



Deployment of New Workloads on the Mainframe

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Innovation: The Top Focus for Business

- Due to competitive and market forces, CEOs plan to radically change their companies in the next 2 years.
- > 80% of CEOs stated their organizations have not been very successful at managing change
- 78% of CEOs believe integrating business and technology is fundamental for innovation

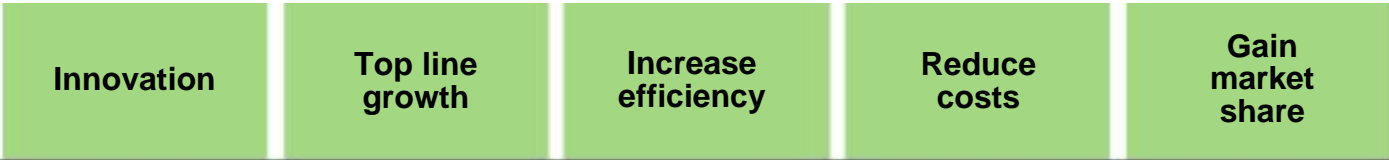


Source: IBM Global CEO Survey, March 2006

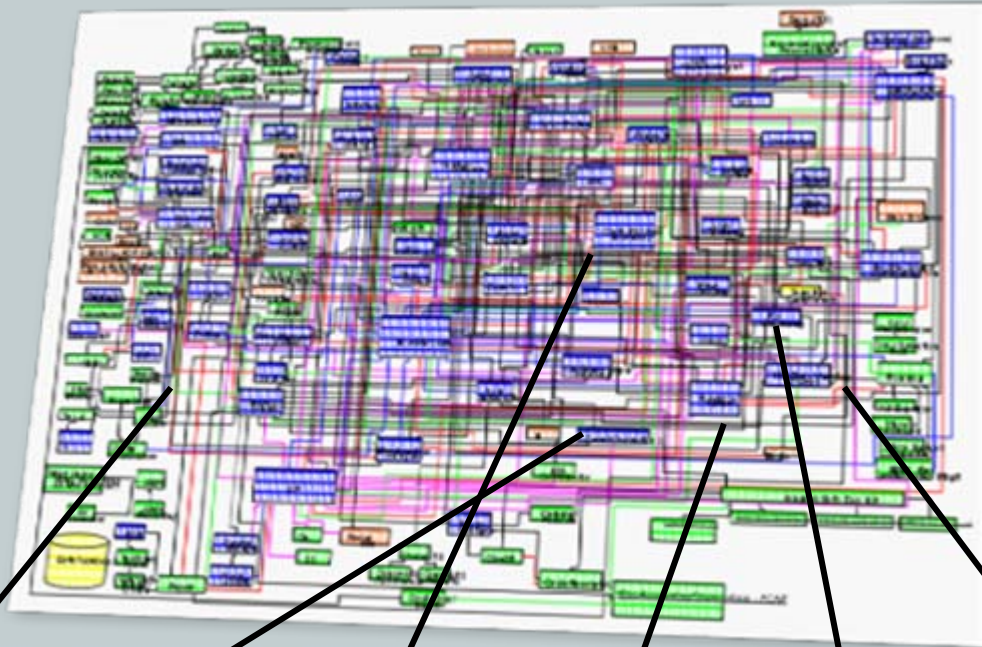
The Goal: Strategic Flexibility Through Innovation

The Challenge

Business Objectives



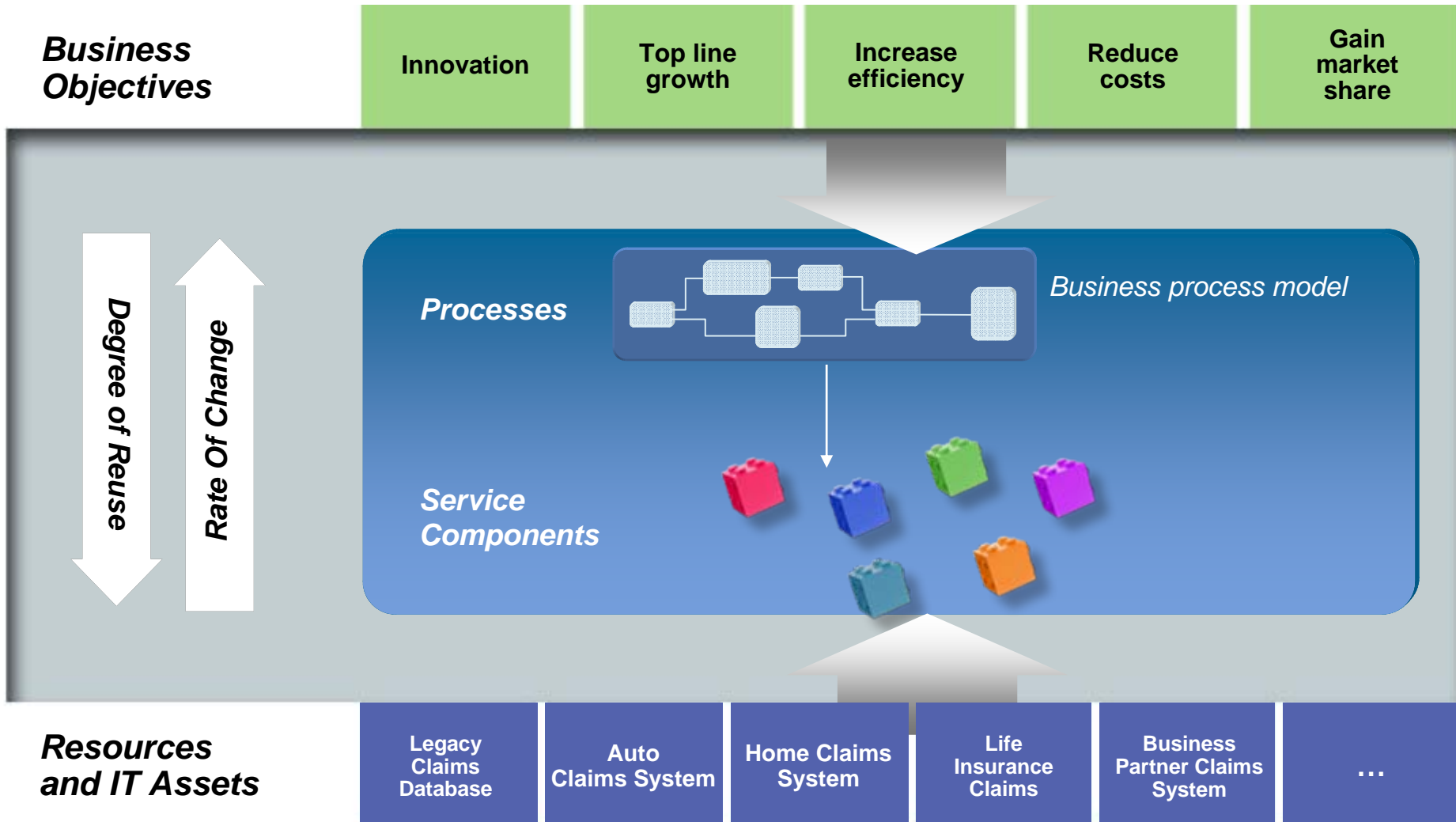
- *Complex processes & systems*
- *Complex applications & interfaces*
- *Difficult to adapt quickly*
- *Large portion of IT budget spent on maintenance, not on new value add investments*



Resources and IT Assets

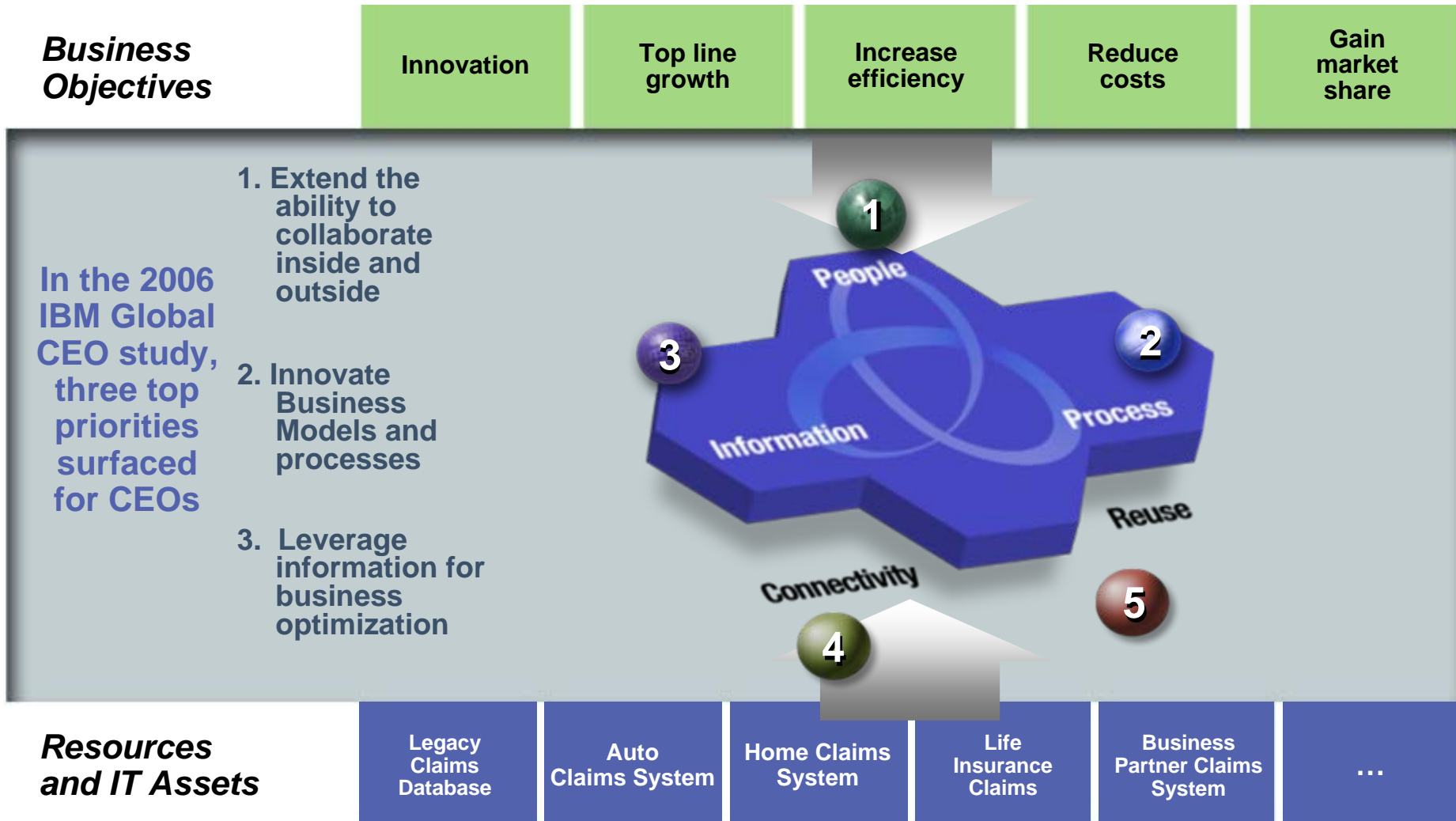


Service Oriented Architecture Addresses this Challenge



SOA Entry Points Help Customers Get Started to Address this Challenge

Both Business Centric and IT Focused



Customers realizing value across multiple industries

Half of the world's 30 biggest electronics companies

10 of the world's 10 biggest auto manufacturers

More than 2,500 SOA Business Partners

8 of the world's 10 biggest banks

4 of the world's 10 biggest retailers

9 of the world's 10 biggest telcos

80% of the biggest US health plans

80 SMB references

8 of the world's 10 biggest insurers



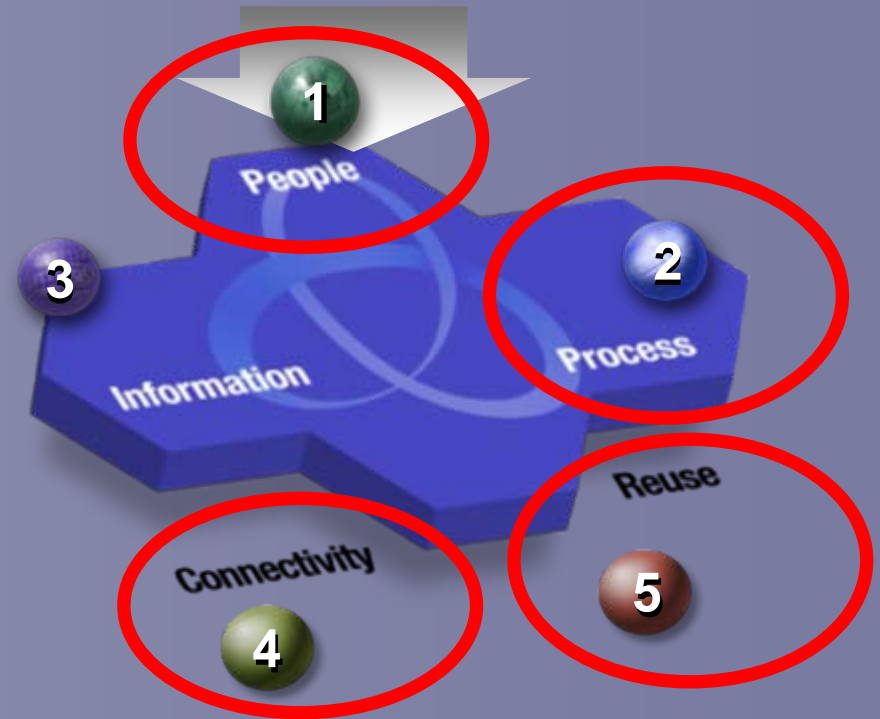
97% of customers justified their SOA project on cost
100% saw increased business flexibility

SOA Entry Points in Process, Connectivity and Reuse

IBM's strategic SOA investments in System z

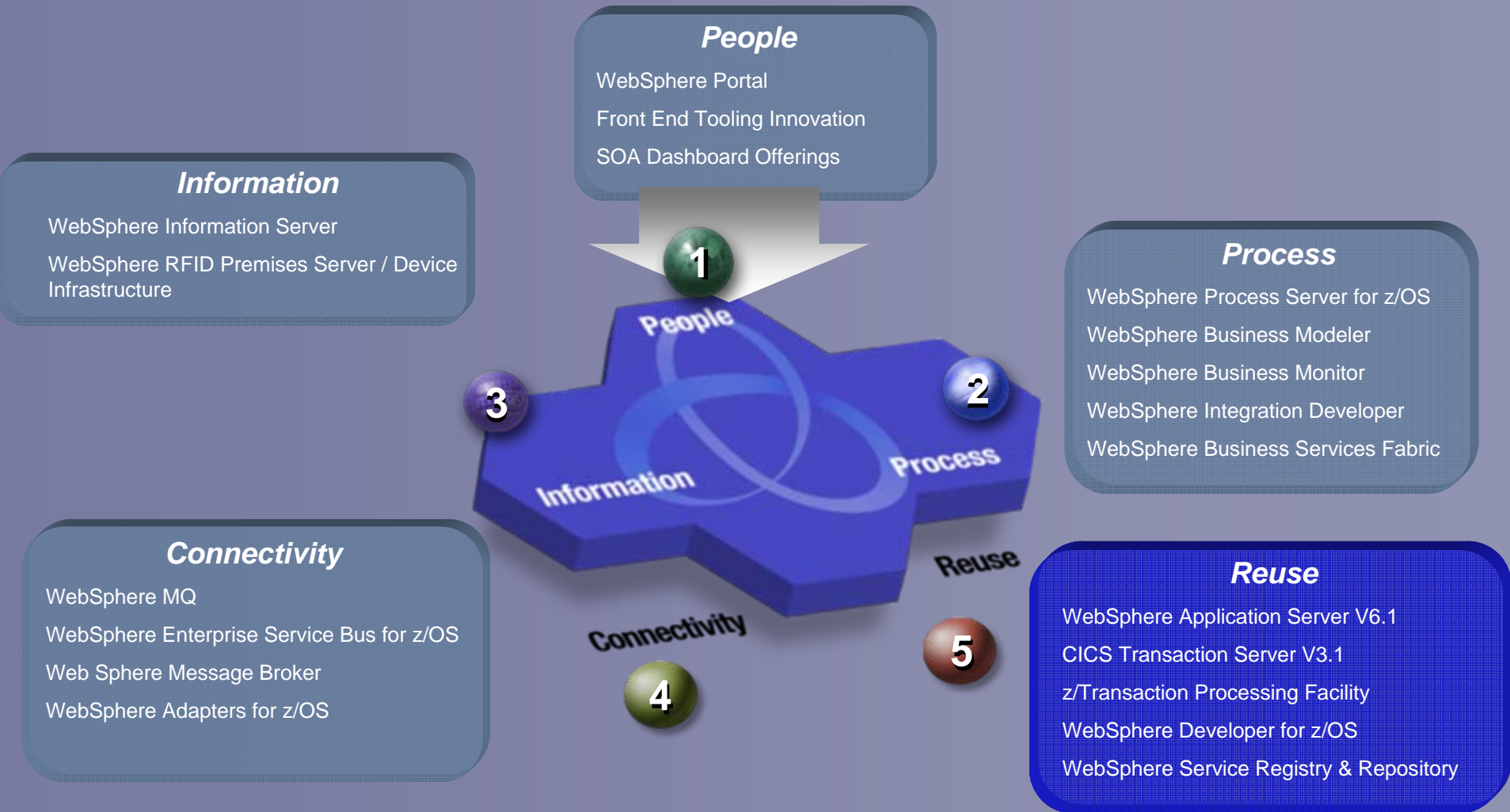
System z as the SOA Hub for:

- *Reuse*
- *Connectivity*
- *Process*
- *People*



SOA Entry Points Help Customers Get Started

Both Business Centric and IT Focused



SOA Entry Point to Creating & Reusing Services

Create and Deploy Flexible, Service-based Business Applications

z Value

- Flexibility and elimination of duplication for reduced cycle times and lower project risks
- Expanded access to core applications and business rules
- Consultant studies have found it 5X less expensive to re-use existing applications than to write new applications

Start with

- Identify high-value existing enterprise assets and service-enable them for reuse
- Fill in gaps by creating new services for today's business needs and future reuse
- Registry/repository to facilitate centralized access and control of reusable services

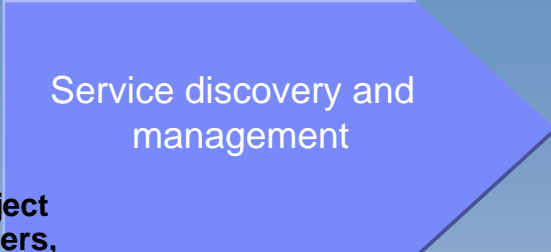


Tools enabling reuse on System z

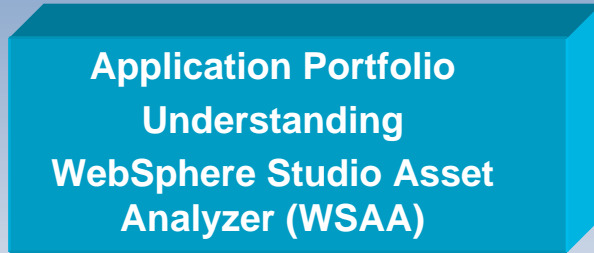
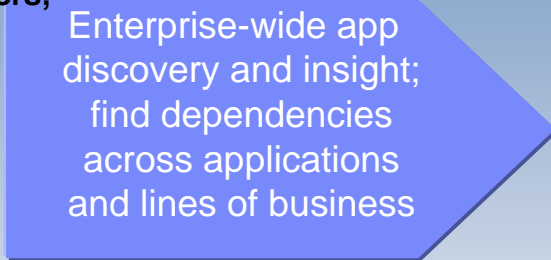
"OK. I have hundreds of services, thousands of programs using many different technologies. How do I understand and identify the assets that I can use in my SOA?"



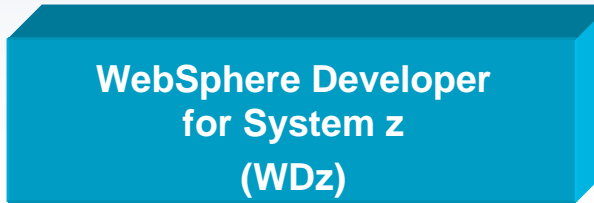
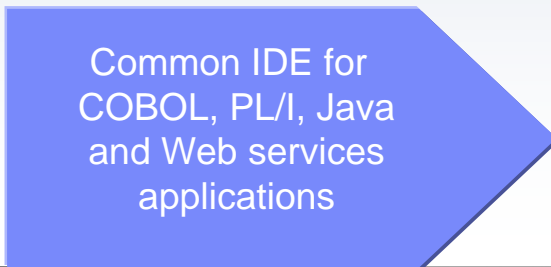
Architects, project leaders, managers, DBAs, developers, Q/A analyst



Architects, project leaders



Developers



WebSphere Service Registry and Repository

Promotes SOA Governance through management of assets

An enterprise-wide service registry and repository improves visibility, reusability, adaptability, and manageability of services

The WebSphere Service Registry and Repository ...

- **A repository for service metadata**
 - ▶ for example, WSDL and XSD
- **For publication of services**
 - ▶ to advertise their capabilities
- **For finding suitable services**
 - ▶ for reuse and runtime agility
- **For capturing service dependencies**
 - ▶ to support change management
- **An extensible framework**
 - ▶ to support validation and notification

NEW!

**Platform for
Business Connectivity**



A bright and rising future for CICS Transaction Server

Rock-solid deployment platform, 100% aligned with SOA technologies

CICS Transaction Server V3 – putting the S in SOA

- Integrated mature Web services support complying with wider set of Web Services standards in SOA Environments
- Begin to simplify IT network infrastructure by exploiting CICS IP Connectivity
- Highest levels of data integrity and security
- Directly integrated WMQ access from CICS Applications
- Simple integrated and intuitive management capabilities
- Extended integration with CICS Business Services with WebSphere Process Server
- Immediate CICS support of WebSphere Service Registry/Repository
- Lowest cost per transaction through optimised performance and throughput



WebSphere Application Server v6.1

Powering your SOA for the Ultimate in Business Flexibility

Standards Based and Open

- J2SE 5.0
- Web services standards
 - WS-Interop Basic Security
 - WS-Notification
 - WS-BusinessActivity
- JSR168 Portlets
- JSR116 SIP Servlets

Platform Capability

- Proxy Server Enhancements
- Integrated User Registry
- Government Standards

Consumability

- Common code base for application portability and consolidation to System z
- Application Server Toolkit, including automation tools and Command Assistance
- Simplified Administration
 - Steps for many tasks reduced +50%
- Simplified SSL Key/Certificate Management
- Security enhancements
- IHS administration enhancements
- Integrated Support Assistant
- Install Factory



**WebSphere
Application Server
V6.1**

Advancing the Application Server to the next level

64-Bit Support on WAS 6.1

- Allows WebSphere Application Server to run in a 64-bit virtual addressing Mode
- Removes restriction on amount of virtual storage available to both the applications and the server

“Apache HTTP Server on z/OS” on WAS 6.1

- Provide and easier to use HTTP server on z/OS
- Port of distributed code base onto z



WAS v6.1 Feature Packs

Bringing State-of-the Art Technology to Market Quickly!

Web Services

- Delivery of Reliable Asynchronous Messaging Profile
- Provides secure, reliable business process integration with those of customers and suppliers allowing interactions to span long durations
- Java and SCA programming models

SOA

- ▶ Tuscany code base on WAS 6.1
- ▶ SCA and SDO Samples
- ▶ Whitepapers, BLOGs – to detail IBM's plans for SCA and SDO within an SOA environment, includes SOA Core from WPS 6.0 (for interoperability)

EJB3.0

- ▶ Annotations provide component metadata in code
- ▶ Simplifies EJB development, no need to create XML EJB deployment descriptors
- ▶ JPA is a simple and powerful persistence framework
- ▶ Relational databases represented using “plain old Java objects” (POJOs)
- ▶ Mitigates the market demand for Hibernate

OSOA and Tuscany

■ Open Service Oriented Architecture (OSOA)

<http://www.osoa.org/display/Main/Home>

- ▶ Multi-vendor collaborative organization responsible for the development of SCA and SDO specifications
- ▶ SCA Partners: BEA Systems, Cape Clear Software, IBM Corporation, Interface21, IONA Technologies, Oracle, Primeton Technologies, Progress Software, Red Hat, Rogue Wave Software, SAP AG, Software AG, Sun Microsystems, Sybase, TIBCO Software
- ▶ SDO Partners: BEA Systems, IBM Corporation, Oracle, Primeton Technologies, Rogue Wave Software, SAP AG, Software AG, Sun Microsystems, Sybase, Xcalia, Zend Technologies
- ▶ IBM contributions include: Core SCA specification, EJB Binding specification, JAX-WS Binding specification

■ Apache Tuscany Open Source Project

<http://incubator.apache.org/tuscany/>

- ▶ Open source reference implementation of SCA and SDO specifications
- ▶ IBM major contributions to the SCA OSS implementation, including container, deployment processing, Java, C++, PHP
- ▶ Tracking with the development of the OSOA specifications



WebSphere Extended Deployment for z/OS V6.0.1

Service mixed environments more efficiently

- *Enables REAL IT environments*
 - *Mixed application servers (WebSphere and non-WebSphere)*
 - *Mixed workloads (J2EE transactional batch and OLTP)*
- *Enhances quality of service management for a mixed application servers and data sources*

Easily manage large scale production implementations

- *At-a-glance assessments of system vitality and improved application management*
- *Interruption-free application updates to manage deployment of multiple application versions*

Improve the performance and throughput of your transactions

- *Near linear scalability for **high-end transaction processing***
- *Enhanced data access for accelerating throughput*
- *Partitioning facility enables development of highly scalable, high performance J2EE applications*

Accommodate peaks in demand by better utilizing existing resources

- *Compliment the value of z/OS workload manager (WLM) with granular prioritization of J2EE workloads and enhanced cross-LPAR routing capabilities*
- *Functions with Intelligent Resource Director (IRD)*



Bank of Montreal Exploits its Re-usable Assets

Integration with the mainframe is essential for BMO's SOA

Actions & Benefits:

To increase customer satisfaction, BMO needed a new teller application that integrated with its sales and CRM systems

“WebSphere was very attractive to us because of its ability to integrate with our existing main-frame legacy systems.”

— Randy Oswald, senior vice president, technology and solutions, BMO Financial Group



Used flexible **Web services** to transform core CICS systems to integrate with Siebel CRM



Built an SOA using **WebSphere's** open standards for interoperability between disparate products and platforms

Improved productivity & efficiency with reduced operating costs using WebSphere integration on z/OS

Capabilities used: WebSphere Message Broker, WebSphere Application Server, CICS



Standard Life's Re-usable Assets

Transactions reused as Web services

Actions & Benefits:

Flexible integration through **WebSphere MQ Message Broker**, invoking CICS and IMS applications as Web services

Lowered development costs and risk by reusing **Web services based** code assets

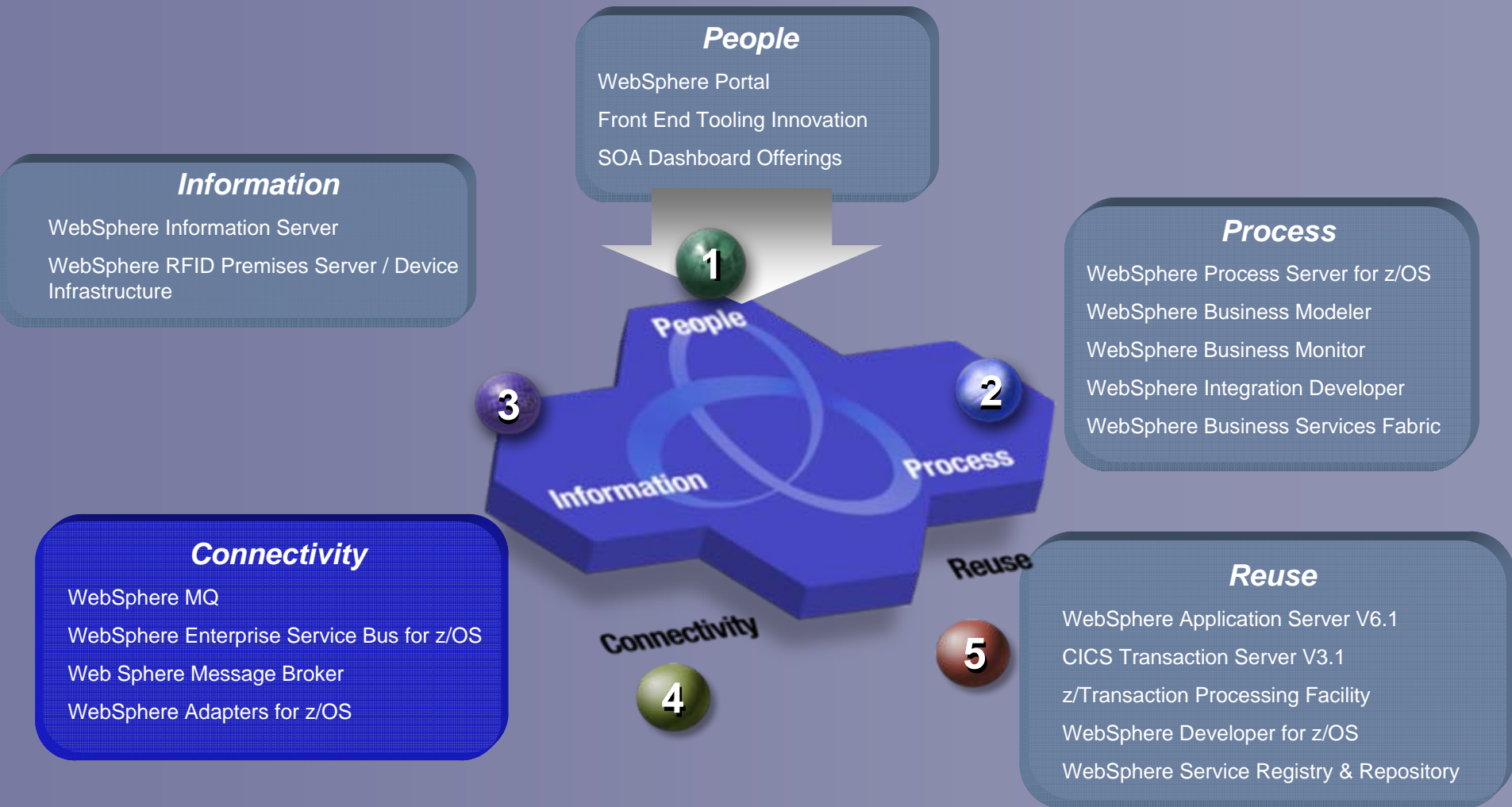
Over 50% of Business Services are re-used, **saving >\$5M** in development costs

Offer agents timely value-loaded portal access to data through **WebSphere Application Server**



SOA Entry Points Help Customers Get Started

Both Business Centric and IT Focused



SOA Entry Point to Connectivity

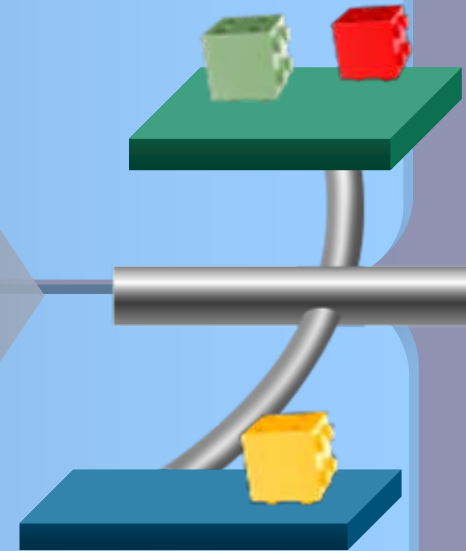
Connectivity to Support Business Centric SOA

z Value

- Deliver services through new business channels for a secure, consistent user experience
- Service-based connections with trading partners
- Potential savings of 2 – 4x over custom-built integration or FTP

Start with

- Messaging backbone as the foundation for SOA connectivity
- Enable mediated exchange between services, by leveraging an ESB
- SOA appliances integrate for ESB functions in a hardware form factor



Connect Services

with WebSphere ESB and WebSphere Message Broker

Break through limits to deliver end-to-end reliable and secure connectivity with integration to all applications, systems, and services

ENHANCED!

WebSphere ESB

(for Web services including the latest WS-* standards)

- **Web Services connectivity, JMS messaging and Service Oriented Integration**
- **Seamless integration with the WebSphere platform**
- **Improved time to value**

Messaging Backbone

Enterprise Service Bus

ENHANCED!

WebSphere Message Broker

(the advanced ESB for high performance integration of Web services and non-Web services assets)

- **Provides Web Services connectivity and non standard interface connectivity**
- **Unmatched in integrating heterogeneous systems, platforms, devices, APIs, etc...**
- **Universal transformation, high performance, and integrated complex event processing**



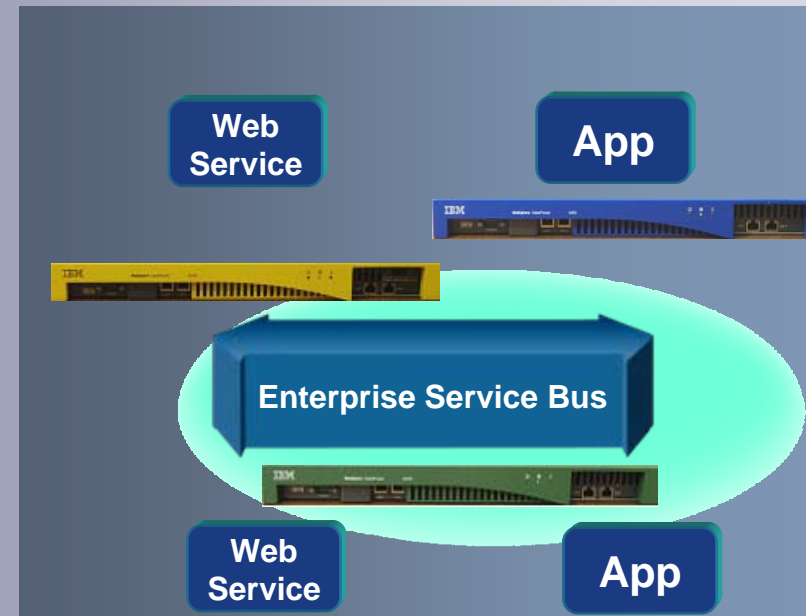
DataPower Appliances

An Appliance ESB for your SOA



Extend ESB functionality in a hardware form factor using appliances

- ▶ Simplify SOA
- ▶ Help Secure Web services
- ▶ Accelerate SOA with wire speed performance
- ▶ Easy-to-deploy appliances
- ▶ Robust Service Level Management & Web Service Management



Simplify, help Secure and Accelerate SOA and your ESB, with WebSphere DataPower SOA Appliances

Connect existing and new services & other assets

Avis creating value with their System z assets

Actions & Benefits:



Provided shared access to **corporate-wide data** across SOA Infrastructure

Flexible integration through **WebSphere MQ Message Broker**, reusing existing applications as Web services



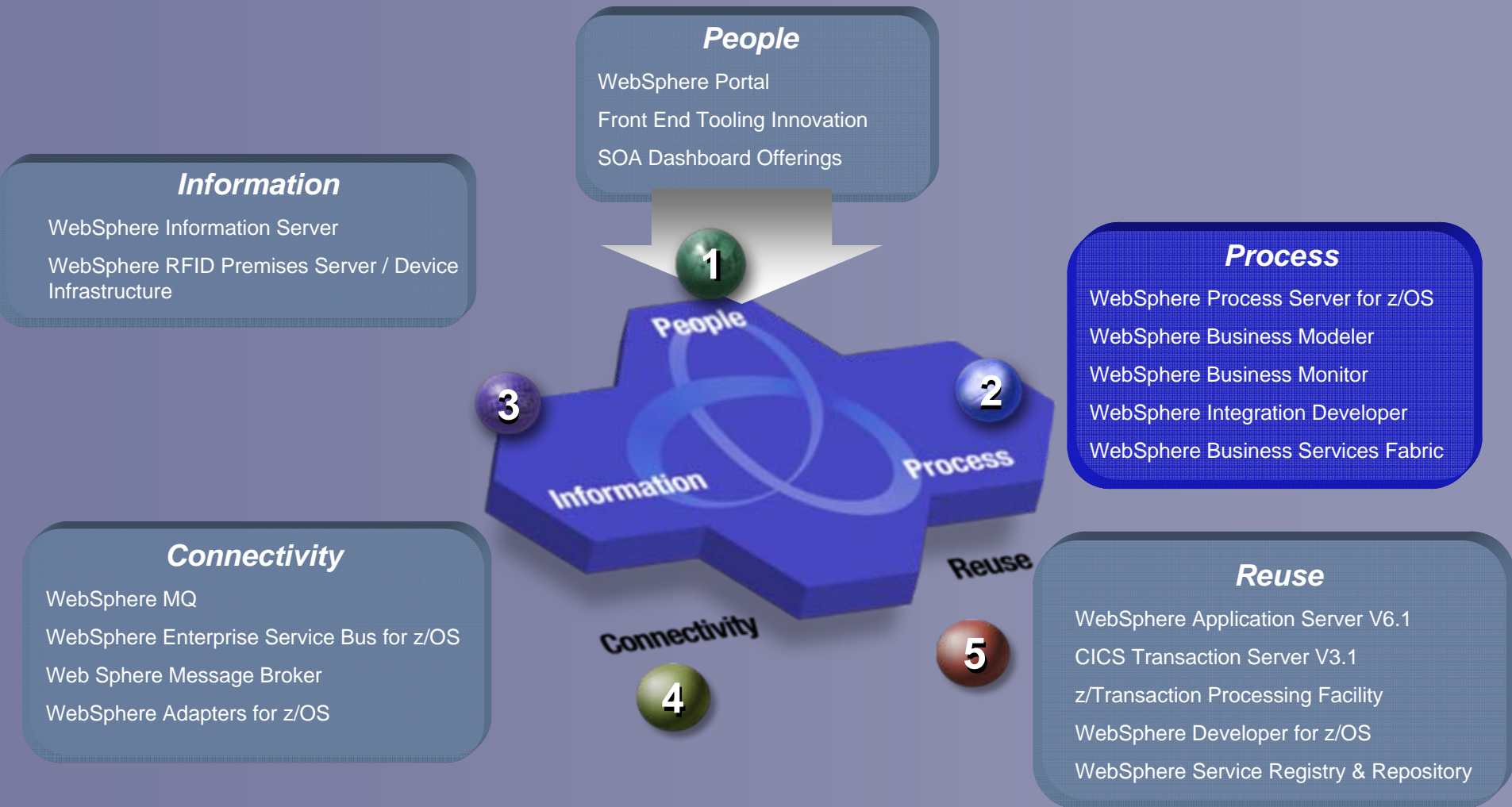
Objective to be **first to market** with new capabilities, lower development time and costs

Accelerated service delivery time to address customer requirements and competitive pressures

Capabilities used: IBM WebSphere Message Broker, WebSphere MQ, DB2, and Tivoli on Z/OS

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SOA Entry Point to a Process Centric Approach

Business Process Management for Continuous Innovation

z Value

- Innovative, SOA driven business models deployed quickly with flexible processes
- Automate and integrate core processes
- Centralize business critical processes with core services and communications hub necessary to support the enterprise



Start with

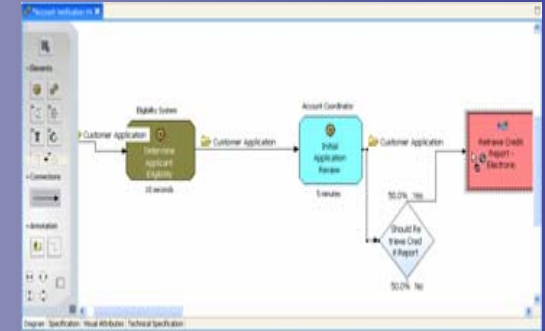
- A single process – model an underperforming process, and deploy as an enhanced process.
- Flexibly link multiple processes across the enterprise & to suppliers / partners. Monitor the process to measure & track performance.

Model Business Processes for SOA roll-out with WebSphere Business Modeler



■ Modeling For Compliance/Documentation

- ▶ Document processes for use by a business to understand the business process
- ▶ Customers use output for training, collaboration, documentation requirements for compliance regulations (Sarbanes-Oxley and Basel II)
- ▶ Linkage to real-time monitoring provides a feedback mechanism for reporting requirements needed for compliance



■ Modeling For Redesign

- ▶ Document both the current state and future state business process and the comparison to determine Return on Investment (ROI) analysis
- ▶ Six Sigma and Process Improvement are common methodologies

Comments

Comments on Account Verification (To-Be) Complete

View all | Add comment | Add response

Subject	Status	Priority	Type	Author	Responses	Created	Modified
Comment on the Account Verification As Is Process	Open	High	Suggestion	epadmin	1	Sat Jul 09 20:26:42 EEST 2005	Sat Jul 09 20:26:42 EEST 2005

■ Modeling For Execution

- ▶ Modeler can create artifacts from the business model and make them available in technology development tools to reduce the overall implementation time of new business processes.

Set KPI's based upon key performance objectives

Assemble Composite Applications with WebSphere Integration Developer



Streamlining process design hand-off between business and IT

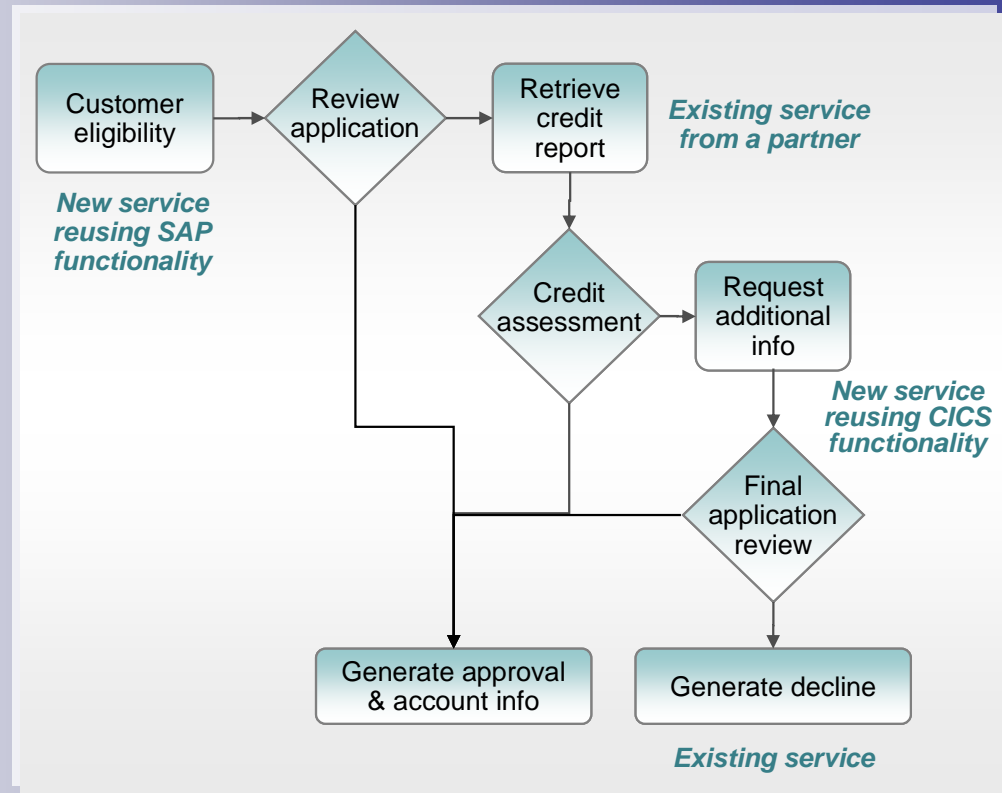
- Import and work with business process models directly from the business analyst (WebSphere Business Modeler)

Simplifying and speeding development

- Easy to use tools where everything can be done through the GUI
- Single way to define all types of processes (human, automated, rules, etc.)

Maximizing re-use

- Ability to leverage existing services and develop for future reuse



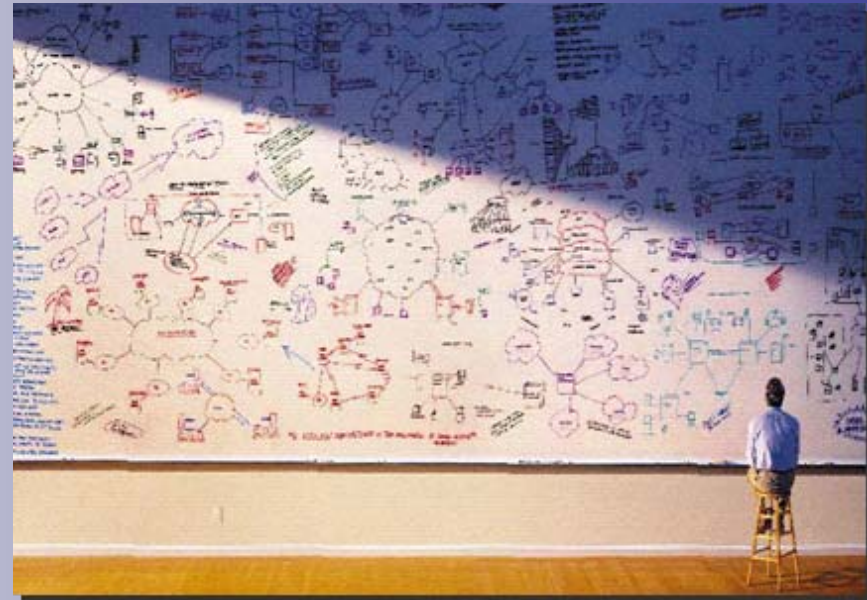
WebSphere Process Server for automated SOA runtime

A deployment environment for composite applications to ensure maximum flexibility at the speed of business

WebSphere Process Server for z/OS

enhanced

- Centralize your business process and share them across the enterprise
- Extend the value of core applications and databases, with the qualities of System z.
- Add connectivity and mediation support for Web services and JMS applications anywhere
- Innovate new standards-based solutions for easy assembly/deployment of service components



System z for when your processes absolutely must be available

WebSphere Business Monitor

Monitoring business performance across your SOA



Improve business visibility

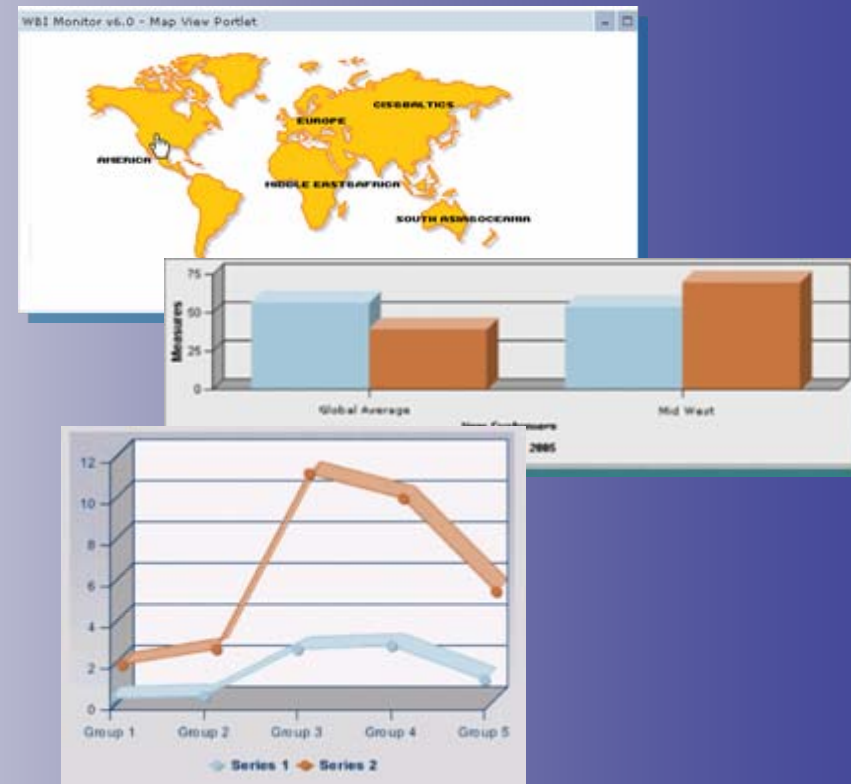
- Management dashboards and reporting capabilities, including trending information
- Tools to define or customize your dashboards
- See how your business is performing before issues arise

Ability to intervene in deployed processes

- Action Manager – supporting real-time response and action as performance data is received

Optimize flow of information

- Ability to export data to WebSphere Business Modeler for analysis and process improvement
- Run modeling simulations based on real data from the business monitor



Monitor KPI's based upon key performance objectives

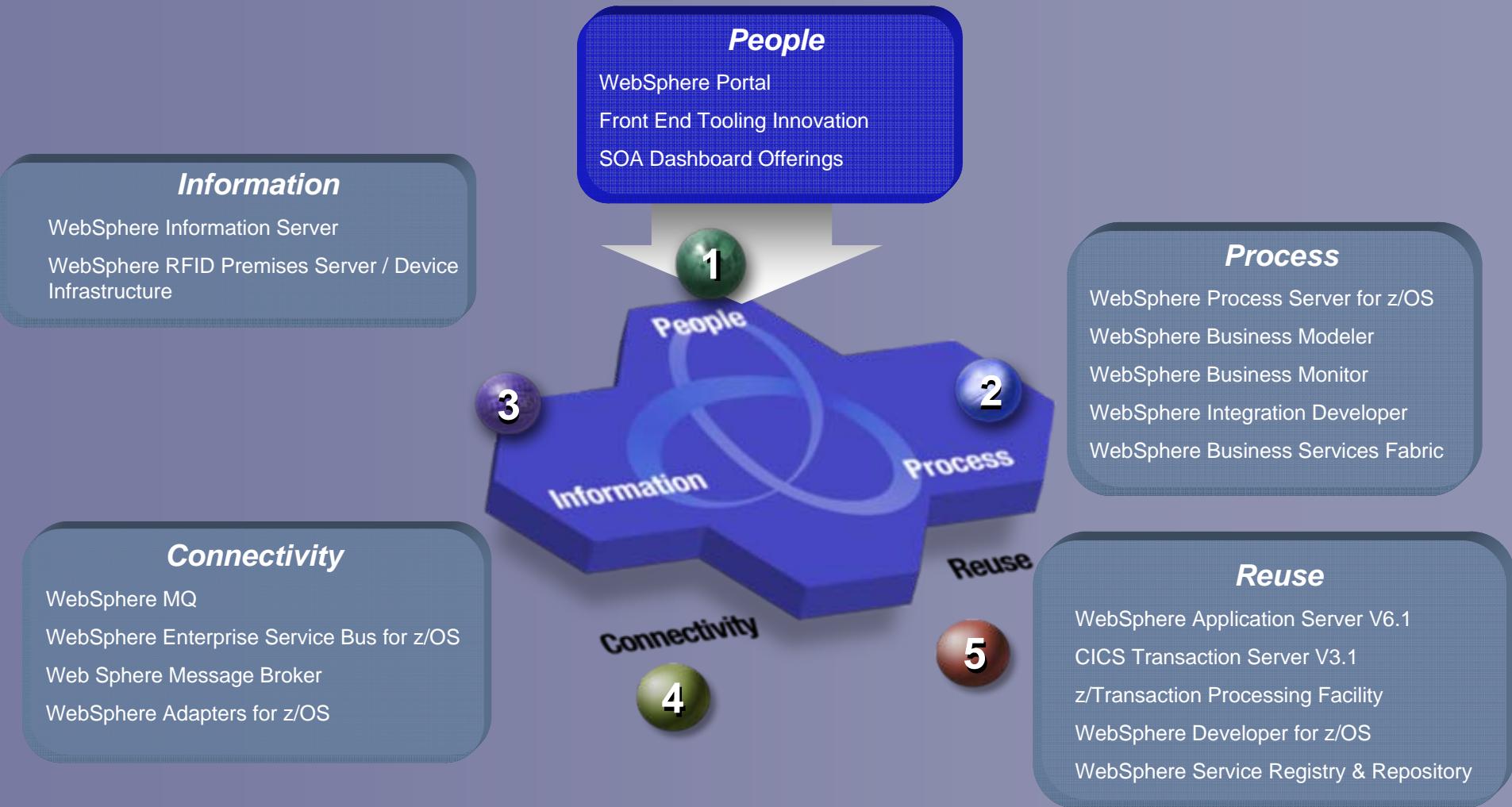
WebSphere Business Services Fabric

- Facilitates reuse within your existing environment
- Based on pre-built, customizable SOA assets, semantic models and policies
- Supporting a wide range of industry and semantic standards
 - ▶ (e.g. ACORD, HIPAA, HL7, etc.)
- Used by both IBM and Business Partners as a foundation for industry-focused business services
- 8+ Business Partners leveraging
- Based on:
 - ▶ Webify acquisition assets & other industry assets
 - ▶ WebSphere Process Server
 - ▶ WebSphere Integration Developer
 - ▶ WebSphere Services Registry and Repository



SOA Entry Points Help Customers Get Started

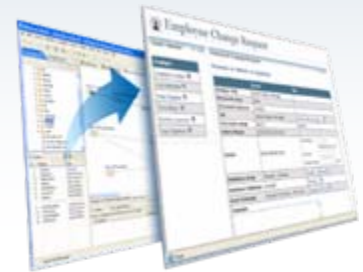
Both Business Centric and IT Focused



IBM WebSphere Portal for System z

Portal is the Front-End of SOA

- Helping Organizations to Rapidly Respond to Change
 - ▶ Integrates the applications, transactions, and data in SOA environment to the desktop to make better business decisions
 - ▶ Easy to use Portlet development via Portlet Factory
- System z – Complement to the Portal environment
 - ▶ Mission critical applications, transaction, data on mainframe
 - ▶ Portal on z Platform gets the user closer to these processes resulting in the QOS that the platform is known for....higher performance & bandwidth, better response time, high availability, reliability, workload management, high levels of security, efficiency
- Tight integration with CICS, IMS, DB2, MQ, WebSphere Application Server, WebSphere Portal
 - ▶ And the ability to integrate with .NET and the distributed environment



The characteristics that a mission critical PORTAL require are the same characteristics that z Platform was designed for...

IBM Get Started with SOA on zSeries

- **SOA Assessment Workshop**
 - ▶ Identify business goals, technical requirements, leverage existing systems, identify new development opportunities
 - **SOA Architecture and Design Workshop**
 - ▶ Gain a deeper understanding of your project requirements, evaluate existing infrastructure, develop recommended architecture
 - **SOA for Project Scoping Workshop**
 - ▶ Identify enterprise applications as an SOA zSeries project, identify skills and resources, develop a comprehensive project plan
 - **Advanced SOA and Web Services Mentored Workshop**
 - ▶ On-site advanced mentoring workshop for architects and developers focused on SOA for zSeries and Web Service technologies and skills.
- SOA Center of Excellence**
- ▶ Provide assistance with improving your SOA for zSeries software development, delivery and operations



Key Takeaways

IBM and our Business Partners are the leaders in SOA

- ▶ Over 3,000 engagements and 1,300 new partners
- ▶ Over 1300 customers deploying SOA on CICS Transaction Server V3.1 ... the fastest uptake of any version of CICS TS
- ▶ WebSphere Application Server for zSeries had 21% growth in 2006.... and 29% penetration in z accounts
- ▶ New System z9 processor range from 26 to 18,000 MIPS

IBM's SOA approach of "Flexible Entry" enables customers to deploy SOA with z at the rate and pace they need with real business results

Thank
You