



When and Why to Deploy New Workloads to System z

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Enterprise Platform Software*



Key Takeaways



- Alignment of IT to Business drives Smart SOA adoption
- Criticality of business services creates distinctions between deployment platforms
 - All services differ in priority and impact to the organization
 - All servers provide graduated levels of service that must be matched with the requirements of the business processes.
- Enhancements to the WebSphere portfolio enable platform choice based on the customer's business drivers
- System z adopters have put SOA into operation and are demonstrating business results with Smart SOA Entry Points
 - Over 1500 System z customers deploying SOA
 - WebSphere Application Server dominates System z market share
 - Fastest migration rate between CICS releases ever
- IBM continues to add skills to the Smart SOA z community

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

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

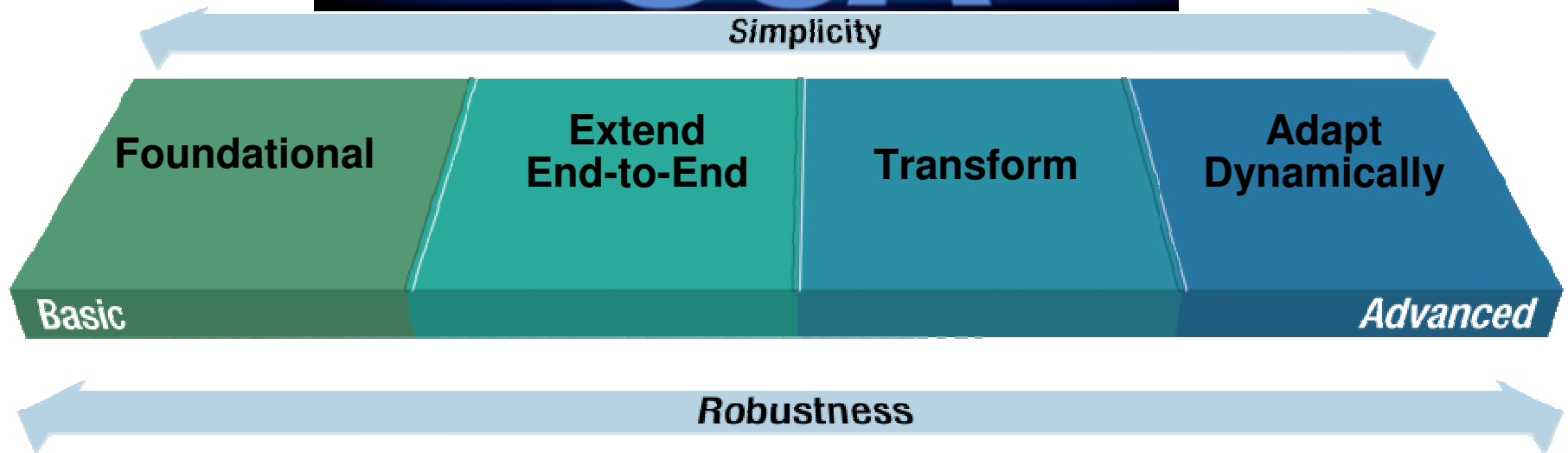
A **repeatable business task** – e.g., check customer credit; open new account

... service oriented architecture (SOA)

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

There is a Smarter Way!

Aligning Service Oriented Approaches



Smart SOA Delivers Value to Both Business and IT

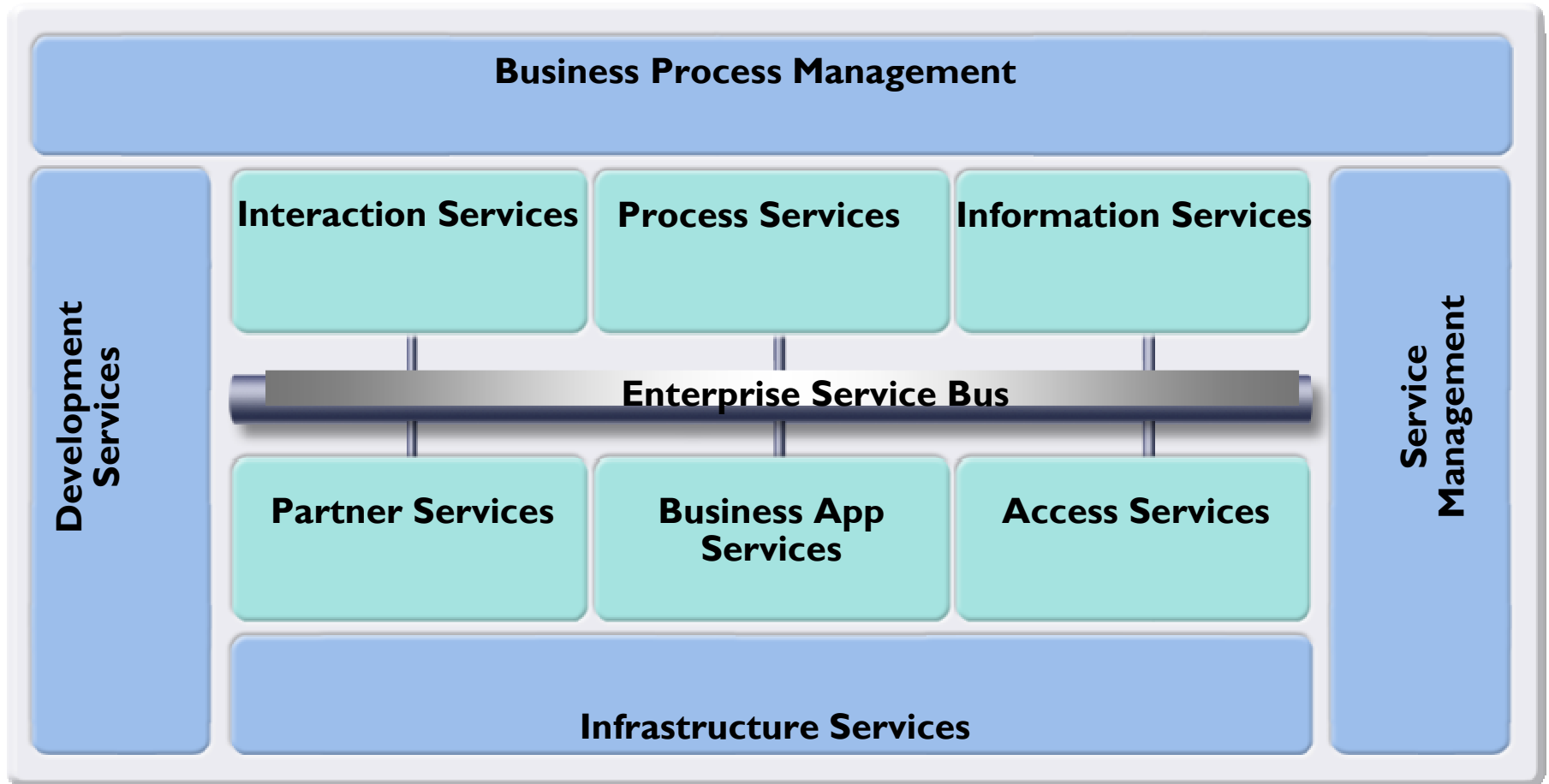
Distinct Value for z Customers with Every Style Regardless of Where You Choose to Engage

<i>Value to business</i>	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
	Collaboration within a line of business	Coordination across lines of business	Enterprise-wide organizational cooperation	Enact significant shifts without direct IT involvement
Scope				
	Foundational	Extend End-to-End	Transform	Adapt Dynamically
	Basic			Advanced
<i>Value to IT</i>	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 optys	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

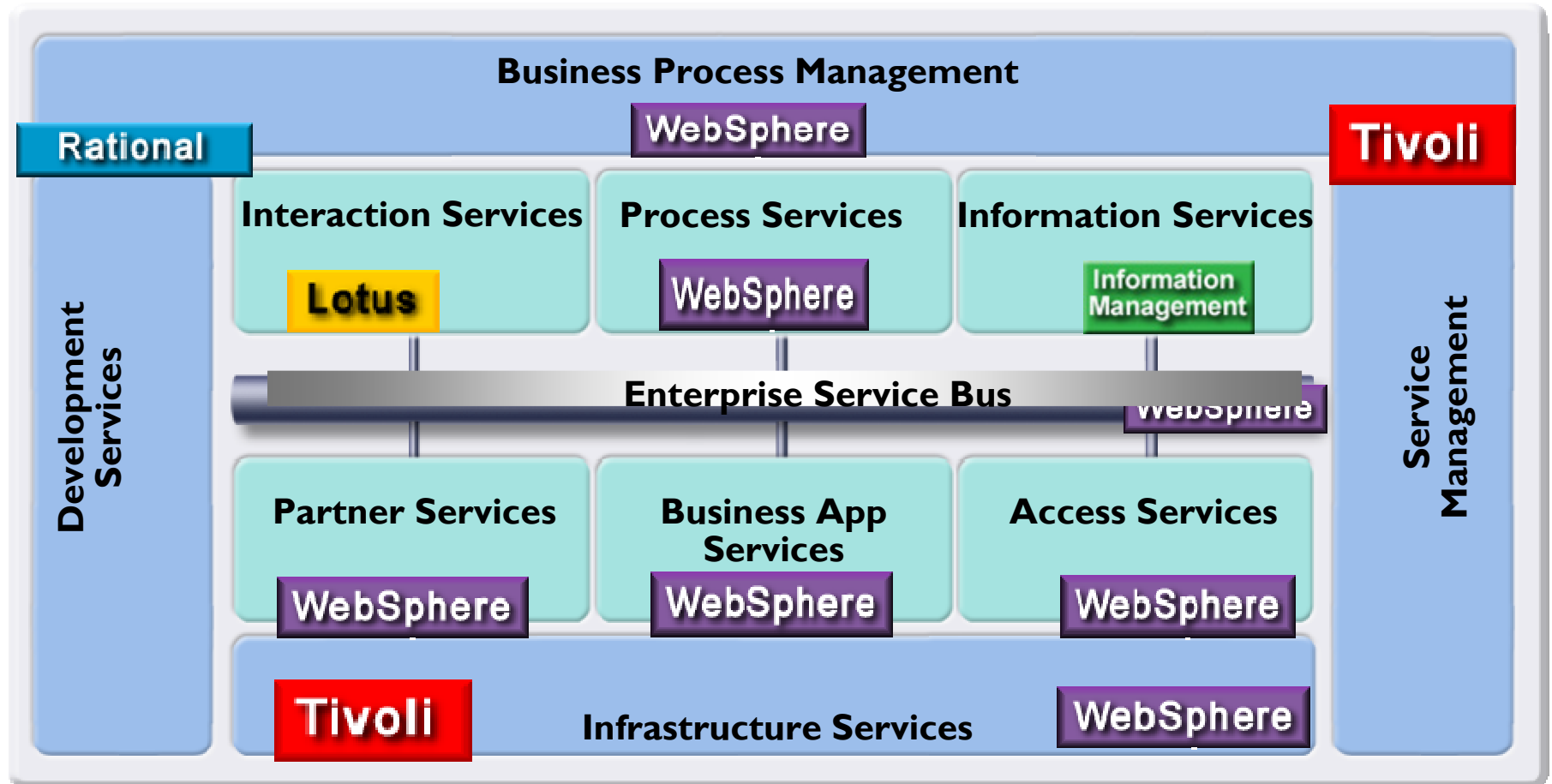
SOA Reference Architecture

The enabling foundation for our product strategy



SOA Reference Architecture

With WebSphere at the core of our strategy



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.

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

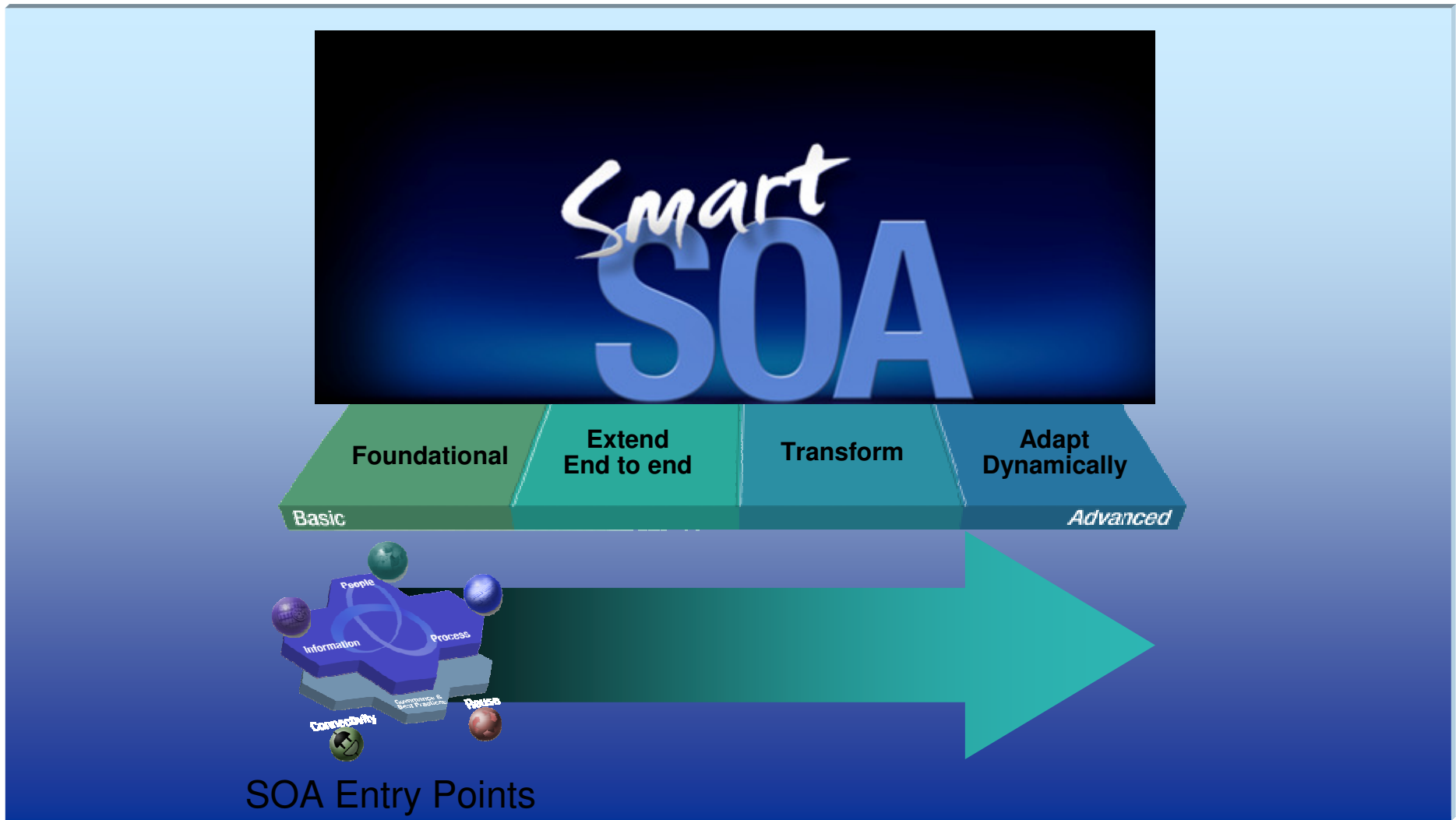
Re-Thinking the Role of the Mainframe....

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 grow with you
A great way to get started on System z for rapid business return








Customer Success via SOA Entry Points

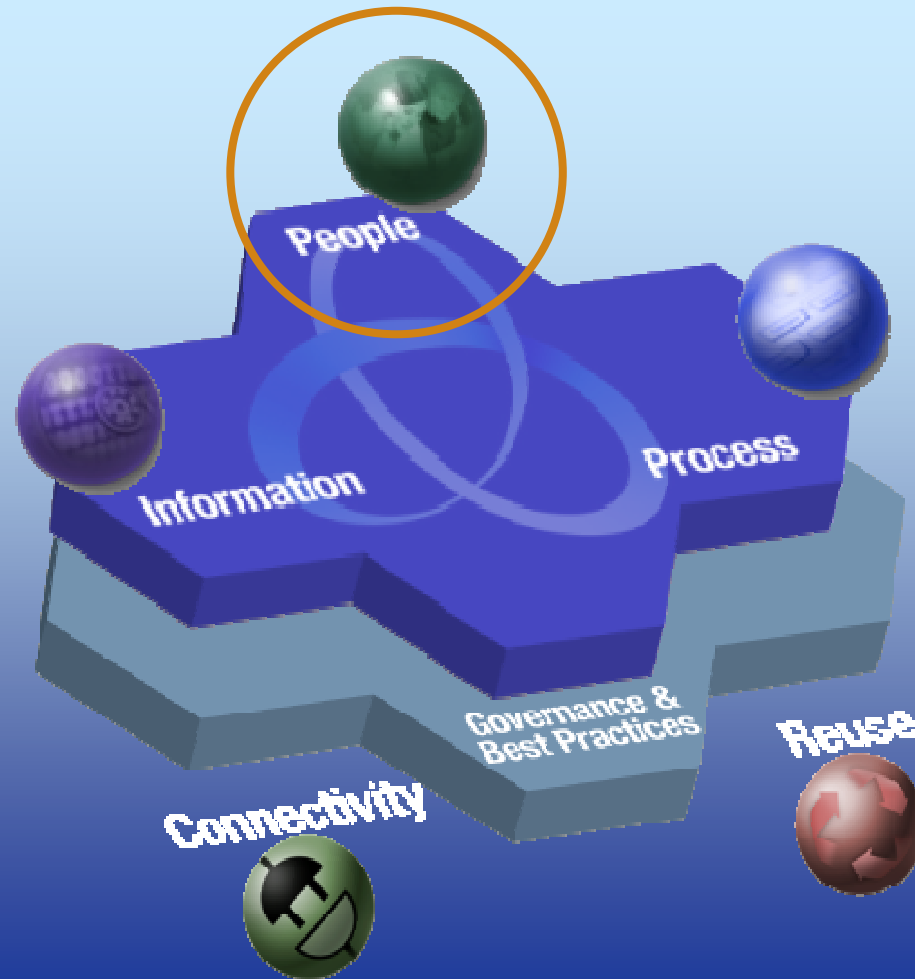
Distinct but interrelated projects with proven value

What is it?

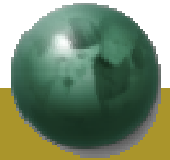
System z Value

 People	Productivity and efficiency through SOA	<ul style="list-style-type: none"> ▪ Faster time to market ▪ More responsive to customers
 Process	Achieve business process innovation through treating tasks as modular services	<ul style="list-style-type: none"> ▪ Application delivery time and costs cut through process automation ▪ Document and streamline existing z processes
 Information	Information as a service when you need it, where you need it	<ul style="list-style-type: none"> ▪ Unified view of enterprise-wide data ▪ Integration costs as little as 1/5 of industry average
 Reuse	Service-enable existing assets and fill portfolio gaps with new reusable services	<ul style="list-style-type: none"> ▪ Utilize decades of IT investment ▪ Capture existing “business rules” ▪ Dramatically reduce time to market
 Connectivity	Secure, reliable universal connections between applications and services	<ul style="list-style-type: none"> ▪ Reduced CPU usage ▪ Improvement in response times – no network latency

SOA Entry Points: People



Why WebSphere Portal on System z for SOA?



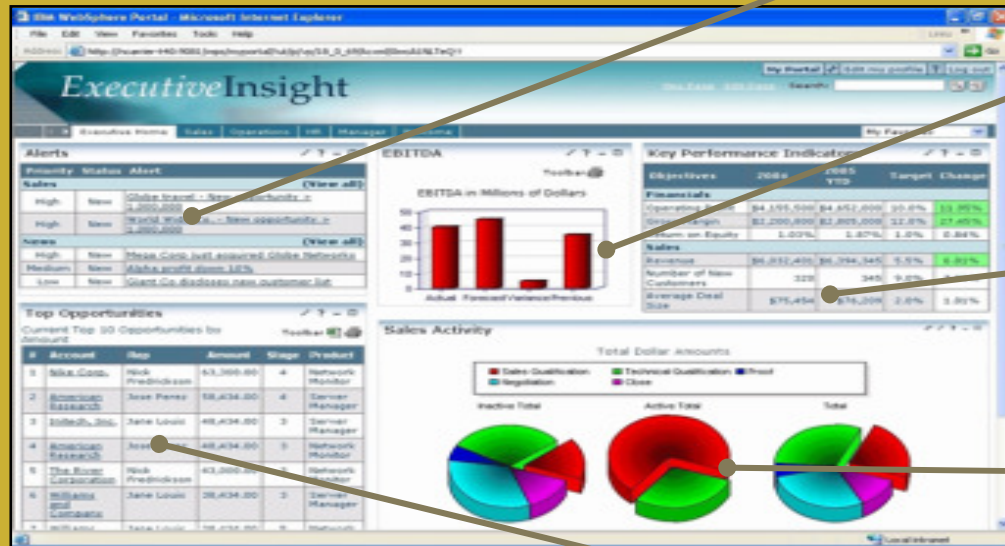
Web 2.0-based Composite applications

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*

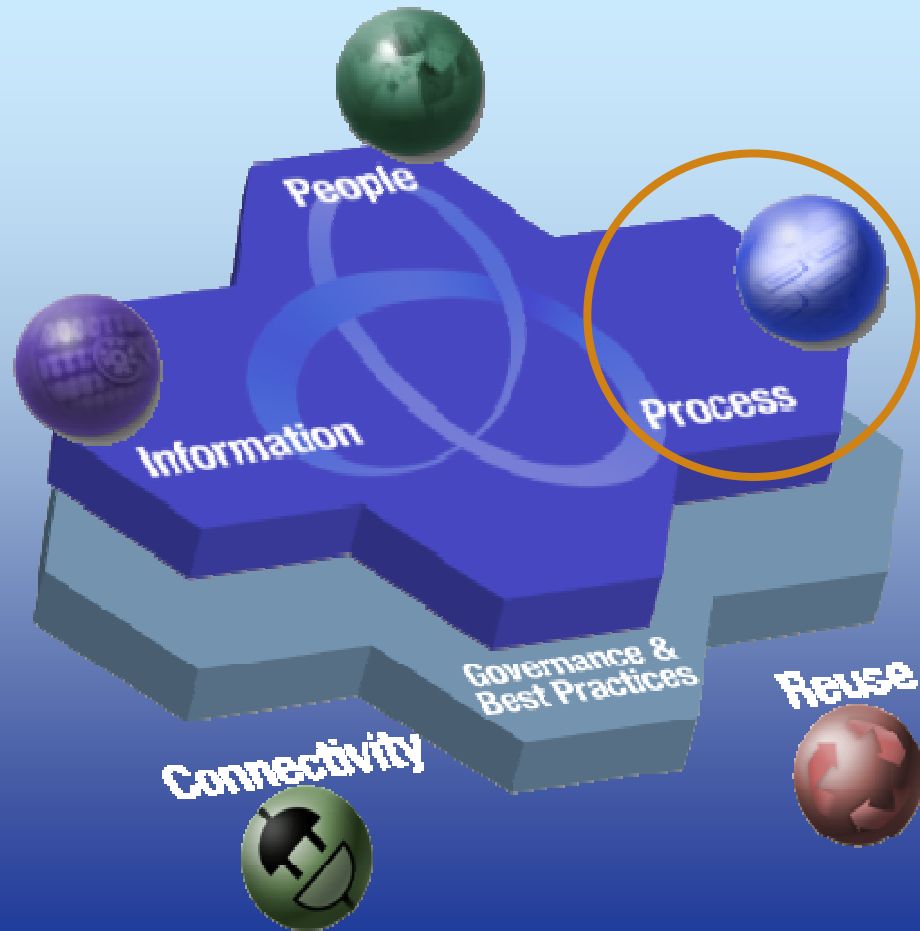
▶ **Business Challenge:**

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.

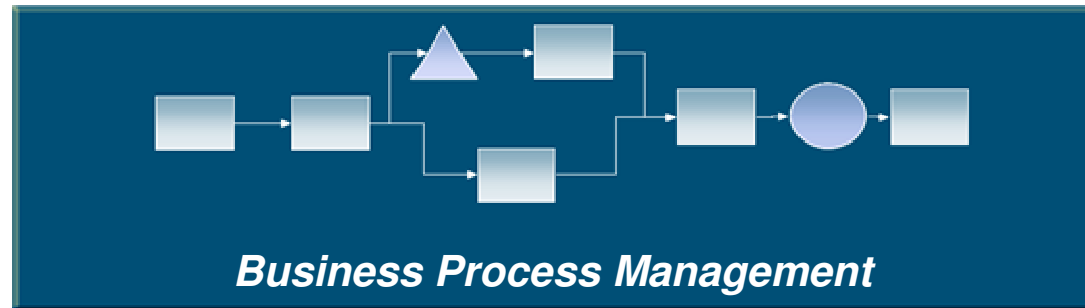
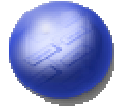


- ▶ **Solution:** Provide customers and partners access to real-time information on the Web
- ▶ **Results:** High customer satisfaction; Greater employee satisfaction; Framework for implementing new services; Web-based access to its application environment; Expandable portal infrastructure
- ▶ **Implementation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

SOA Entry Points: Process



Customers can start BPM in different ways



Modeling & Simulation

Design and simulate business processes



Business Activity Monitoring

Track performance, processes and operational activity using key performance indicators



Process Choreography

Choreograph processes across applications and systems



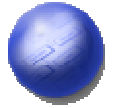
Rules and Pre-built Frameworks

Manage process rules and accelerate design and implementation time



Content Centric Processing

Manage processes where content is used as input for a decision or produced as the output



SOA Process: BPM Enabled by SOA

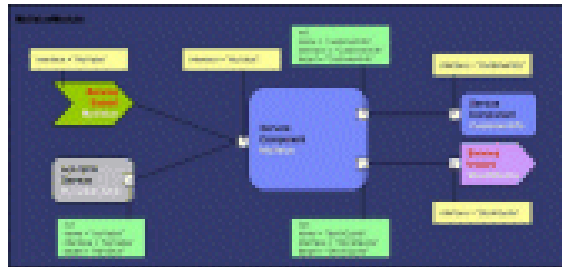
Achieve business process innovation through treating tasks as modular services

***Enhanced!**

WebSphere Integration Developer for z/OS 6.1

Simplified integration and enhanced productivity

- Improved adapter experience,
- Reduced build time and memory footprint
- Enhanced human workflow support
- Drag-and-drop tools for visually constructing solutions



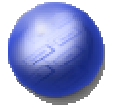
***Enhanced!**

WebSphere Process Server for z/OS 6.1

Achieve even greater flexibility and deployment choice

- Leverage WAS v6.1 to help improve time to value
- Improved installation and administration
- Greater flexibility in controlling the flow of the business processes





SOA Process: BPM Enabled by SOA

Based on What We've Learned from Customers

WebSphere Business Modeler 6.1

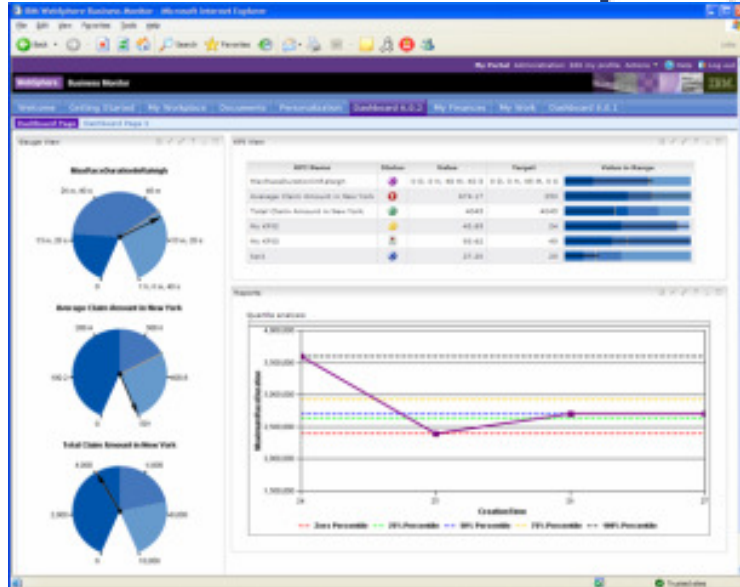
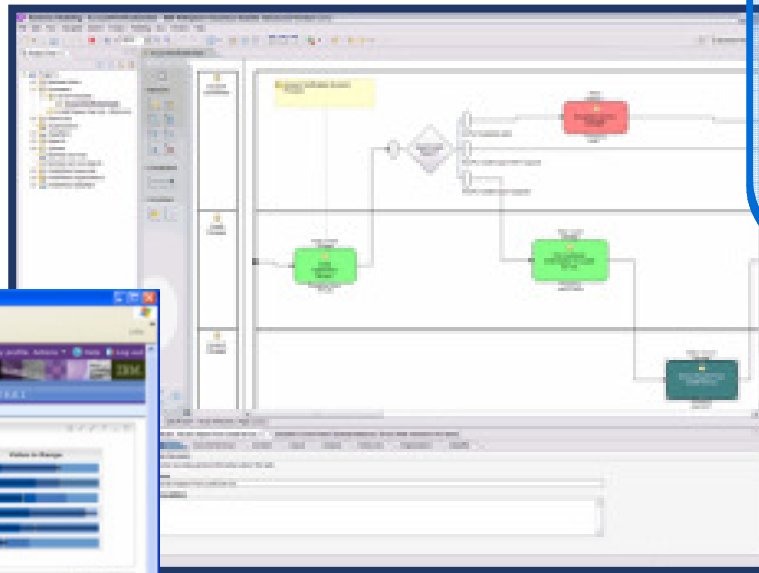
*** Enhanced!**

- Enhanced BPM Simulation and Analysis
- Human task visualization via IBM Lotus Forms integration
- Precise modeling of the vital aspects of your business processes
- Deploy collaborative modeling with the Publishing Server

WebSphere Business Monitor 6.1

*** Enhanced!**

- Enhanced BAM capabilities
- Monitor process performance for continuous business improvement
- New and enhanced dashboards that can be customized

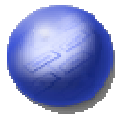


WebSphere Business Services Fabric 6.1

*** Enhanced!**

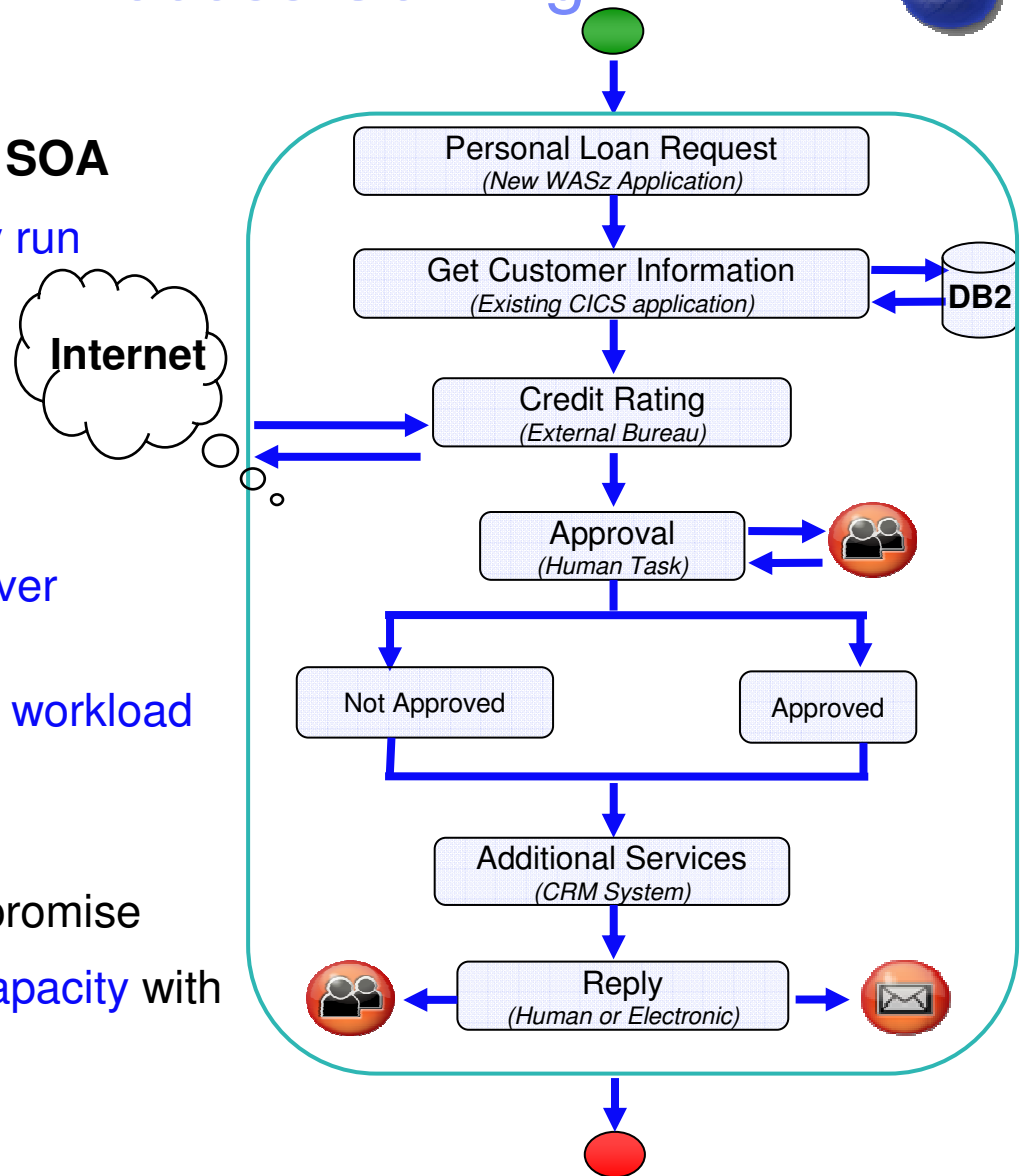
- Improved consumability and ease of use – enhanced business policy lifecycle management, simplified administration, and better error checking capabilities
- Greater concurrency with IBM's BPM Enabled by SOA portfolio
- Additional platform support for wider deployment options
- Enhanced Industry Content Packs with improved tooling support

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

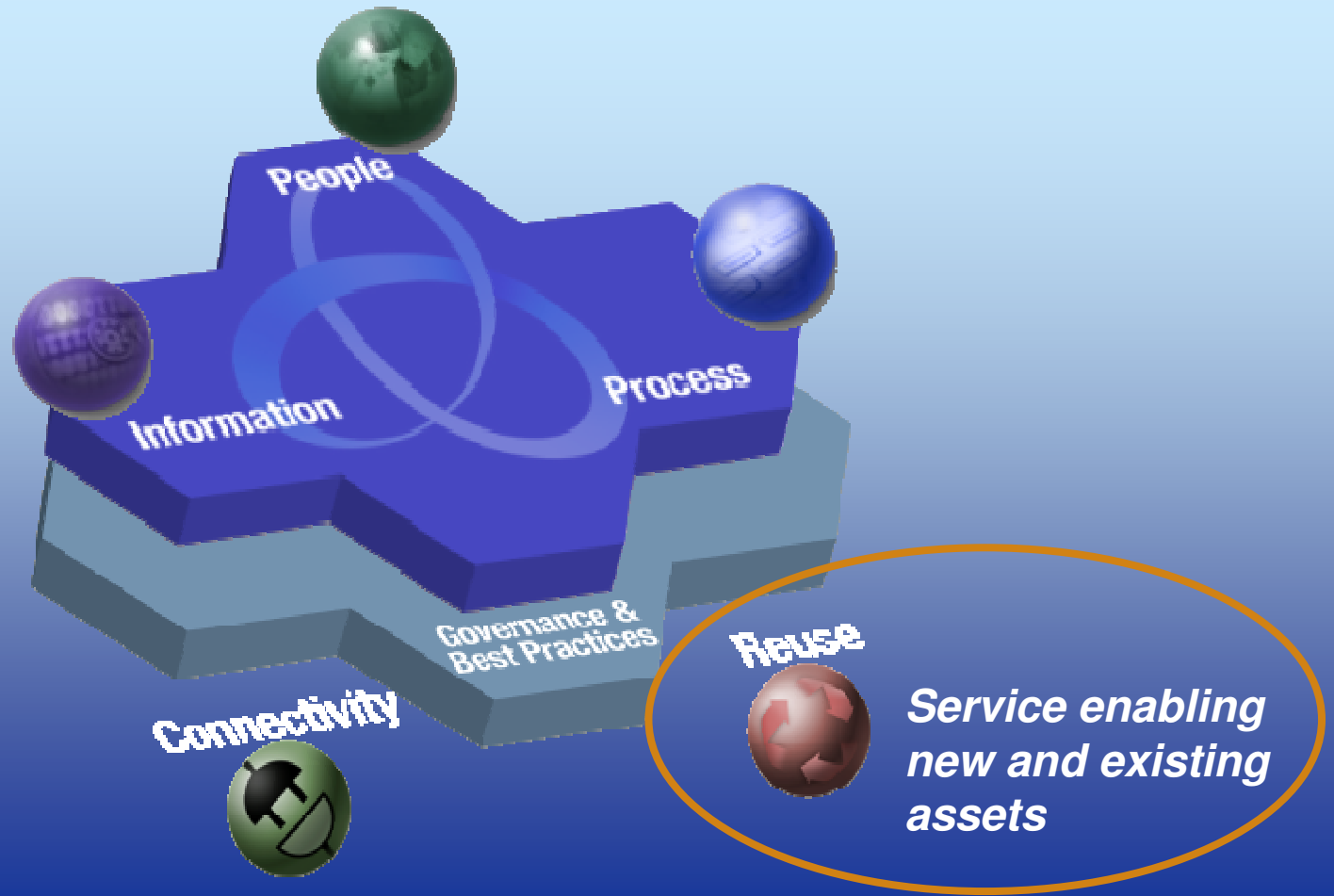
WebSphere Service Registry
and Repository

WebSphere Process Server

ITCAM for SOA

WebSphere Adapters

SOA Entry Points: 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

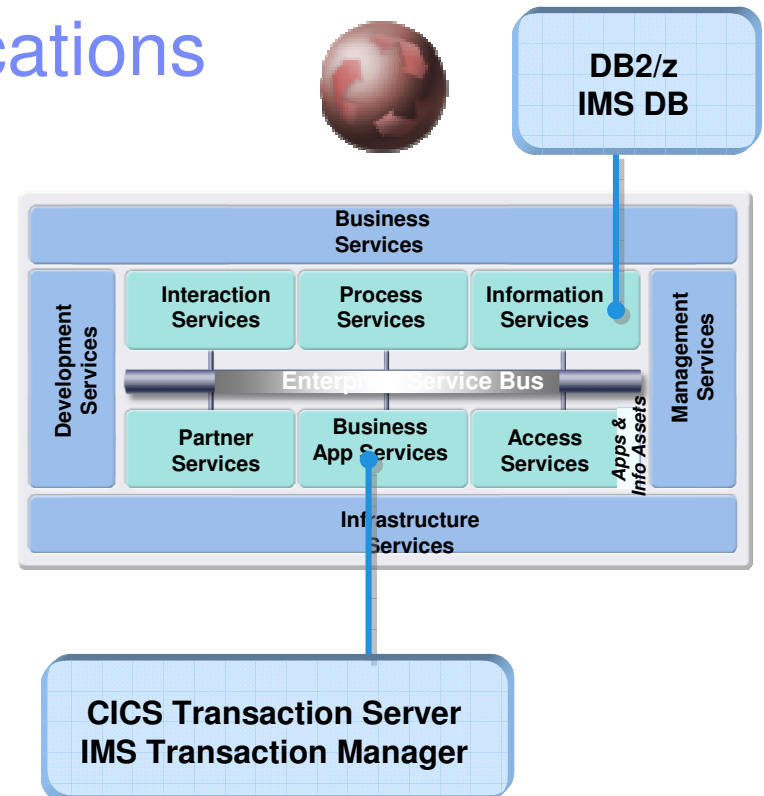
IMS 10 – coming soon

- 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



SOA 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 Innovations

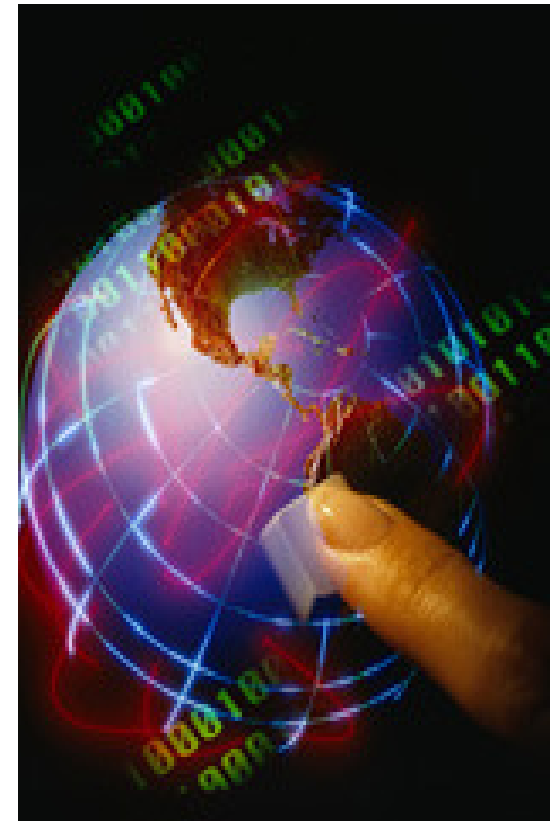
Feature packs: free & easy to
consume, these optionally installable
product components enable new
features on top of WAS

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

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

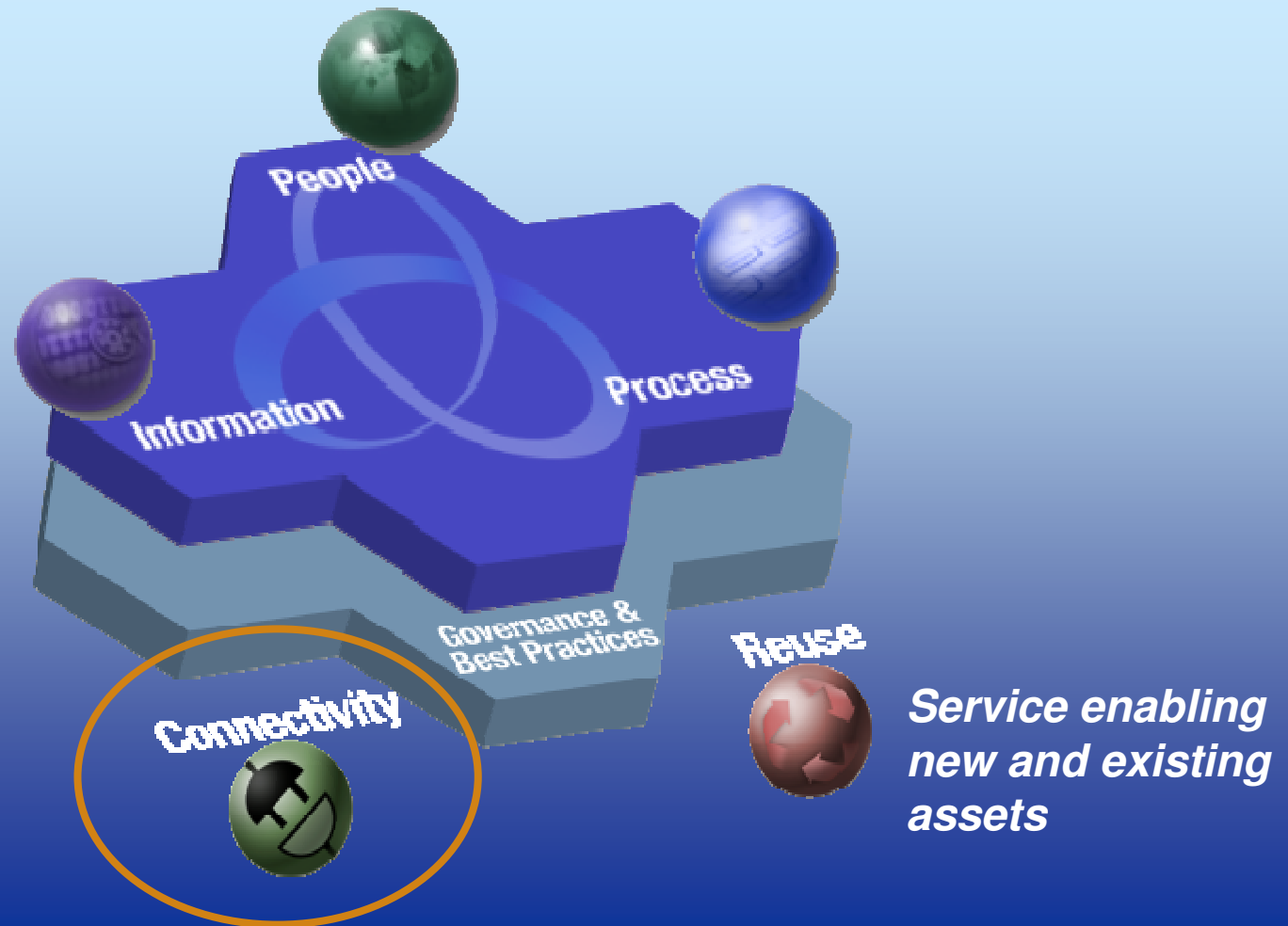
University of Florida

- ▶ **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

SOA Entry Points: Connectivity



SOA Connectivity: Enhancing Our Portfolio

Federated ESB – integrated framework to meet your needs



Optimized with WebSphere Application server for an integrated SOA platform

*** 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

ESB offerings from IBM WebSphere



Purpose-built hardware for simplified deployment and hardened security

*** 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



Built for universal connectivity and transformation in heterogeneous IT environments

*** 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

SOA Connectivity: Enhancing Our Portfolio

The messaging backbone for your 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

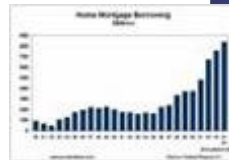
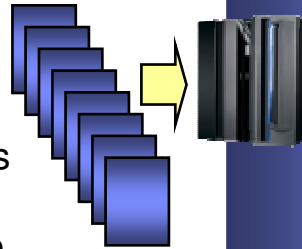
*** Enhanced!**

- 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
- Coexistence of whole systems across vast services
- 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

Customer Example: Major University

Business Challenge

- Eliminate redundant information entry points
- Preserve all existing applications and databases
- Reduce spending on the IT infrastructure
- Improve responsiveness to customers (students)

Solution

- WebSphere Enterprise Service Bus (WESB) deployed as the integration backbone for the entire campus

Benefits

- One customer data entry process now feeds all departmental and college student database
- A data change made by one administrator is reflected immediately to all other instances of this student
- Existing applications and data were preserved – no re-write or purchase of new ERP systems was required



Software

**WebSphere Enterprise
Service Bus**

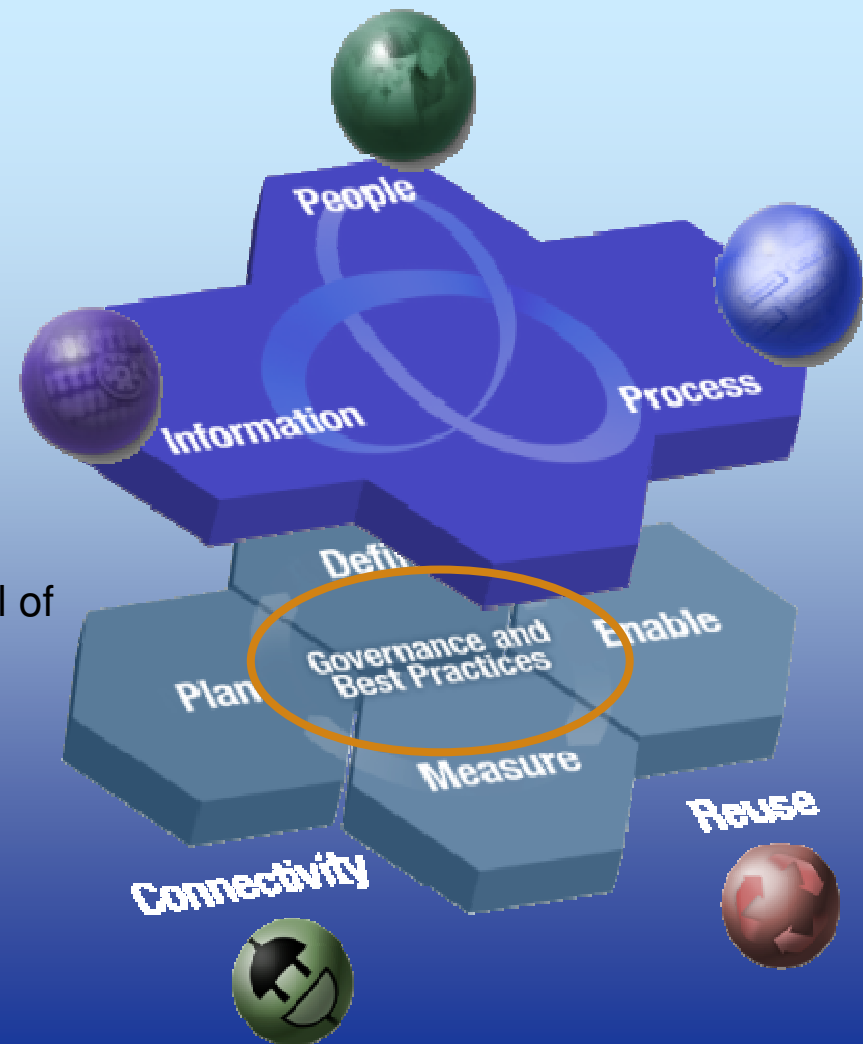
SOA Entry Points: Governance and Best Practices

What is SOA governance?

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

Value of SOA Governance

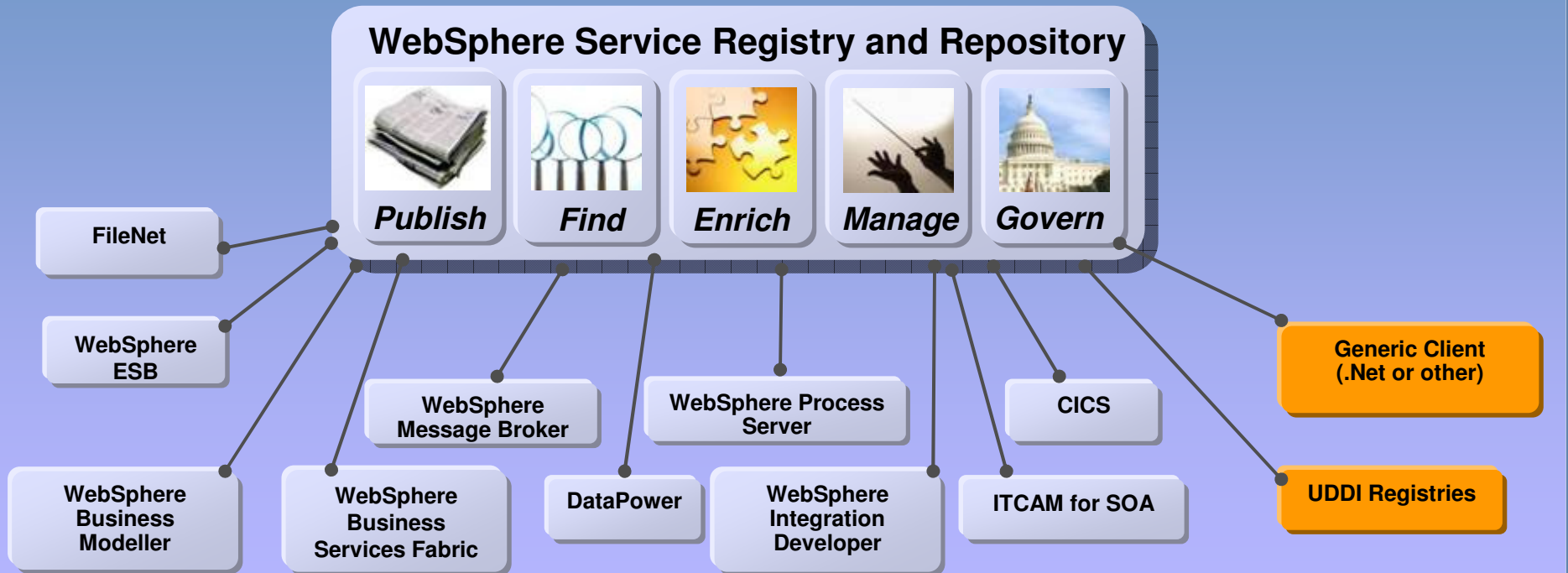
- Mitigate business risk and maintain control of services and processes
- Improve team effectiveness



SOA Governance: Enhancing our Portfolio



WSRR Supports a number of current environments used in an SOA production framework



Customer Example: Manufacturing

Business Challenge

- Eliminate redundant application development
- Reduce spending on the IT infrastructure
- Improve responsiveness to business needs

Solution

- WSRR and WebSphere Message Broker were deployed to increase services reuse and optimize service interactions

Benefits

- Provide visibility and organize services
- Track and monitor the lifecycle of the service from development to deployment
- Improve time to market by enabling dynamic service interactions



Software

**WebSphere Service
Registry and Repository**

**WebSphere Message
Broker**

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



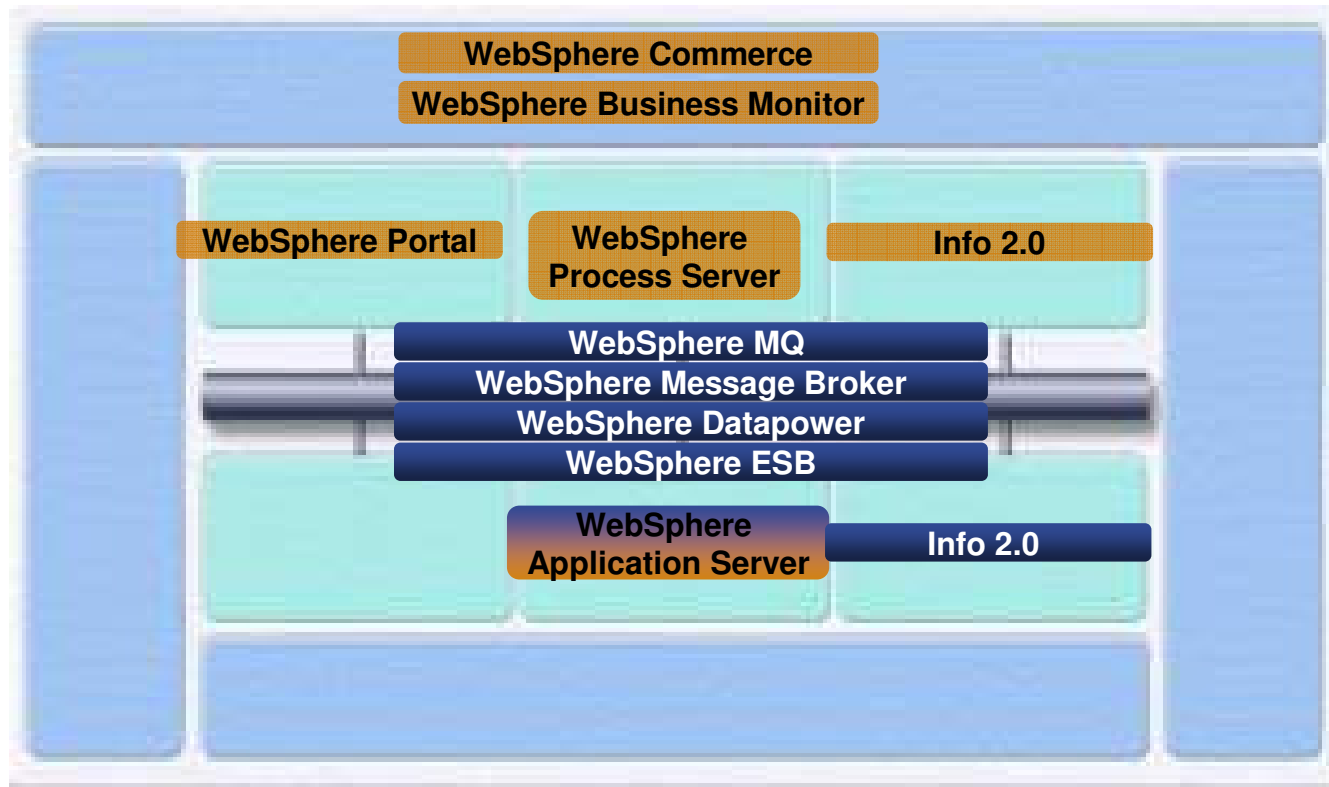
Simple to use

Simple to access



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



Simpler than ever to use SOA Entry Points

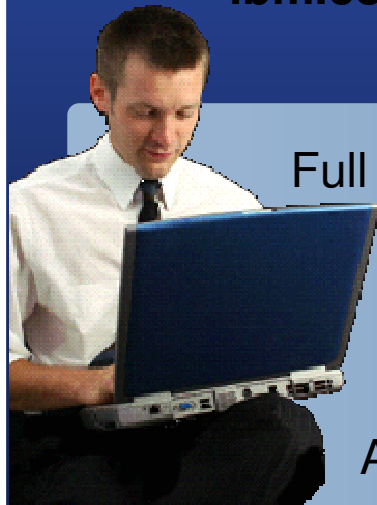
Proven configurations, best practices, and step by step guides

SOA Sandbox



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

ibm.com/soa



- Full version software trials
- 'Try online' hosted environments
- Tutorials
- Architectural Guidance

SOA Configurations



Solutions for common SOA use cases helps reduce deployment time

- Leveraging Legacy and Packaged Applications*
 - *SOA Configurations for CICS and IMS*
 - SOA Security and Management*

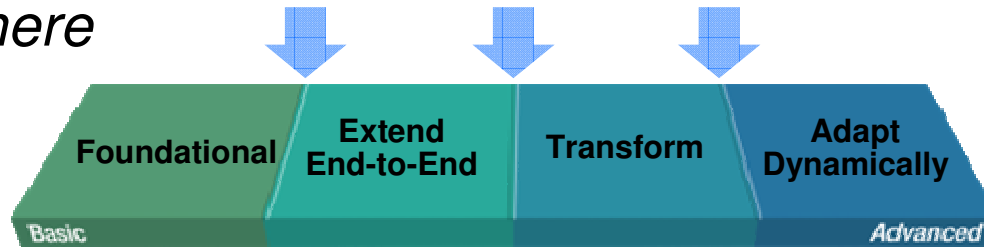
- Configuration guides
- Solution Guides
- Demos
- Tested platforms



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



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

IBM, System z and Smart SOA



- IBM is the industry leader in investments for SOA and for System z as the hub for a Smart SOA
- All business services are not equal – mission critical services should be deployed to, and managed by System z
- Enhancements to the WebSphere portfolio enable platform choice based on the customer's business drivers
- IBM is making it easier to deploy SOA to System z with SOA Sandboxes, SOA Configurations and SOA Healthchecks
- IBM continues to add skills to the Smart SOA z community

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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.

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