



IBM SOA

***Broaden SOA capabilities  
on System z: What's new  
in connectivity and  
process management***

Smart  
SOA

A 3D graphic featuring the words 'Smart SOA' in a stylized font. 'Smart' is in a white, handwritten-style font, while 'SOA' is in large, blue, block letters. Below the text is a horizontal bar chart with four segments in shades of green and blue, all set against a dark blue background with a grid pattern.

Presented by  
Dale Grossman  
Websphere WW Sales, BUE  
Websphere for System z  
dgrossman@us.ibm.com

© 2007 IBM Corporation

# The Business Landscape is Changing

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



*Analytical framework from the IBM Global CEO Study to be published May 2008*

# 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



Simplicity

Foundational

Extend  
End-to-End

Transform

Adapt  
Dynamically

Basic

Advanced

Robustness

*A set of guiding principles to help extend business value of deployment*

# 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 p Configurations for SOA**
- **Leveraging Legacy and Packaged Applications**
- **SOA Security and Management**

Configuration guides  
 Solution Guides  
 Demos  
 Tested platforms



# SOA Configurations: *Leveraging Legacy and Packaged Applications*

United States [ change ]

IBM Search

Home Solutions Services Products Support & downloads My IBM

Welcome [ IBM Sign in ] [ Register ]

Software > Service Oriented Architecture (SOA) > Configurations >

## SOA Configurations

Software, architectural guidance and step-by-step implementation guides

We're here to help

Easy ways to get

Start your SOA journey

Leveraging its leadership in award-winning software with and step-by-step implementation guides, IBM SOA Configurations will enable you to accelerate cross-domain issues through:

- Architecture views
- Implementation guides
- Analysis helpful for project planning
- Expert help available
- Sample templates and artifacts

Related links

- Business Process Management enabled by SOA
- SOA design & development
- SOA User Interface for People
- Information as a service
- SOA management and security

Country/region

IBM Search

Home Business solutions IT services Products Support & downloads My IBM

Search [ ] GO Search scope: All topics

## IBM SOA Configurations

### IBM® SOA Configuration for Legacy and Packaged Applications

#### Extending the value of existing business applications

*Learn how to reuse existing business applications within your organization as well as to extend them to provide and/or consume external services.*

Today's businesses are looking to capitalize on past and current investments in enterprise information systems in order to simplify and expand the accessibility of existing applications. With SOA, you can integrate tasks performed by your legacy and packaged applications into broader business functions to achieve tactical and strategic goals.

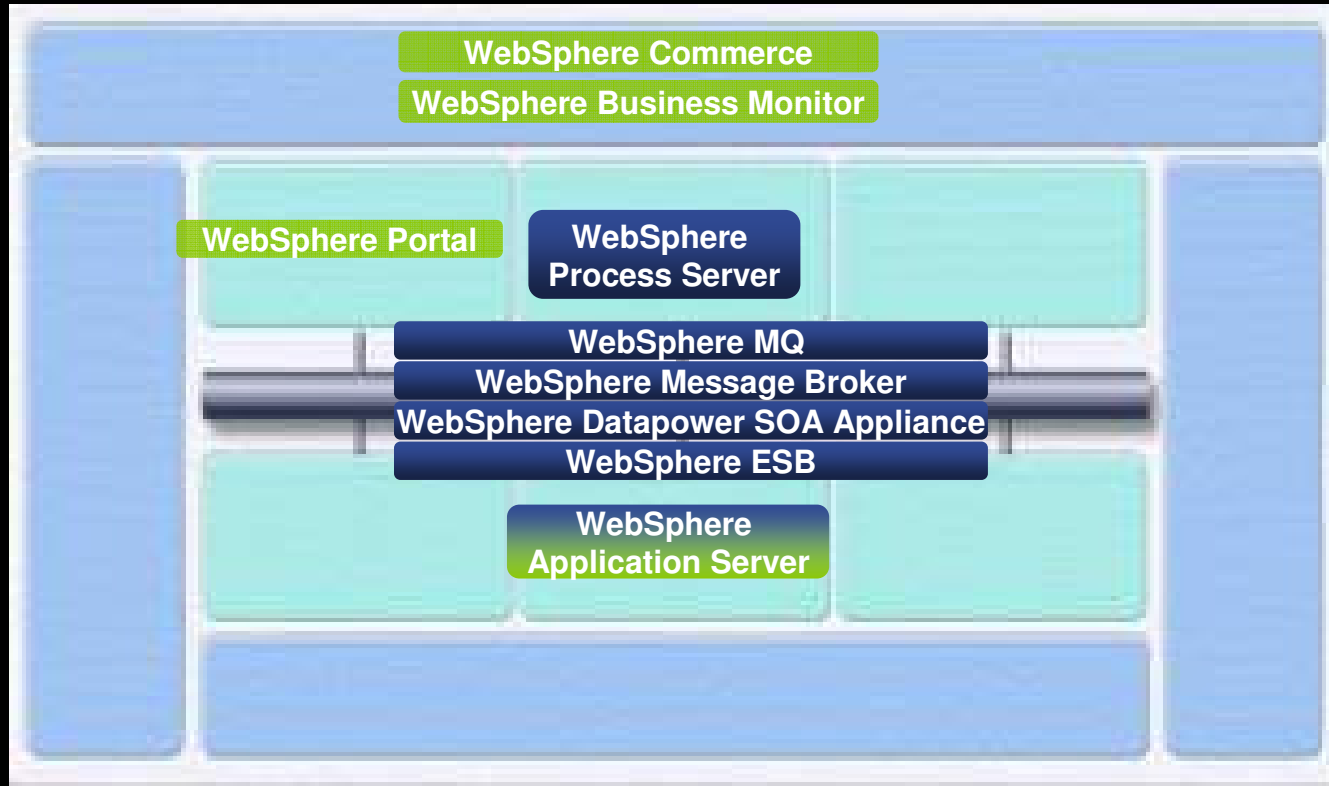
The IBM SOA Configuration for Leveraging Legacy and Packaged Applications is designed to help you get started implementing some of the common solution patterns that have been derived from well over 3,000 IBM SOA engagements. Each pattern covers techniques for exposing previously "siloeed" business applications to ensure reuse or to provide and/or consume external services. This configuration assumes prior investment in a legacy system or a packaged application.

IBM SOA Configuration for Legacy and Packaged Application consists of links to software and architectural guidance designed to allow an enterprise architect or SOA specialist get

Internet

# Enhancing the SOA Portfolio to Address Web 2.0

*Use the same products for either approach*



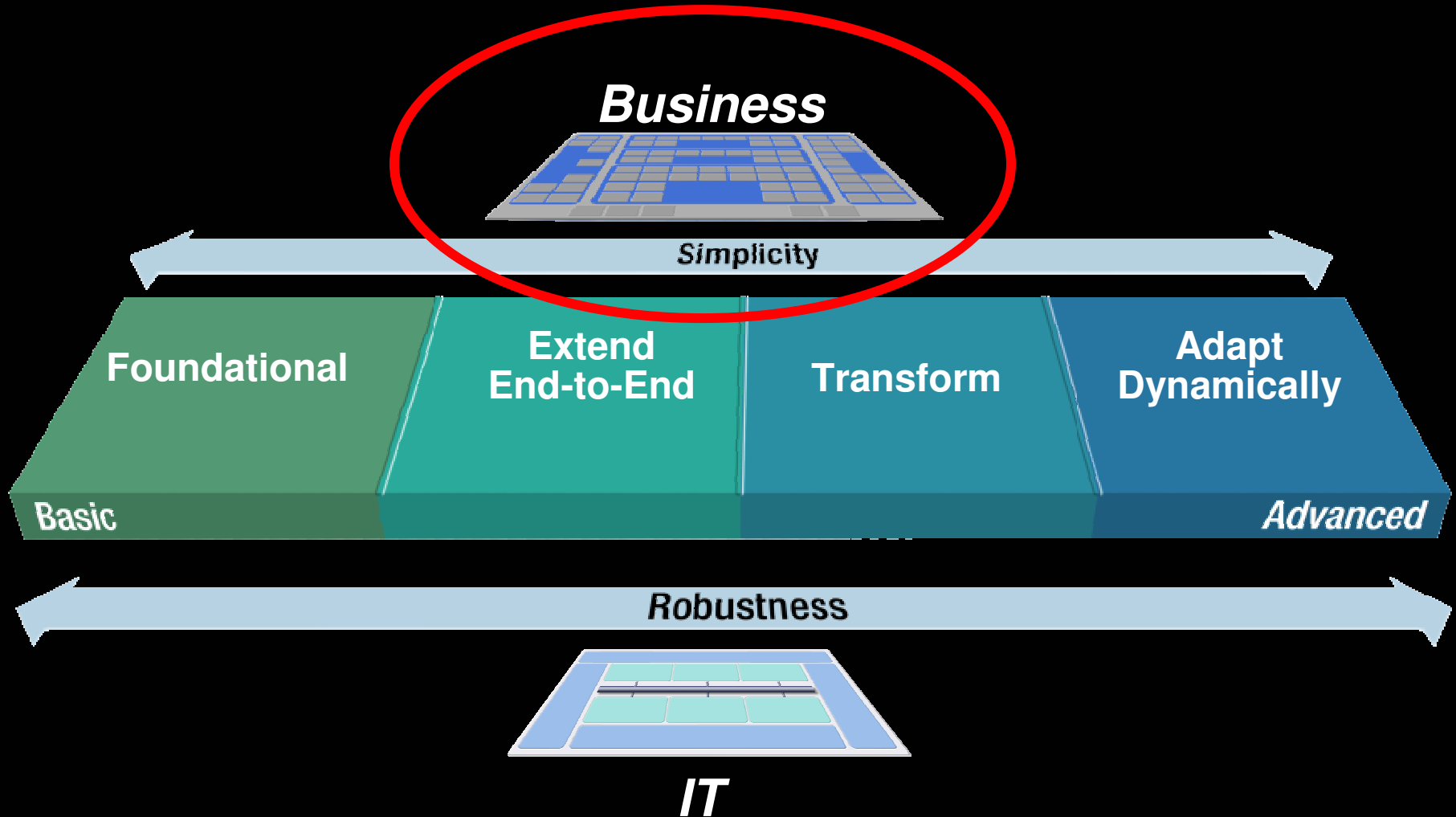
New and Enhanced!

Simple to Use

Simple to Access

SOA Infrastructure Services

# Smart SOA Delivers Value to Both Business and IT





# BPM Enabled by SOA: Enhancing Our Portfolio

## *Based on What We've Learned from Customers*

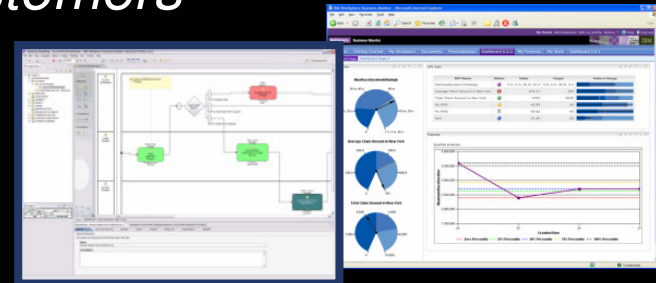


### WebSphere Business Modeler 6.1

Enhanced!

#### Enhanced BPM Simulation and Analysis

- Human task visualization via IBM Lotus Forms integration
- Business User Productivity (Usability) enhancements
- Deploy collaborative modeling with the Publishing Server, and achieve best practices



### WebSphere Business Monitor 6.1

Enhanced!

#### Enhanced BAM capabilities

- Monitor process performance for continuous business improvement
- New and enhanced dashboards which can be customized
- Lowering cost of ownership- Improving the overall consumability

### 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



# SOA Process: Enhancing Our Portfolio

*Achieve business process innovation through treating tasks as modular services*

## WebSphere Process Server 6.1

**\* Enhanced!**

Achieve even greater flexibility and deployment choice

- Improved consumability & usability enhancing productivity for business process administrators by providing out-of-the-box access to functions needed to quickly & easily administer process solutions
- Enhanced ease of use, less down time, and improved installation and administration
- Greater flexibility in controlling the flow of the business processes



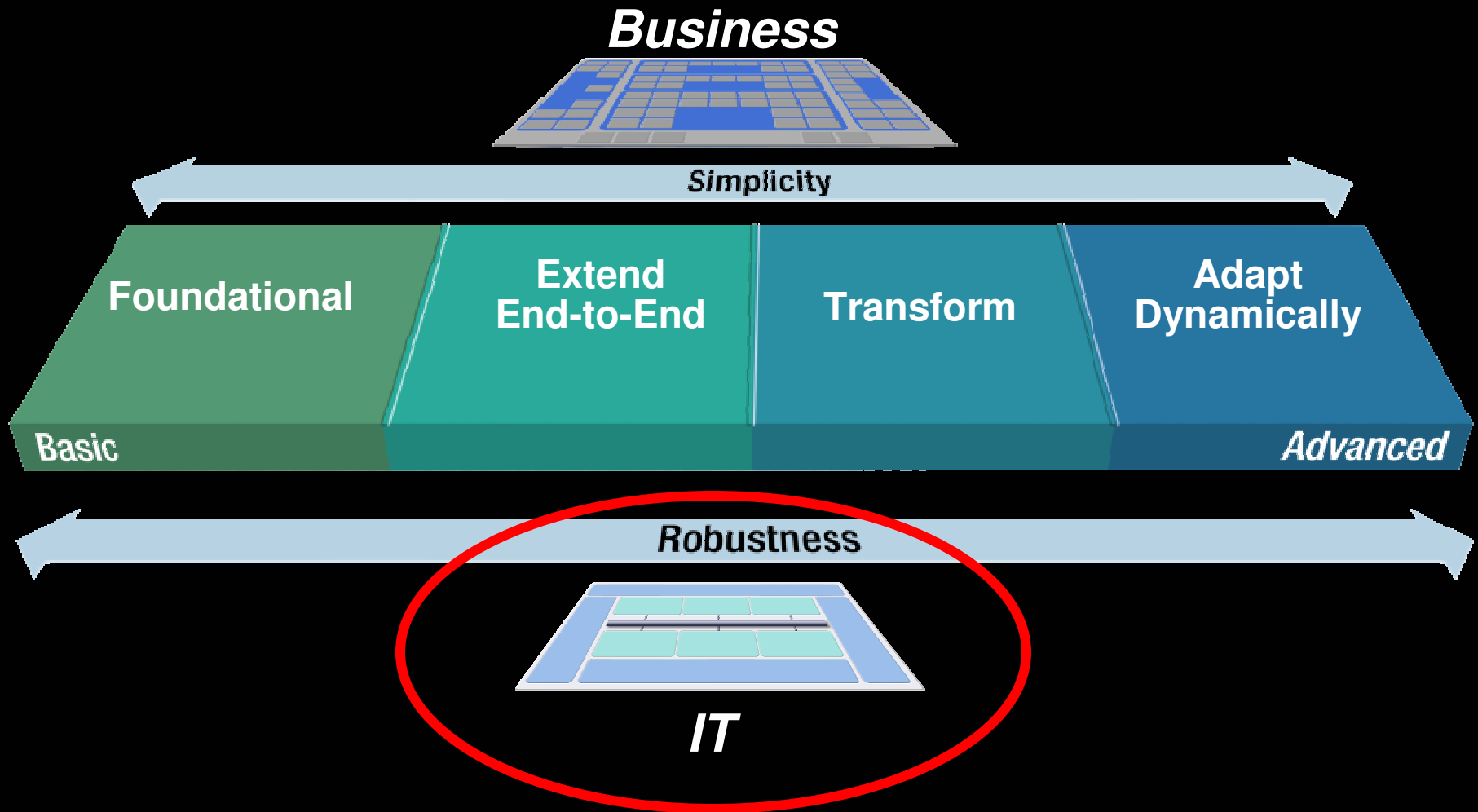
## WebSphere Integration Developer 6.1

**\* Enhanced!**

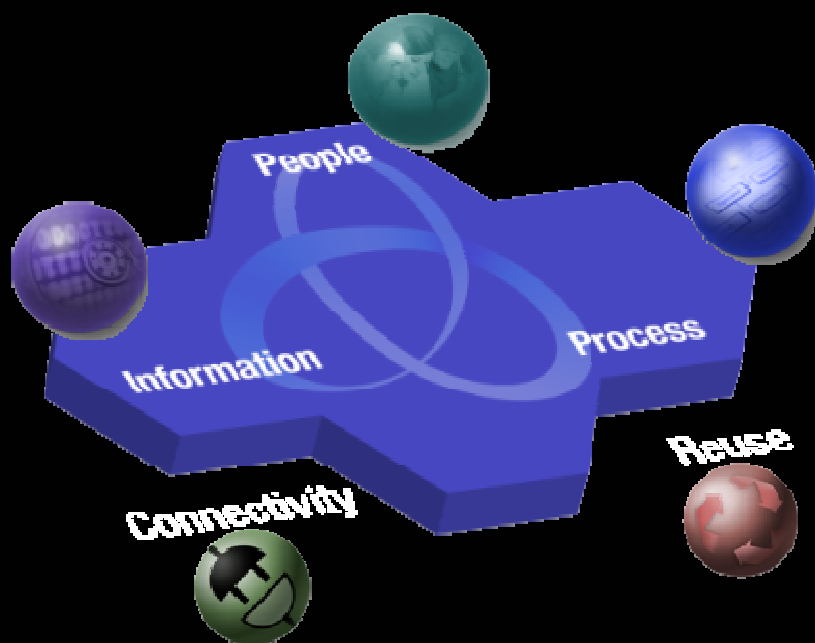
Simplified integration and enhanced productivity

- Enhanced business-driven development capabilities through improving developer productivity and traceability of model artifacts and process flows
- Enhanced human workflow for accelerated time to value
- User-friendly authoring environment with drag-and-drop tools for visually constructing solutions with minimal coding

# Smart SOA Delivers Value to Both Business and IT



The SOA Entry Points are a great way to build for change  
*To help achieve rapid business return*



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



Scenarios to get started with SOA Entry Points

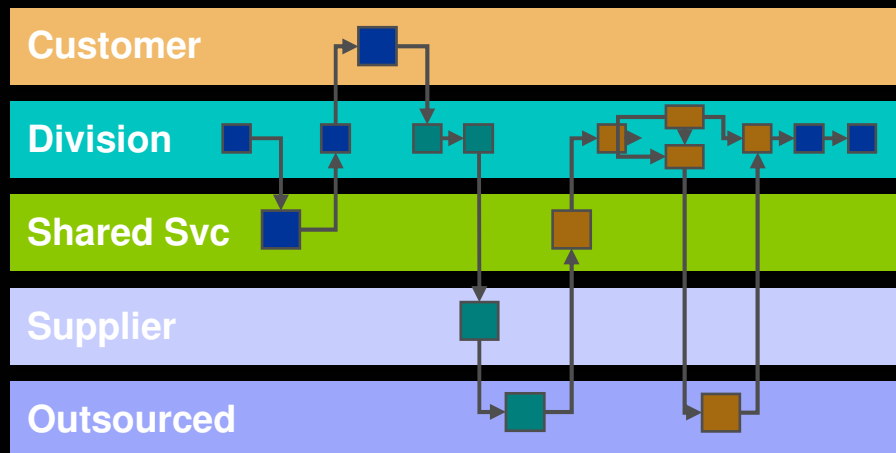
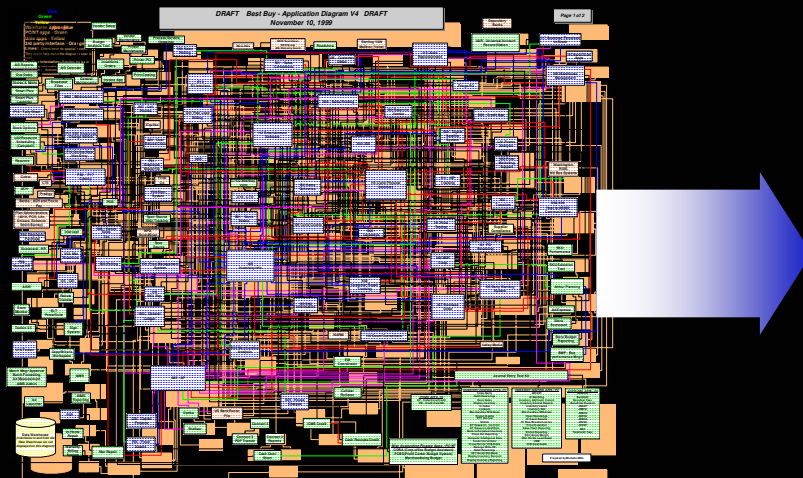
# Getting to Smart SOA: The challenge of integrating existing applications

## You have...

- **Tightly-coupled architectures** reduce flexibility and speed in moving to new technologies
- **Complexity** hampers the ability to reuse existing code for new projects
- **Multiple implementation technologies** and incompatible middleware limit code mobility

## You want to...

- **Reuse** existing highly stable code that embodies enterprise business logic, data access
- **Service-enable this business logic** for wider use and value
- **Separate service flow from service implementation** to attain optimal flexibility



...with the Quality of Service you are used to

## There is a Smarter Way!

*Continue creating value from your z assets*



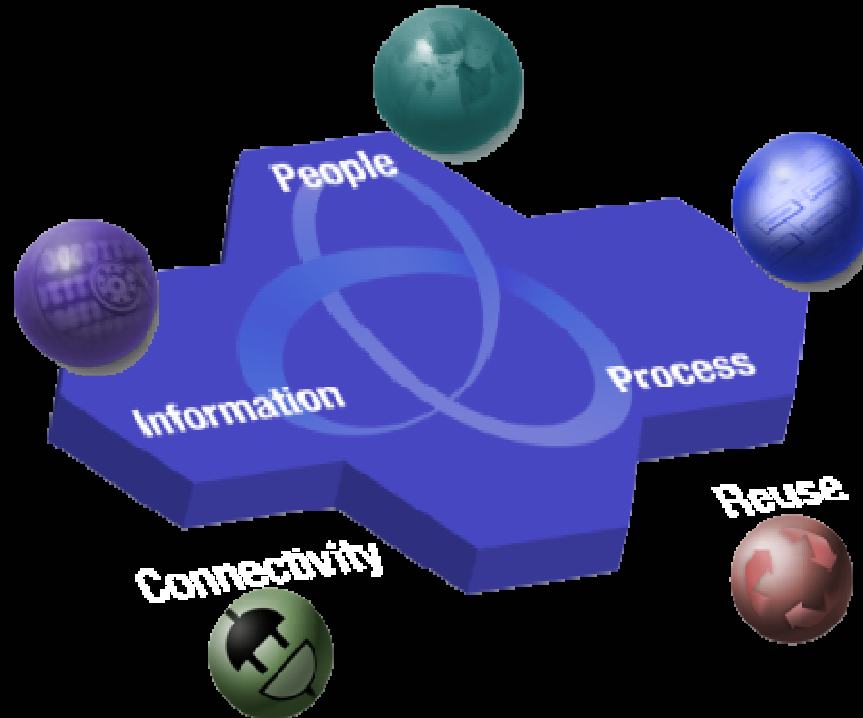
# Smart SOA

### Build an SOA around your core mainframe applications

- 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**

Where do I Start?

**Connectivity** is fundamental to help leverage your z assets



**Connectivity Entry Point:**

Share information and data seamlessly and reliably across your customers, business partners, employees, contractors, and all your IT assets

# Legacy Application Integration through Smart SOA



- Foundational: Accessing "Purpose Built" Applications
  - Rapid Time to Market with low business risk
- Extend: Extending application's "purpose" through composite applications
  - Integrating Legacy and Emerging assets across organizational boundaries
- Transform: Generalization of application "purpose"
  - Drive new business opportunities built on the strength of the existing resources
- Built on a dynamic application ecology
  - Empowering responses to market changes without direct IT involvement



# How do I drive value at every stage *With Connectivity*



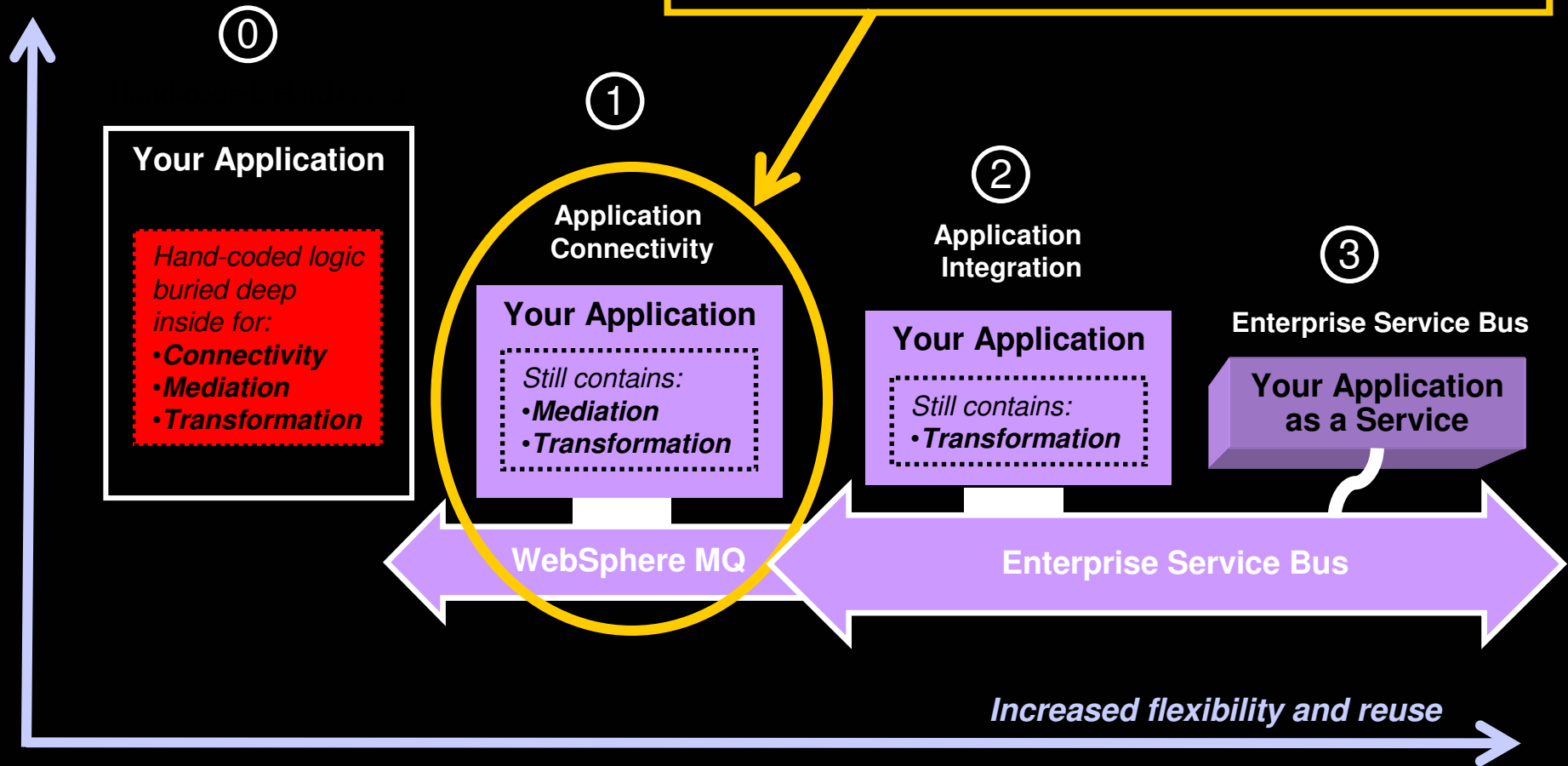
## Foundational

- WebSphere MQ for z/OS and Linux for System z
- PM4Data for z/OS and Linux for System z
- IBM ESBs on z/OS and Linux for System z
- WebSphere Transformation Extender for z/OS
- WebSphere Adapters for z/OS
- CICS Transaction Gateway for z/OS and Linux for System z
- WebSphere Registry and Repository for z/OS and Linux for System z

# WebSphere MQ for z/OS – Your First Step To SOA

*More code to develop and maintain*

Replaces hardwired connectivity with flexible, reliable coupling that externalizes the connectivity logic so it can be managed and modified independent of your application

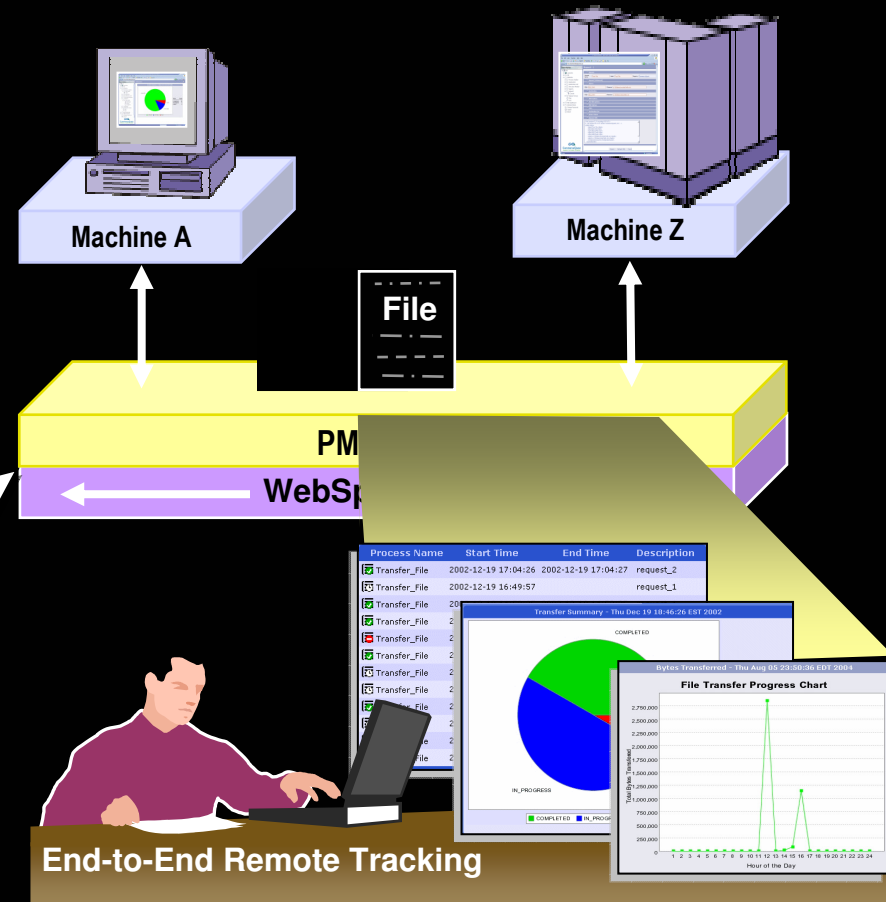


# Reliable file transfers with WebSphere MQ for z/OS

- Files can be transferred in a reliable, secure and traceable manner across the WebSphere MQ messaging layer using MetaStorm PM4Data *(Resold by IBM)*

## Next-generation solution for MFT:

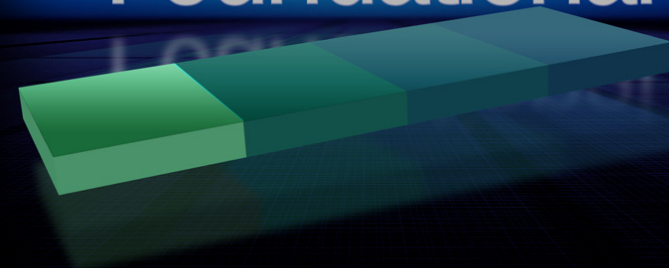
- ✓ Flexible backbone for transfers – not a single-hop solution like FTP
- ✓ Massive file support (e.g. 10 Gb)
- ✓ Traceability end-to-end auditing subsystem that tracks entire transfer flows for logging and regulatory compliance purposes
- ✓ Reliability leveraging the MQ transport
- ✓ Integration with MQ-enabled apps and ESBs
- ✓ Performance – faster than FTP for massive files
- ✓ No need to program – unlike JMS messaging
- ✓ Simple graphical tooling and remote transfer requests
- ✓ Automatic file conversion and compression
- ✓ Security - of payload and applications
- ✓ Visual transfer status reporting
- ✓ Support for most supported MQ environments
- ✓ PM4Data for z/OS provides native z/OS support



## How do I drive value at every stage *With Connectivity*



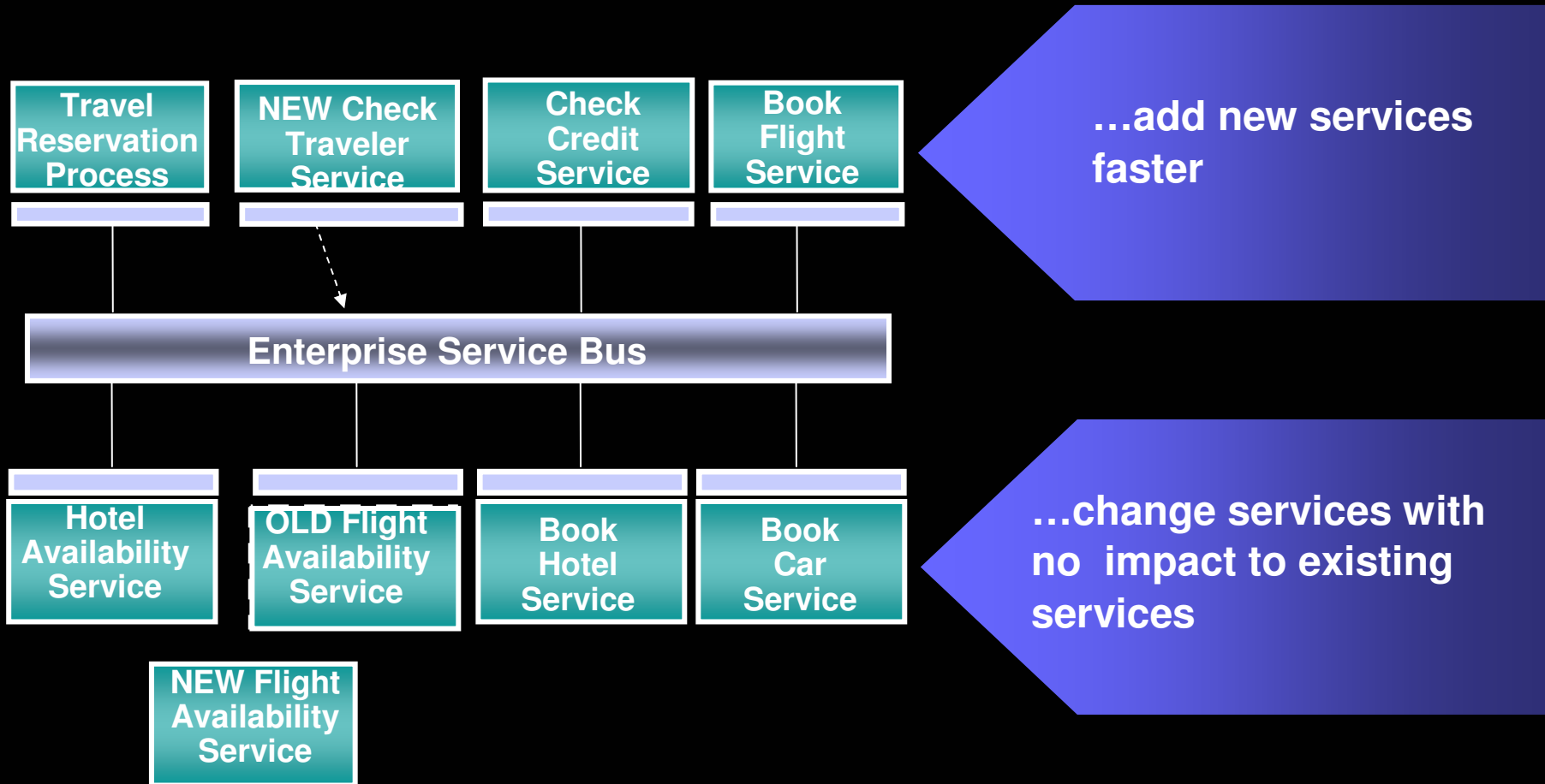
## Foundational



- WebSphere MQ for z/OS and Linux for System z
- PM4Data for z/OS and Linux for System z
- IBM ESBs on z/OS and Linux for System z
- WebSphere Transformation Extender for z/OS
- WebSphere Adapters for z/OS
- CICS Transaction Gateway for z/OS and Linux for System z
- WebSphere Registry and Repository for z/OS and Linux for System z

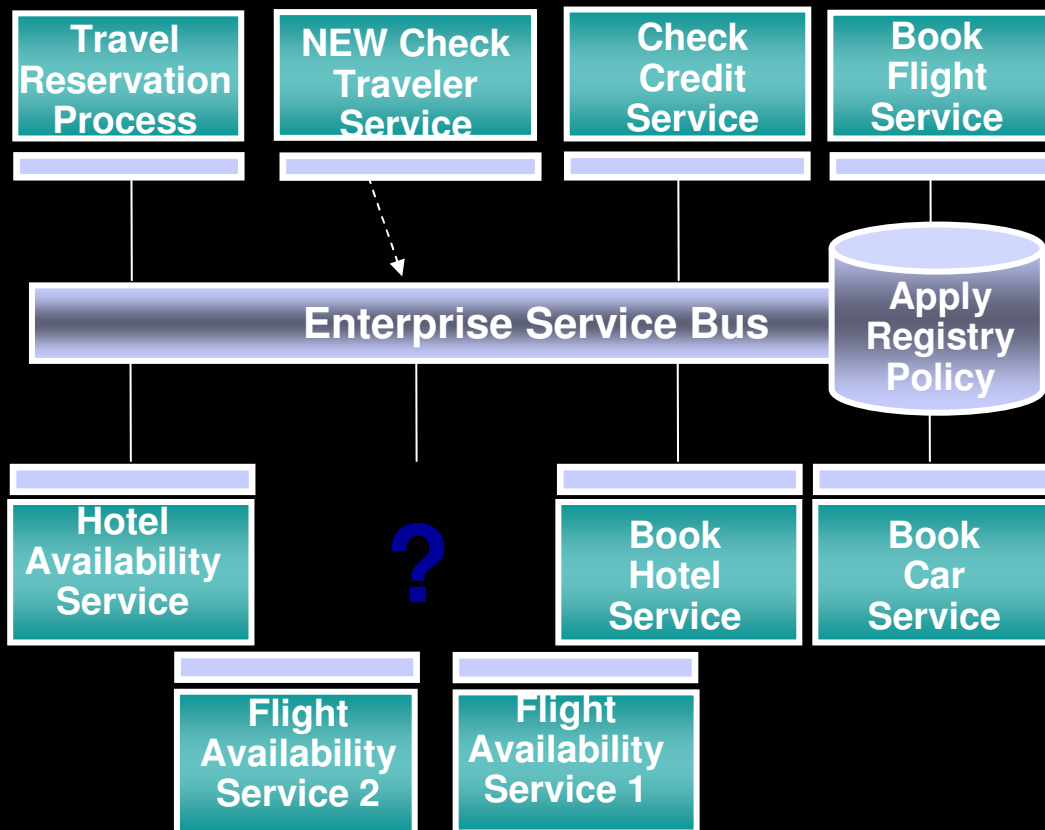
# The primary benefits of an ESB...

**By reducing the complexity and maintenance of application interfaces, you can...**



...but the idea of the ESB is evolving, with new benefits...

- Web 2.0 is driving applications to become more “dynamic” (i.e., just in time development).
- The ESB is emerging as **the control point** for dynamic management.

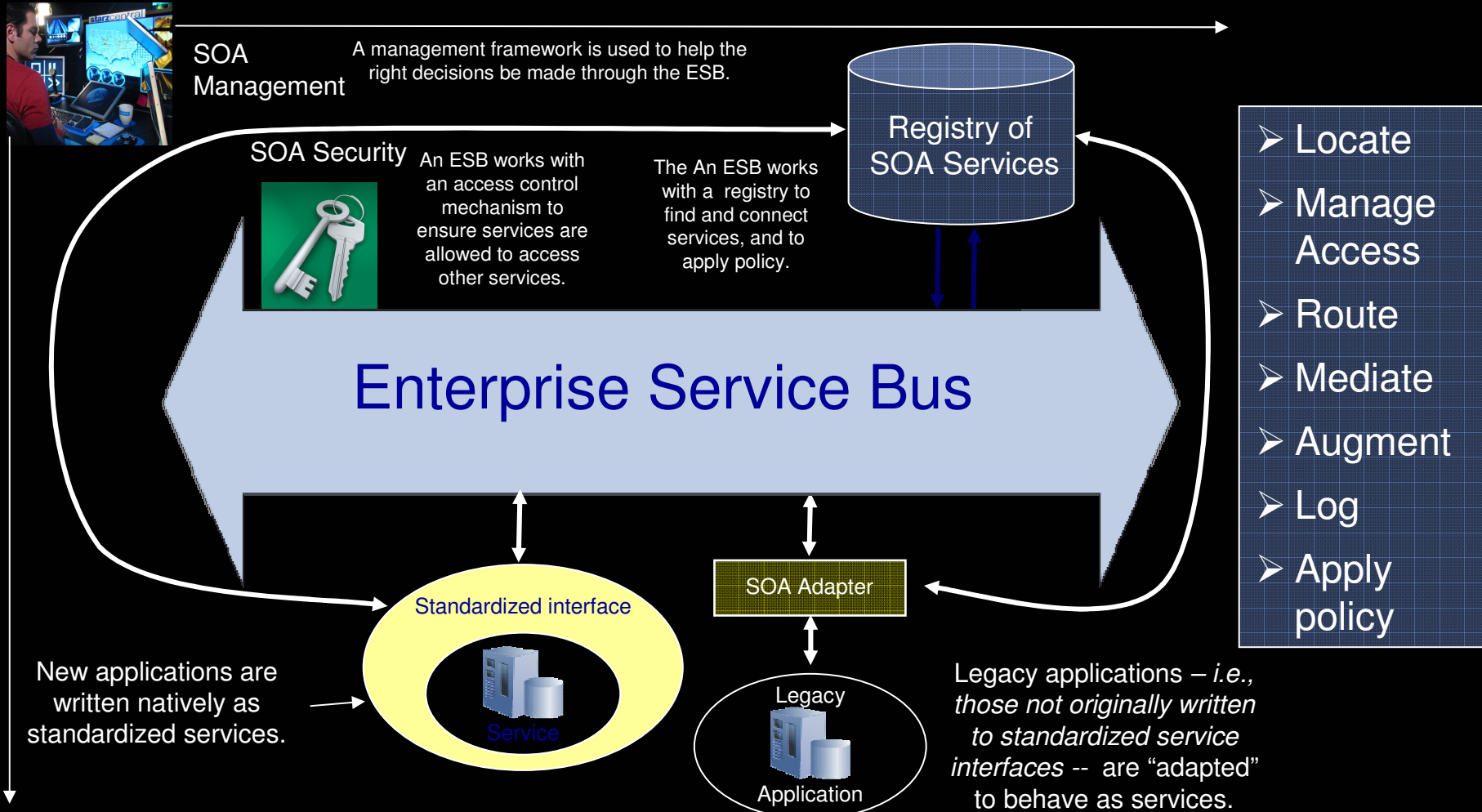


Add new services, not just faster, but *dynamically*.

Invoke *alternative* services based on *real-time* needs.

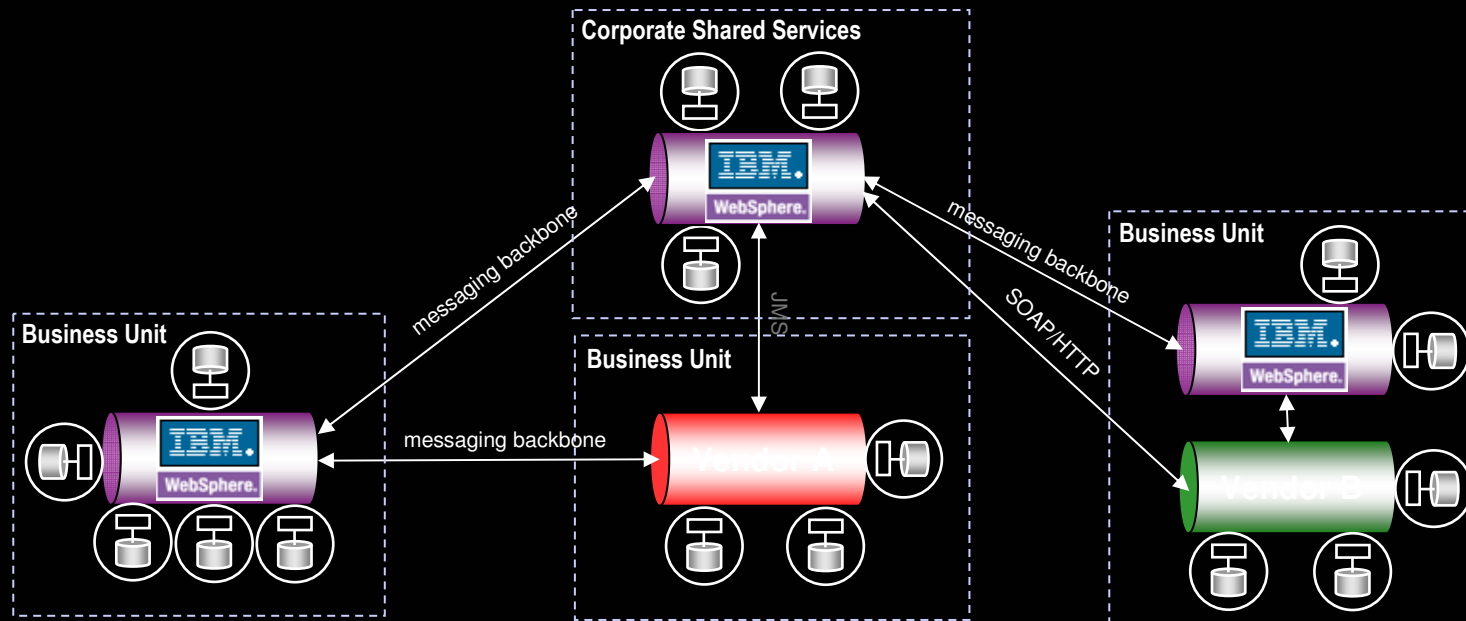
# ...the idea of the ESB is evolving

An ESB – using (1) a registry, (2) an access control mechanism, and (3) a management framework-- is becoming **THE enforcement point** for dynamic virtualized access to services.



## Advanced ESB Deployments – Federated ESB Topologies

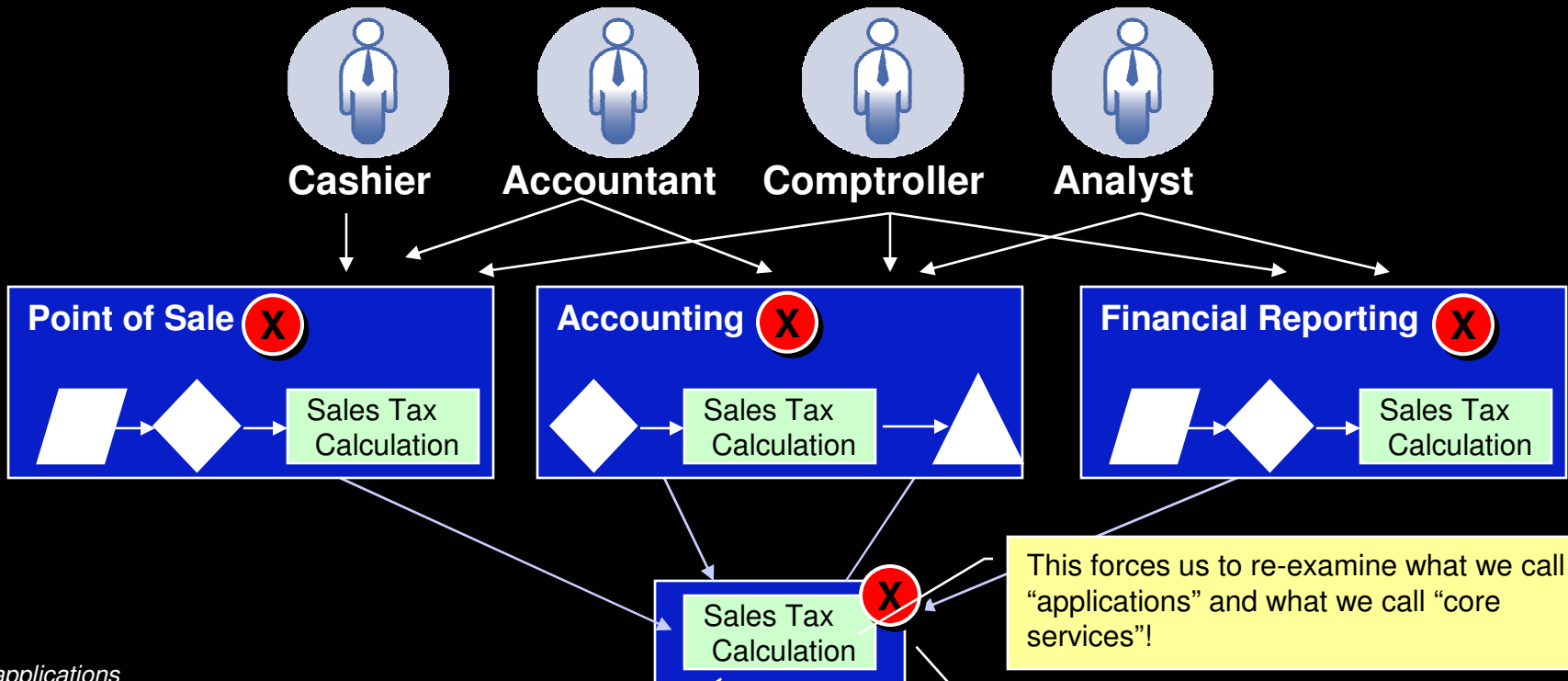
- **A single enterprise-wide ESB is rarely attainable – most businesses will have multiple ESBs across business units**



- **As business processes span organizational boundaries, businesses will need to enable integration across ESBs, which requires an SOA competency center with strong governance practices and support capabilities**



# When business criticality dictates: ESB on z



*New applications*

*Core business systems*

Externalizing common functions as SOA services allows for code re-use, saving on development and maintenance.



However, if the shared service is not working the scope of the impact is widespread. QoS is now a critical and high priority factor.

# ESB offerings from IBM WebSphere

IBM is the only vendor to deliver the most complete ESB Portfolio



Optimized with WebSphere Application server for an integrated SOA platform

**WebSphere Enterprise Service Bus**

## ESB offerings from IBM WebSphere



Purpose-built hardware for simplified deployment and hardened security

**WebSphere DataPower Integration Appliance XI50**



Built for universal connectivity and transformation in heterogeneous IT environments

**WebSphere Message Broker**

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

**Remember:** IBM ESBs work well together  
*Federated ESB – integrated framework to meet your needs*



Optimized with WebSphere Application server for an integrated SOA platform

**ESB offerings from IBM WebSphere**



Built for universal connectivity and transformation in heterogeneous IT environments



**\* Enhanced!**

**WebSphere Enterprise Service Bus 6.1**

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

Purpose-built hardware for simplified deployment and hardened security

**\* Enhanced!**

**WebSphere DataPower Integration Appliance XI50 3.6.1**

- Advanced standards support enables enhanced interoperability and heterogeneous connectivity
- Simplified customization and configuration for accelerated time to market
- Improved WebSphere Service Registry and Repository support
- Support for WS-RX for guaranteed delivery of mission critical messages
- Integration with DB2 V9 pureXML
- Streamlined multistep transaction processing

**\* Enhanced!**

**WebSphere Message Broker 6.1**

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

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

# How do I drive value at every stage *With Connectivity*



## Foundational

- WebSphere MQ for z/OS and Linux for System z
- PM4Data for z/OS and Linux for System z
- IBM ESBs on z/OS and Linux for System z
- WebSphere Transformation Extender for z/OS
- WebSphere Adapters for z/OS
- CICS Transaction Gateway for z/OS and Linux for System z
- WebSphere Registry and Repository for z/OS and Linux for System z

# SOA Connectivity: Enhancing Our Portfolio

*Accelerate SOA integration*



**\* Enhanced!**

## WebSphere Adapters 6.1

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

- Improve connectivity for application reuse with new Adapter Nodes for WebSphere Message Broker V6.1
- New and enhanced platform support enhances ESB and BPM offerings on iSeries



**\* Enhanced!**

## WebSphere Transformation Extender Updated Industry Packs

Accelerates time to value and simplifies compliance to updated Electronic Data Interchange (EDI) standards for 2007

- WebSphere Transformation Extender Pack for EDIFACT
- WebSphere Transformation Extender Pack for X12

**\* Enhanced!**

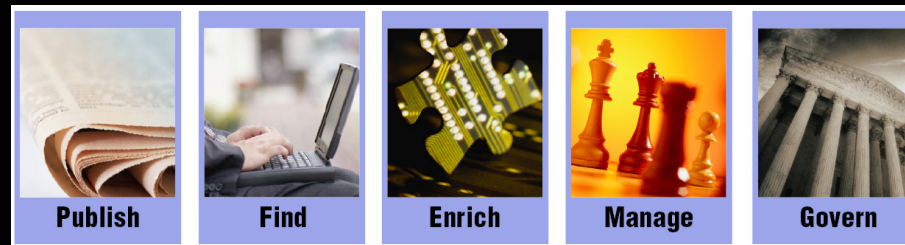
## CICS Transaction Gateway 7.1

Secure, scalable and flexible SOA access to CICS applications

- Extended networking support to leverage CICS TS V3.2 - the flagship SOA release of CICS TS
- Monitor end-to-end transactions via EWLM support
- Support your enterprise wide management with enhanced systems monitoring capability and integration with other systems management tools.

# SOA Governance: Maximize business value of your SOA

*Based on best practices distilled from customer deployments*

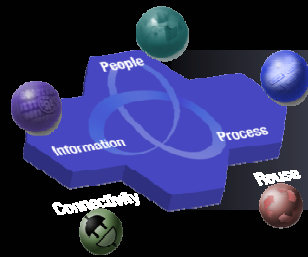
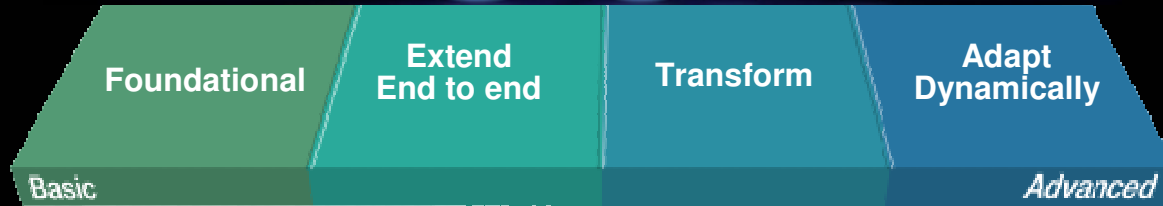


## WebSphere Service Registry & Repository 6.1

- Enable governance of MQ applications with support for MQ service definitions
- Improve interoperability with WBSF and WSRR linking business and technical aspects of composite business services
- Raise visibility and enable governance of deployed services automatically discovered from WAS and .NET servers
- Enhance best practices for lifecycle management with the ability to promote services
- Improved impact analysis by leveraging intuitive graphical views of service relationships
- Search efficiently by progressively refining your search using filters (facets) for classifications, properties and relationships
- Manage administration of access rules and classifications using user-friendly editors
- Easier access to service information using REST API

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

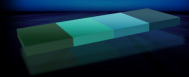
# Smart SOA



SOA Entry Points



Process Integrity



# Key IBM Offerings that Support Process Integrity

## *Build a Robust SOA By Choosing the Products you Need*

### Transaction Integrity

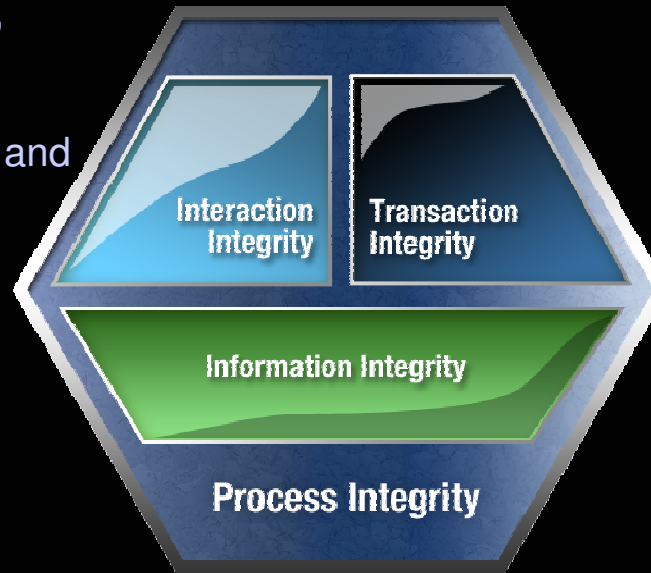
- WebSphere Process Server, WebSphere ESB, WebSphere Application Server
- WebSphere Message Broker, WebSphere MQ
- WebSphere DataPower XI50
- WebSphere Service Registry and Repository
- WebSphere Adapters
- CICS Transaction Server

### Interaction Integrity

- WebSphere Portal

### Information Integrity

- IBM Information Server
- WebSphere Customer Center
- WebSphere Product Center



### Enabling Products/Services

#### Security

- Tivoli Federated Identity Manager
- WebSphere DataPower Security Gateway

#### Quality of Service

- Tivoli Composite Application Managers
- WebSphere XD
- IBM Systems Servers

#### Professional Services

- SOA Design, Development and Integration Services
- BPM Enabled by SOA Services

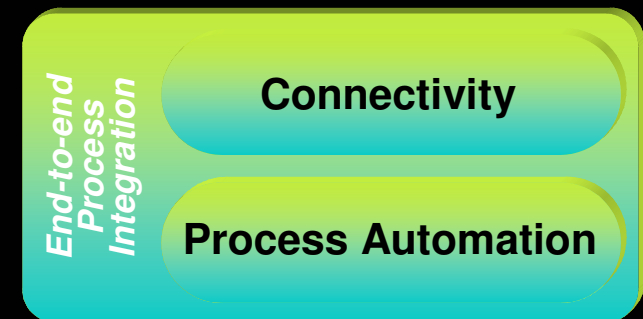
*IBM delivers unmatched Process Integrity to support critical business processes!*



# Process Integrity Demands High Quality of Service

*System z Software is uniquely capable of ensuring QoS*

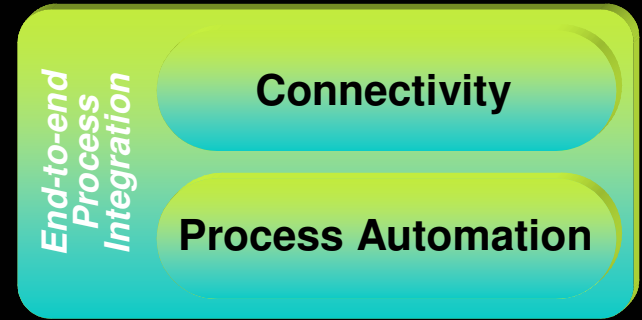
- WebSphere MQ for z/OS, WebSphere Message Broker for z/OS High Availability
  - RACF, Fully ARM-enabled
  - Workload Management
    - Goal-oriented resource allocation
    - Workload scaling, workload isolation
  - Takes full advantage of Parallel Sysplex for with MQ Shared Queues
  - Supports DB2 data sharing, CICS EXCI support and Resource Recovery System (RRS) global transaction coordination
- WebSphere Message Broker for z/OS
  - CICS, VSAM, QSAM & JAVA nodes
  - Significant performance enhancements in V6.1
    - Ultra high performance XML parser with validation,
    - JDBC XA transaction support
    - native support for large file processing



# Process Integrity Demands High Quality of Service

*System z is uniquely capable of ensuring QoS*

- Up to 99.999% availability in a Parallel Sysplex
- GDPS enables recovery of whole systems across vast distances
- Component level recovery for both hardware and software
- Automated recovery response to failures including restart and isolation, as appropriate
- Dynamic workload balancing across systems and logical partitions for 24x7 operations



Quality of Service

# Questions?

# Thank you!

More information: [www.ibm.com/soa](http://www.ibm.com/soa)

Smart  
SOA



## Reference

- **SMART SOA Launch** [http://www-306.ibm.com/software/solutions/soa/launch/it\\_value.html](http://www-306.ibm.com/software/solutions/soa/launch/it_value.html)
- **SOA and Enterprise Transformation for System z** <http://www-306.ibm.com/software/os/systemz/soa/>
- **White Paper: Considerations for making System z your ESB deployment platform**  
[ftp://ftp.software.ibm.com/software/websphere/integration/wmq/WSW11335-USEN-00\\_esb\\_onZ\\_wp.pdf](ftp://ftp.software.ibm.com/software/websphere/integration/wmq/WSW11335-USEN-00_esb_onZ_wp.pdf)
- **Brochure: IBM application integration software on IBM System z technology**  
<ftp://ftp.software.ibm.com/software/integration/wsesb/library/WSB11353-USEN-00.pdf>
- **ESB Primer**  
<http://submit.boulder.ibm.com/dd/wsdd/asis/501957/501957.html>
- **RedBook: Implementing an ESB using IBM WebSphere Message Broker V6 and WebSphere ESB V6 on z/OS**  
<http://www.redbooks.ibm.com/abstracts/sg247335.html?Open>
- **The Value of WebSphere Message Broker Version 6 on z/OS**  
<http://w3-103.ibm.com/software/xl/portal/viewcontent?type=doc&srcID=XT&docID=M831619105799D48>
- **Developing Web Services Using CICS, WMQ, and WMB**  
<http://w3.itso.ibm.com/abstracts/sg247425.html?Open>
- **Implementing and Testing SOA on IBM System z: A Real Customer Case** <http://www.redbooks.ibm.com/abstracts/sg247502.html?Open>

