



When and Why to Deploy New Workloads on System z

Richard Thomas
WebSphere System z Product Marketing
thomas1@us.ibm.com

November 6, 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

Forges a strategy for
Efficiency



National Lottery Operations:
Implemented a scalable and eff

Taps into the power
of **Globalization**



Mortgage Applications:
New online channel for
reaching broker community to
process applications in just
hours compared to days

Delivers **Unique Value**



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



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**

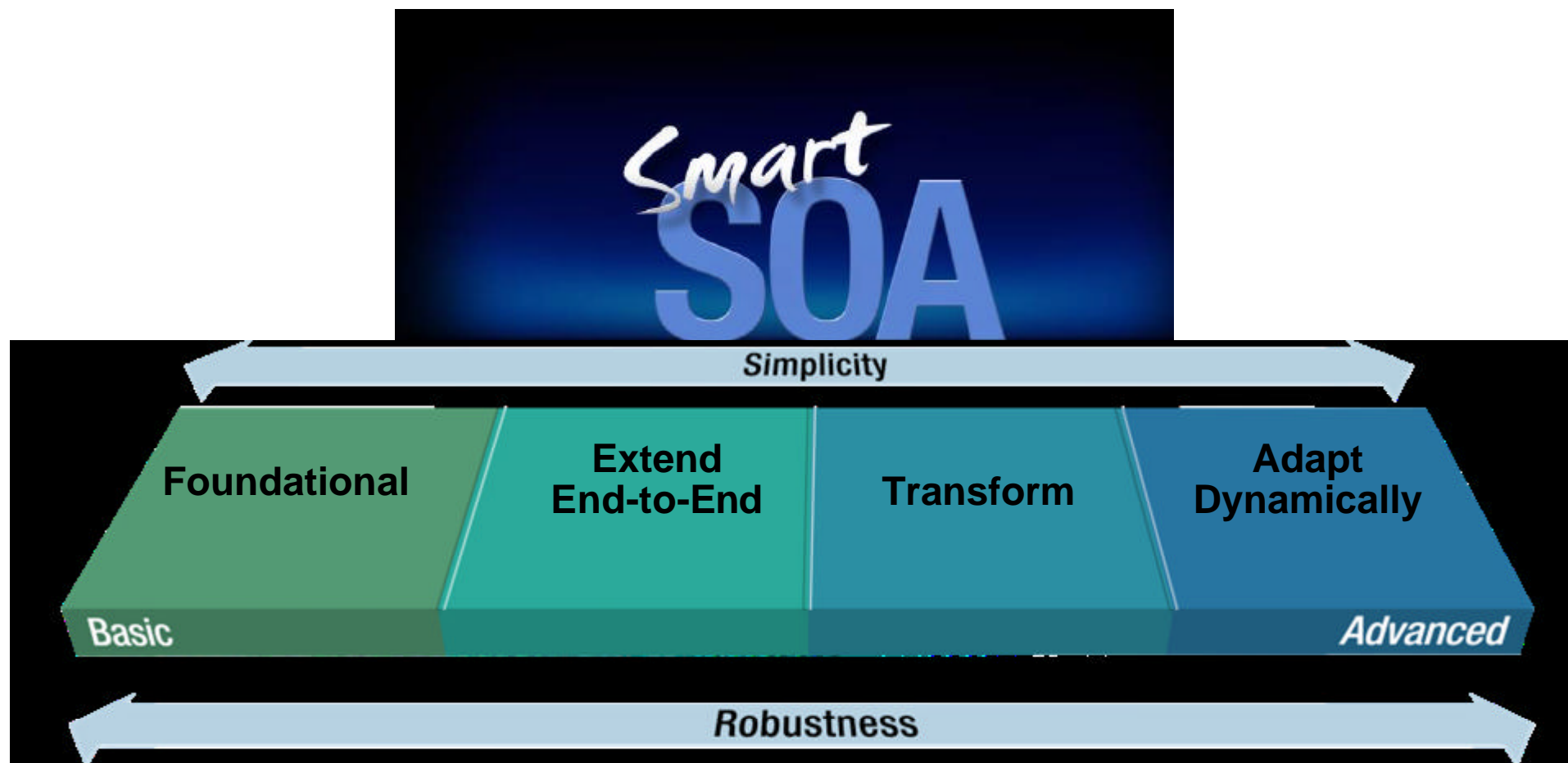
A **repeatable business task** – e.g., check customer credit; open new account

... **service oriented architecture (SOA)**

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

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

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

Deploying on System z provides differentiated value

Enabling intelligent IT that works for your business



The IBM Mainframe.
Building on the past, defining the future.

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....

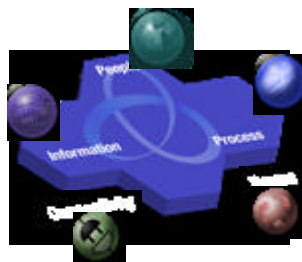
What do clients require in an on-demand, 24x7, always-on world?

- ✍ **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

People: Why WebSphere Portal on System z for SOA?

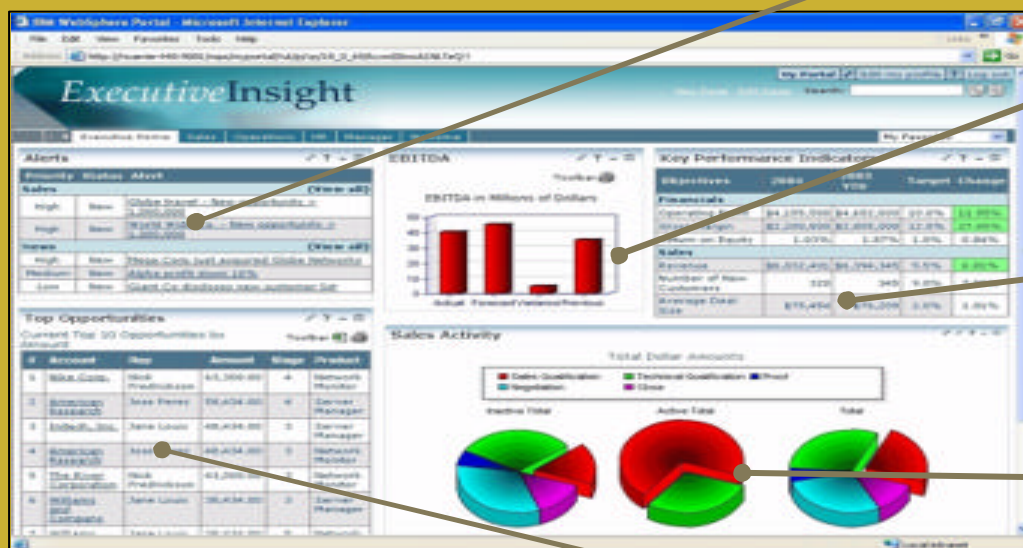
Web 2.0-based Composite applications

Enable rapid assembly of situational applications with WebSphere Portal



Composite application framework

External feeds and services



Business Partner / supplier information

Ad hoc as needed Google Gadget

Business intelligence

Long-lived corporate IT applications

Case Study: WebSphere Portal Makes the Grade

Saskatchewan Wheat Pool

▶ **Business Challenge:**

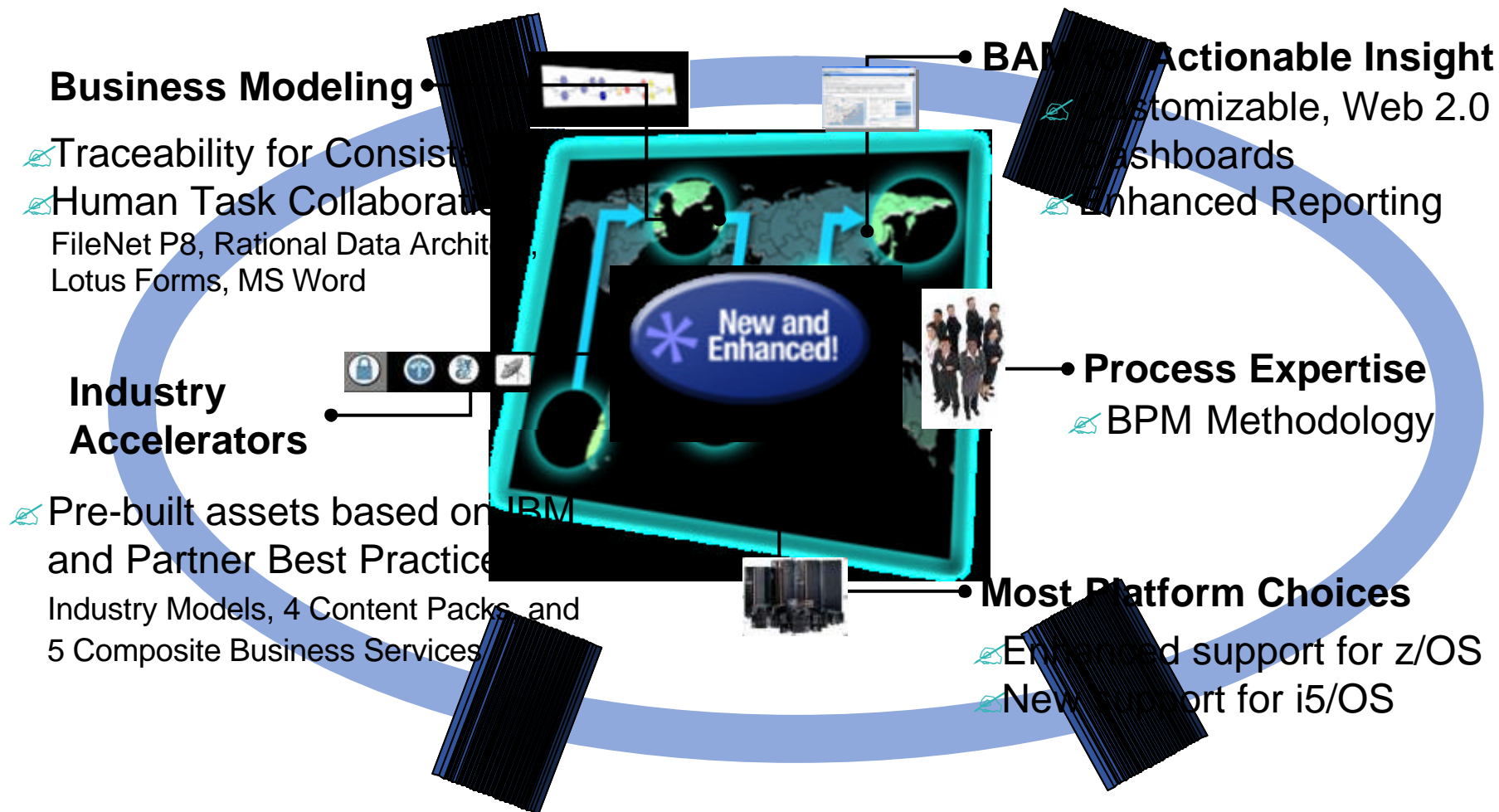
Existing application was not meeting the needs of customers, employees, and producers for delivering timely information. Their 24% of the Canadian Prairie Provinces' wheat market meant they needed to find a reliable and responsive solution.



- ▶ **Solution:** Provide customers and partners access to real-time information on the Web
- ▶ **Results:** High customer satisfaction; Greater employee satisfaction; Framework for implementing new services; Web-based access to its application environment; Expandable portal infrastructure
- ▶ **Implementation Details:** WebSphere Portal Enable, Tivoli Access Manager for e-business, Tivoli Identity Manager, WebSphere Application Server Network Deployment on zLinux, IBM eServer System z9

Process: BPM Enabled by SOA - Making Better Business Decisions

Innovation and Optimization for the Globally Integrated Enterprise

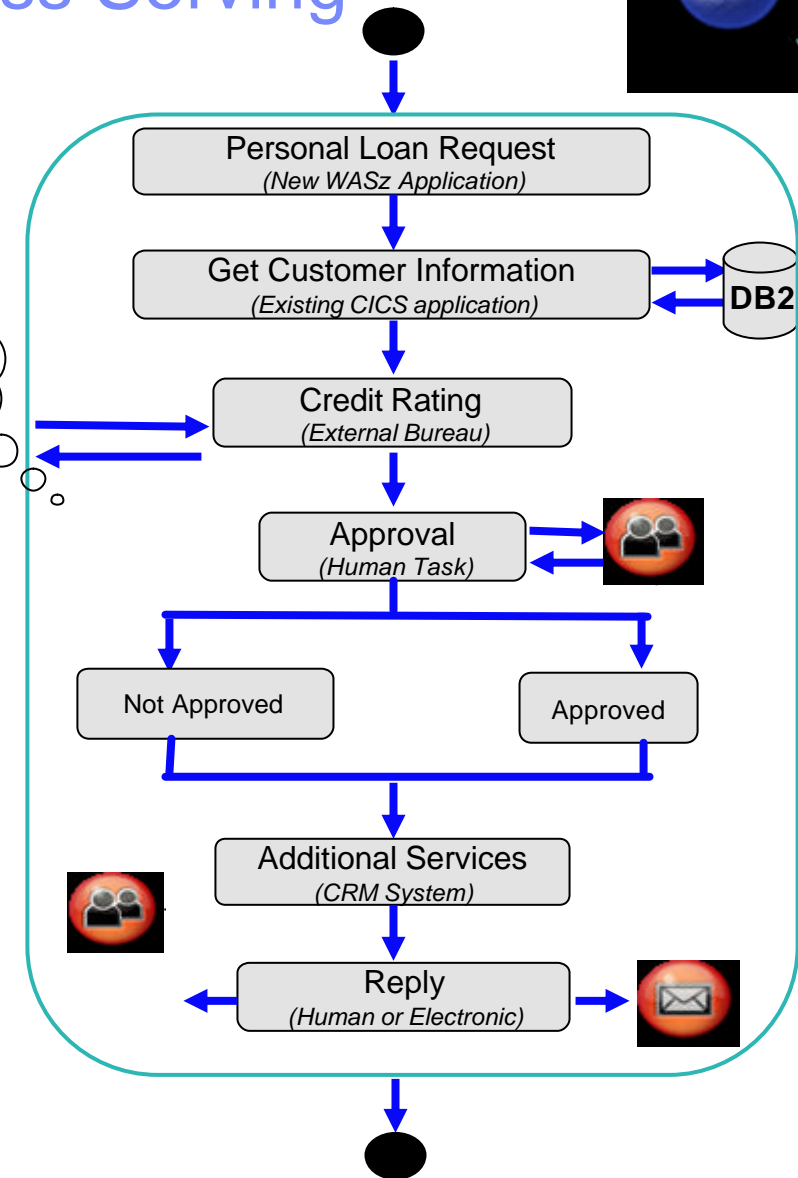
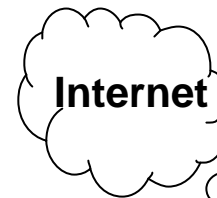




When to Use System z for Process Serving

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: *z(ero downtime)/OS* brand promise
- ✎ Performance: *Full utilization of system capacity* with same class of service



Customer Example: Telecom

Business Challenge

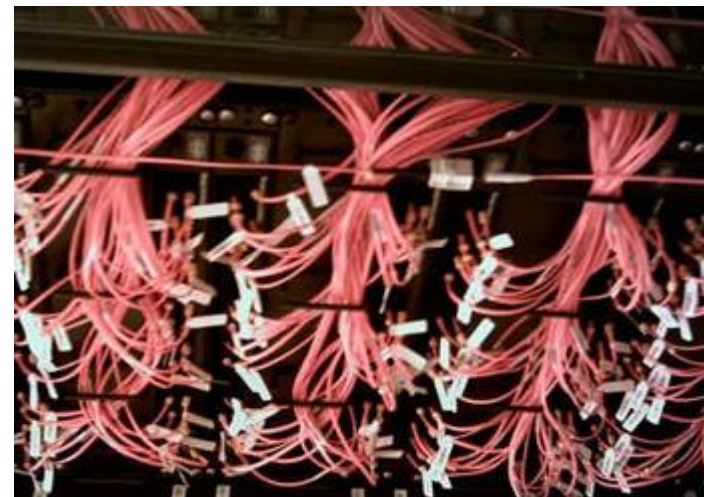
- ✍ Eliminate overlapping redundant systems and data
- ✍ Need for flexible systems to meet business needs
- ✍ Improve operations and customer service

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



Software

WebSphere Service Registry and Repository

WebSphere Process Server

ITCAM for SOA

WebSphere Adapters



Reuse: Service enabling existing applications



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

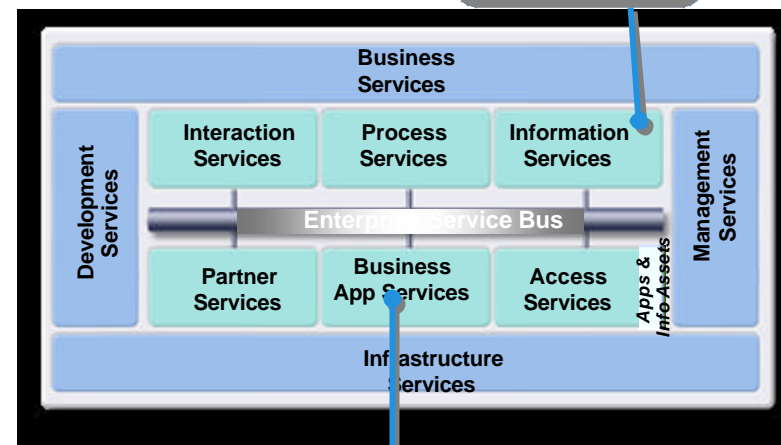


IMS 9 +

- 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



CICS Transaction Server
IMS Transaction Manager

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

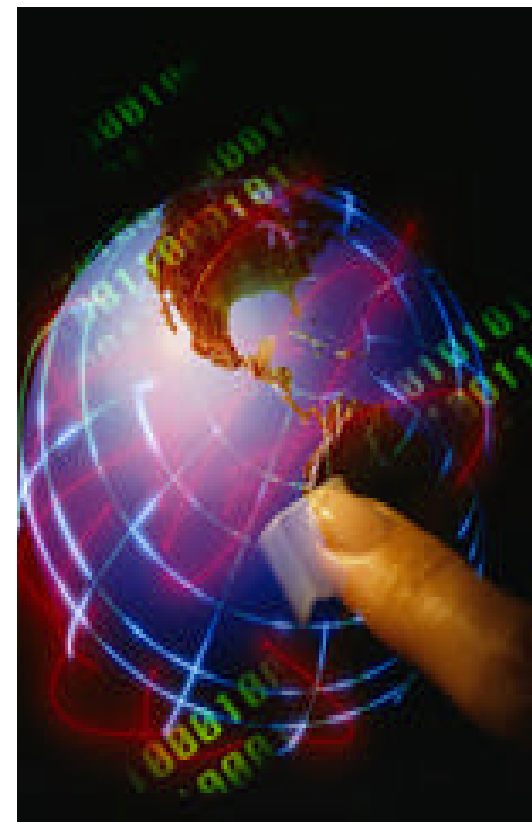
- ✎ Feature Pack for Web Services
- ✎ Feature Pack for EJB 3**
- ✎ Feature Pack for Web 2.0

**All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal 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
- ✍ 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.

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

University of Florida

- ▶ **Business Challenge:** Develop administrative framework for packaged student health program



- ▶ **Solution:** Administrative support for health education mandated by university to reduce student problem behavior
- ▶ **Results:** 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
- ▶ **Implementation Details:** CICS Transaction Server for z/OS, Version 3, DB2 for z/OS, Version 7.1, Tivoli OMEGAMON XE for z/OS, System z9 Business Class, System Storage DS8100



Connectivity: Enhancing Our Portfolio

Federated ESB – integrated framework to meet your needs



ESB offerings from IBM WebSphere



Op
se

Enhanced interoperability and transformation in heterogeneous IT environments



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



deployment and hardened security

WebSphere DataPower Integration Appliance XI50 3.0.1

- ⌘ 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



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

Connectivity: Enhancing Our Portfolio

The messaging backbone for SOA

WebSphere MQ Low Latency Messaging 2.0

*** New!**

Enhances Financial Markets Front Office solution to address rapidly increasing market data volume

- ⌘ Respond to business opportunities by getting data to decision making applications faster with Low latency, high-throughput messaging
- ⌘ Highly scalable, semi-reliable multicast and unicast delivery and flexible message filtering
- ⌘ Assured continuity of data delivery with high availability stream failover.

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

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.

CICS Transaction Gateway 7.1

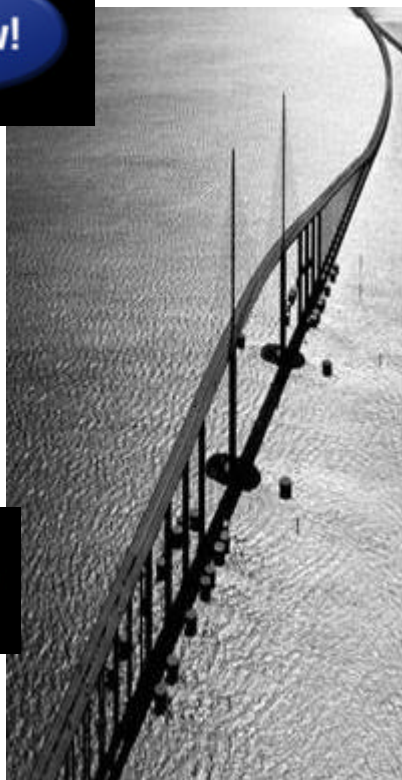
*** Enhanced!**

- ⌘ 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

Supporting business critical workloads

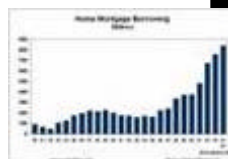
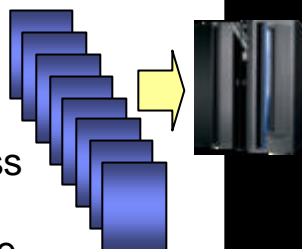
- 99.999% availability
- Recovery of whole systems across vast geographies
- Automated recovery from failures
- Dynamic workload balancing
- Simplification of security management

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



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

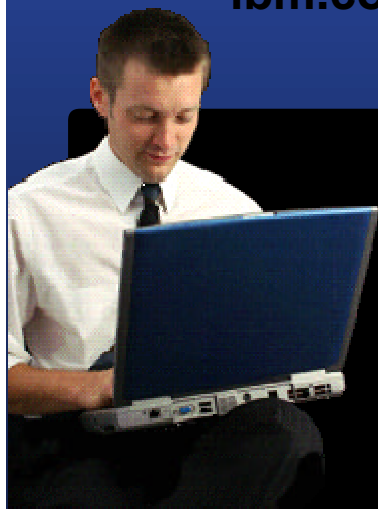
Proven configurations, best practices, and step by step guides

SOA Sandbox



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

ibm.com/soa



SOA Configurations

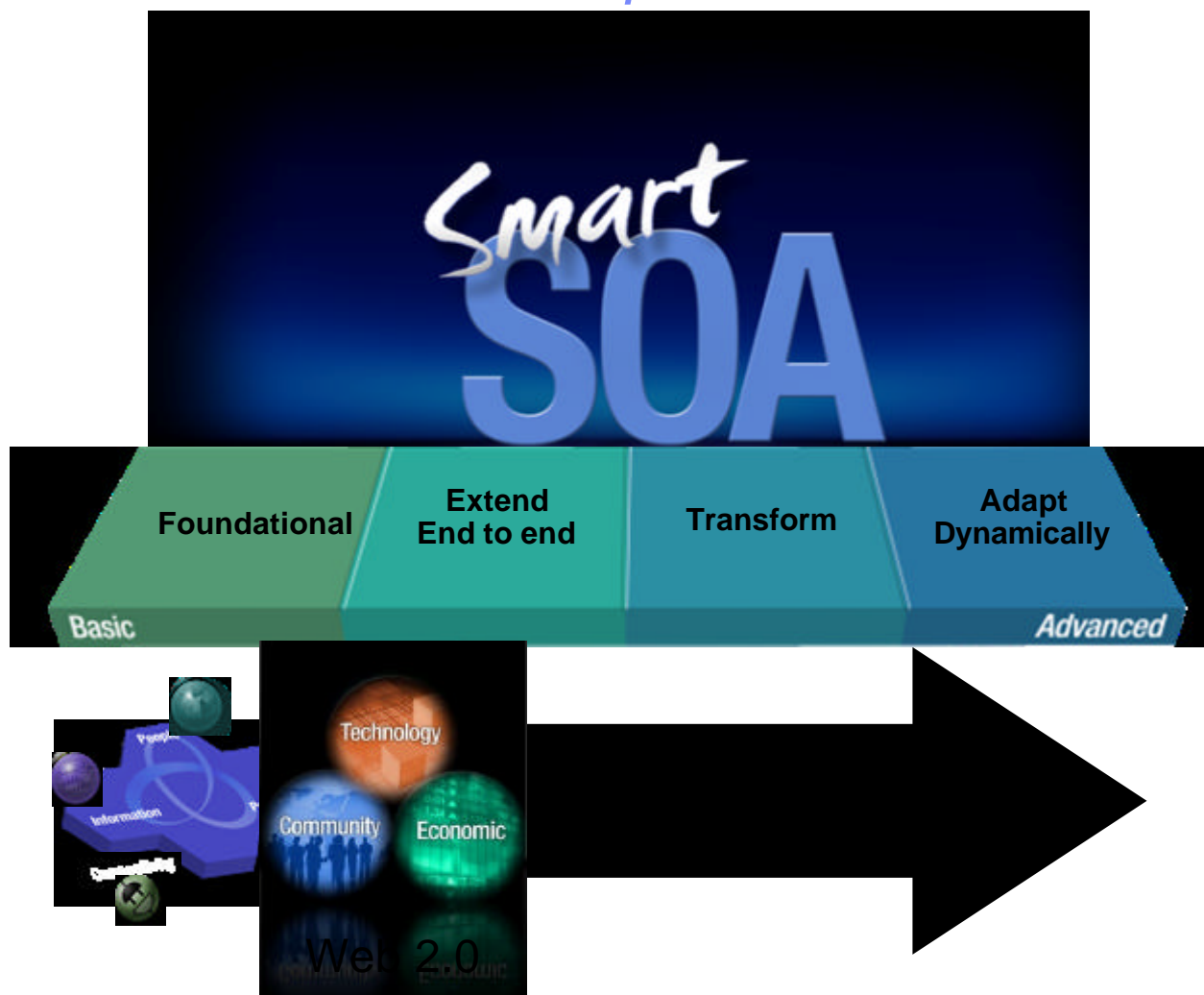


Solutions for common SOA use cases helps reduce deployment time

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

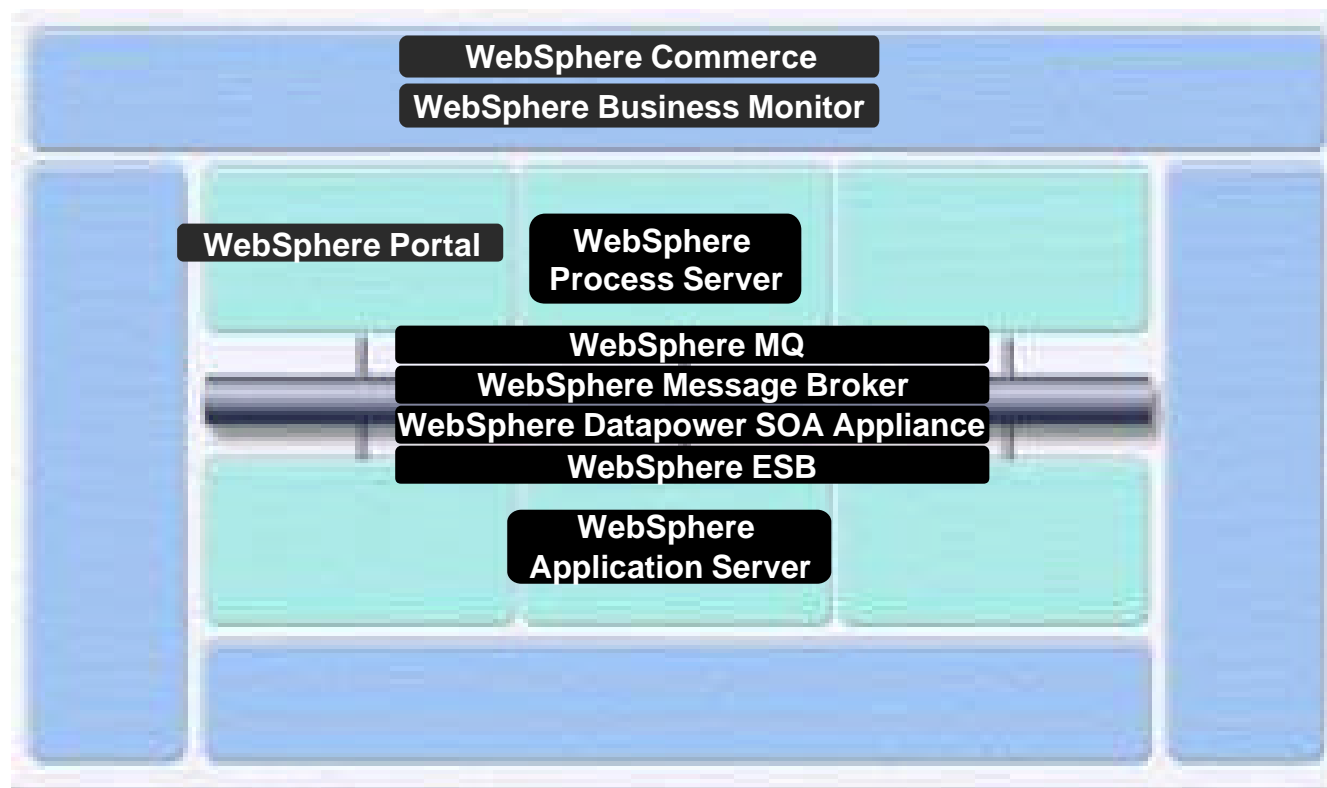


Extend SOA Reach with Web 2.0 to Unlock Content Simply *Helps Serve New Markets with Specific Needs*



Enhancing the SOA Portfolio to Address Web 2.0

Use the same products for either approach



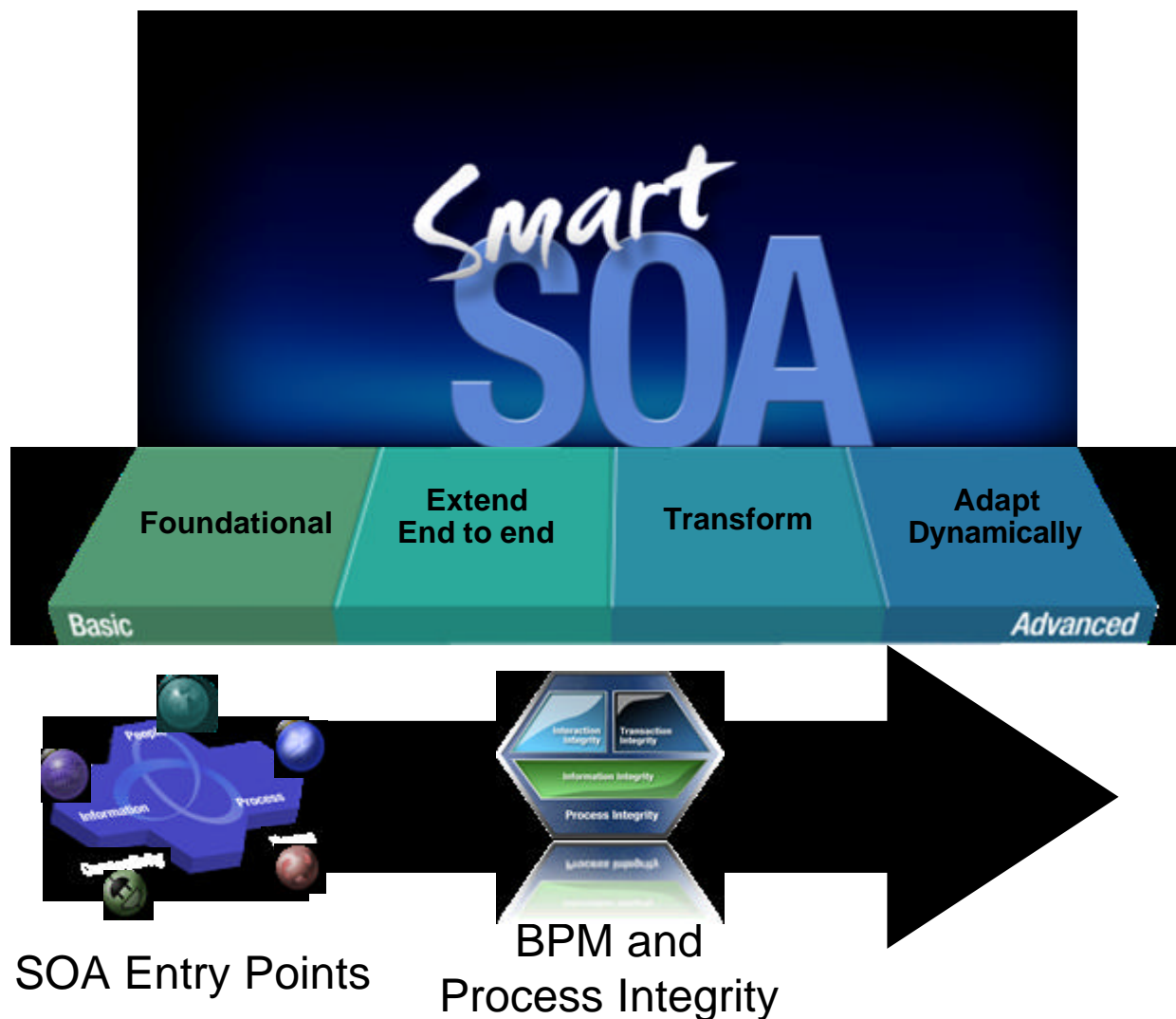
Simple to Use

Simple to Access

SOA Infrastructure Services

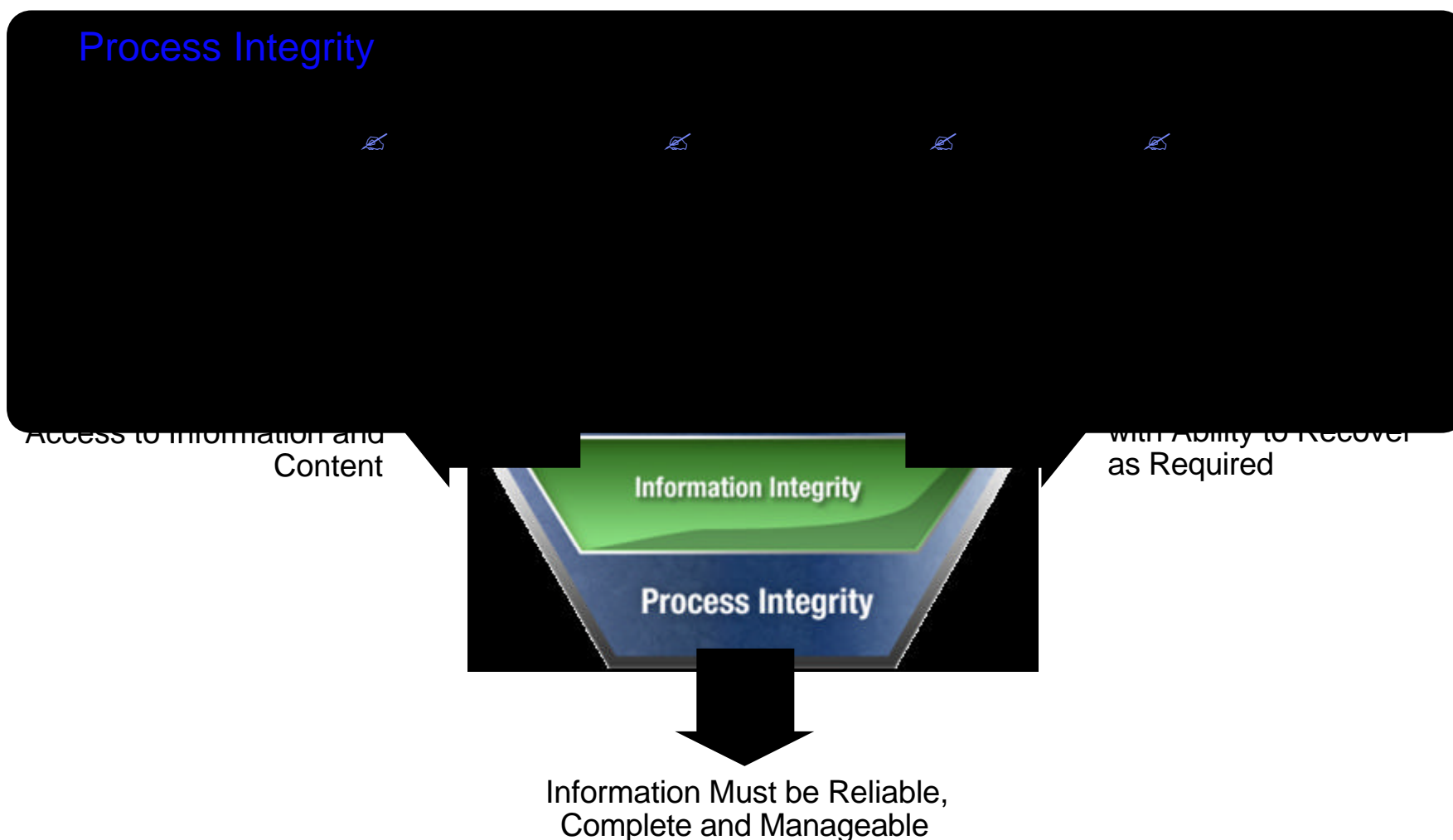


The SOA Entry Points grow with you
Use the same software as your needs advance



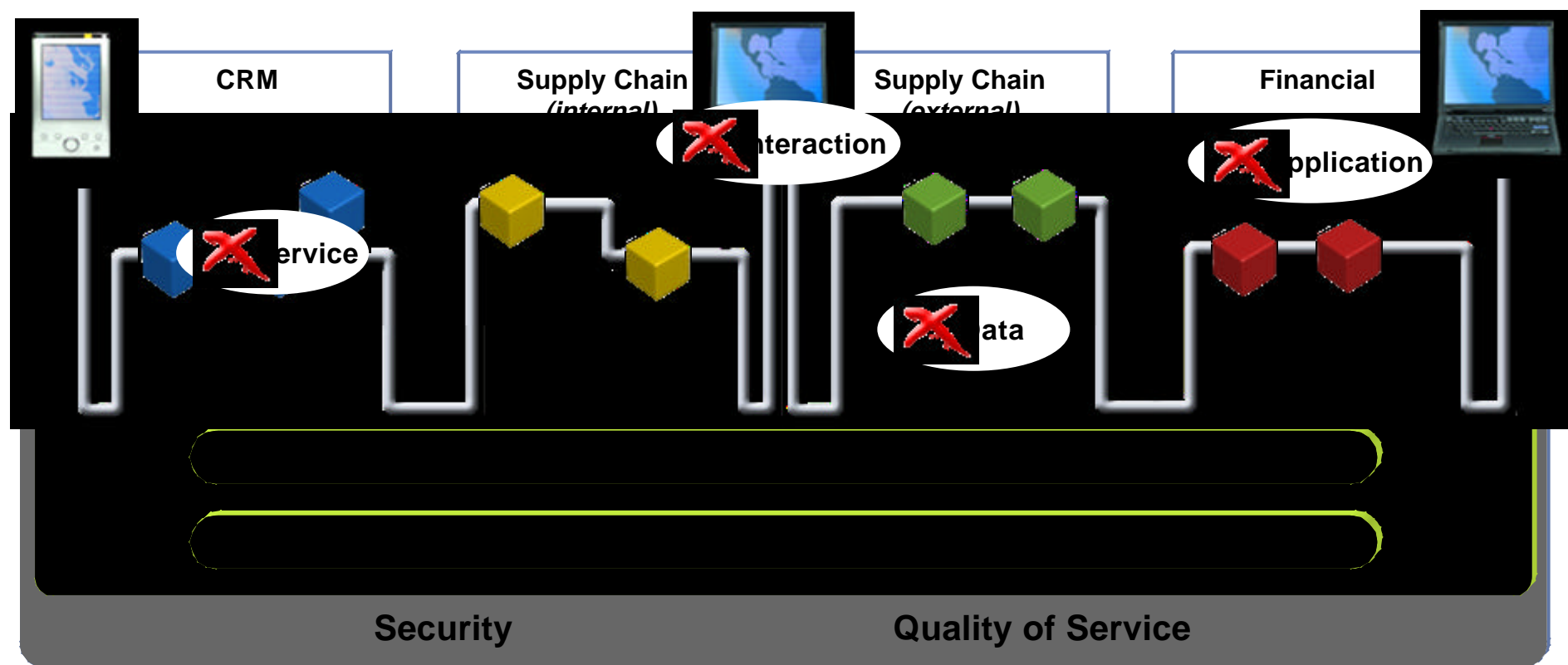
Process Integrity Takes SOA to the Next Level

Enabling Integrity of Transactions, Interactions and Information



Process Integrity is 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 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!

SOA Governance provides oversight and control

As end-to-end processes change

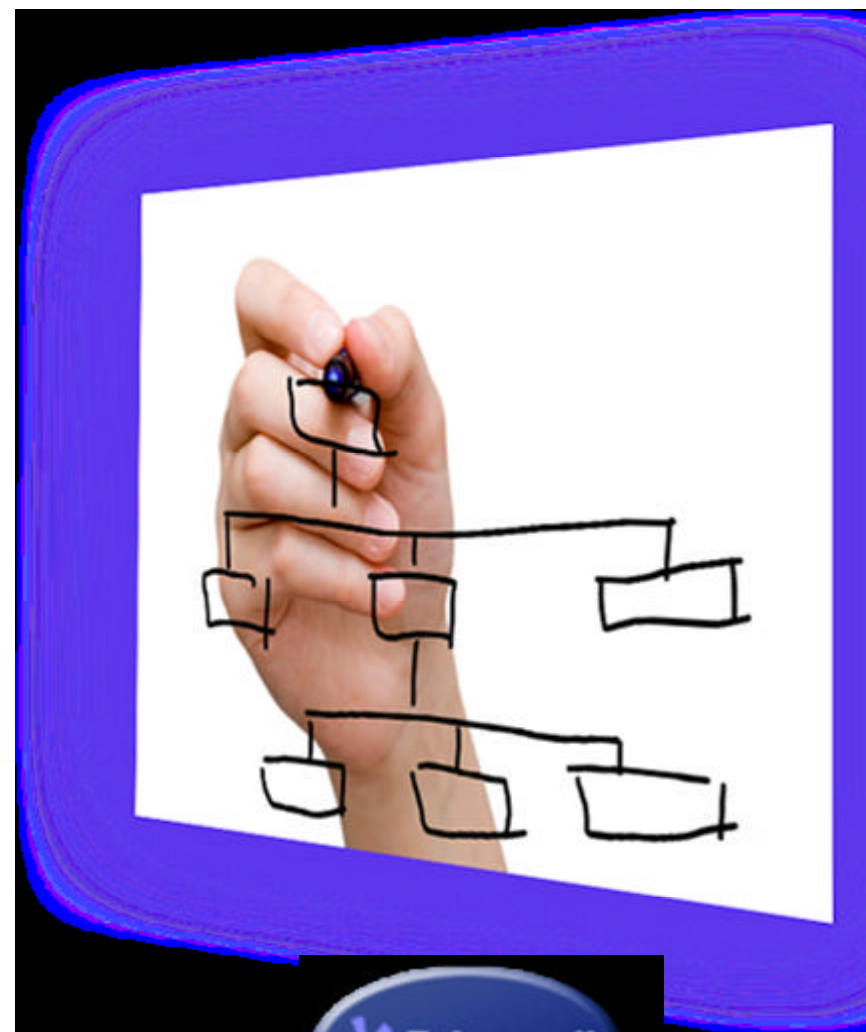
What is SOA governance?

- 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

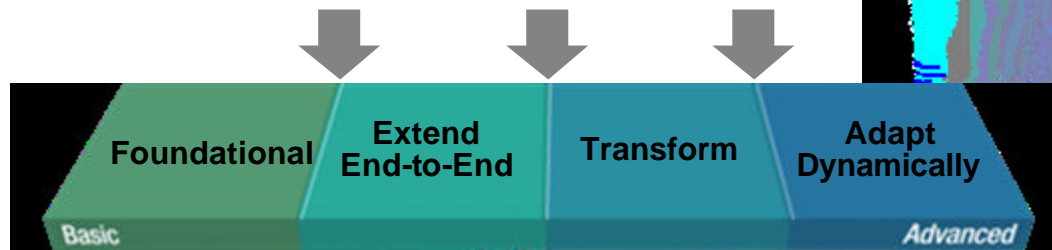
- WebSphere Service Registry and Repository*
- Proof of Technology for SOA Governance*
- Rational Asset Manager*
- Rational Tester for SOA Quality*
- SOA Center of Excellence professional services*



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!

Infrastructure Healthcheck Workshop for SOA * New!

Treatment Areas

- ☞ Application Reuse
- ☞ Service Use
- ☞ Service Security

Treatment Areas

- ☞ Infrastructure Flexibility
- ☞ 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



Business Partner Program



University 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
-
- ✍ 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.



2008 **IMPACT** Get ready for the 2nd annual SOA conference. The defining SOA event is getting Smarter.
Get these days covered: April 6 – 11, 2008.

Join IBM and industry leaders at the MGM Grand in Las Vegas. Impact 2008 brings together real customer success stories, industry expertise and WebSphere technical training. Whether your business needs are simple or advanced, it's all the know-how you need to stop talking about enabling business flexibility and start doing it with Smart SOA. This five-day educational conference brings together the most cutting-edge information that you can put to work right away.

Customize your event experience by choosing tracks, technical labs, detailed discussion groups and seriously Vegas-worthy rock performances.

**Register Now
and save \$150. >**

Register online at

ibm.com/soa/impact2008

STOP TALKING START DOING

IBM®

Add Impact 2008 slide??

Smart
SOA

Thank You!

© IBM Corporation 2007. All Rights Reserved.

The workshops, sessions and materials have been prepared by IBM or the session speakers and reflect their own views. They are provided for informational purposes only, and are neither intended to, nor shall have the effect of being, legal or other guidance or advice to any participant. While efforts were made to verify the completeness and accuracy of the information contained in this presentation, it is provided AS IS without warranty of any kind, express or implied. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, this presentation or any other materials. Nothing contained in this presentation is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software.

References in this presentation to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates. Product release dates and/or capabilities referenced in this presentation may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. Nothing contained in these materials is intended to, nor shall have the effect of, stating or implying that any activities undertaken by you will result in any specific sales, revenue growth or other results.

Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon many factors, including considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve results similar to those stated here.

All customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics may vary by customer.

The following are trademarks of the International Business Machines Corporation in the United States and/or other countries. For a complete list of IBM trademarks, see www.ibm.com/legal/copytrade.shtml

AIX, CICS, CICSplex, DB2, DB2 Universal Database, i5/OS, IBM, the IBM logo, IMS, iSeries, Lotus, OMEGAMON, OS/390, Parallel Sysplex, pureXML, Rational, RCAF, Redbooks, Sametime, System i, System i5, System z , Tivoli, WebSphere, and z/OS.

Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.

Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.

Intel and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

UNIX is a registered trademark of The Open Group in the United States and other countries.

Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.