



SOA connectivity and integration solutions on System z



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IBM Vision at a Glance...

Smarter Planet



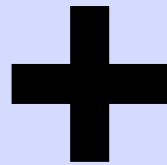
- instrumented
- interconnected
- intelligent
- people
- companies, institutions, industries
- man-made systems
- nature's systems



Today's Imperatives Are

Cost Optimization

to slash operational and maintenance expense and maximize efficiency necessary for all economic climates



Agility

to take advantage of new revenue opportunities and address competitive threats

To Survive... To Succeed!



IBM's Smart SOA

Powers Smarter Business Outcomes Across a Continuum



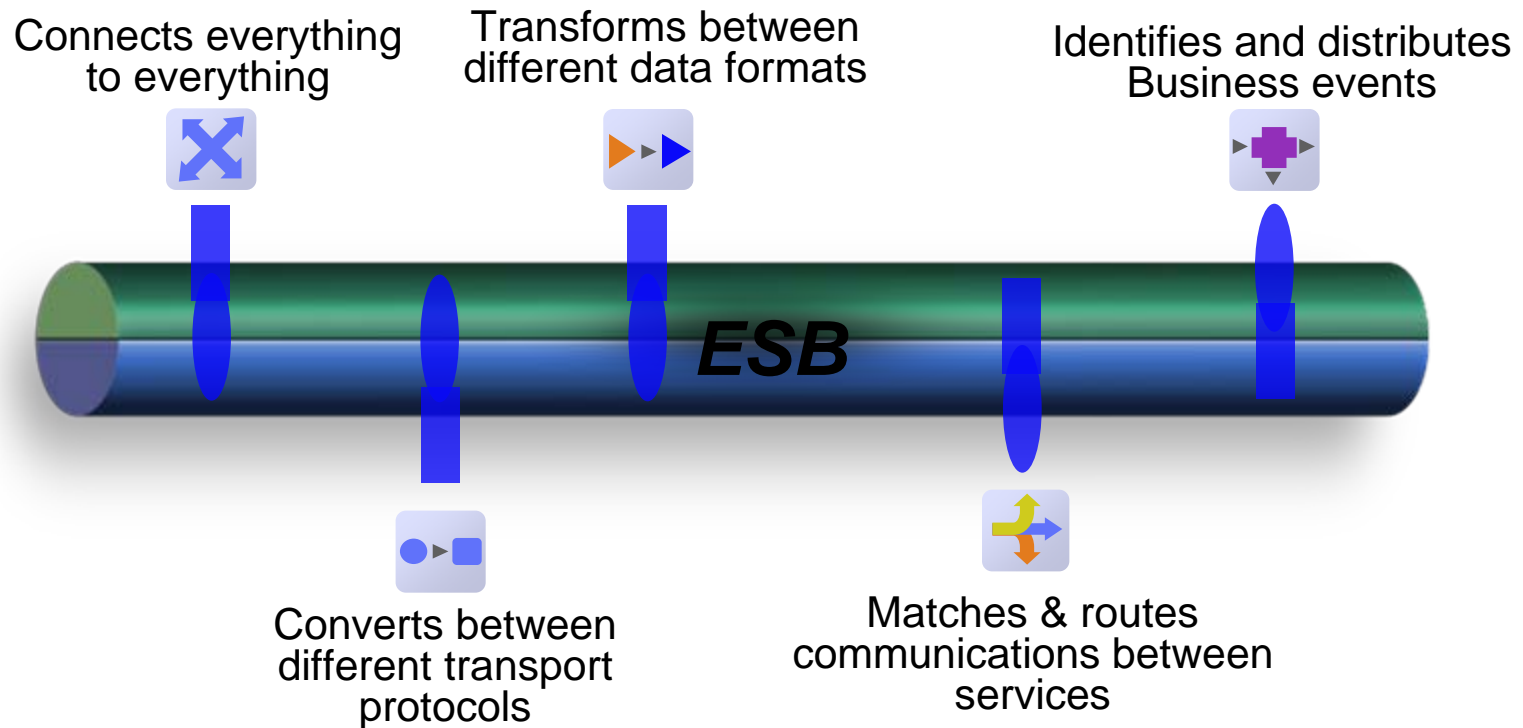
IT

From Basic to Advanced, SOA Connectivity & Integration is fundamental for linking business processes, applications and information together



Agility and Savings Begin with Integration

The Enterprise Service Bus (ESB)



Optimize Costs by: *Integrating new customers and partners up to 80% faster, Improving performance more than 10x - with lower costs, Achieving full ROI within as few as 6 months, Leveraging existing skills and assets, and supporting business growth and agility*



The Power of ESB Messaging and Enrichment

Fast, flexible & reliable access to business information

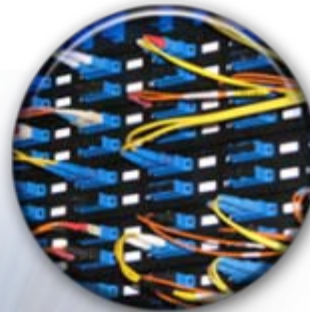
Lower process disruptions with reliable data movement

Confirmed Flight Booking



Telephony Hub Save time and money by centralizing services

Telephony Hub



ESB

Prepare for regulatory compliance by preserving data integrity

Auditable Stock Trades



Adapt business faster by easily connecting services and creating new, low-cost Web 2.0 apps

Web-based Bank Transfer and Routing





ESB Messaging and Enrichment

Lower costs, increase operational efficiency, scale for growth, and security

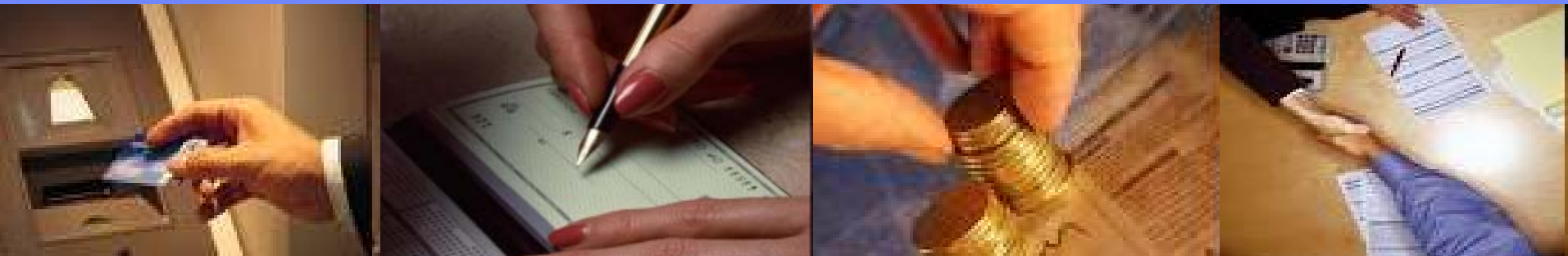


Industry Pains

- Variety of local payment processing systems running on more than 200 distributed servers in 74 data centers across 11 time zones
- Significant challenges in terms of operational efficiency, technical support, and security.

Smarter Business Outcomes:

- Payment processing costs have been reduced by 95 percent, saving US\$400 million per year
- Server and data center consolidation creates further savings on hardware and software licensing, maintenance and electricity, and increases security
- Workload for technical staff has been reduced by 85 percent.

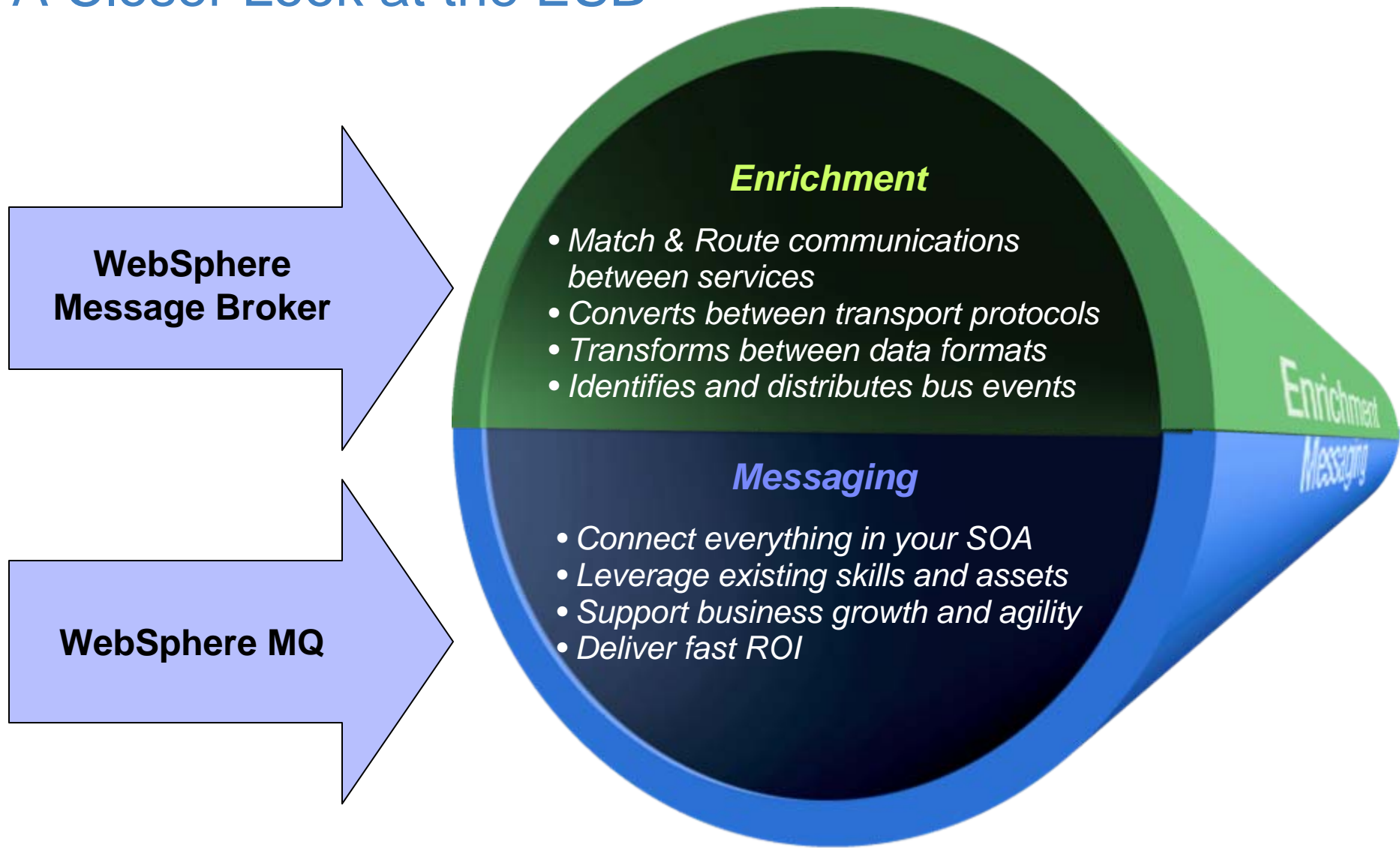


Why Smart SOA Connectivity & Integration?

With the payments system reintegrated, virtualized and standardized, the next project for the Bank of Russia is to develop an analytics system to monitor trends and evaluate the activities of different banks.

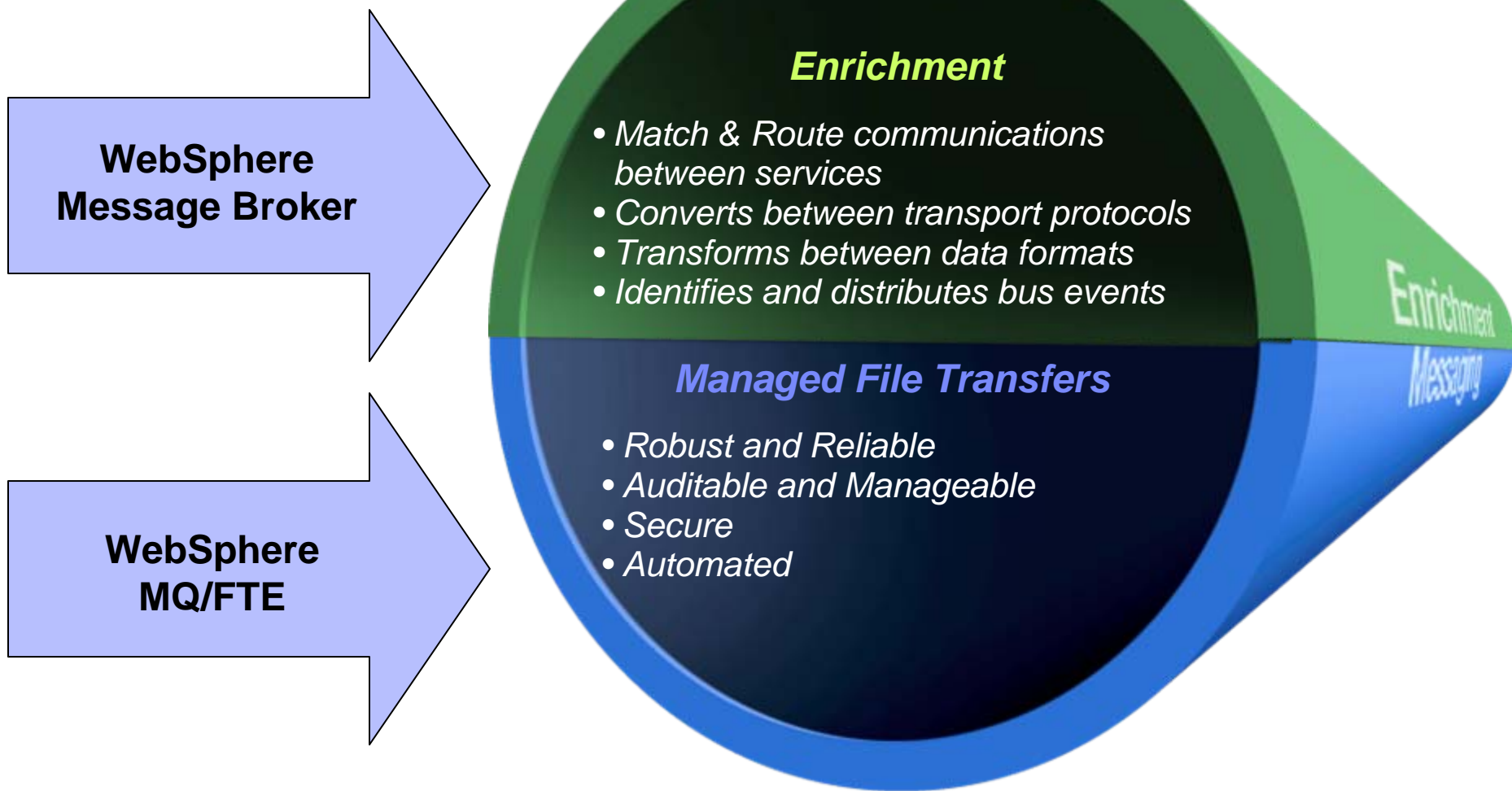


A Closer Look at the ESB





Adding Files to the ESB





Address Key Critical Customer Needs *With ESB Messaging and Enrichment*

Extreme
Reliability



Fast and Flexible
Application
Integration



Bridge to
NextGen
Interconnectivity



Reduce
Integration
Costs





Reliability Counts!

The Situation

- Costly security and audit exposures
- Information loss of critical data
- Unable to make real time business decisions

Your Opportunity

- Prevent up to \$4M in security breach costs
- Preserve data integrity with 100% guaranteed delivery
- Publish ultra-low latency ,time-sensitive data feeds





Extreme Reliability & Assured Delivery

Message &
Transaction
Integrity
Prevent costly
security breach
exposures



Message &
Transaction
Delivery Assurance
Reduce costs and
process disruptions from
data loss

Ultra-low latency, time-sensitive data feeds
Enables real-time business decisions



Extreme Reliability & Assured Delivery

WebSphere Message Broker for z/OS

- Universal Connectivity
- Routes and transforms messages FROM anywhere, TO anywhere
- Simple programming
- Operational Management and Performance

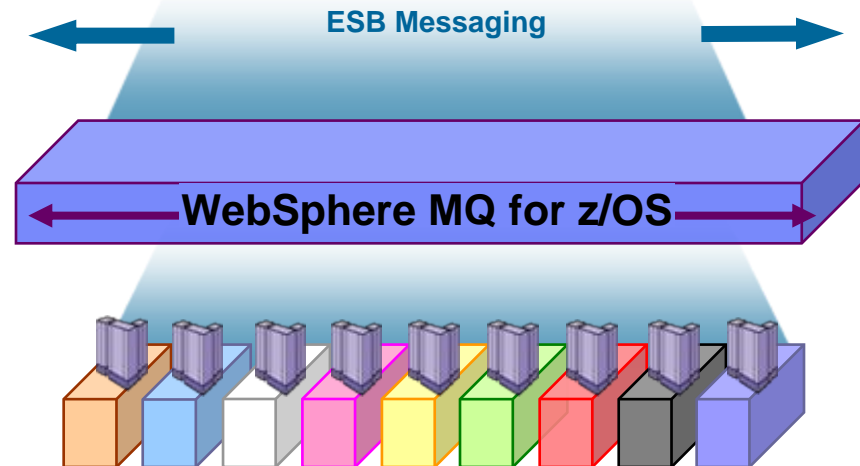
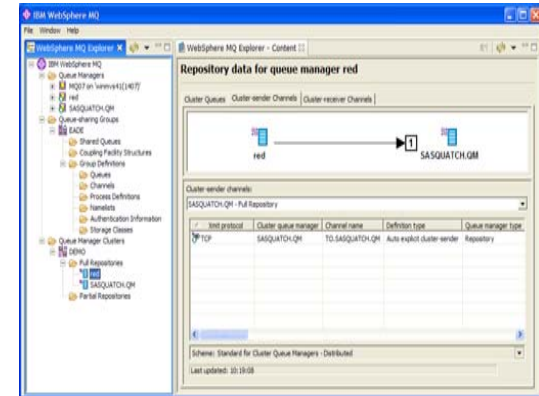




Reliable ESB Messaging

WebSphere MQ for z/OS

- Offers a range of Qualities of Service
- Connects virtually any commercial IT system
- Easy to manage
- Shields developers from networking complexities
- Extends the reach of IBM's ESB Messaging & Enrichment offerings
- Transports messages, files and events





Governance for File Transfers

WebSphere MQ File Transfer Edition

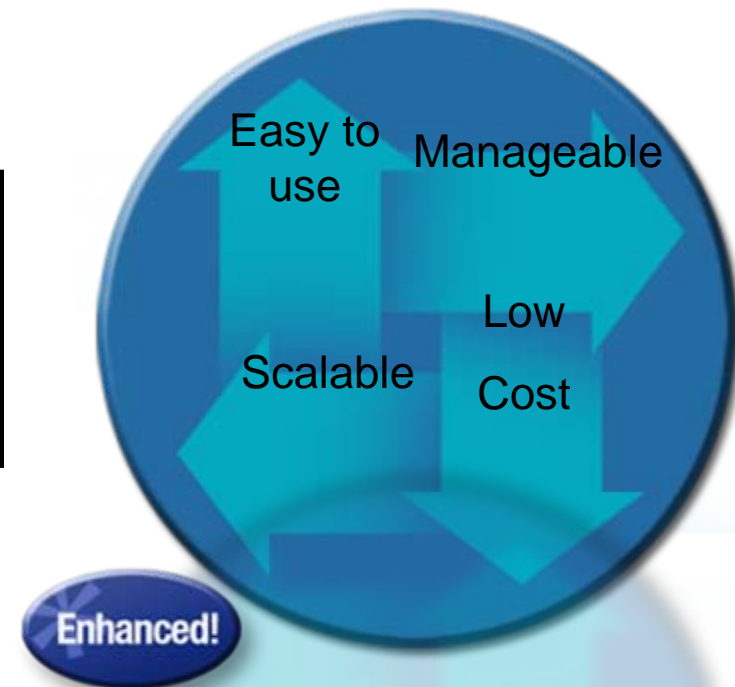
- **Most data moves from application to application using file transfers**
 - Lowest common denominator for Integration
- **Provide the visibility & manageability to move key business data reliably & securely**
 - Inside and outside the Enterprise

Reducing Costs

- Lower maintenance upkeep by 15%-25%
- 50% to 70% reduction in file management cost

IBM WebSphere MQ File Transfer Edition

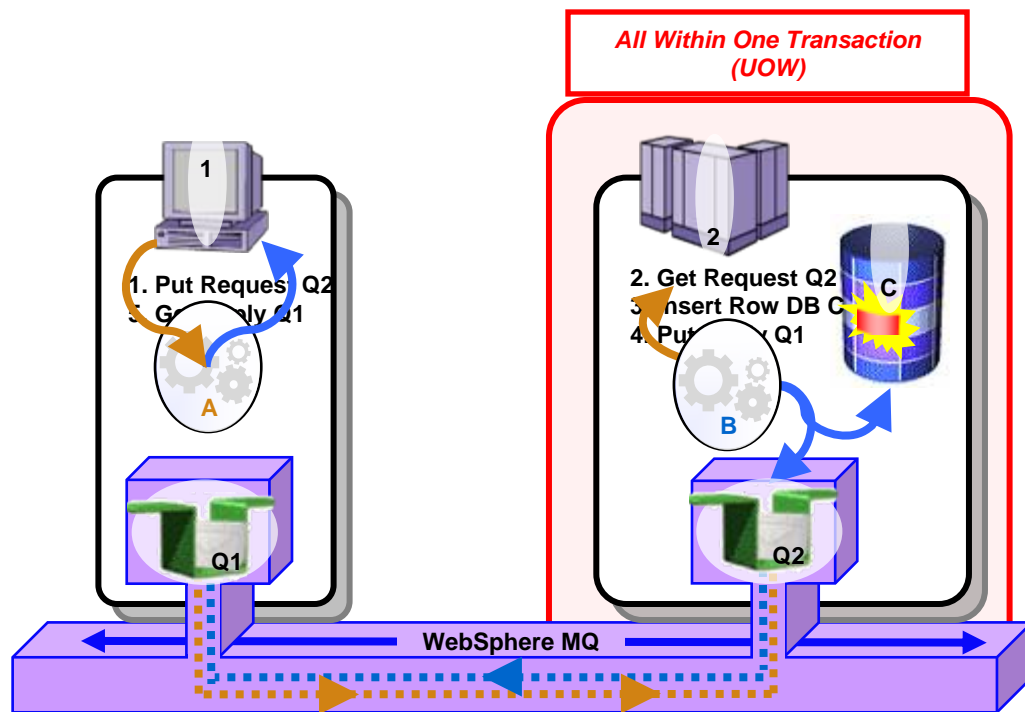
- Builds upon MQ's proven transport
- Delivers robust solution for Managed File Transfer
- Purpose-built to integrate with IBM's SOA portfolio





WebSphere MQ Enhances z/OS Performance

- **MQ V7.0.1 reduces the need for performance resources:**
 - z/OS Constraint Relief
 - z/OS Log Compression
 - z/OS Group Units of Work
 - Automatic Client Reconnection
 - Administration Structure Recovery
 - Phased Migration



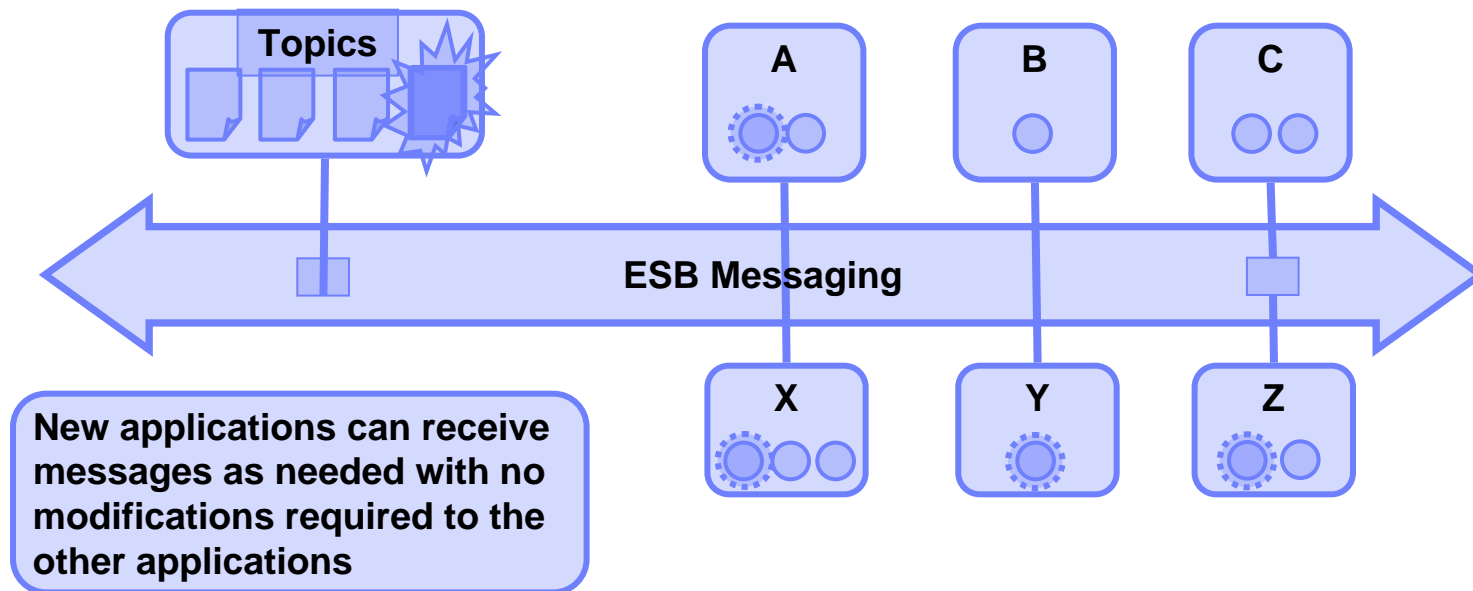


Message & Transaction Delivery Assurance

WebSphere MQ for z/OS

Publish-and-Subscribe for z/OS – first step to constraint relief and better performance

- Dynamic and flexible way of determining where messages are sent
- Helps reduce the cost, time and skills involved when changes are required
- Helps define new paths of information flow in an ad hoc manner

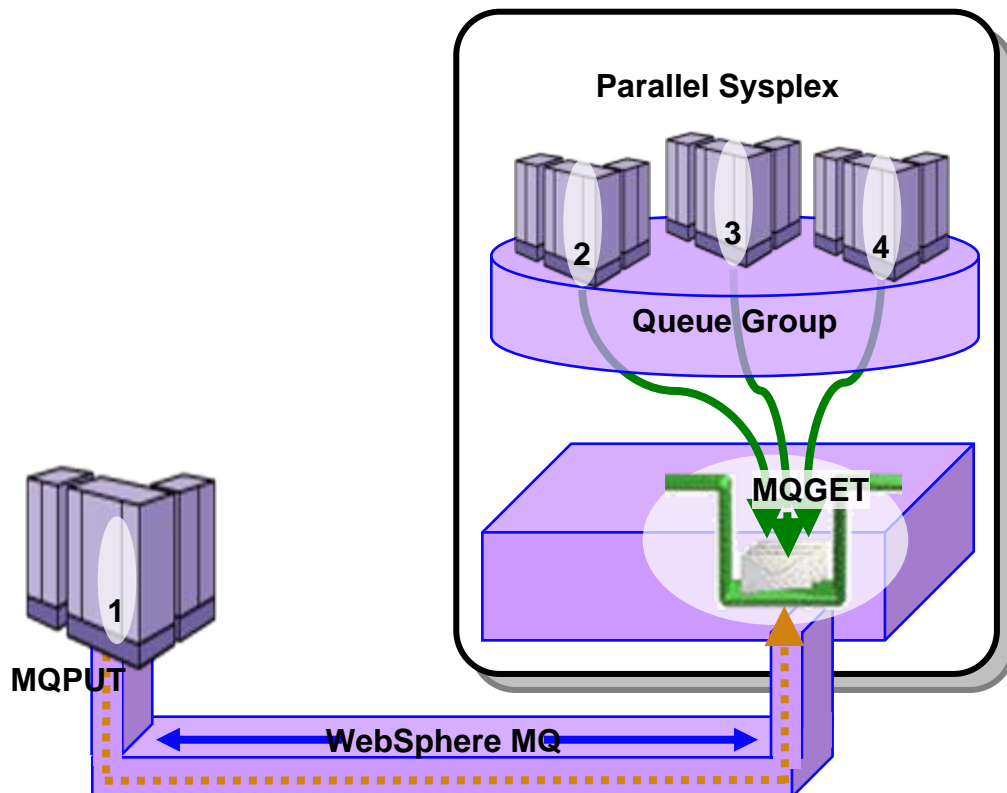




z/OS Constraint Relief helps Transaction Integrity

WebSphere MQ for z/OS

- **Free up space to open more queues without running out of storage**
- **Queue Manager exploits 64-bit storage for certain internal control blocks**
 - 64-bit Queue Indices
 - 64-bit Lock Manager
 - 64-bit Security Manager





z/OS Log Compression

Enables real-time business decisions

- Increases throughput for persistent messaging
- Reduces log size
- RLE (run-length encoding) of “insert” log records for private queue messages
- Controlled via zPARM option at queue manager level.
- Improves I/O processing
- Reduces the bandwidth required to log persistent messages.

The screenshot shows the WebSphere MQ Explorer application window. The title bar reads "WebSphere MQ Explorer - com.ibm.mq.explorer.msOp.updateSite/todo.txt - Eclipse SDK". The interface includes a menu bar (File, Edit, Navigate, Search, Project, Run, Window, Help), a toolbar, and a Navigator pane on the left. The Navigator pane shows a tree view of the IBM WebSphere MQ environment, including Queue Manager Clusters, JMS Administered Objects, Managed File Transfer, Service Definition Repositories, Administered Servers, and Queue Managers. The Queue Managers section is expanded, showing a list of queue managers for the rockall cluster. The main content area displays a table titled "Queue Managers on rockall" with the following data:

Name	Listener Port	QMID	Admin Obj...	State	Instances
ATS_AIX	3414	ATS_AIX_2009-04-21...	No	Running	rockall(Active)
linear	1414	linear_2009-04-21_1...	Yes	Running	rockall(Active)
V53	Unknown	Unknown	Unknown	Stopped	Unknown
V7	2414	V7_2009-04-21_12.3...	Yes	Running	rockall(Active)
V7B	2415	V7B_2009-04-21_12...	Yes	Running	rockall(Active)
V7C	Unknown	Unknown	Unknown	Running as standby	llareggub(Active), rockall(Standby)

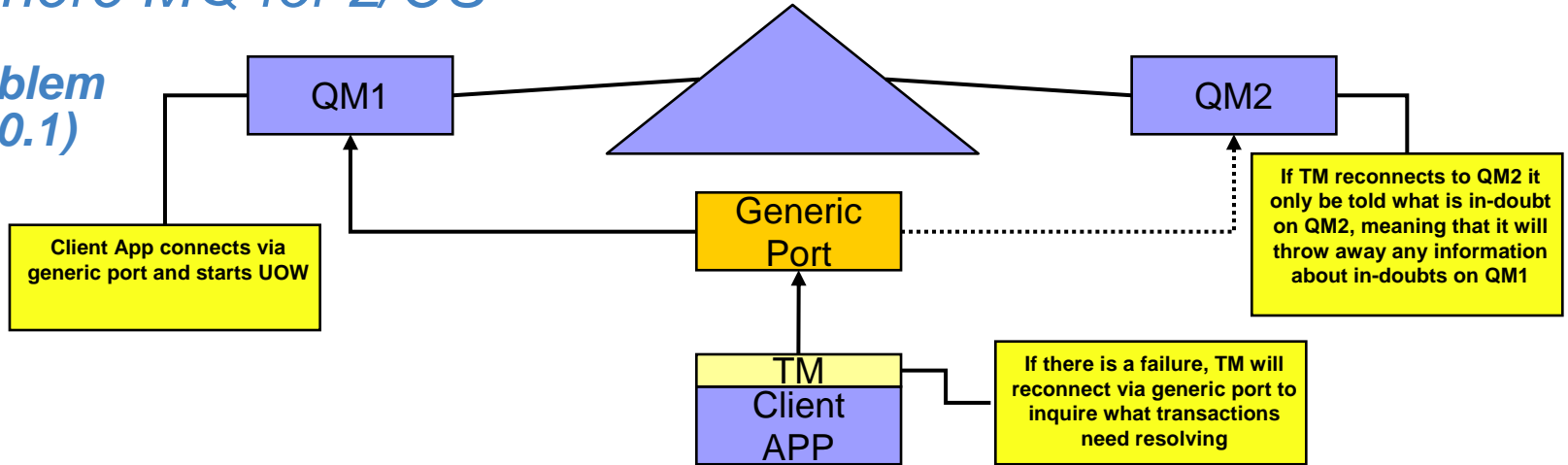
Below the table, it indicates "Last updated: 22 Apr 07:48:06". At the bottom of the window, there are tabs for "Managed File Transfer - Current Transfer Progress", "Console", and "WebSphere MQ Explorer - Activity Viewer". The Console tab is active, showing a table with columns: Source, Destination, Current File, File Number, Progress, Rate, and Started (Europe/London).



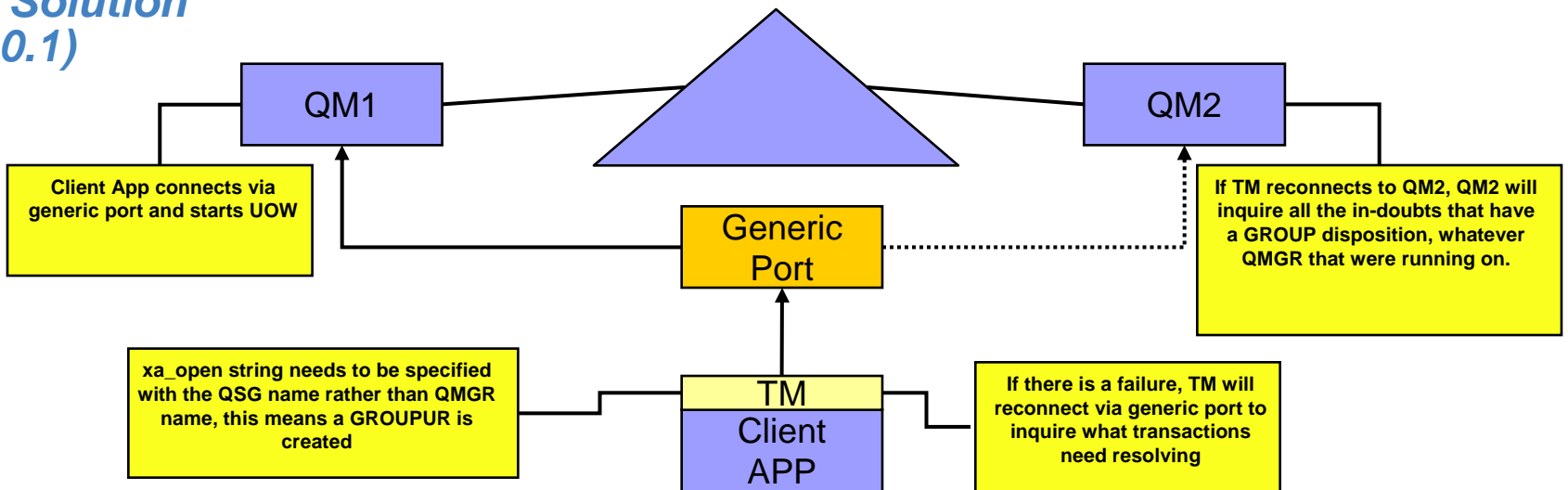
GROUP Units of Work reduce process disruptions

WebSphere MQ for z/OS

The Problem (Pre V7.0.1)



The Solution (V7.0.1)

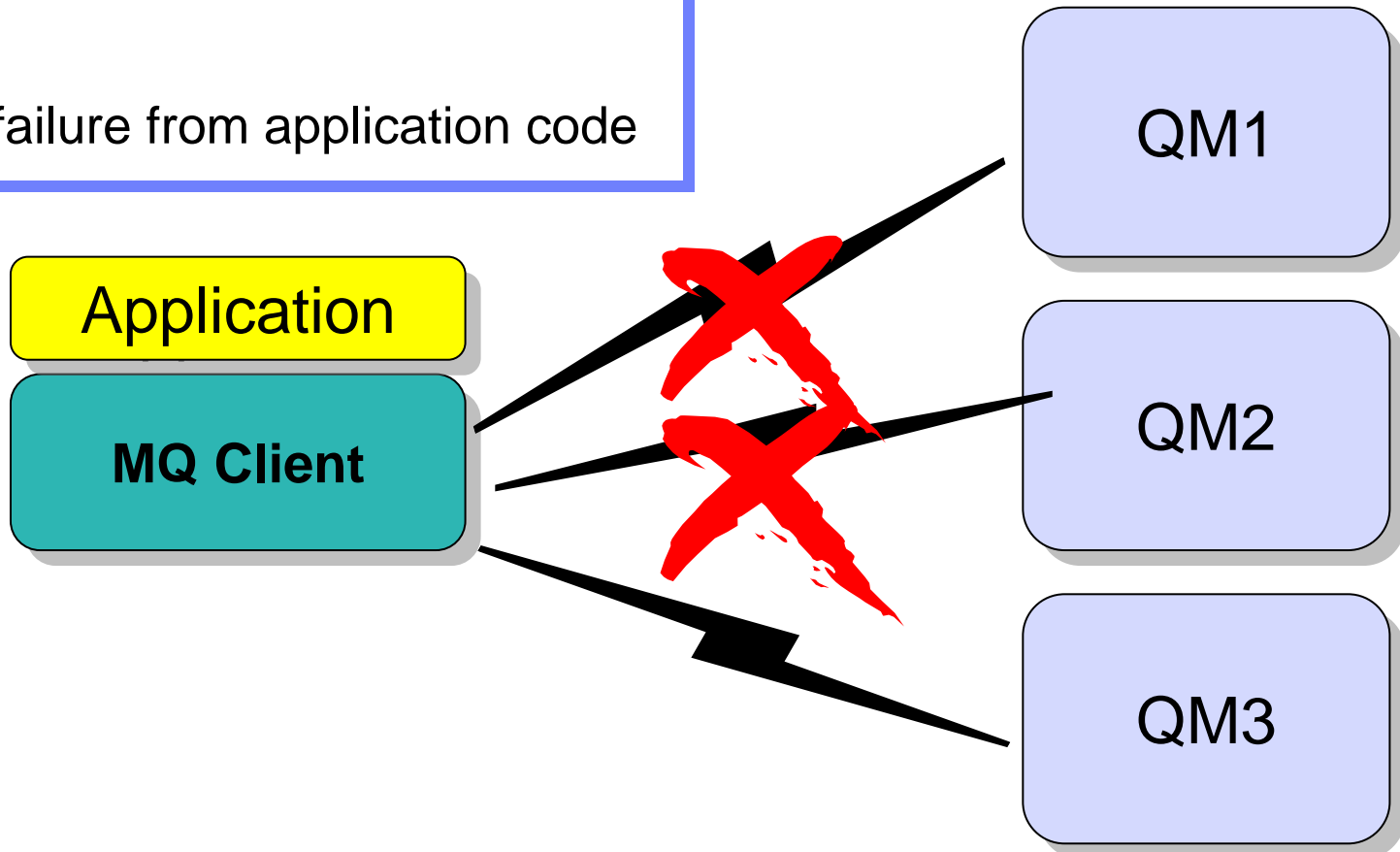




Automatic Client Reconnection prevents data loss

WebSphere MQ for z/OS

- Client library provides necessary reconnection logic on detection of a failure
- Hides failure from application code

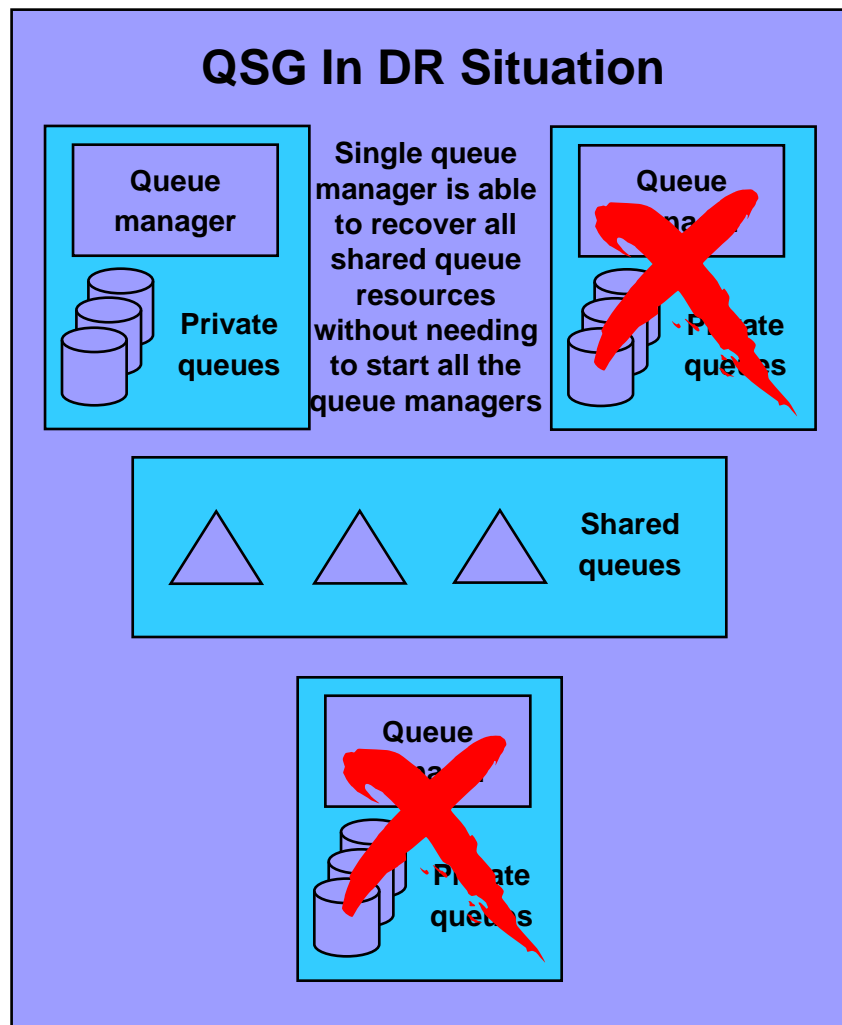




Admin Structure Recovery improves recovery time after system outage

WebSphere MQ for z/OS

- Active queue managers initiate rebuild of admin structure on behalf of failed queue manager
- Eliminates the need for each queue manager to be involved in admin structure rebuild processing
- Improves system recovery time, especially in DR situation



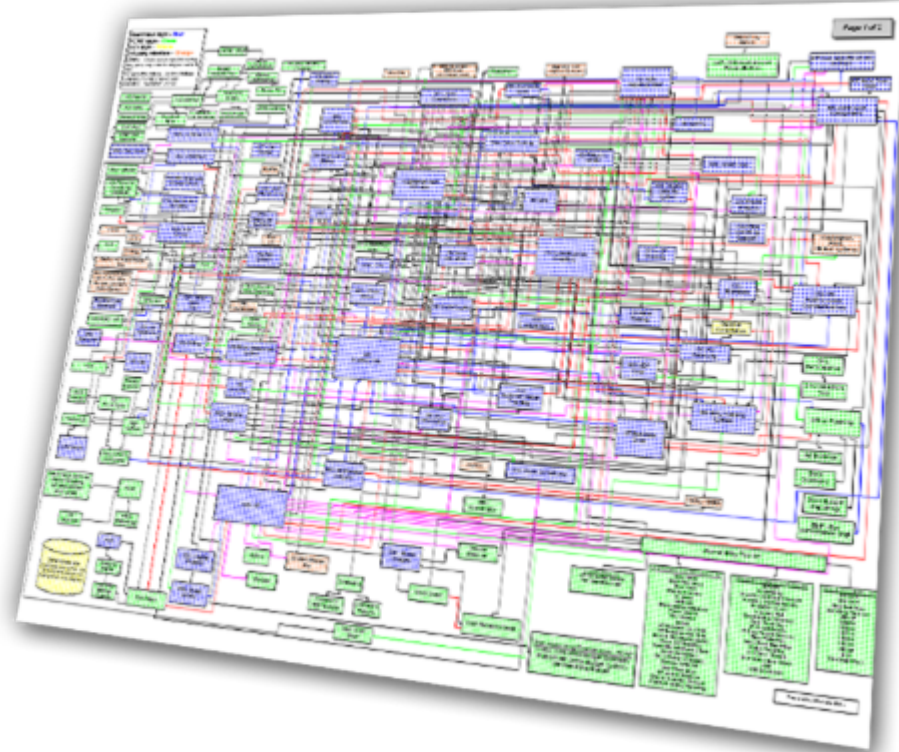
Integration can be Complex and Inflexible

The Situation

- Inflexible, “homegrown” applications don’t integrate
- Variety of different platforms, networks, and devices
- Changes to the business impact current IT environment

Your Opportunity

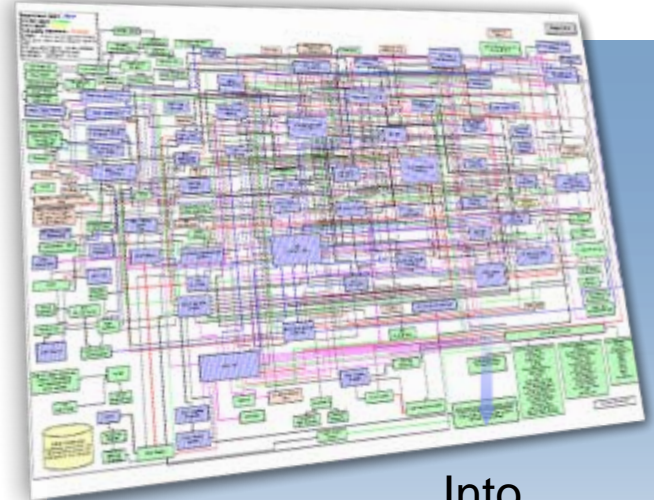
- Single integration hub to connect applications up to 80% faster
- Immediate access to virtually any system
- Improve performance more than 10x, with lower costs



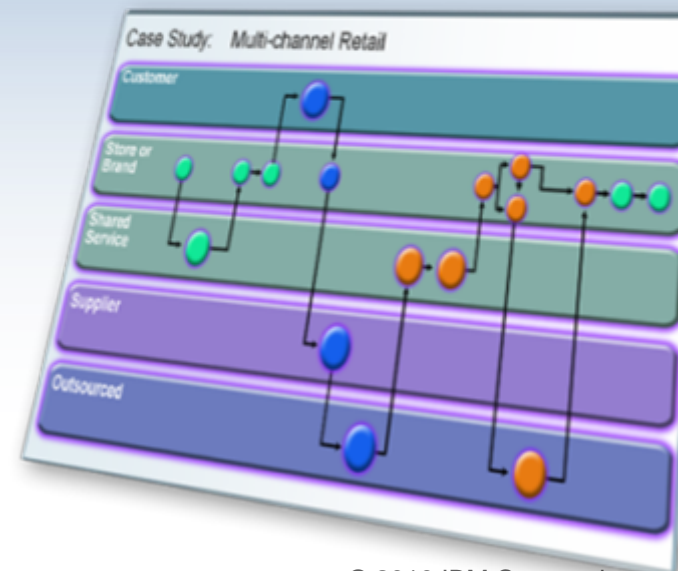


Unifying, Cross-enterprise Integration Hub

- Connect applications regardless of the platform, network, or device
- Enable access to virtually any system through transformation of data
- Develop new business services from existing applications and data



Into this...

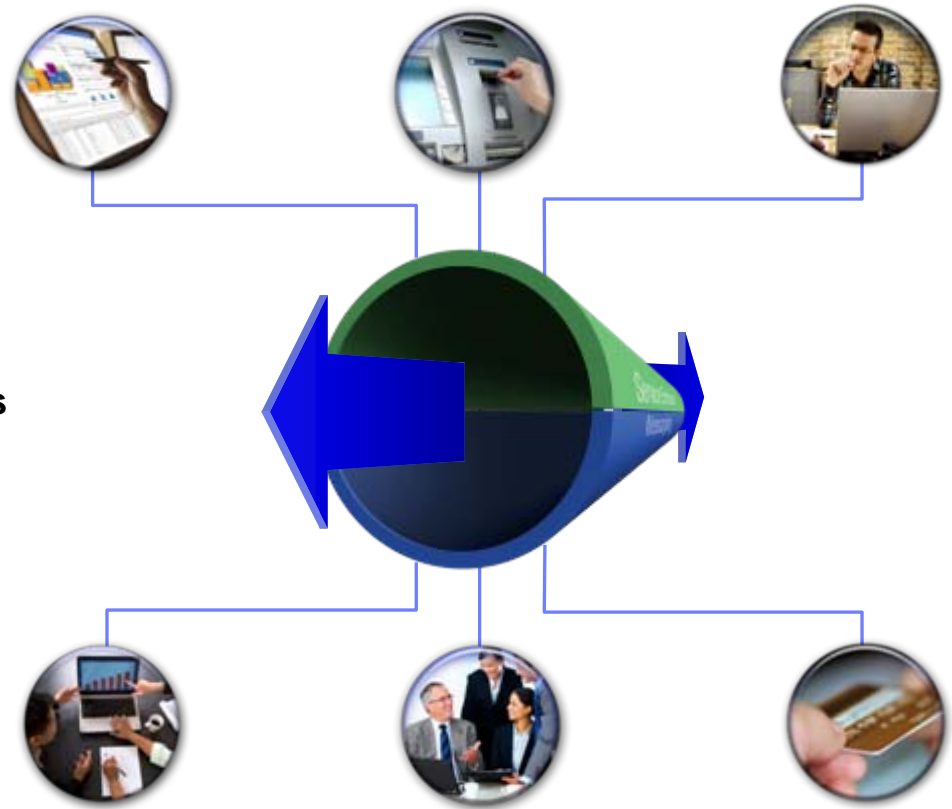




Enable access to virtually any system

WebSphere Message Broker for z/OS

-  **Connects**
Everything to everything
-  **Matches & Routes**
Communications between services
-  **Converts**
Between different transport protocols
-  **Transforms**
Between different data formats
-  **Distributes**
Business events



*A flexible connectivity infrastructure for
integrating applications and services*



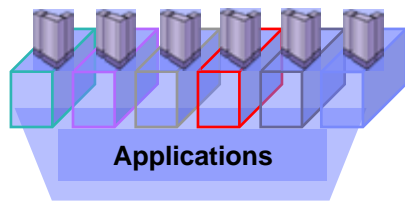
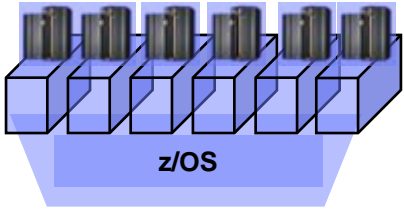
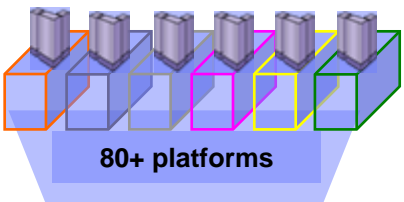
Connect Applications regardless of platform, network, or device

WebSphere MQ for z/OS

Support for virtually every commercial IT System

Exploit System z for messaging powerhouse

Enable popular applications and environments



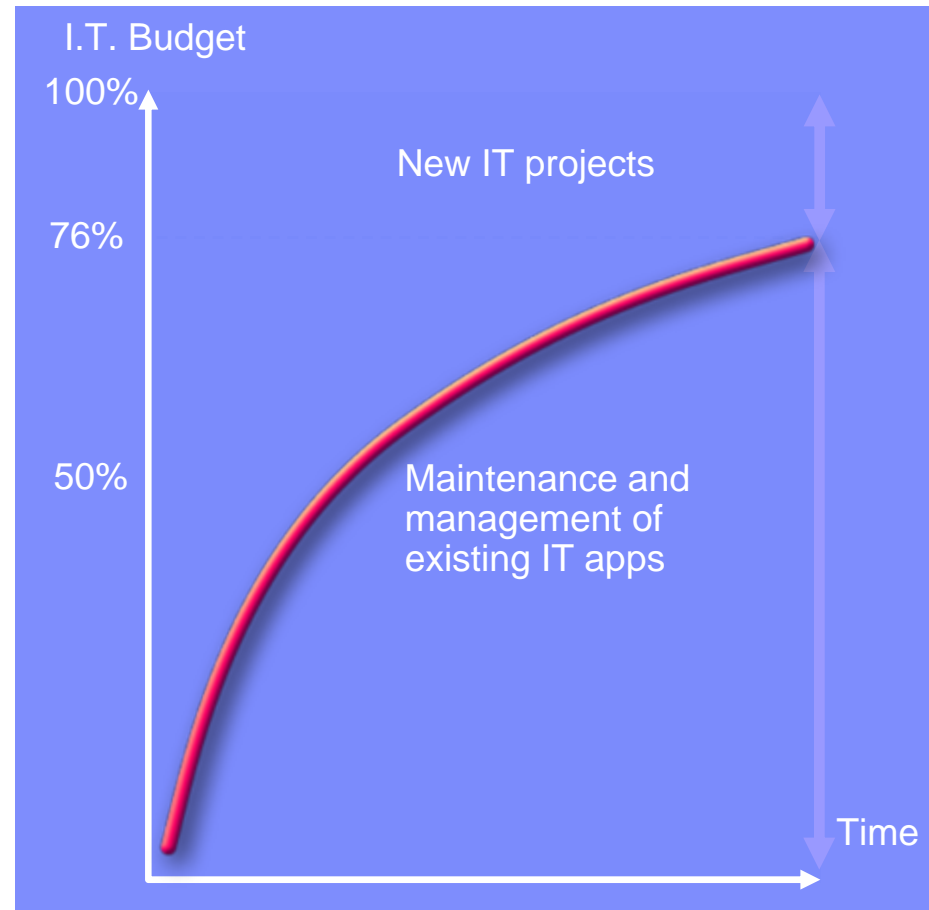
Lack of Cost Optimization

The Situation

- Ongoing integration costs preventing new IT projects
- New assets and skills required for new projects
- ROI not achieved to cover costs

Your Opportunity

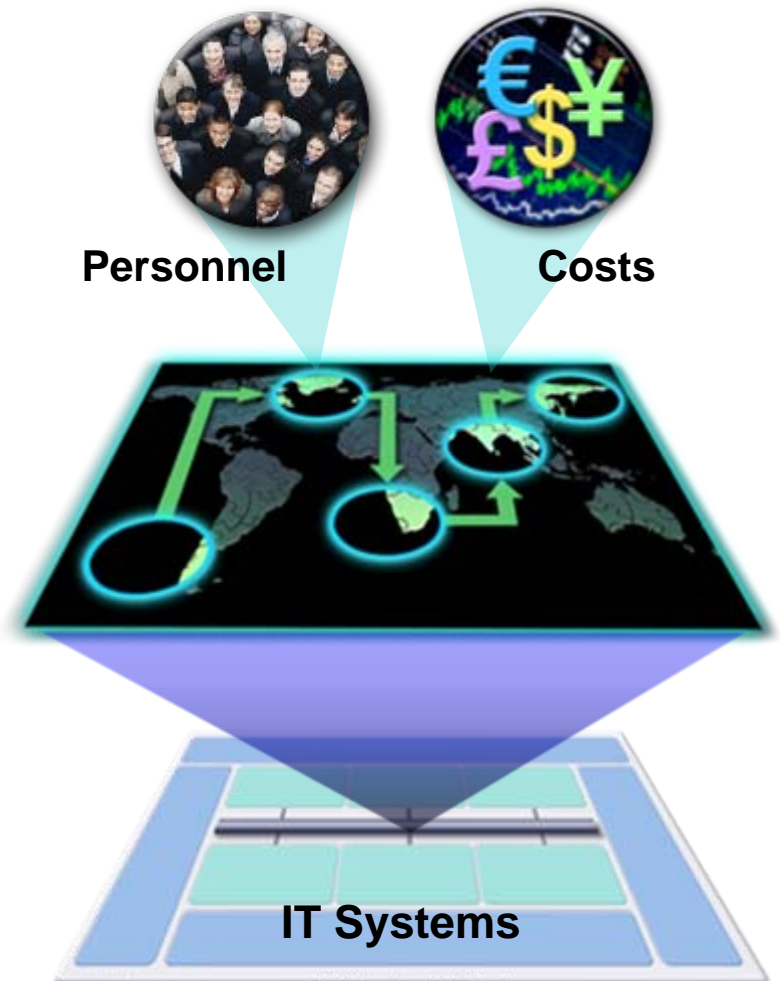
- Cut integration costs up to 55%
- Leverage existing assets and skills for new IT projects
- Achieve ROI in six months
- Decouple connectivity and integration logic from application





Free Up Costs and Personnel for IT Projects

- Decouple complex integration logic from each application
- Leverage existing assets and skills utilizing one integration hub
- Provide universal service delivery including messages, processes, files and events





Leverage existing assets & Skills

WebSphere MQ for z/OS

Web 2.0



HTTP bridging for AJAX applications with simple RESTful interface

Java Message Service (JMS)



Industry standard Java interface for point-to-point and pub-sub msg

MQ Interface



IBM interface providing full function MQ access for Java, C, C++, COBOL, .NET, PL/1...

Multi-Language Message Service



IBM interface offering JMS behaviours in more languages than Java

- Support the broadest range of interfaces, languages and skills
- Leverage the skills you already have
- Draw IT skills from a larger pool
- Choose the right interface for the application

Windows Communications Framework



Seamless experience for .NET (Indigo) Developer

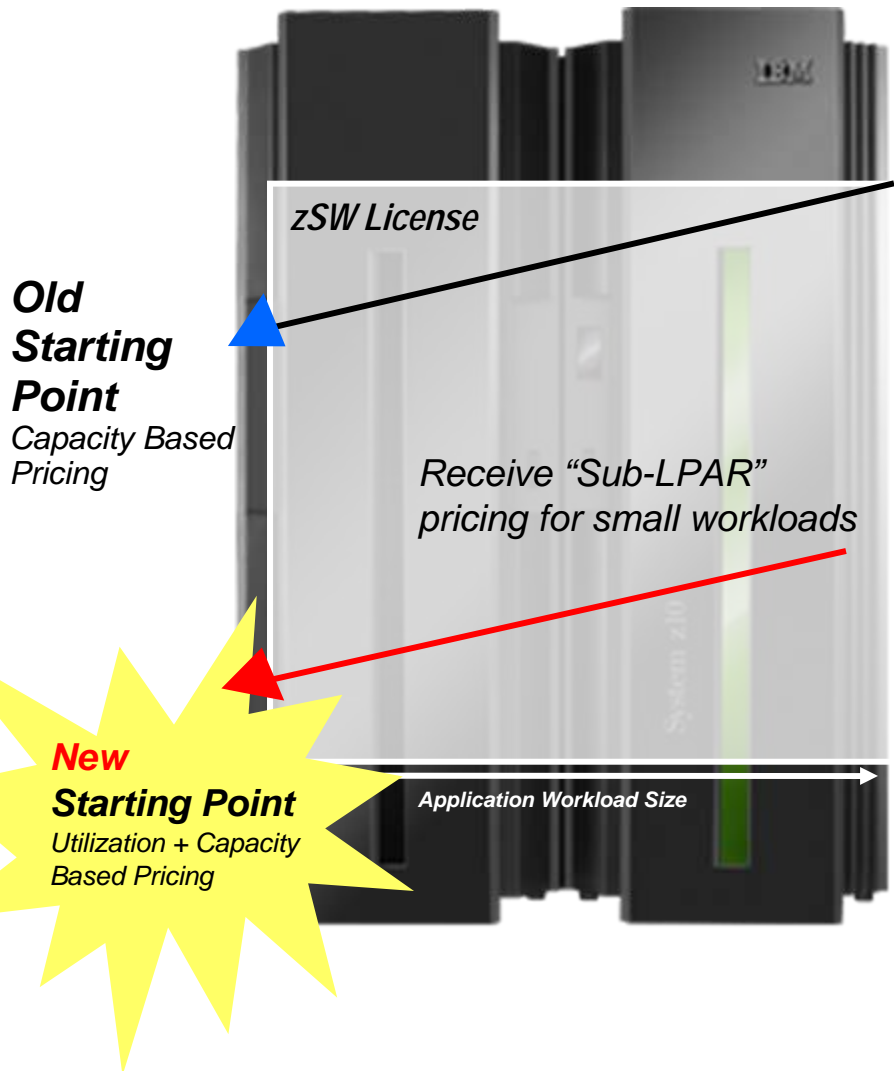
SAM / PHP



Open source extension for PHP Web Scripting



Getting Started Easily with Sub-capacity Pricing for z/OS



- ✓ Help customers start their projects
- ✓ Improve alignment between software use and software charges
- ✓ Enable greater flexibility with software licensing
- ✓ Change LPAR capacity without changing software charges
- ✓ Improve price / performance

Old Technology with no Differentiation

The Situation

- Unable to create differentiated and low cost services
- System performance impacts business
- Unable to react to critical business events

Your Opportunity

- Use Web 2.0 technology to create new low cost, differentiated services
- Improve system performance by 10X
- Unify and capture events as they occur with 0% delay





Easily Bridge to Next-gen Technology

- Connect new Web 2.0 technologies to back-end, core applications
- Isolate complex mediations in a high-performance, central hub
- Unify and capture events in an ESB

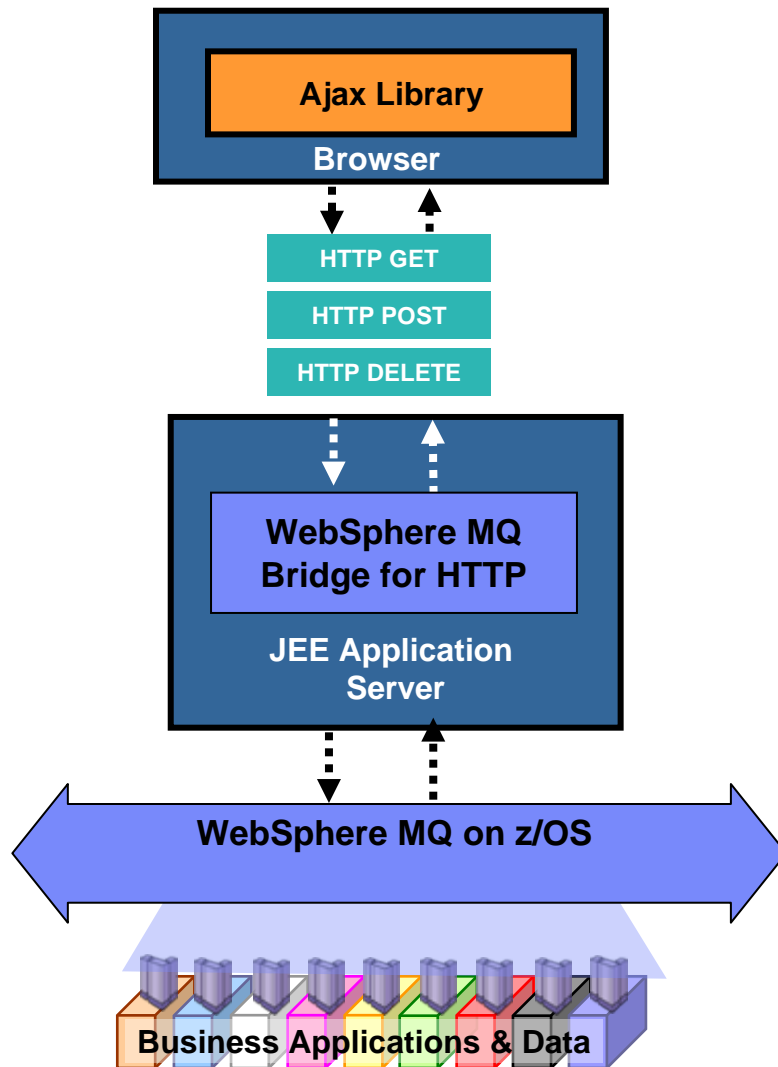




Connect new Web technologies to core applications

WebSphere MQ for z/OS

- Enriches Web 2.0 applications with real business data
- MQ skills are not required
- Simplifies deployment and maintenance of large scale distributed applications





Bridge to Next Generation Interconnectivity

IBM Protocols

WebSphere MQ (+ File Transfer Edition)
(Enterprise applications (+ managed file transfer))

WebSphere MQ Everyplace
(Mobile device applications)

WebSphere MQ Telemetry
(RFID, sensors & actuators)

WebSphere MQ Real-time
(Very low latency over WANs, and the Internet)

WebSphere MQ Multicast
(Reliable Multicast Messaging (RMM))
(Very low latency for LANs)

Industry and Vendor Protocols

Any 3rd-party JMS
(TIBCO EMS, Sonic MQ, BEA JMS, webMethods, See Beyond, Vitria)

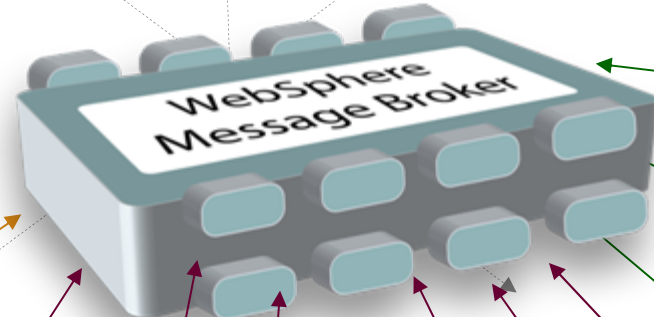
TIBCO Rendezvous
(plug-in component)

HTTP and HTTP(S)

FTP and File

TCP/IP Sockets

SMTP



SAP **Oracle** **CICS** **Siebel** **JDEdwards** **PeopleSoft** **Custom**

Enterprise Applications



CAIXA Econômica Federal extends lottery services

ESB Messaging and Enrichment

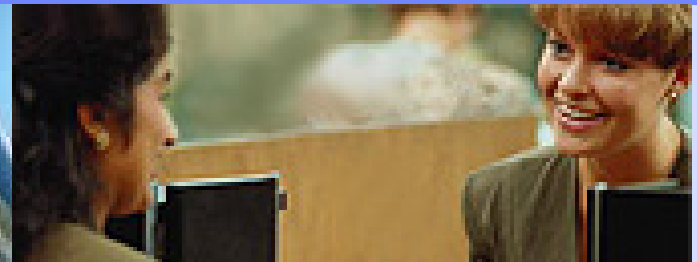


Industry Pains

- A public bank manages lottery operations, a major source of revenue for the Brazilian government.
- A third-party was managing operations that was slow and expensive to maintain

Smarter Business Outcomes:

- Implemented a efficient new lottery system for the Brazilian government
- Slashed infrastructure acquisition costs by over 50 percent, or US\$330 million
- Increased lottery participation nationwide by seven percent
- Delivered enhanced convenience and efficiency to its customers



Why Smart SOA Connectivity & Integration?

Expanded banking infrastructure allows customers to make payments at either official bank locations or lottery offices, a service benefit for Caixa's customers.



Benefits of using System z for Connectivity & Integration

▪ **Virtualization**

- High resource utilization
- Massive consolidation and simplification

▪ **Performance**

- Improvements when co-locating with z/OS data



▪ **Efficient growth**

- Pay for what you use

▪ **Business critical workloads**

- Automated recovery from failures
- Dynamic workload balancing



Impact 2010 Highlights

Impact 2010 - The Premier Conference for Business and IT Leaders

Discover new innovative ways to work smarter and achieve business agility now. Impact 2010 provides a unique setting to bring company executives and technologists together at a single event providing a unique opportunity for them to discover how to align business objectives with IT, interact with technology and business leaders and experts from around the world and ultimately optimize their business performance and results.

A new Business Program that will focus on:

- optimizing business processes
- improving decision management
- empowering the changing workforce, and globalization

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Learn More...

More information on the value of ESBs can be found here:

Considerations for making System z your ESB deployment platform

<http://www-01.ibm.com/software/integration/wmq/library/libraryallversions.html>

More information on WebSphere Message Broker can be found on DeveloperWorks:

The value of WebSphere Message Broker V6 on z/OS

http://www.ibm.com/developerworks/websphere/library/techarticles/0604_odowd/0604_odowd.html

More information on WebSphere MQ can be found on the WebSphere MQ library:

WebSphere MQ - IBM application integration software on IBM System z technology

<http://www-01.ibm.com/software/integration/wmq/library/libraryallversions.html>





Let's Build a Smarter Planet on System z

