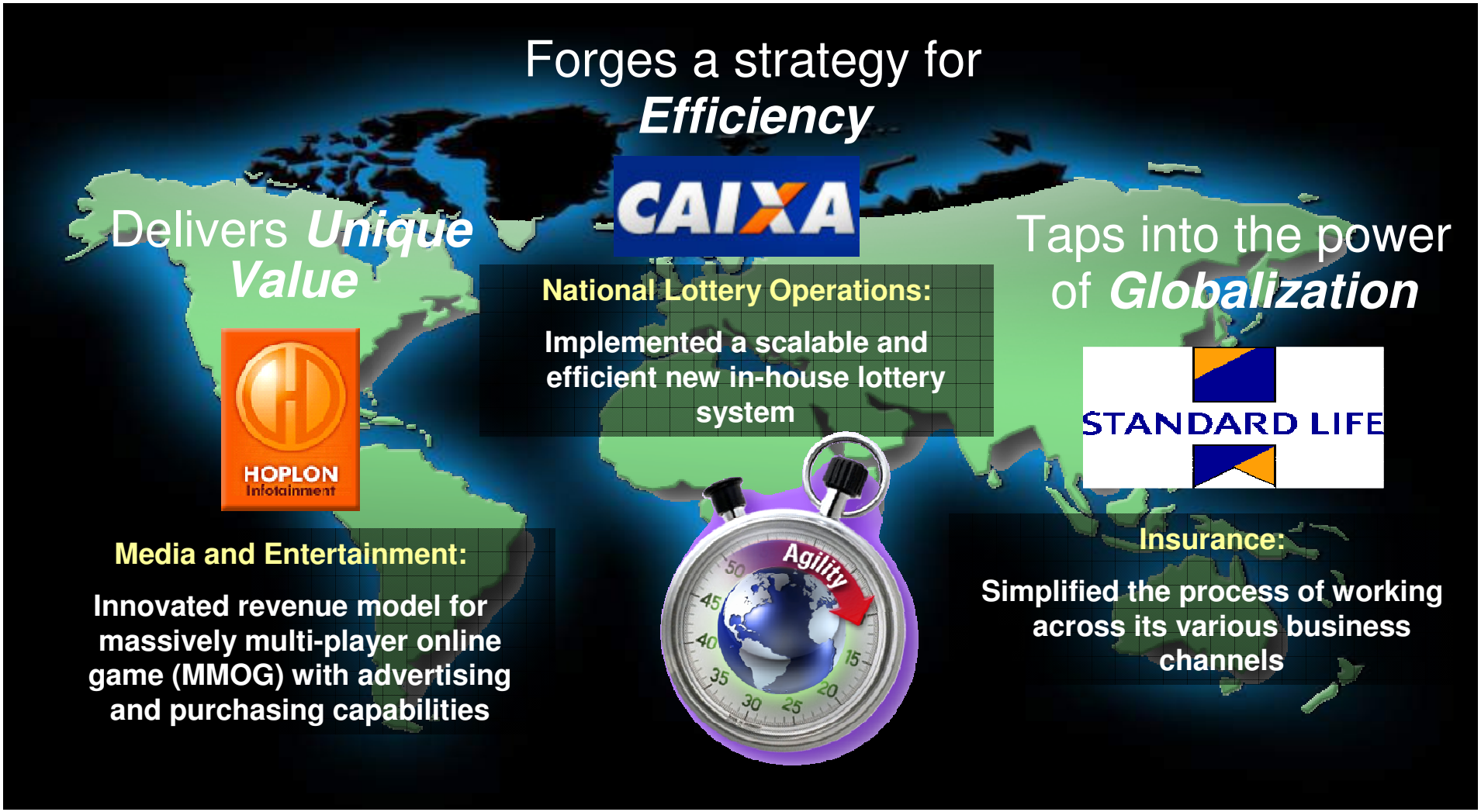


87% expect fundamental change in next 2 years

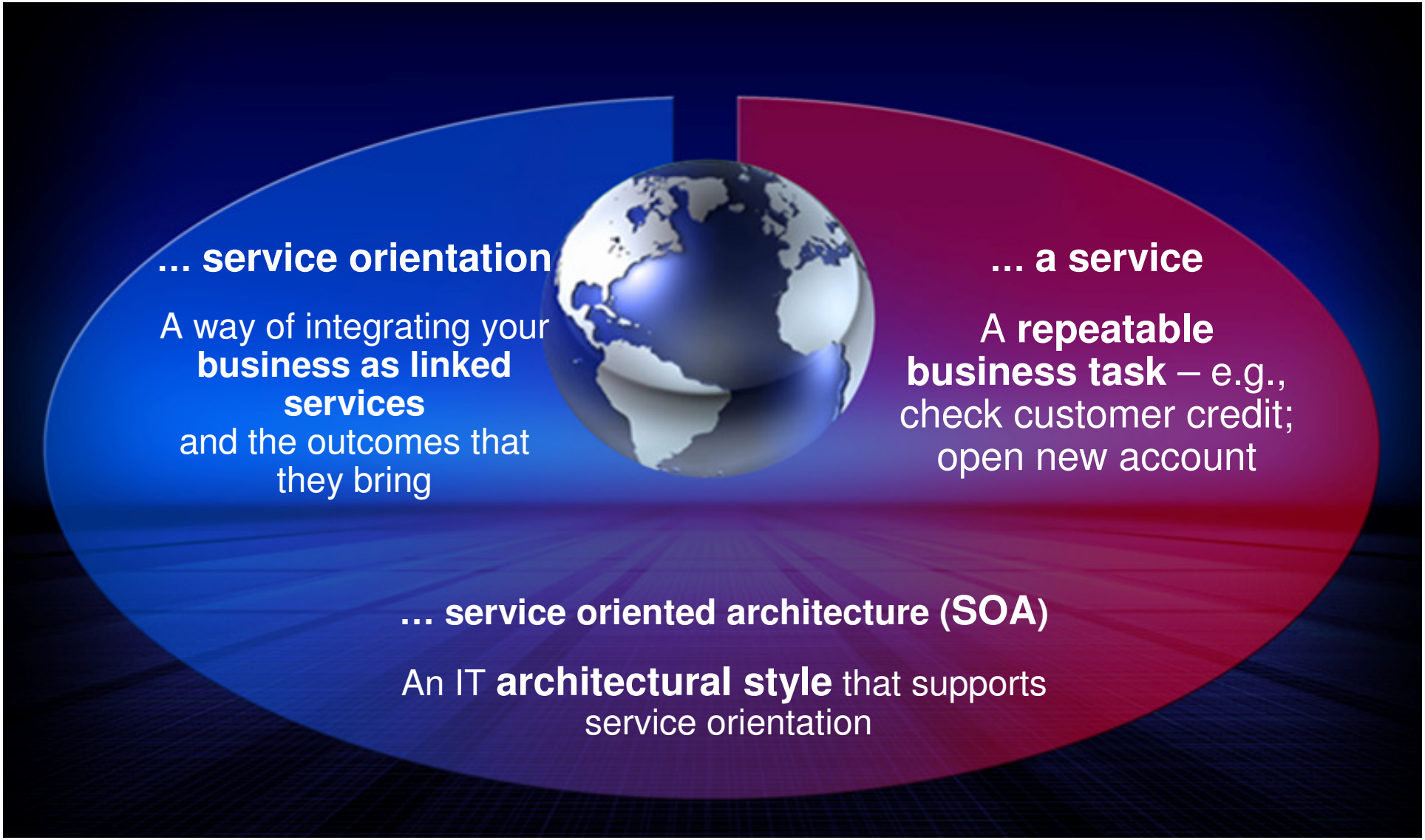
78% believe innovation requires business and technology

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

Globally Integrated Enterprises Are Agile
From Companies of All Sizes and Across All Industries

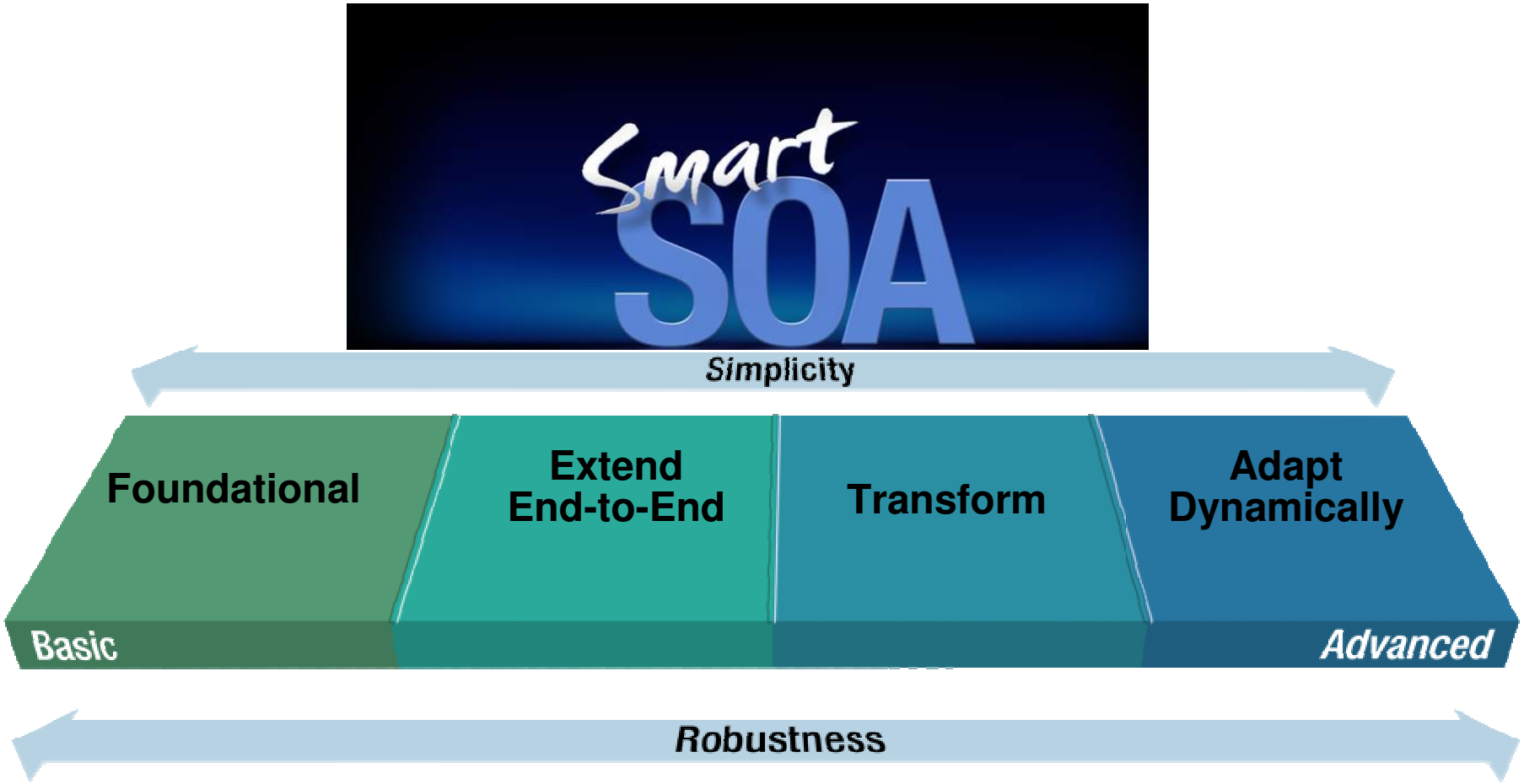


Sustainable Agility Needs the Power of….



There is a Smarter Way!

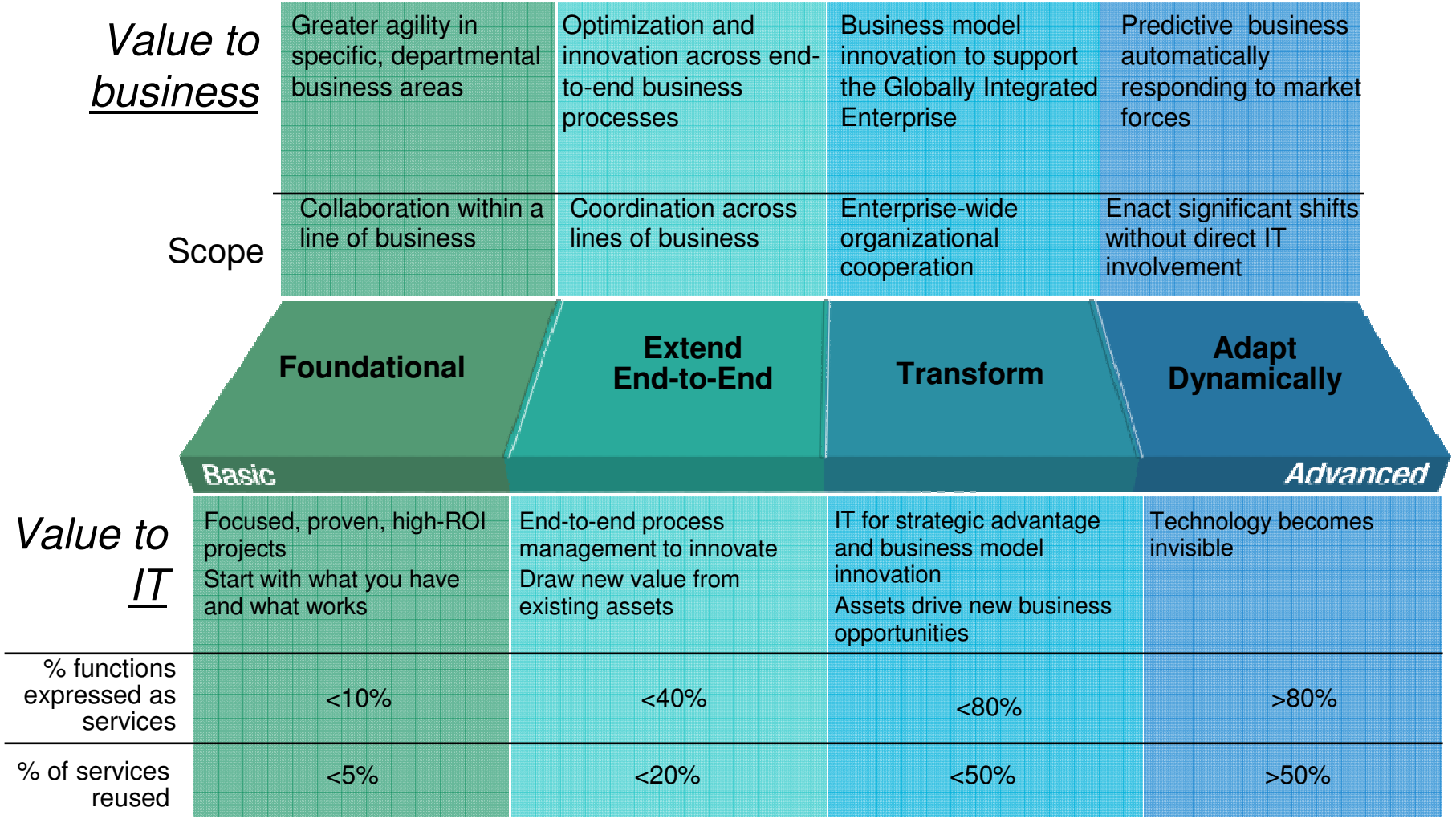
Aligning Service Oriented Approaches



A set of guiding principles to extend business value of deployment

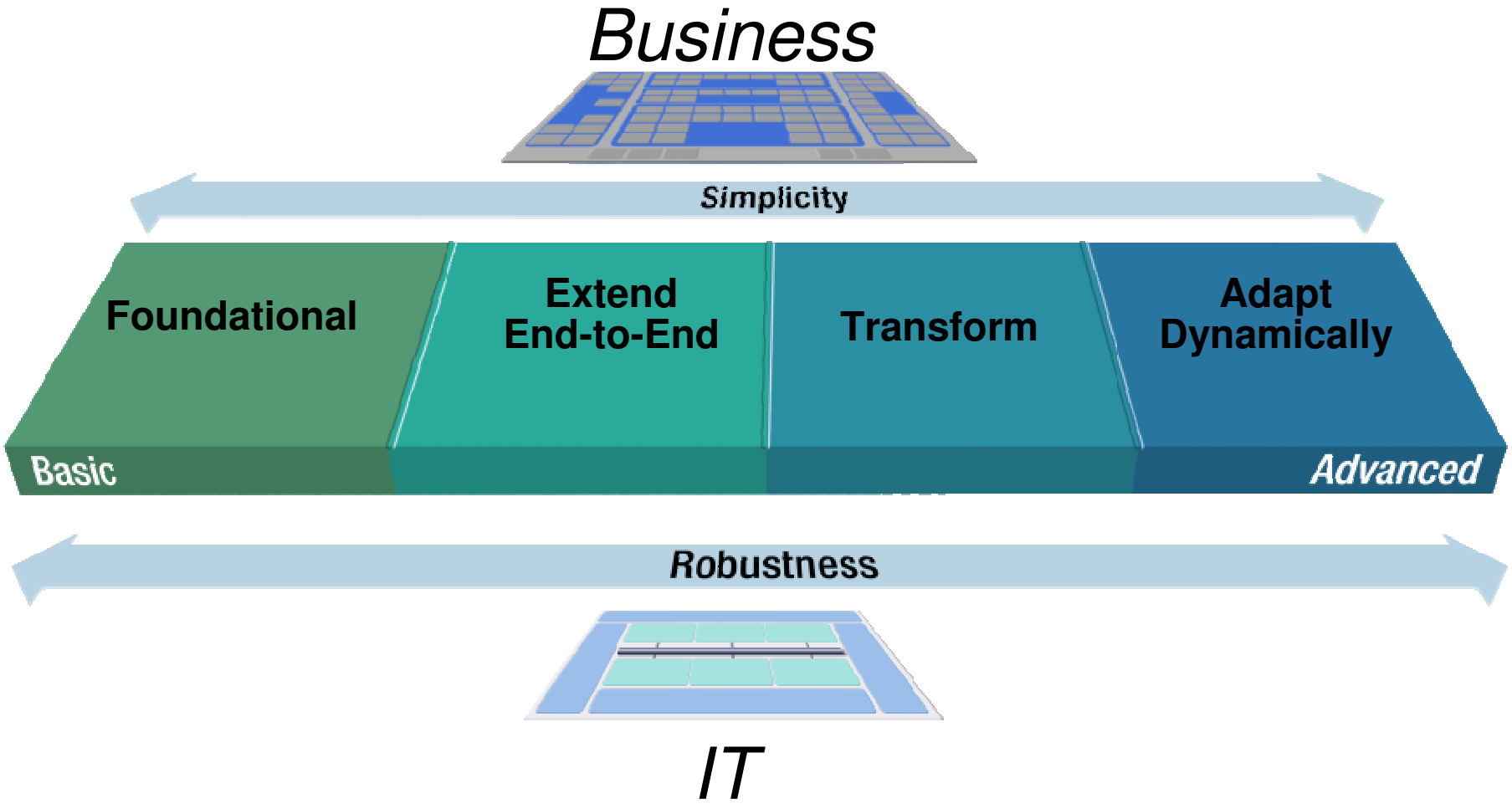
Distinct Value for z Customers with Every Style

Regardless of Where You Choose to Engage



Based on *5700* customers using our SOA offerings

Smart SOA Delivers Value to Both Business and IT



Deploying on System z provides differentiated value

Enabling intelligent IT that works for your business

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.

- Application and data availability for business resiliency
- Rock solid security and privacy
- Massive scalability for non-disruptive growth
- Higher utilization and balanced system design
- Advanced virtualization
- Responsive, autonomic and intelligent workload management
- Open and industry standards
- Modernization of legacy applications
- Specialty engines lower cost of ownership
- World-class support

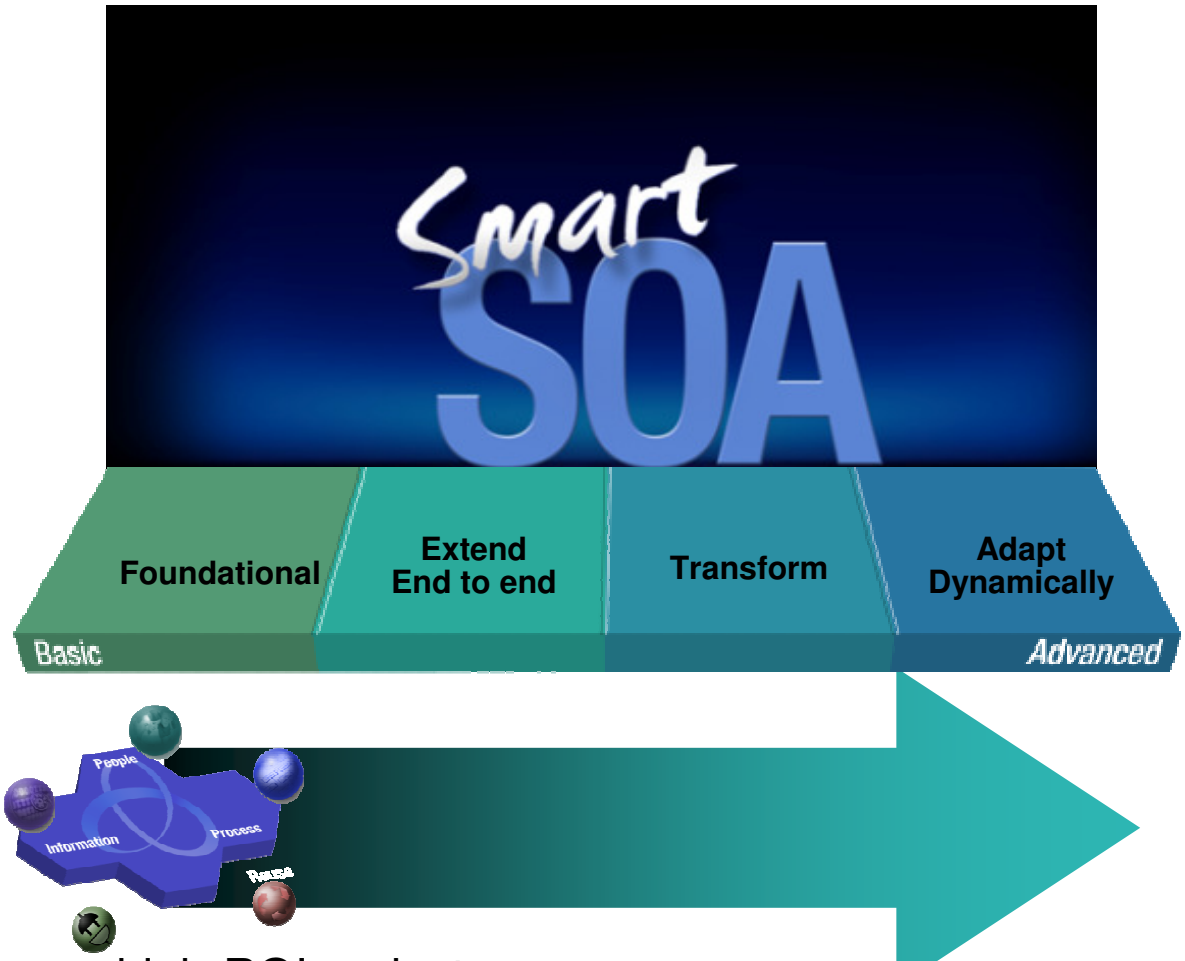
Re-Thinking the Role of the Mainframe….

What do clients require in an on-demand, 24x7, always-on world?

- **Highly virtualized and energy efficient**
  – driving out cost and complexity
- **Comprehensive security and resiliency**
  – minimizing risk and downtime
- **Centralized corporate data serving**
  – a platform for business analytics
- **A foundation for SOA**
  – IT that responds to the business
- **An ecosystem that is flourishing**
  – ISVs and academic initiatives

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

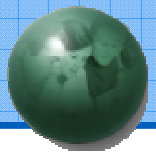
SOA Entry Points: Enhancing Our Portfolio

People, Process, Connectivity

New!

WebSphere Portal Accelerators

- Collaboration
- Content
- Enterprise Suite



People

Enhanced!

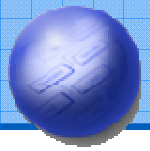
WebSphere Process Server

Usability:

- Installation and configuration

Enhancements:

- Human workflow, business rules, ESB Mediation



Process

Enhanced!

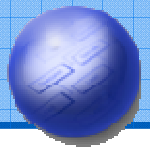
WebSphere Integration Developer

Usability:

- Portlet-creation wizard

Enhancements:

- Adapter experience
- Reduced build time



Process

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

Connectivity

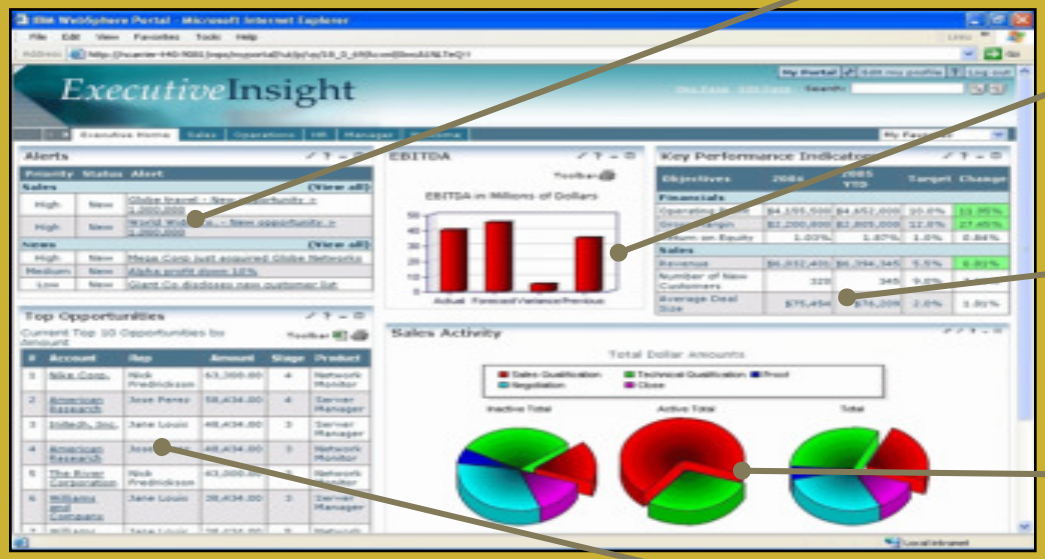
People: Why WebSphere Portal on System z for SOA?

Web 2.0-based Composite applications

Enable rapid assembly of situational applications with WebSphere Portal

Enhanced!

Composite application framework



External feeds and services

Business Partner / supplier information

Ad hoc as needed Google Gadget

Business intelligence

Long-lived corporate IT applications

Industry: *Wholesale Distribution & Services*
URL:
www.swp.com/index_swp.html

Saskatchewan Wheat Pool

WebSphere Portal Makes the Grade

CHALLENGE

- Existing application was not meeting the needs of customers, employees, and producers for delivering timely information. Their 24% of the Canadian Prairie Provinces' wheat market meant they needed to find a reliable and responsive solution.

SOLUTION

- Provide customers and partners access to real-time information on the Web

BENEFITS

- High customer satisfaction; Greater employee satisfaction; Framework for implementing new services; Web-based access to its application environment; Expandable portal infrastructure

Process: BPM Enabled by SOA - Making Better Business Decisions

Innovation and Optimization for the Globally Integrated Enterprise

Business Modeling

- Traceability for Consistency
- Human Task Collaboration

  FileNet P8, Rational Data Architect, Lotus Forms, MS Word

BAM for Actionable Insight

- Customizable, Web 2.0 Dashboards
- Enhanced Reporting

Industry Accelerators

- Pre-built assets based on IBM and Partner Best Practices

  Industry Models, 4 Content Packs, and 5 Composite Business Services

Process Expertise

- BPM Methodology

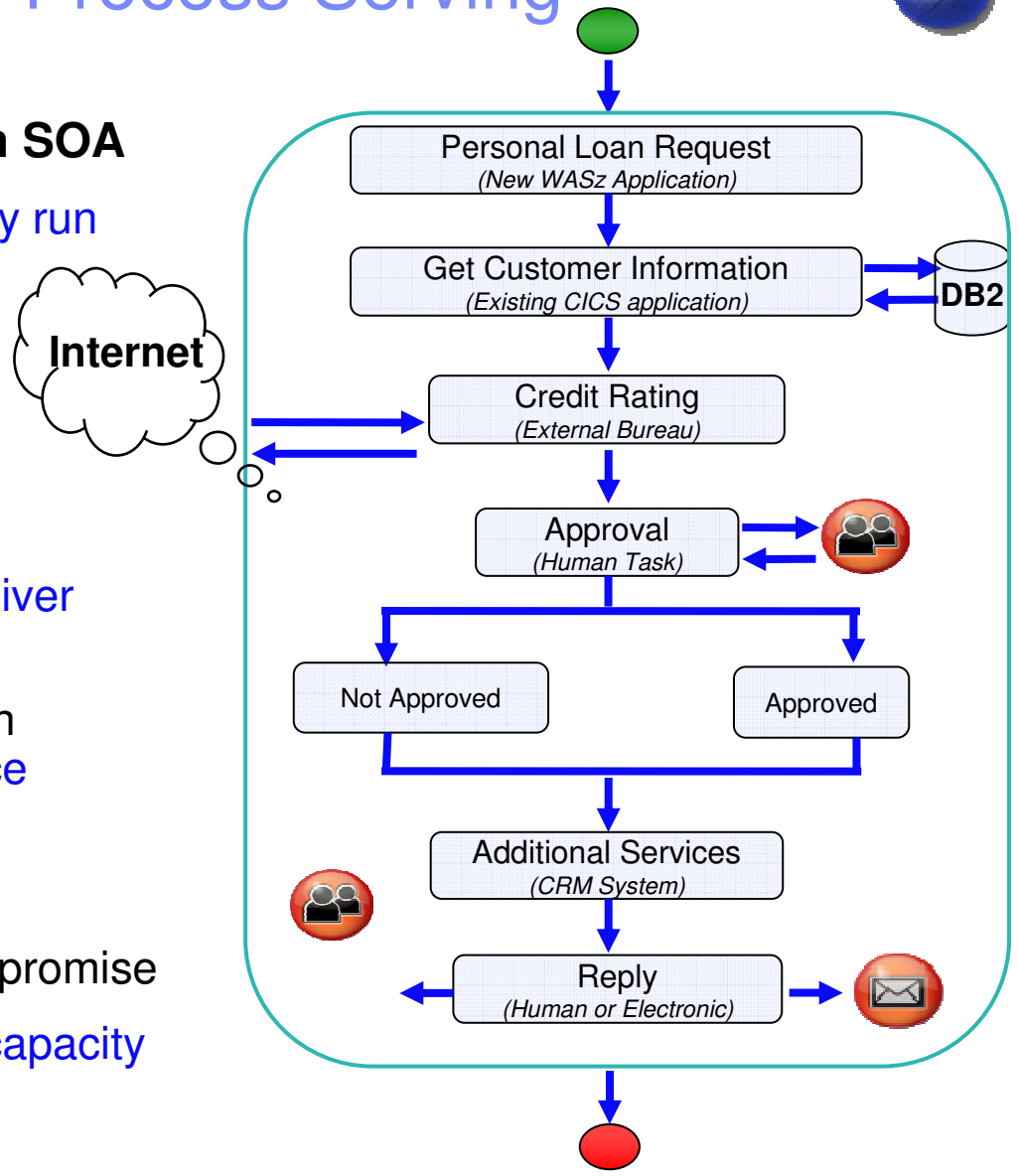
Most Platform Choices

- Enhanced support for z/OS
- New support for i5/OS

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 processes
- 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



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

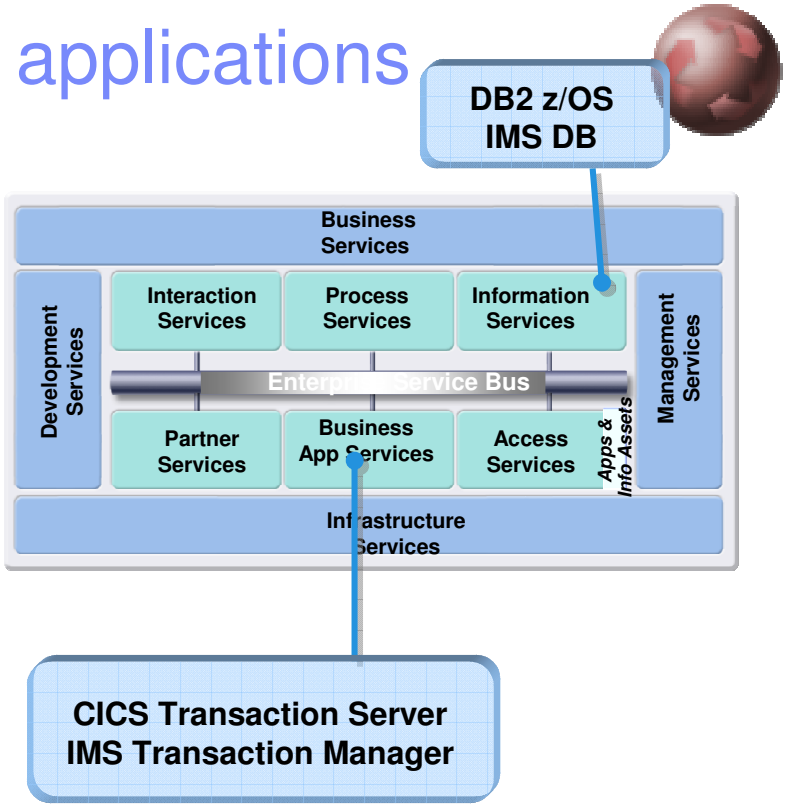
SOLUTION

- 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

Reuse: Service enabling existing applications



Enhanced!

CICS Transaction Server V3.2

Application Reuse

- Create components from existing applications which are more flexible & configurable for use in new applications

Application Connectivity

- Extend existing applications beyond their original designs to support integrated business processes via standard APIs and protocols

Service Management

- Management of large runtime configurations via modern user interfaces

Enhanced!

IMS 9

- High performance access
- Universal information exchange
- Better business integration
- Ultra-high scalable/available data
- Lower cost development/deployment/management

IMS 10 – coming soon

- Extended B2B Data Interchange
- Expanded client and application interoperation
- Simplified installation and management

Enhanced!

DB2 9 optimized for SOA

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

Reuse: Enhancing Our Portfolio

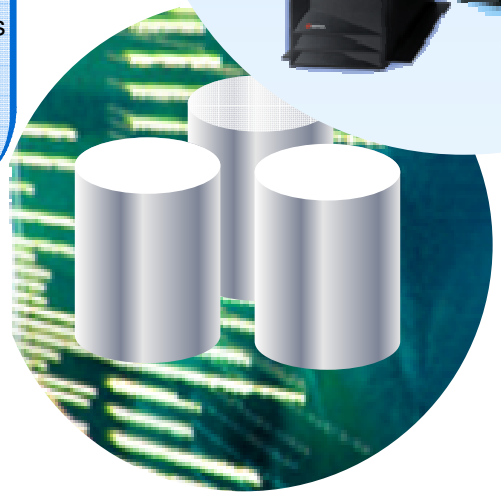
Creating and reusing proven, high-value assets

Enhanced!

WebSphere Extended Deployment 6.1.0.1

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!

WAS 6.1

Feature packs: free & easy to consume, these optionally installable product components enable new features on top of WAS

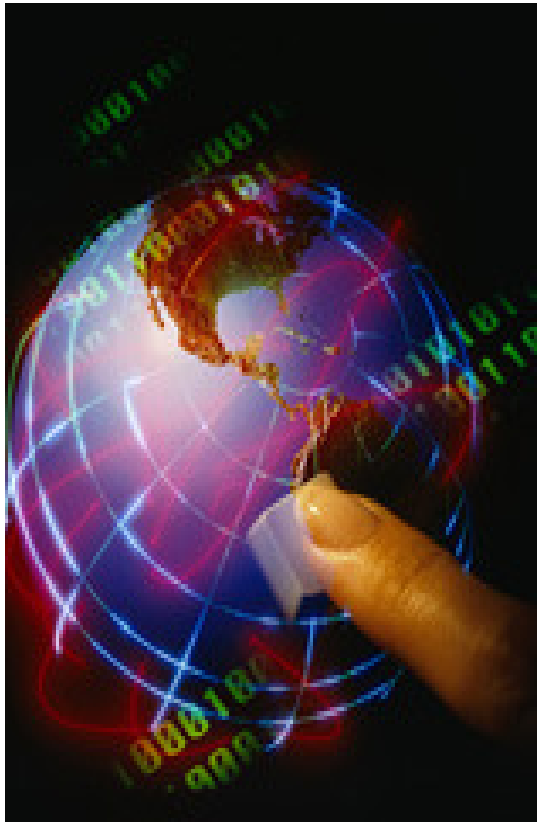
- Feature Pack for Web Services
- Feature Pack for EJB 3**
- Feature Pack for Web 2.0

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

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.

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

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

Enhanced!

WebSphere Enterprise Service Bus 6.1

- Additional platform support for better reuse
- Easy interactions with JMS and HTTP applications
- SOA standards for service composition, mediation and hosting
- Enhanced ease of use
- Built on top of WebSphere Application Server

Enhanced!

WebSphere DataPower Integration Appliance XI50 3.6.1

- Enhanced standards support
- Improved interoperability and connectivity
- Easier customisation and configuration
- Enhanced integration to leverage existing infrastructure
- Flexible policy framework for centralized SOA governance
- Registry & repository support

Enhanced!

WebSphere Message Broker 6.1

- Improved developer experience
- Faster processing and validation
- Integrated Adapter and transformation enhancements
- Enhanced administration and management
- Platform independent based ESB for heterogeneous environments

Gartner states "Integration is key to SOA success…projecting 70% of services are coming from existing assets" - Jess Thompson, Gartner research vice president

Connectivity: Enhancing Our Portfolio

The messaging backbone for SOA

WebSphere Adapters 6.1

Enhanced!

Accelerate time to value, and simplify the integration of applications in a SOA with

- Improve service enablement and connectivity for application reuse with JCA Adapters
- Build your own adapters easily with the enhanced WebSphere Adapter Toolkit.

WebSphere MQ Service Definition

Enhanced!

Defines standardized way to describe, manifest, and manage applications that are connected to WebSphere MQ as services

- Improved visibility and governance of applications
- Fe-use and composition of applications connected to WebSphere MQ as Web services
- Broader choice of management and monitoring approaches that are service-oriented

CICS Transaction Gateway 7.1

Enhanced!

- Extended networking support to leverage CICS TS V3.2
- End-to-end transaction monitoring via EWLM
- Enterprise wide management with enhanced systems monitoring and integration with other systems management tools.

WebSphere Transformation Extender Updated Industry Packs

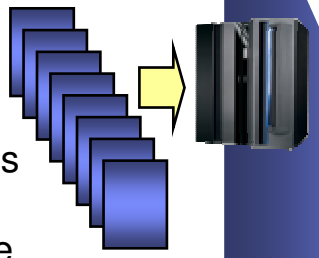
Enhanced!

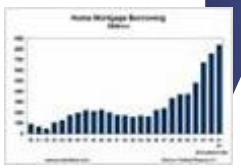
- Accelerated time to value, and regulatory compliance for Healthcare solutions with WebSphere Transformation Extender Packs for EDIFACT and X12

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
- **ng business critical workloads**
  - 99.999% availability
  - very of whole systems across vast nces
  - omated recovery from failures
  - ynamic workload balancing
  - Simplification of security management
- **rformance**
  - 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

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

Simpler than ever to use SOA Entry Points

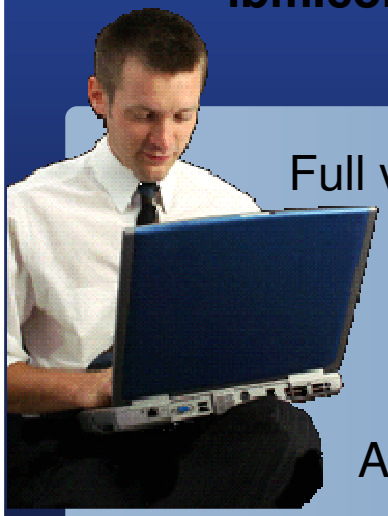
Proven configurations, best practices, and step by step guides

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

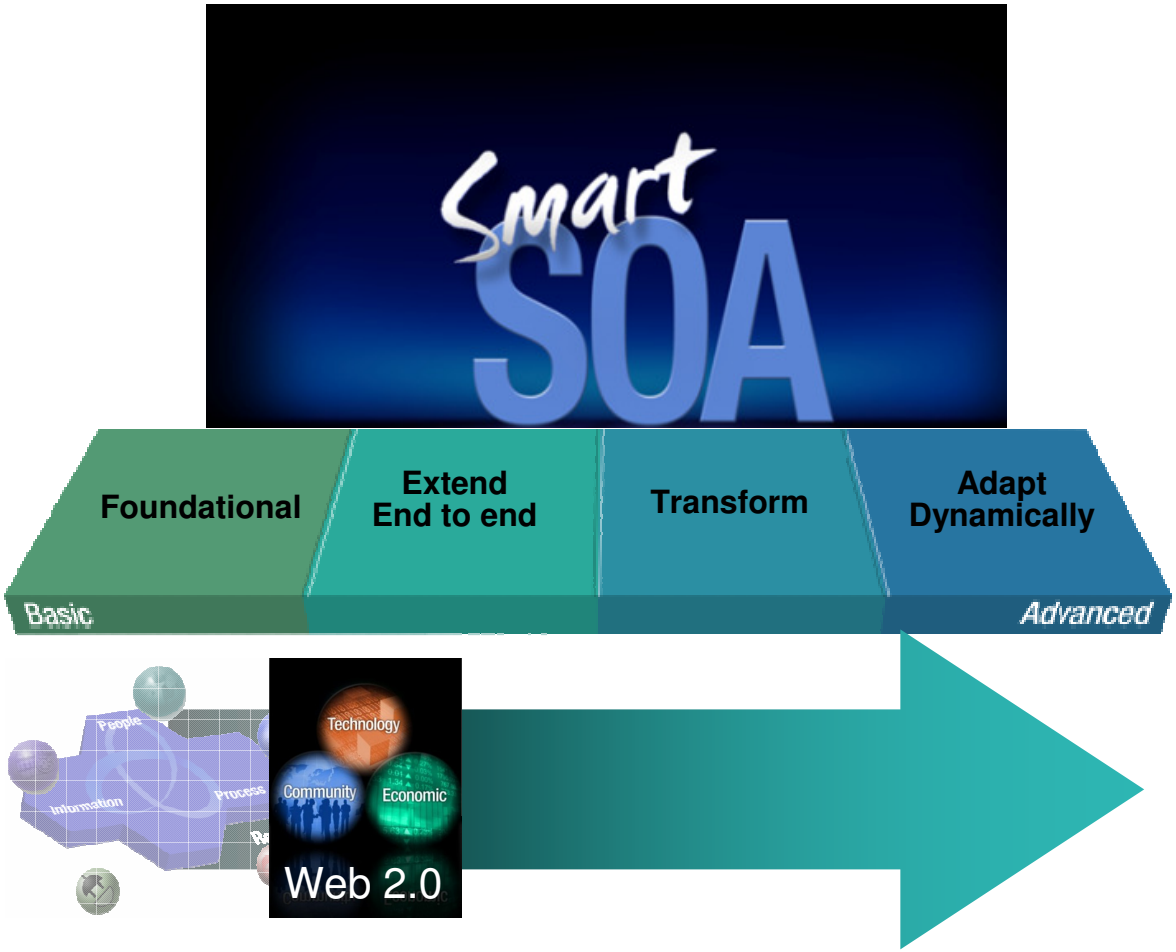
Solution Guides

Demos

Tested platforms

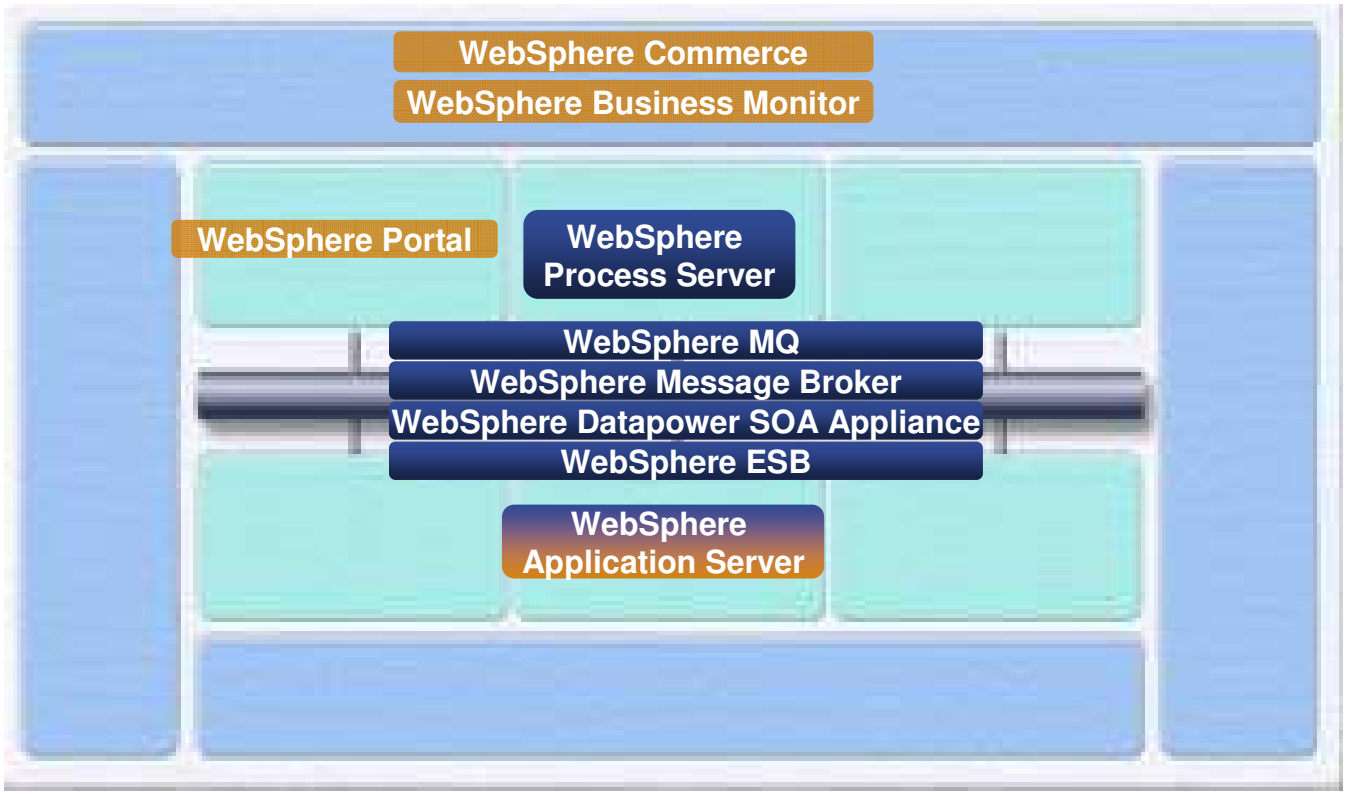
Extend SOA Reach with Web 2.0 to Unlock Content Simply

Helps Serve New Markets with Specific Needs



Enhancing the SOA Portfolio to Address Web 2.0

Use the same products for either approach



New and Enhanced!

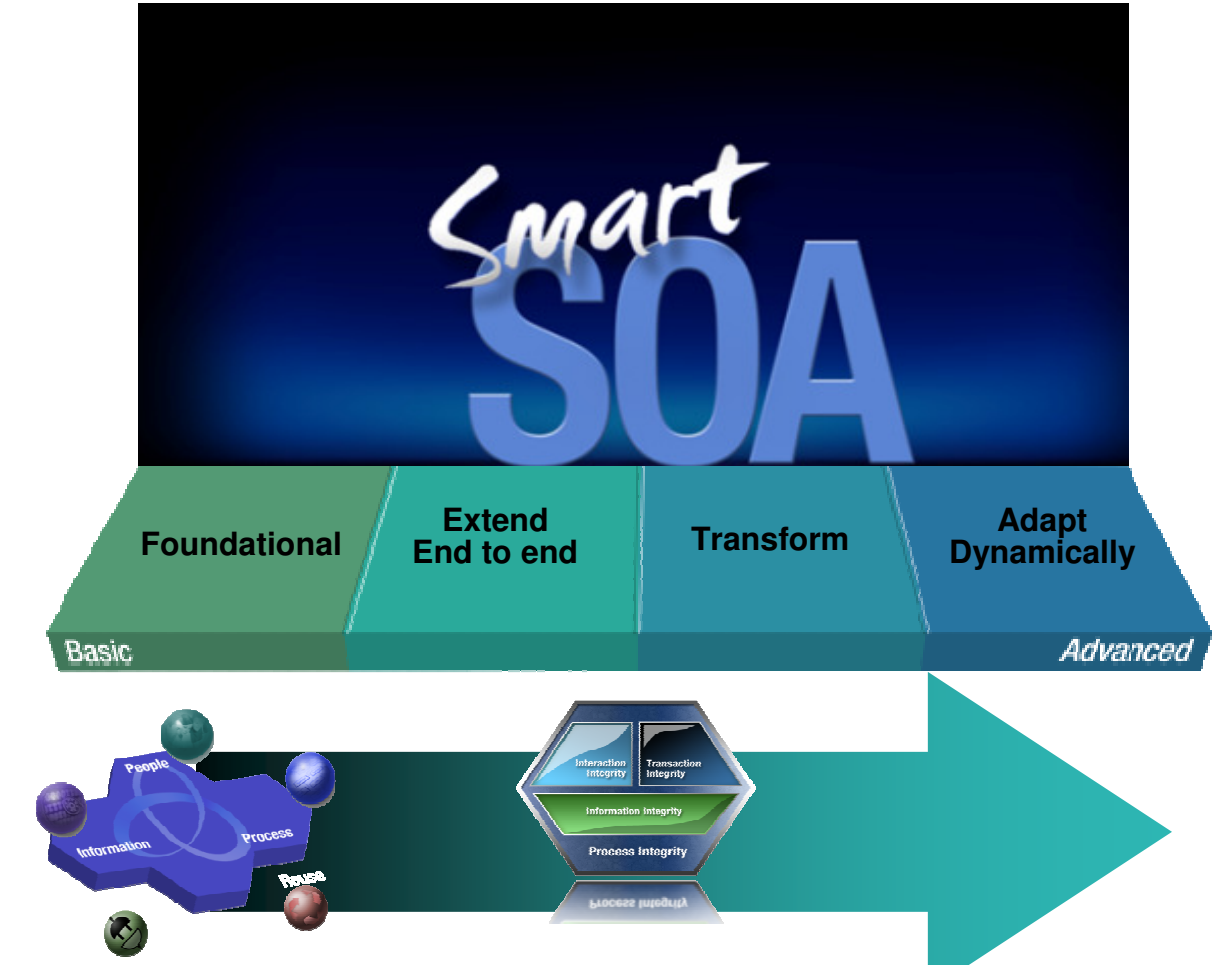
Simple to Use

Simple to Access

SOA Infra[illegible]e Services

The SOA Entry Points grow with you

Use the same software as your needs advance



Process Integrity Takes SOA to the Next Level

Enabling Integrity of Transactions, Interactions and Information

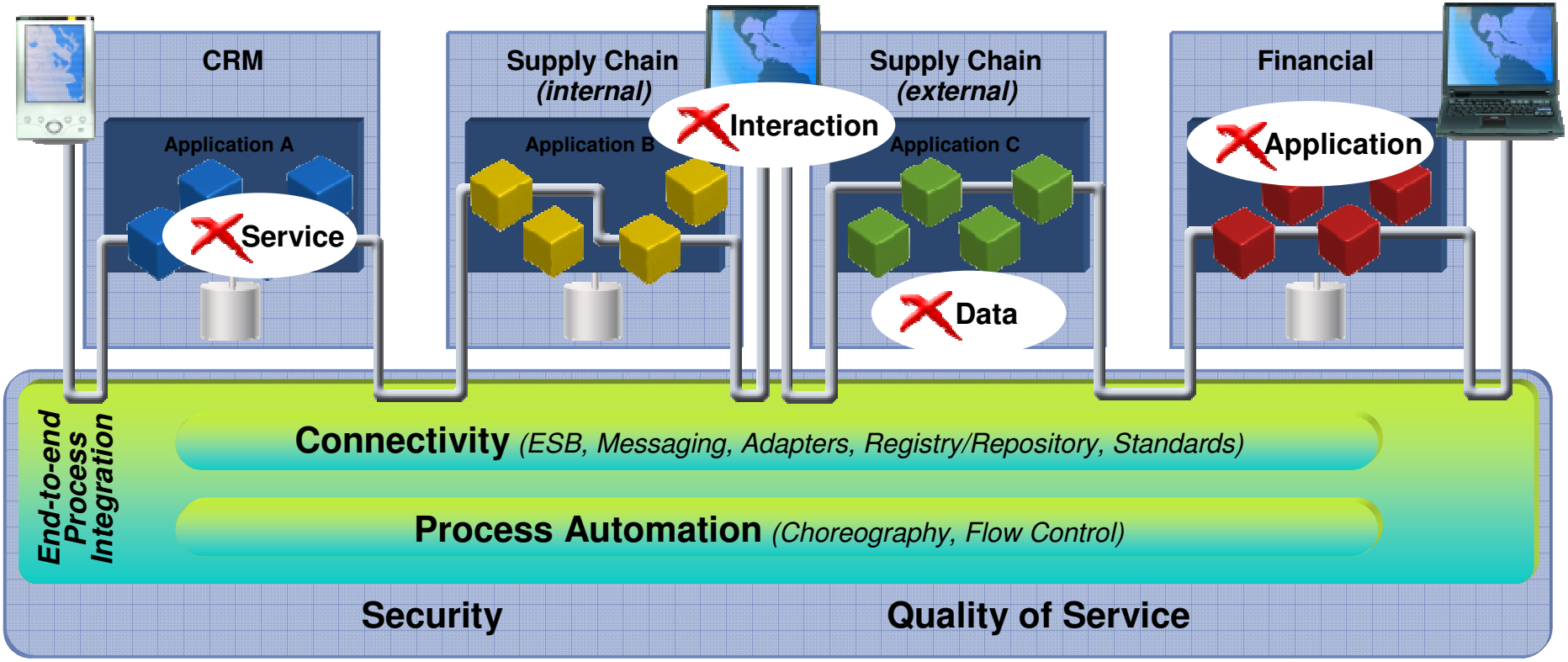
Process Integrity **is the ability to conduct reliable business activity in a secure, scalable SOA environment with seamless synchronization between:**

Services* ■ *Human Tasks* ■ *Information* ■ *Domains* ■ *Users

Process Integrity is Critical to Advanced SOA Projects

To Achieve Business Agility Without Sacrificing Integrity

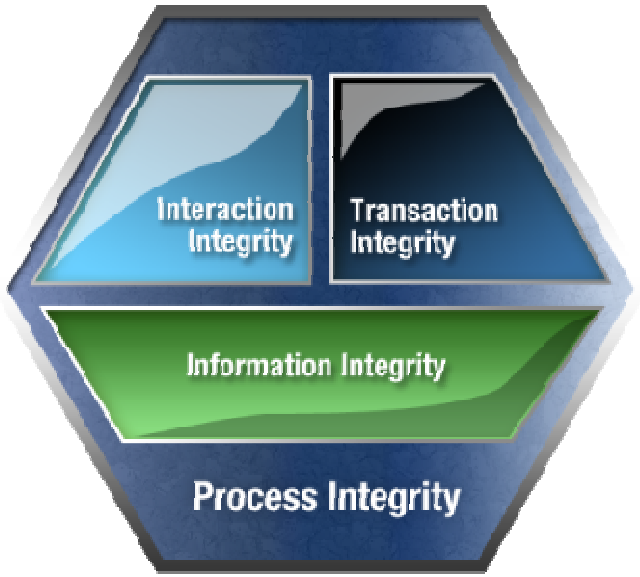
- Process Integrity is the degree to which loosely coupled "open" systems deliver the reliability, consistency, scalability and predictability of tightly coupled "closed" systems



IBM Offers an SOA Portfolio that Grows with You

Enabling the Right Degree of Integrity for all 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

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

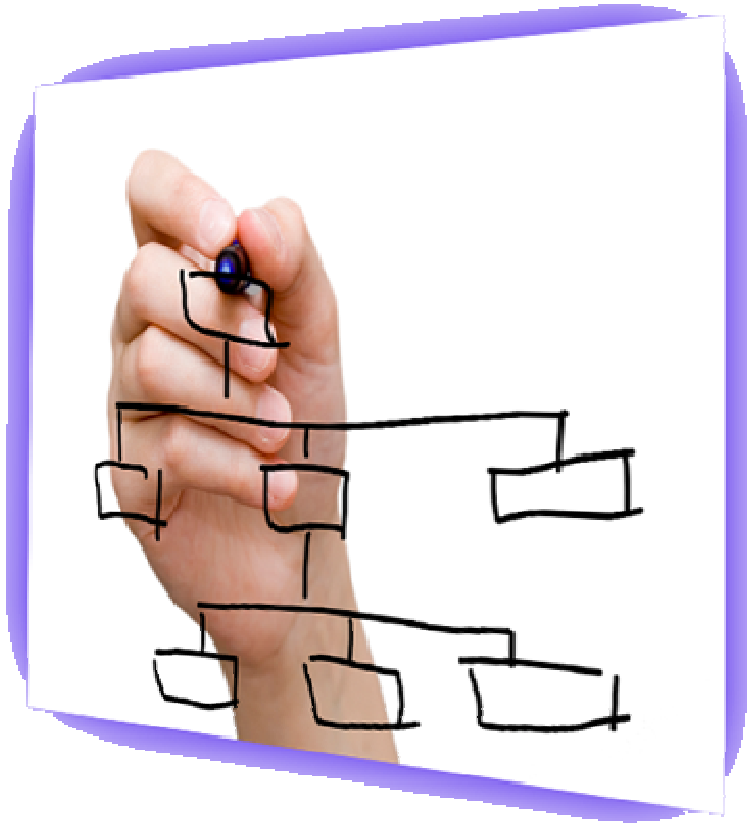
What is SOA governance?

- 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***

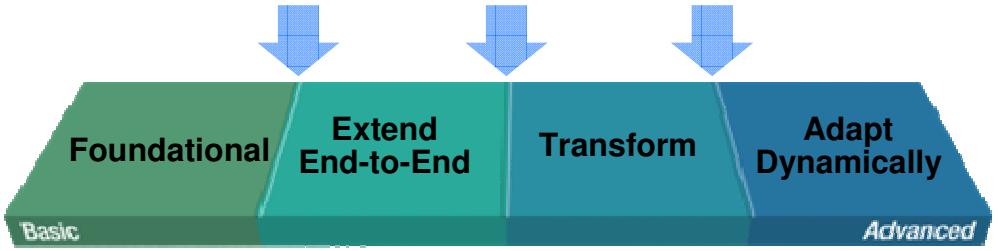


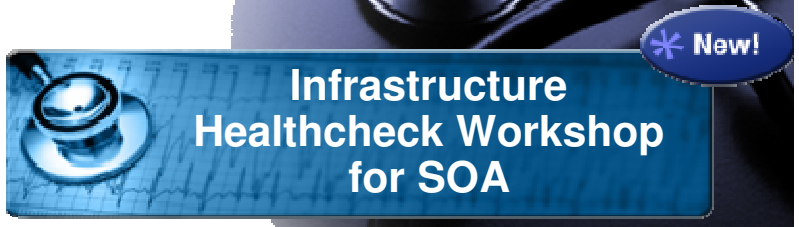
Enhanced!

Helping Customers Access Their SOA Health

Are you IT fit enough to handle your SOA needs?

Whether you are here or here or here





Treatment Areas

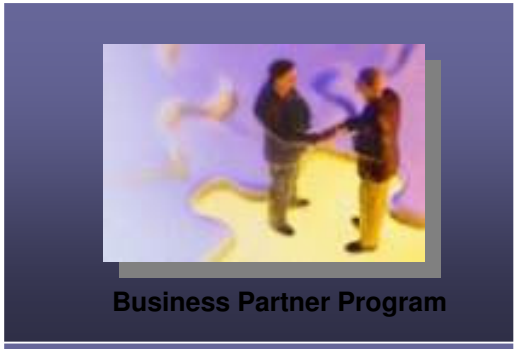
- Application Reuse
- Service Use
- Service Security

Treatment Areas

- Infrastructure Flexibility
- Service Management
- Middleware Support

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

Continued focus on skills for System z Practitioners



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

- 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

Why IBM?

Trusted, experienced guidance based on 5700 customers*

*# of Customers using our SOA offerings

TALKING

PUTS YOU IN A
CONFERENCE ROOM.

DOING

PUTS YOU AT THE SMART SOA
CONFERENCE IN VEGAS.

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