



IBM Software Group

# IBM TXSeries for Multiplatforms

*Robust and Secure Transaction processing for distributed Systems*

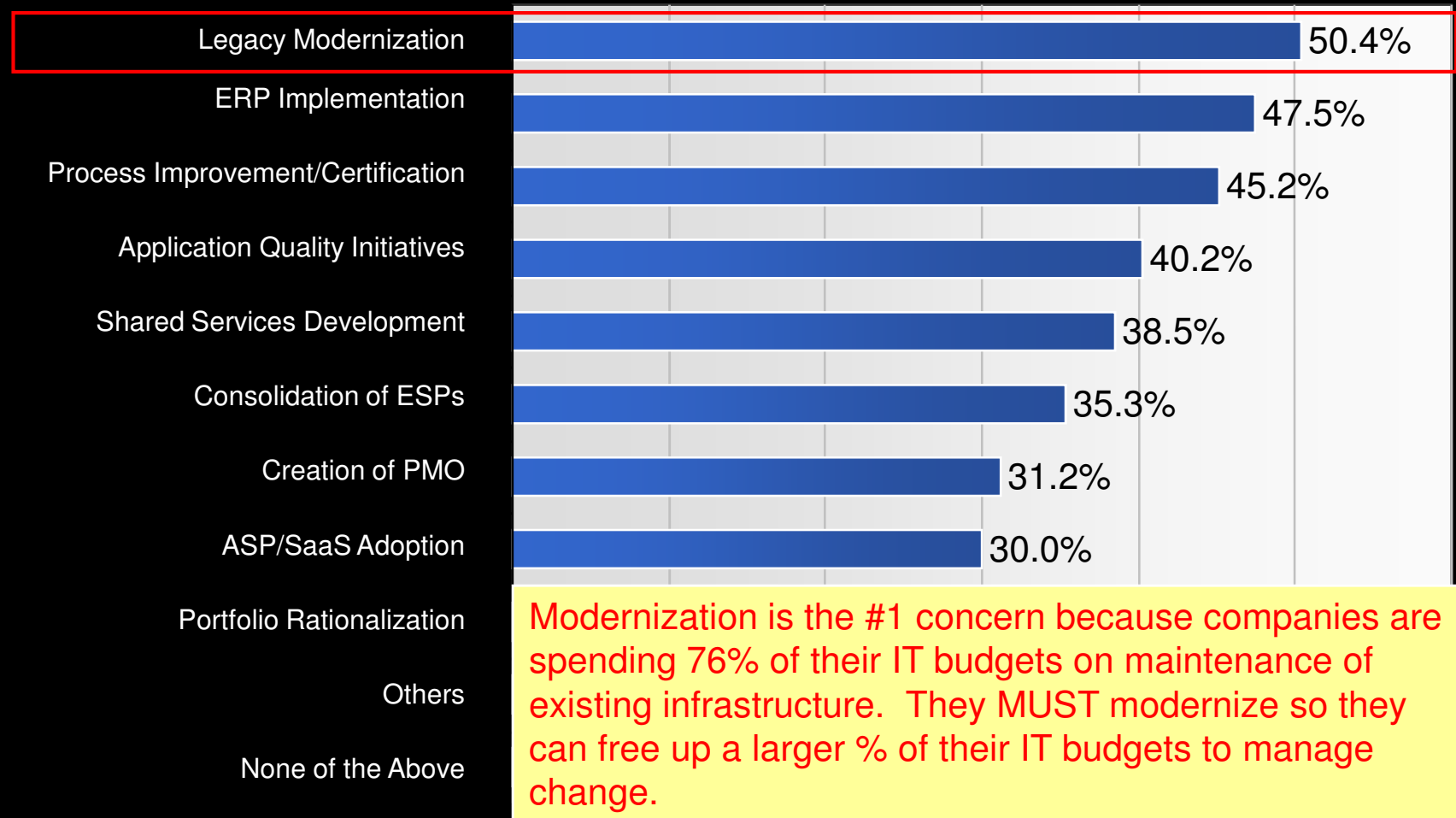
## Executive Summary



# Agenda for the Session

- **Bird's Eye View**
  - Pain Points, Reuse benefits
  - CICS in pace with Events and Web 2.0
  - Other aids in modernization
- **What is TXSeries and what does it do?**
- **TXSeries in action – Real world Case Studies**
- **Deployment Scenarios**
- **Positioning with CICS Transaction Server for z/OS**
- **TXSeries Version 7.1 value proposition and highlights**
- **Summary and Further Information**

# Modernization is the top customer application initiative



Source: Gartner, "Application Services Scenario: Future Trends and Directions," April 2007

User Priorities for Application Initiatives for the Next Two Years  
N = 343

Gartner

# Enterprise Scale I/T “Pain Points”

- CPU Utilization > 90%
- Tight On-line and Batch Windows
- Declining In-house System z Skills
- Growing demand for new business applications
- View TS upgrades as another cost
- Supporting Complex Environment
  - Running Multiple z/OS LPARs
  - Multiple CICS Regions



# Reuse Business Applications

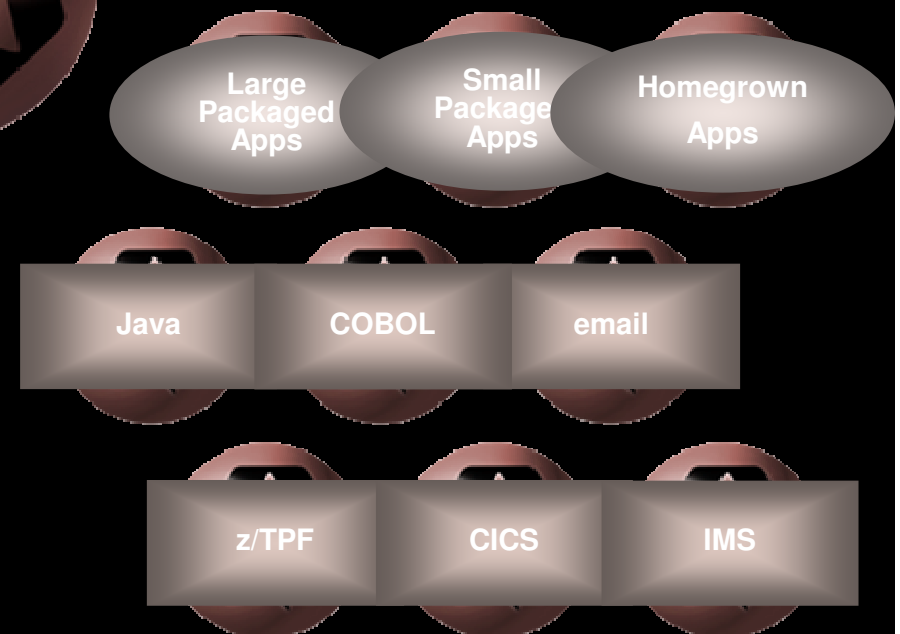
## *Enable Agility Required for Smart Business Outcomes*

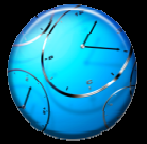
### Get More Value from Applications & Expand Business Opportunities

- Service-enable existing packaged and existing apps
- Create new, reusable services
- Extend reusable services to the web
- Consume external reusable services

### Benefits

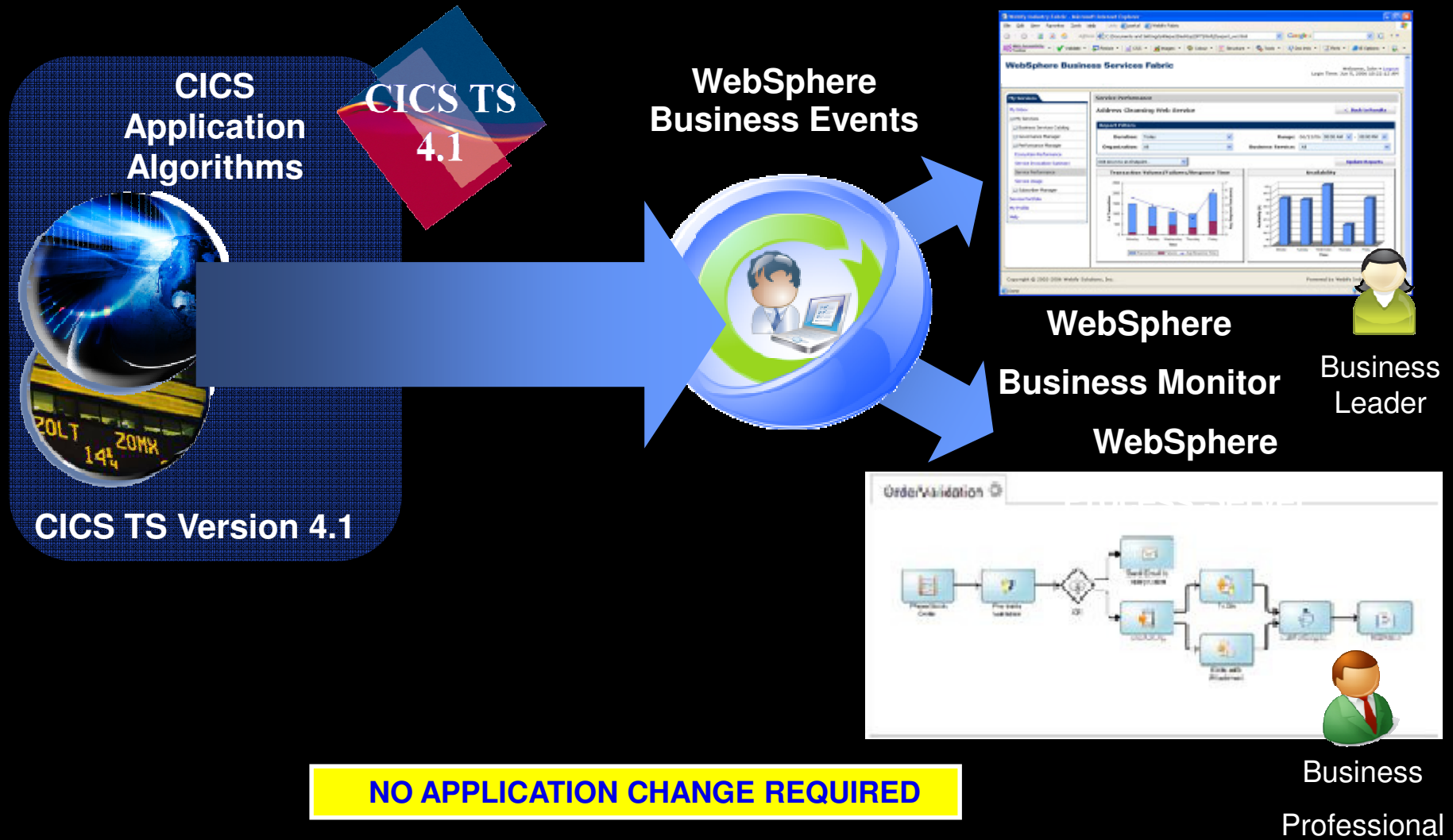
- Extend ROI by reusing prior investments
- Reduce risk and costs by leveraging robust applications
- Speed time to market with faster development cycles





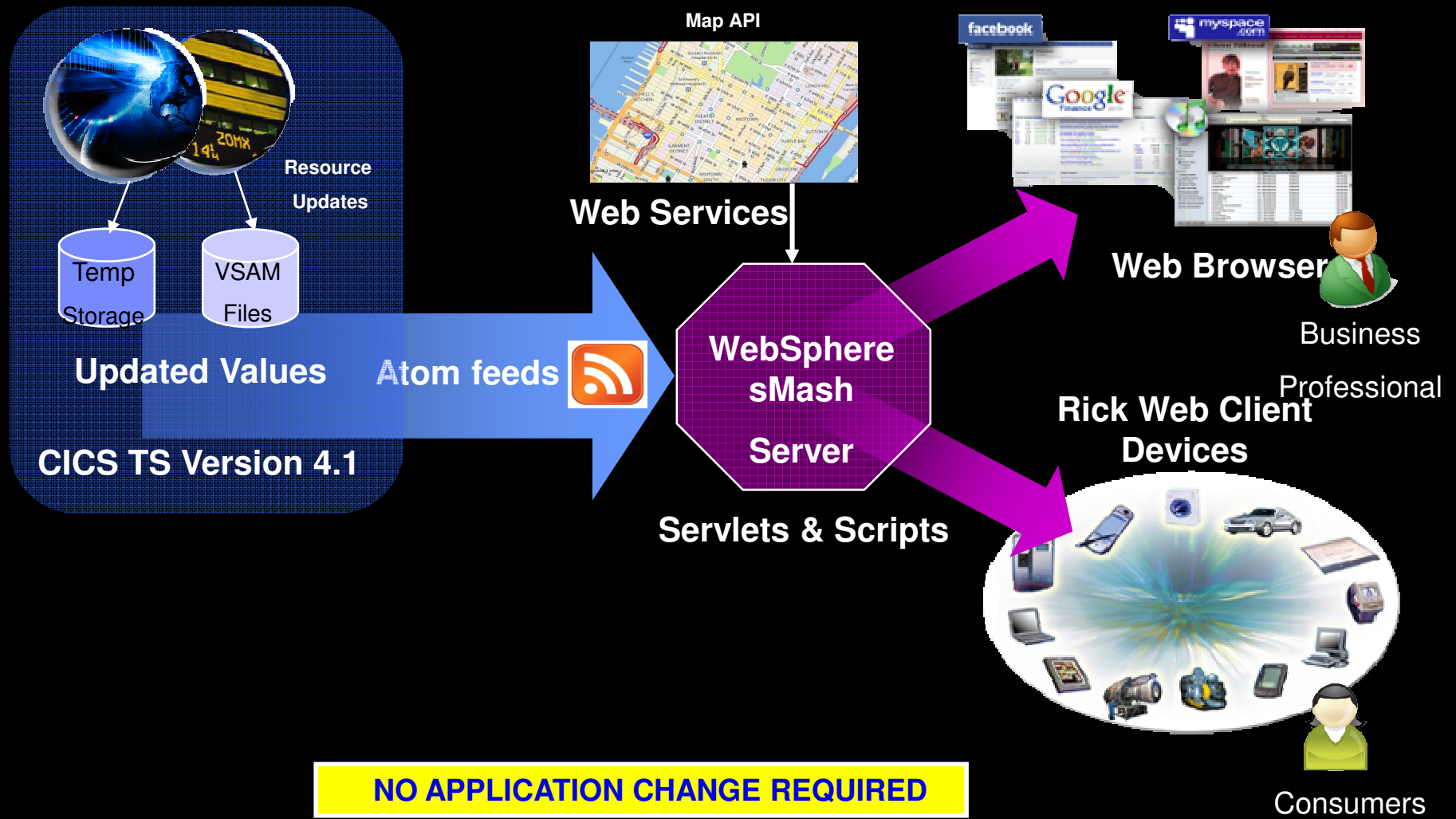
# Transform Insight into Action

## *CICS Events and WebSphere Business Events*



# Build Situational and Web 2.0 applications

## *CICS ATOM Feeds*



# A Large insurance company in Europe



## Industry Pains

- Need to access more functionality and spread out its data processing load
- Reduce CPU usage to cut operating costs

## Smarter Business Outcomes:

- Reduces CPU usage for CICS technology by 400 million instructions per second (MIPS), for savings of \$320,000
- Cuts CPU usage in the internal coupling facility by 40%
- Achieve CPU savings through threadsafe functionality



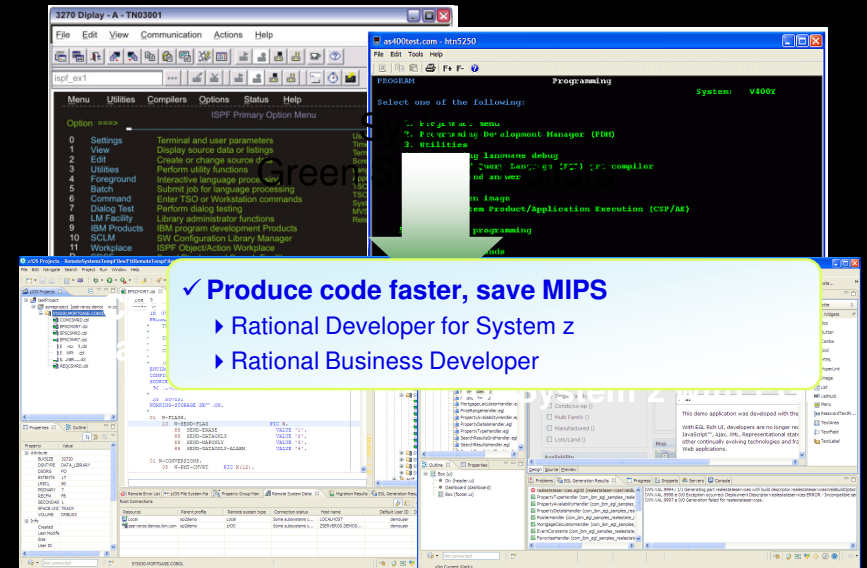
## Why Smart SOA Infrastructure?

Deliver on business objectives and reduce operating costs

# Improve developer productivity with modern IDEs



- Use common Eclipse-based tooling across multiple platforms and languages
  - ▶ Achieve ~15% improvement in mainframe developer productivity<sup>1</sup>
  - ▶ Reduce host CPU usage 50%-80%<sup>1</sup> with workstation syntax checking
  - ▶ Reduce training costs, more attractive IDE for younger developers
- Speed development with specialized editors and code generation wizards
  - ▶ Code assist for COBOL, PL/I, C/C++, Visual editors for BMS and MFS maps
  - ▶ Generate code from UML



✓ Produce code faster, save MIPS

- ▶ Rational Developer for System z
- ▶ Rational Business Developer

**Target Platform:**  
System z, IBM i, and distributed

<sup>1</sup> Aggregation of results from a productivity study conducted by IBM mainframe customers.

# Build multiplatform apps with existing/new staff



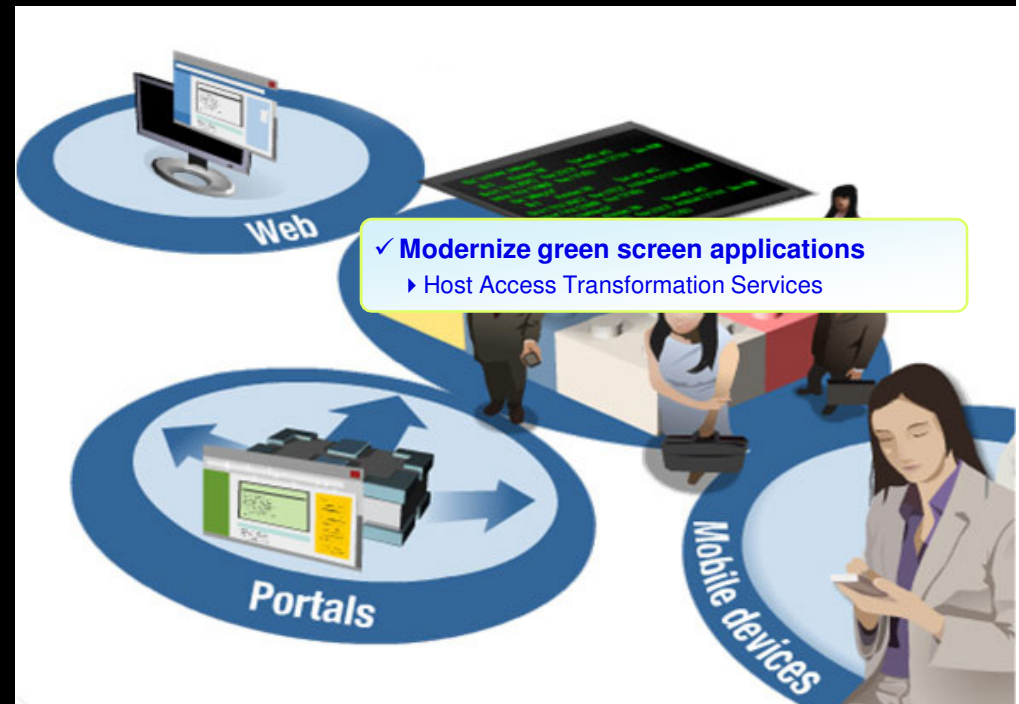
- Deliver multiplatform solutions quickly
  - ▶ Leverage abstractions to hide middleware & platform complexity
  - ▶ Deploy to any platform, including J2EE™, System z and IBM i, Linux
- Build modern Web 2.0 user interfaces without being a technology expert
  - ▶ Empower existing developers to build Rich Internet Applications (RIA)
  - ▶ Eliminate need to have skills in JavaScript, Ajax, JSON, HTML and CSS, etc.
- Get huge savings by migrating from old, stagnant languages
  - ▶ Solutions for Natural/ADABAS and Cool:Gen





## Extend green screen apps for new uses without web skills

- Use your existing staff to provide Web, portal, mobile or rich client UIs for your green-screen applications
  - ▶ Provide your end users with flexible, secure Web access to business applications
  - ▶ Dramatically reduce end user training and improve IT staff productivity
  - ▶ Deploy with no source code modification or application downtime
- Expose host business processes as Web Services



# What is TXSeries and what does it do?

- IBM's premier distributed transaction processing monitor for mixed languages
  - Provides transaction capabilities for CICS style applications written in COBOL, C, C++, Java and PL/I
- Part of IBM's CICS family of products
- Provides business critical transaction management and integration capabilities
- Proven for 10 years+ to deliver modern, reusable, business critical applications
- Widely used in stand-alone and in support of IBM mainframe and IBM WebSphere deployments

TXSeries for Multiplatforms enables you to scale up to CICS Transaction Server on the mainframe if the needs of your business evolve (no other distributed TPM designed to allow this)



# TXSeries - Roadmap

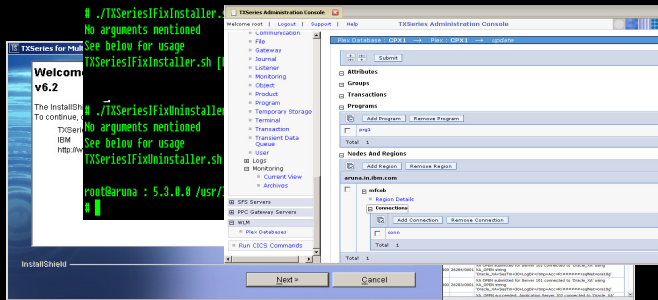
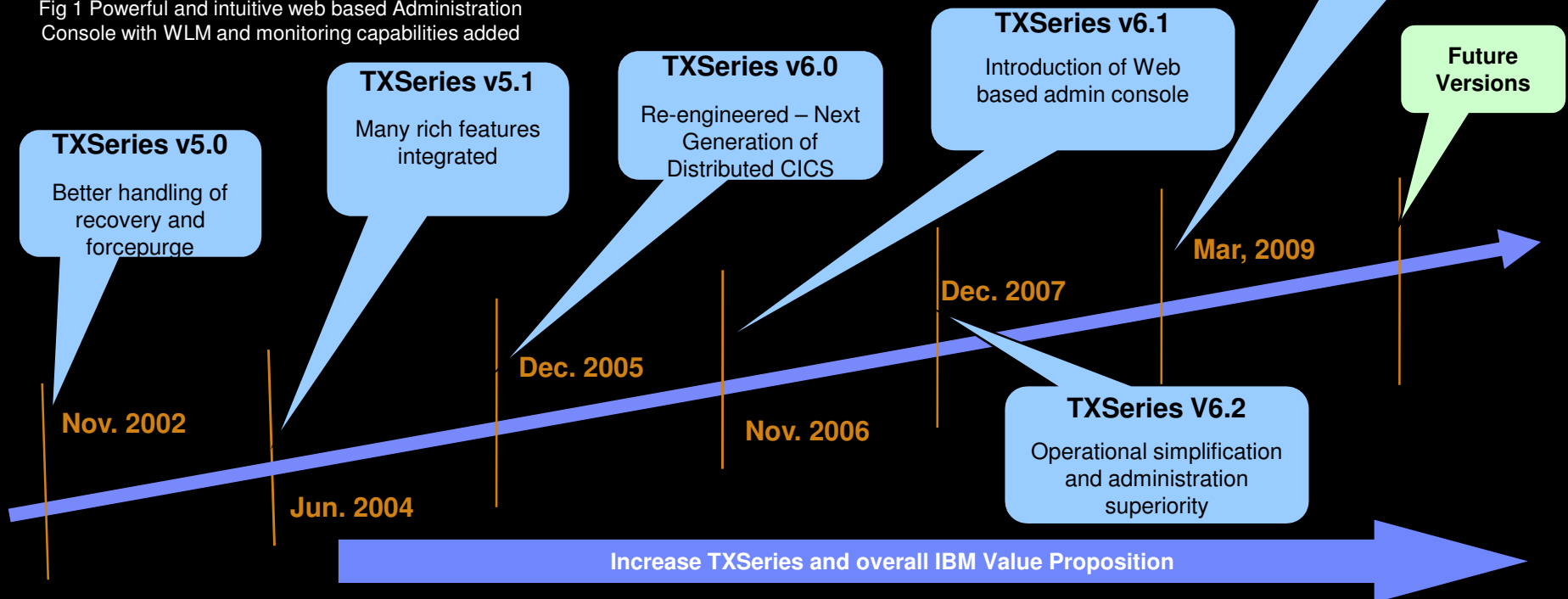


Fig 1 Powerful and intuitive web based Administration Console with WLM and monitoring capabilities added

- More than a decade long
- 5.x – Better capability
- 6.x – Simplification and ease of use
- 7.x – Better Integration capabilities



\* All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice.

# TXSeries V7.1 brings maximum Business value

## Simplifies interoperability on Standard Protocols

✓ Simplified data exchange increases programmer productivity

✓ Simplifies network administration

✓ Maximizes Transaction Performance & Reliability

## Improves RAS & usability

✓ Minimizes Risk of Application Failures & Outages

✓ Minimizes Application Development Time & Cost

✓ Enables advanced monitoring and management

- TXSeries provides services that interact with the IBM AIX, Microsoft® Windows®, Sun Solaris and HP-UX (PA-RISC & Integrity) systems – hiding complexity and maximizing functionality
- TXSeries delivers a managed environment for COBOL, C, C++, PL/I and Java™ applications - supporting failure recovery and to access to shared data
- TXSeries processes thousands of transactions per second – delivering high performing and reliable distributed transactional services, that integrate well in a SOA
- TXSeries facilitates the best practices of CICS program design by supporting the separation and reuse of the component parts of an application.

# Agenda for the Session

- **Bird's Eye View**
- **What is TXSeries and what does it do?**
- **TXSeries in action – Real world Case Studies**
  - Deployments worldwide
  - Brief of case studies
- **Deployment Scenarios**
- **Positioning with CICS Transaction Server for z/OS**
- **TXSeries Version 7.1 value proposition and highlights**
- **Summary and Further Information**

# Deployment of TXSeries - World Wide

TXSeries is commonly used in many small, medium and large business enterprises world-wide across sectors, including:

## ■ Banking

- 8 out of 10 major banks in China

## ■ Finance

- Large investment institutions in Americas

## ■ Transport

- A major global transportation company serving EMEA region

## ■ Insurance

- Two large insurance companies in India

## ■ Telecom

- Major mobile telecom operators in UK, Americas, China

## ■ Manufacturing

- Second largest steel producing industry in China

## ■ Health Care

- Many Hospital Information System (HIS) implementations

## ■ Government

- Many government housing funds and social bureau in China



## A large US Computer Services Company

### **Industry:** Computer services

*"The increase in performance is truly incredible. We never thought that a transaction platform could be as fast as the IBM TXSeries for Multiplatforms solution is, but it dropped our already speedy 5-minute 1,000-order processing time to just 54 seconds."*

— Customer



### *Boosting order-processing speeds by 400 percent*

#### **CHALLENGE**

- Support business growth, greater order volumes and an increased market share by gaining additional processing power and capacity to manage the expanding incoming workload
- Migrate to a better performing, more secure transaction platform that would qualify the company to be certified through the Payment Card Industry Security Standards Council

#### **SOLUTION**

- Teamed with IBM to install IBM TXSeries® for Multiplatforms software, a distributed transaction server and rapid deployment integration platform
- Launched the IBM CICS® Transaction Gateway solution to transform the client's newly deployed batch programs into secure Web-based services

#### **BENEFITS**

- Speeds order processing by more than 400 percent
- Enables the client to better meet its service level agreements
- Meets Payment Card Industry Security Standards Council requirements

## A Large Italian Financial Services Provider

### *Industry: Financial Services*

*"The new solution has allowed the company to streamline its business processes, speeding up operations and improving its competitive edge. For example, insurance brokers can create and process all kinds of policies in real time, a major improvement in efficiency over previous business processes."*

— Customer

### *Streamlines e-business processes*

#### CHALLENGE

- Integrate J2EE™ Web applications and back-office applications that are key for processing and updating customers' insurance policies
- Streamline workflow and reduce delays and overhead costs
- Provide flexible platform for growth

#### SOLUTION

- Information gathered from various offices and the central data repository is automatically updated across systems in real time with IBM TXSeries® for Multiplatforms, eliminating the manual integration processes that used to hamper operations

#### BENEFITS

- IBM TXSeries for Multiplatforms provides an "intelligent" gateway linking the customer's Java/ WebSphere® Application Server Web environment with Oracle databases and ERP solutions and reusing COBOL-based core business applications. TXSeries is used to coordinate all information and application updates, both locally and remotely, for IBM CICS® and IBM IMS™ connections.

<ftp://ftp.software.ibm.com/common/ssi/pm/ab/r/lrginstxser/LRGINSTXSER.PDF>



## A Large Insurance Company based in South Korea

### *Industry: Insurance*

*"We serve tens of thousands of visiting customers a day via our website. The increase our site responsiveness truly drives our business."*

— Customer

### *Providing high customer satisfaction*

#### **CHALLENGE**

- Need a high-performance Web services platform to support increases in business and number of web users
- Improve the speed, efficiency and responsiveness of the company's Web site to boost revenue and increase market share

#### **SOLUTION**

- IBM WebSphere Application Server provides a secure, scalable application layer
- TXSeries for Multiplatforms Provides the interface between Web applications and CICS applications running on the host system
- Data hosted on CICS can be accessed and reused through CICS Transaction Gateway

#### **BENEFITS**

- Significantly increased Web site responsiveness and availability
- Higher Internet sales results
- Lowered Web site operations and maintenance costs



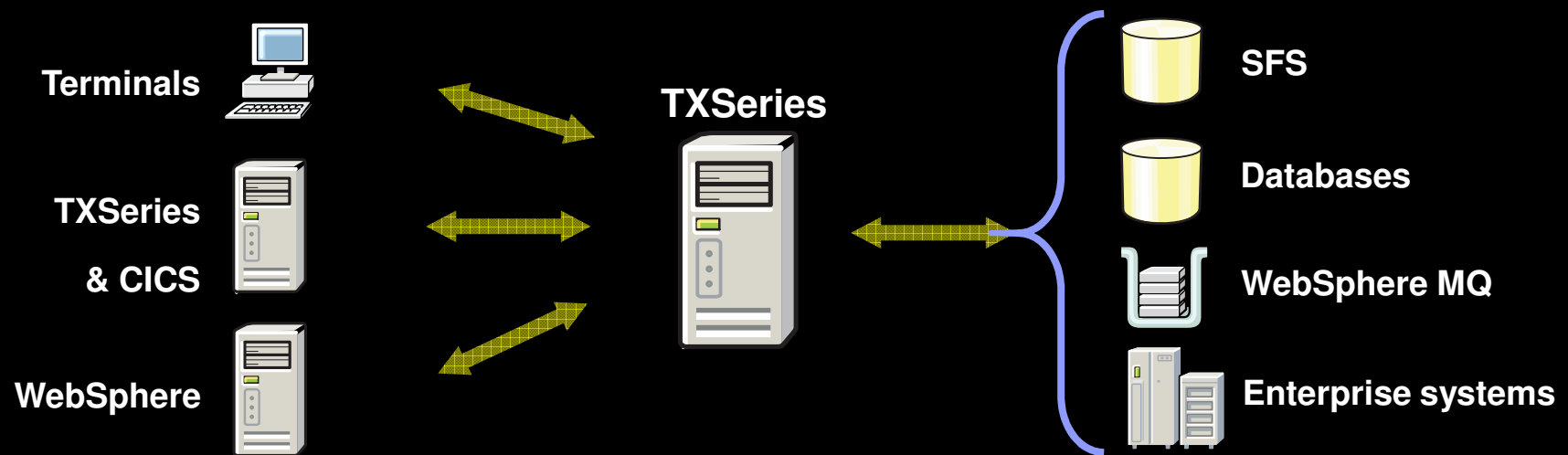
# Agenda for the Session

- **Bird's Eye View**
- **What is TXSeries and what does it do?**
- **TXSeries in action – Real world Case Studies**
- **Deployment Scenarios**
  - Stand-Alone distributed transaction Server
  - Rapid Integration Server
  - Application Modernization Platform
  - Component of SOA
- **Positioning with CICS Transaction Server for z/OS**
- **TXSeries Version 7.1 value proposition and highlights**
- **Summary and Further Information**

# TXSeries – As a Distributed Transaction Processor

## Mixed-language Distributed Transaction Processor

For applications that are optimal for available development skills and application usage demands on a wide range of distributed platforms

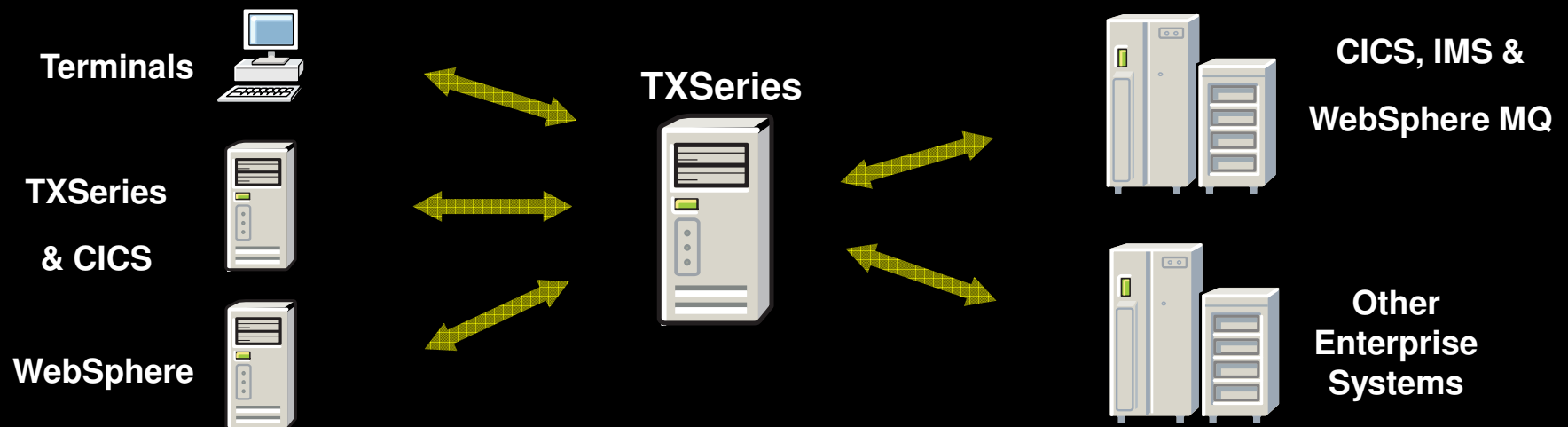


- An application deployment platform for C, C++, Java, COBOL and PL/I applications
- Enables quick use of available skills and packaged applications
- Provides future proofs application investment – easily scale up to CICS TS for z/OS

# TXSeries – As an Integration Server

## Transactional Application Integrator & Line of Business Transaction Processor

Between distributed independent line of business systems and corporate applications and master data  
on CICS, IMS and DB2



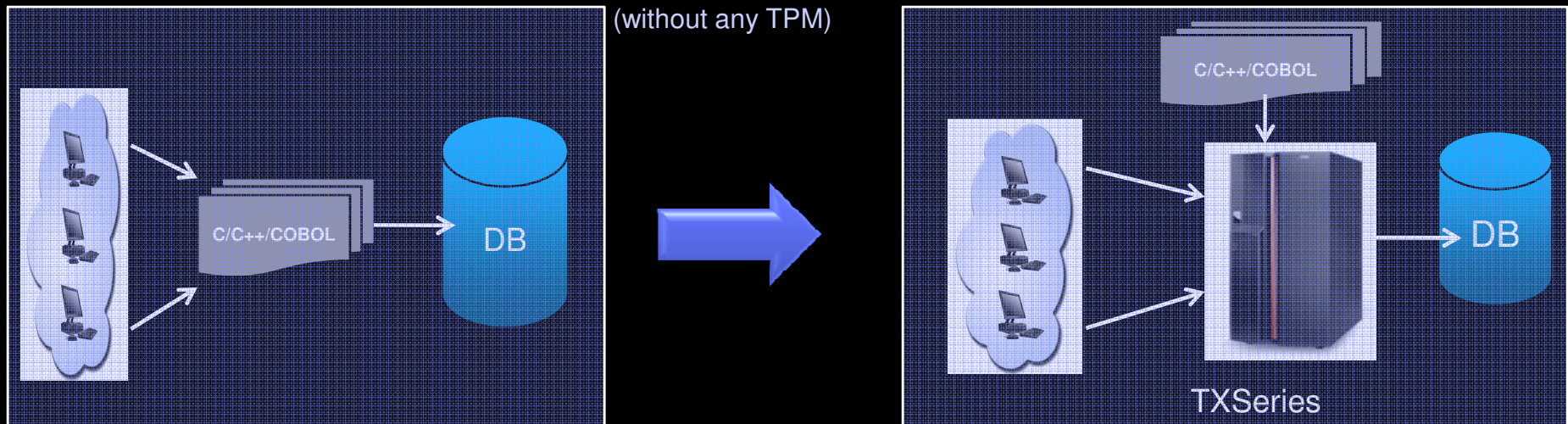
- **Minimal business logic and application data in TXSeries**
- **Leverage integration facilities to:**
  - ▶ Communicate with Enterprise Information Systems
  - ▶ Deliver enterprise data to various client systems
  - ▶ Extend enterprise data to the web

# TXSeries – As an Application Modernization platform

**Modernize your standalone COBOL/C/C++ applications by hosting on to TXSeries**

Extend the life of applications by providing transactional capability and ability to expose them into the SOA architecture by leveraging the capability of TXSeries

Standalone packaged applications



- Only Retain core business logic within application and leverage TXSeries for all other enterprise scale requirements
- Leverage TXSeries to:
  - ▶ Improve the reliability, and availability of your mission critical applications
  - ▶ Create a highly scalable environment using Work Load Manager (WLM) to handle future business growth
  - ▶ Expose existing applications into a SOA environment
  - ▶ Support data integrity, transaction recovery, and a host of other TPM functionality
  - ▶ Extend enterprise data to the web

# TXSeries as a component of your SOA

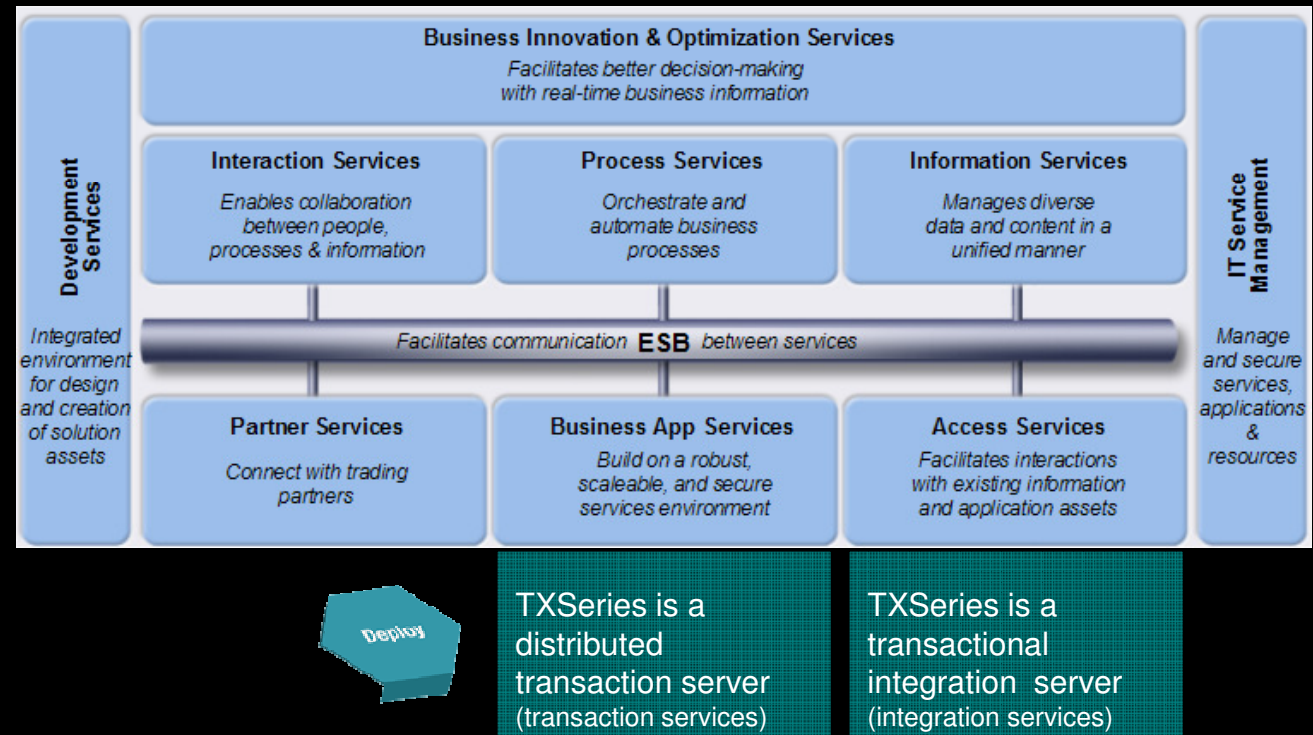
TXSeries enables end-to-end, distributed, mixed-language SOA through integration with WebSphere and CICS Transaction Server for z/OS

The JCA interface provided in the CICS TG connects TXSeries to the following WebSphere SOA server products:

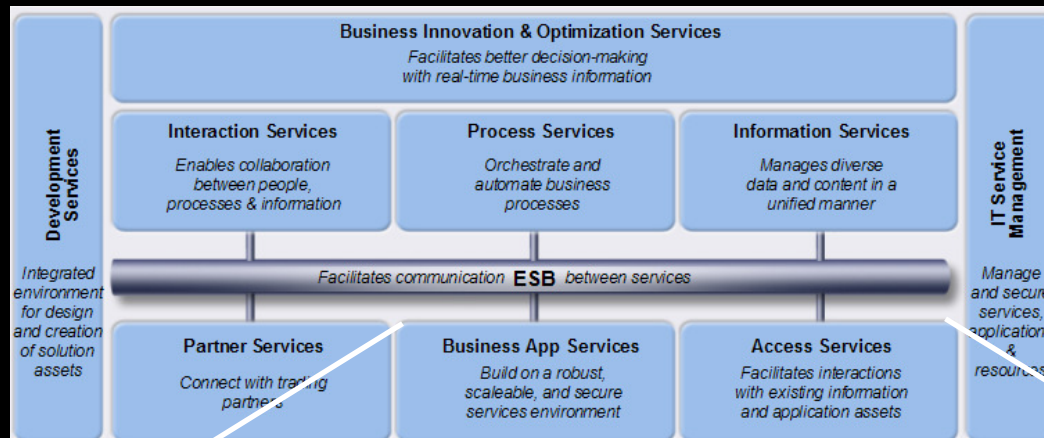
- WebSphere ESB
- WebSphere Application Server
- WebSphere Process Server

TXSeries with WebSphere MQ can connect to:

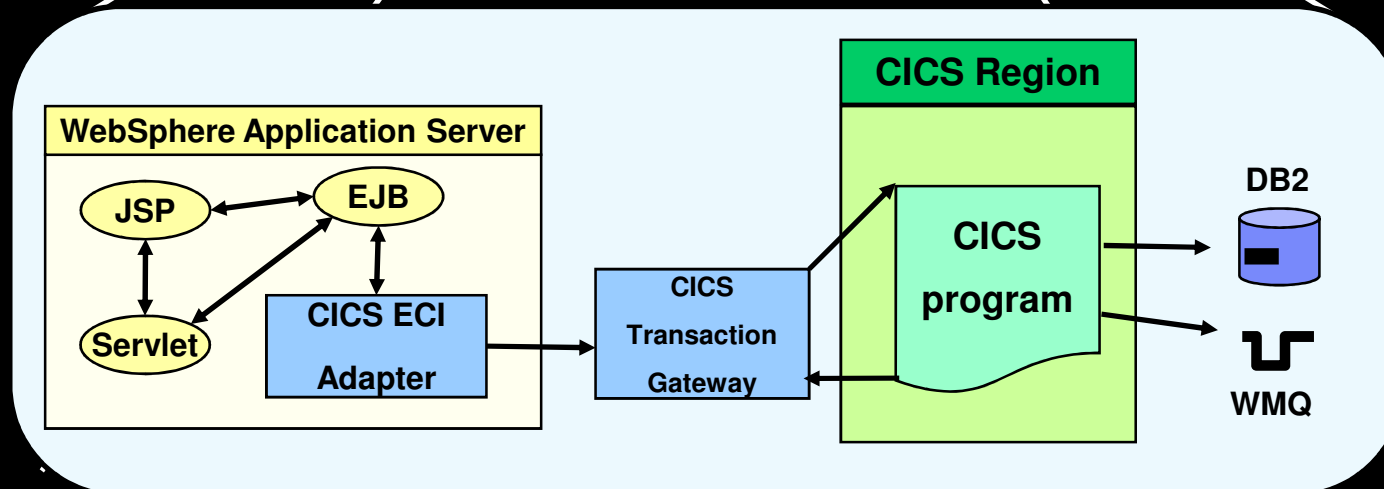
- WebSphere Message Broker
- Any other product that supports native MQSeries transport



# TXSeries as a component of your SOA



- **Full SOA integration is now possible using a combination of products**
- **Combinations deliver proven and robust solutions**



# Agenda for the Session

- **Bird's Eye View**
- **What is TXSeries and what does it do?**
- **TXSeries in action – Real world Case Studies**
- **Deployment Scenarios**
- **Positioning with CICS Transaction Server for z/OS**
- **TXSeries Version 7.1 value proposition and highlights**
- **Summary and Further Information**

# TXSeries and CICS Transaction Server

- These two products share the same design principals and API's and work well together
  - TXSeries and CICS TS communicate through CICS Intersystem Communications
  - All data sources can be included in a single unit of work
  - Two-phase commit for data integrity across the network
- TXSeries provides a subset of functionalities CICS TS does
  - Run TXSeries applications in CICS TS for z/OS as business needs grow



# Agenda for the Session

- **Bird's Eye View**
- **What is TXSeries and what does it do?**
- **TXSeries in action – Real world Case Studies**
- **Deployment Scenarios**
- **Positioning with CICS Transaction Server for z/OS**
- **TXSeries Version 7.1 value proposition and highlights**
  - Quick overview of Product Components
  - Overview of General Architecture
  - V7.1 Highlights
- **Summary and Further Information**

# TXSeries Core Components & Functionality

TXSeries includes two core components:

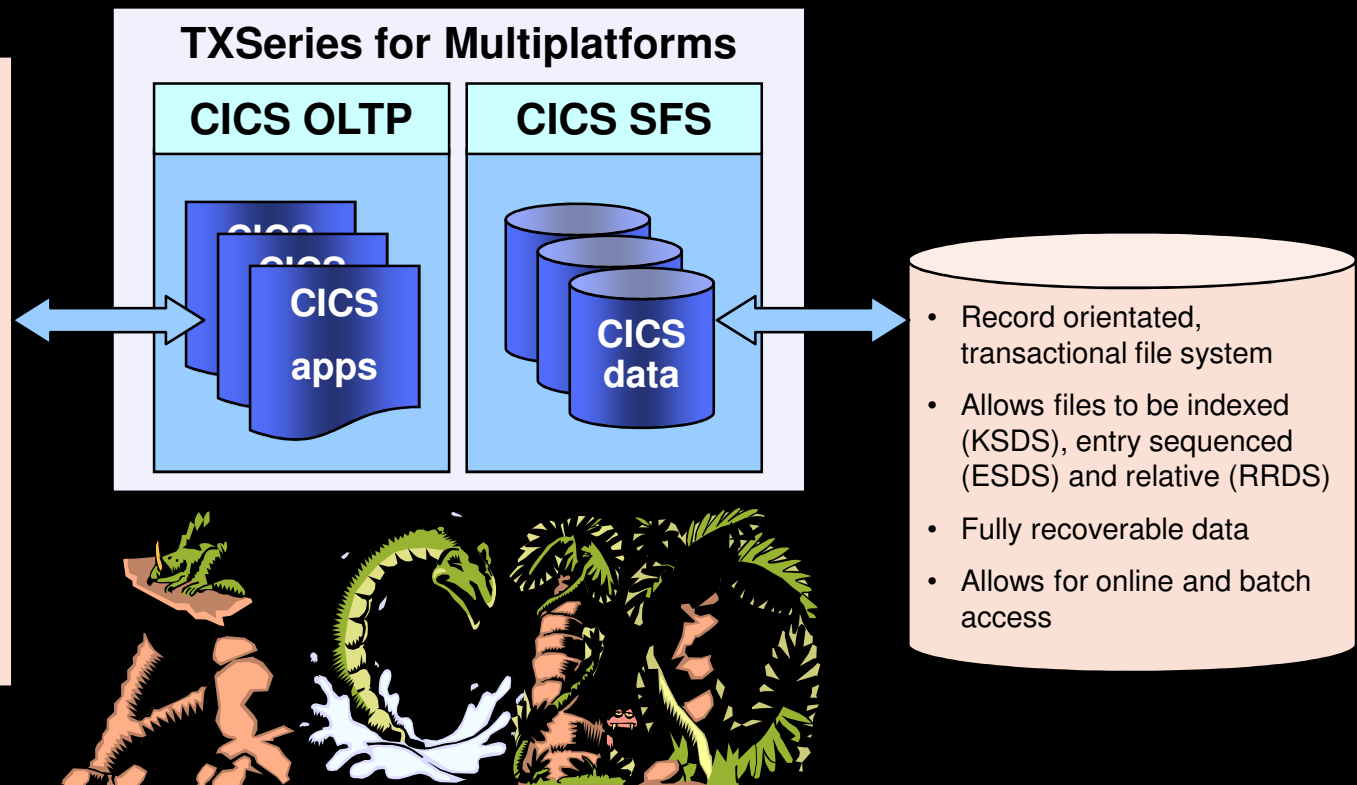
- CICS Online Transaction Processing environment (OLTP)
- CICS Structured File Server (SFS)

Management of:

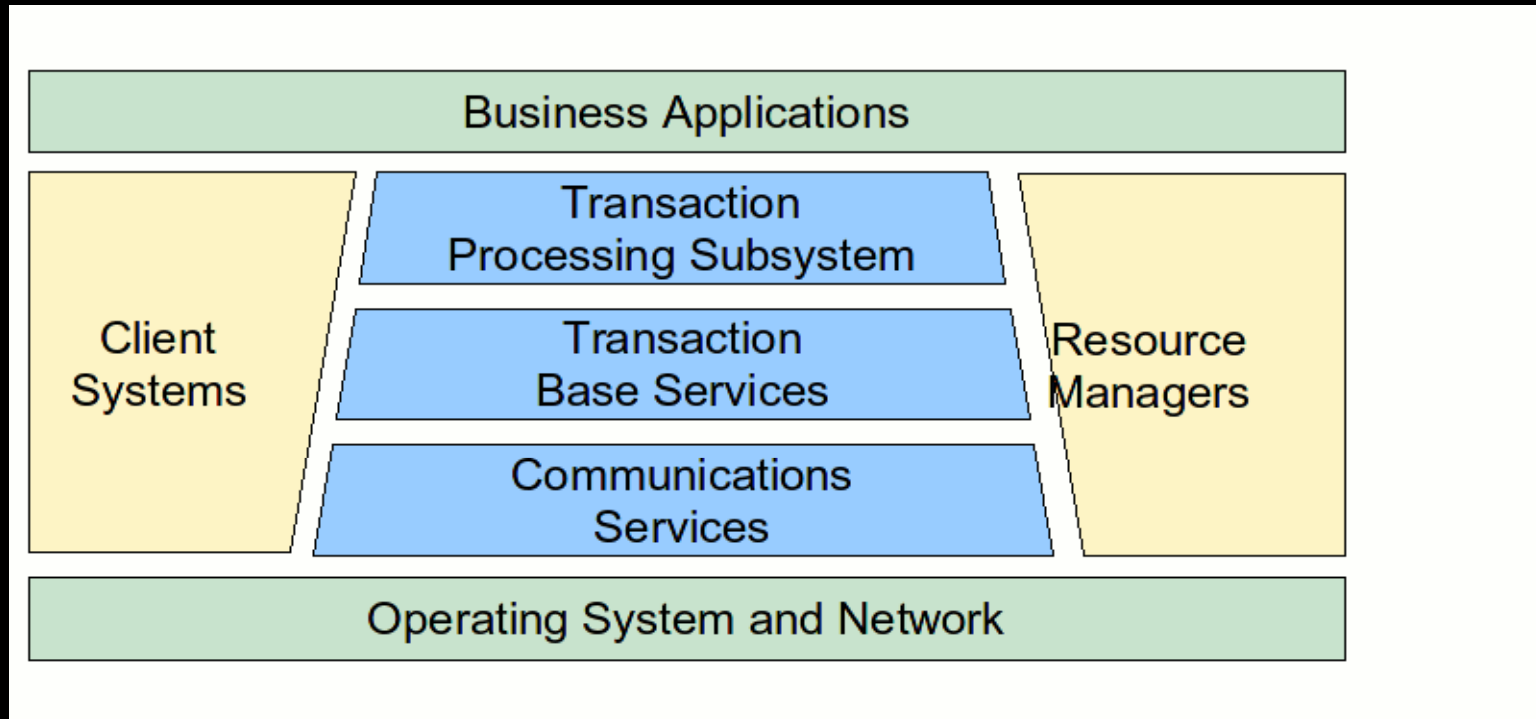
- Transactions (ACID)
- Resources
- Security
- Workload
- Terminals
- Communications

Additional facilities:

- Work Load Management
- Problem determination
- Monitoring
- Statistics
- Application debugging



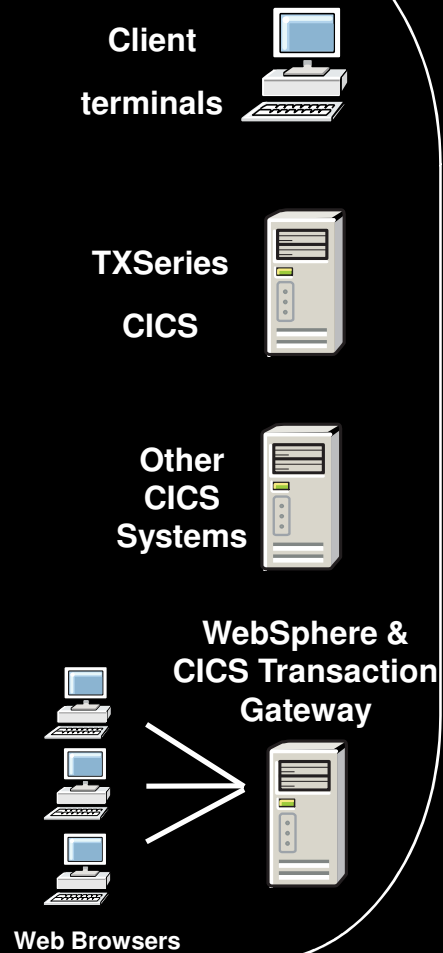
# TXSeries – General Architecture



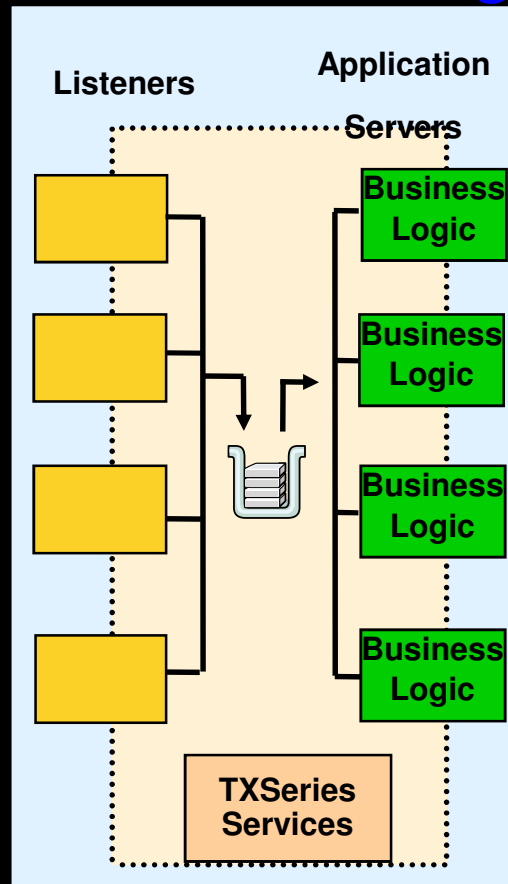
- TXSeries provides middleware between:
  - CICS Business Applications & Operating System and Network
  - Client Systems & Resource Managers
- CICS Business applications only see CICS interfaces

# TXSeries – General Architecture

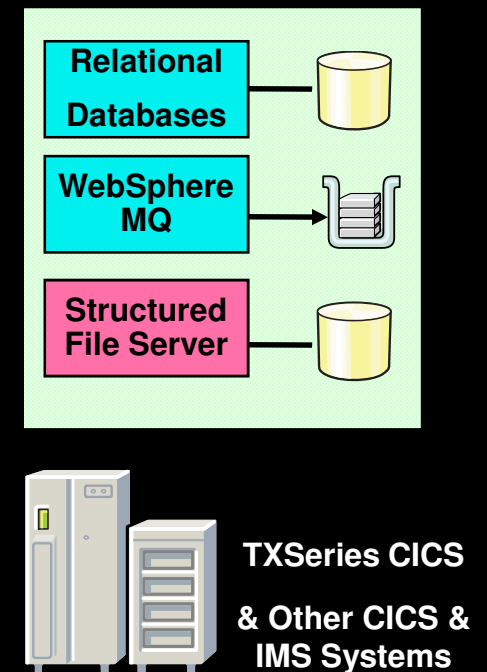
## Clients



## TXSeries CICS Region



## Resources



# TXSeries V7.1 Highlights

## *Major Enhancements in Three Key Areas*

### Integration & Connectivity

- Containers and Channels structured data exchange
- IP based interoperability with CICS-TS using IPIC (IP Interconnectivity)

### Consumability

- Deliver a task based Information Centre
- Administration Console enhancements
- Installer enhancements

### Reliability Availability Serviceability

- Isolation of Application and TXSeries internal memory
- Task history logging for each application server process
- Work Load Manager Enhancements

# TXSeries V7.1 Highlights

*Simplified interoperability on standard protocols*

## Integration & Connectivity

- Containers and Channels structured data exchange
- IP based interoperability with CICS-TS using IPIC (IP Interconnectivity)

### ■ Channels & Containers

- Application development and maintenance is easier with the elimination of the 32K size limit of COMMAREA
- Provides applications with enhanced data structuring and data transfer capability
- Applications have unlimited data transfer capability (limited only by available memory)
- API support for Containers and Channels

### ■ IPIC – IP Interconnectivity

- Provides IP based interoperability with CICS-TS
- Enables network standardization by enabling IP based connectivity apart from SNA based connectivity
- Supports only DPL based communications and Synchronization Level 1
- SSL based security support available using GSKit

# TXSeries V7.1 Highlights

## *Advanced Management and Monitoring*

### Consumability

- Deliver a task based Information Centre
- Administration Console enhancements
- Install enhancements

- Documentation : User goal oriented documentation
  - Documentation revamped and oriented based upon user goals
  - Offers improved readability
- Administration console enhancements
  - Improved performance and usability by moving the WLM attribute validations from the server to the client
  - Enhanced usability in selecting multiple programs for start and shutdown using a pop-up window
  - Improved granular control for users on monitoring data and ability to monitor multiple regions concurrently
  - Intuitive re-organization of the WLM view through groups perspective
  - Ability to configure CICS Application Probe facility
- Installer enhancements
  - Packaging with InstallAnywhere – Bring in ease of use
  - Improved readability of Install/Uninstall logs
  - CICS specific process check facility during install and uninstall



# TXSeries V7.1 Highlights

*Improved RAS, application development and debug tooling*

## Reliability

## Availability

## Serviceability

- Isolation of Application and TXSeries internal memory
- Task history logging for each application server process
- Work Load Manager Enhancements

- Isolation of Application and TXSeries internal memory
  - System memory protected at boundaries with guard pages
  - Helps prevent applications from overwriting across boundaries avoiding corruption issues in many cases
- Task history logging for each application server process
  - Logs history of all tasks executed in each application server process
  - Can be configured using Administration Console
- Work Load Manager enhancements
  - Application owning regions availability has been improved, minimizing the transaction ABENDs in case of an AOR outage
  - Provides constant TPS throughput
- Transaction mapping - Remote task information
  - Enables transactions running on a back-end region in an ISC scenario to map to the corresponding front end region which invoked it. Can be useful during problem determinations.

# TXSeries V7.1 Highlights

## *Other enhancements*

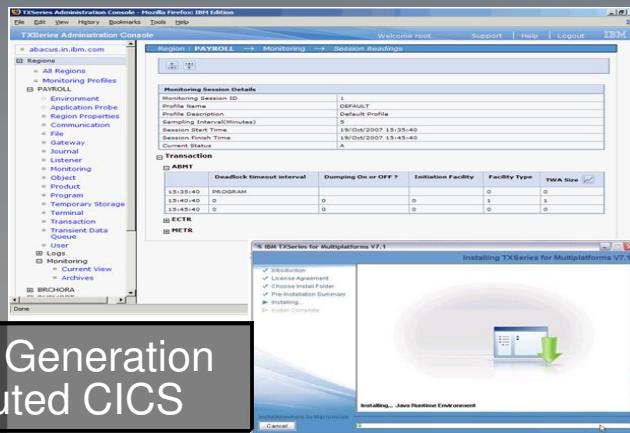
### Other Enhancements

- BMS maps enhancements
- CICS Recovery improvements
- 'cicsservice' utility enhancements
- DUMP enhancements

- BMS maps enhancements
  - To accept lower case label names and blank lines
  - To generate consistent map lengths to match with CICS-TS generated maps
- CICS Recovery improvements
  - CICS application manager handles recovery better. Recovery server comes up faster than before.
- 'cicsservice' utility enhancements
  - 'cicsservice' utility helps collect data from a customer machine on occurrence of a problem
  - Usage of 'cicsservice' utility has been simplified to collect only relevant information
- DUMP enhancements
  - For XA enabled CICS regions, additional dumps would be created when resource managers (RM) return error

# TXSeries for Multiplatforms, Version 7.1 Summary

## *Enabling robust and extensible distributed transaction processing*



**The Next Generation  
of Distributed CICS**

### TXSeries for Multiplatforms V7.1 Summary of Key Highlights

#### *Simplified interoperability on standard protocols*

- ▶ Delivers major integration and connectivity enhancements, allowing for simplified interoperability with CICS Transaction Server (CICS TS) and CICS Transaction Gateway (CICS TG) on standard protocols

#### *Advanced Management and Monitoring*

- ▶ Delivers significant enhancements to the TXSeries Administration console to allow for finer access to granular data, easier administration and improved performance.

#### *Improved system resilience, problem determination and development tooling*

- ▶ Provides major enhancements in memory isolation, task history logging, transaction mapping, workload manager and other components

# Statement of Direction and Future Thoughts

## IBM Software Announcement 209-040 (17th March 2009) announced:

*"IBM intends, during the second half of 2009, to deliver new inbound SOAP interface support specifically for, TXSeries to support the standard-based inbound SOAP interface for application integration. This capability will then allow TXSeries-based applications to be integrated into an SOA environment, enabling them to be made available as services."*

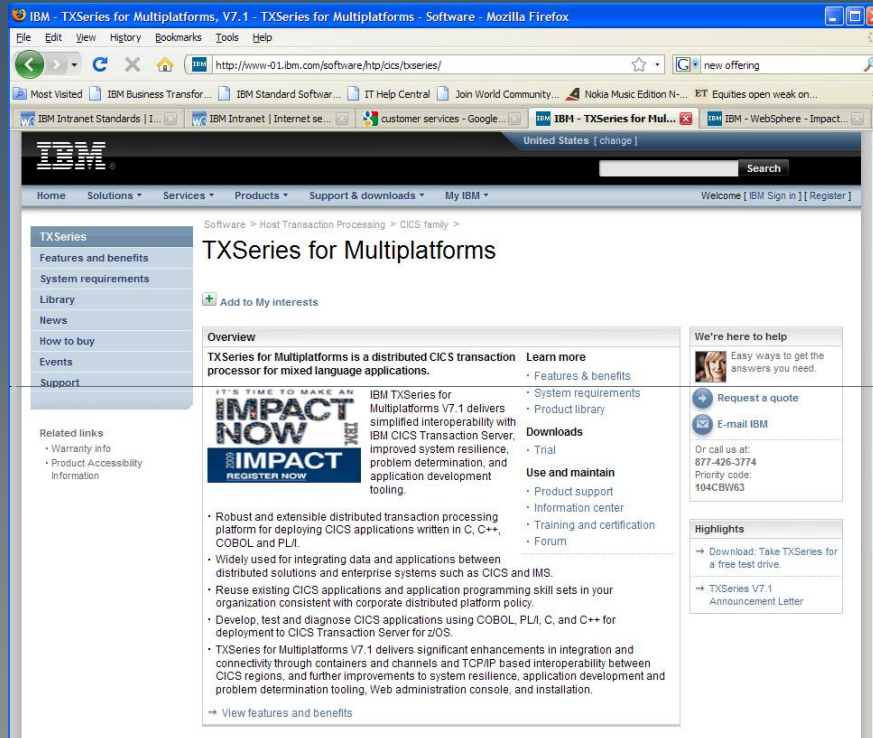
*"With this statement of direction, all licensed users of TXSeries for Multiplatforms V7.1 can plan to make their TXSeries applications available as services. This will allow them to participate in an SOA environment, confident that the IBM CICS portfolio of products continues to be well-aligned with the evolution of SOA."*

IBM wants your feedback - we are talking requirements  
now!

All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice

# Questions and More Resources

*Rapidly deploy existing CICS applications into a J2EE-based SOA*



[www.ibm.com/cics/txseries](http://www.ibm.com/cics/txseries)

## Any Questions?

- ▶ Ask the IBM product teams
- ▶ Ask other TXSeries users on new forum



## The Web site is the best place for up to date information:

- ▶ Announcement Letters
- ▶ Datasheets/Brochures
- ▶ Redbooks
- ▶ Whitepapers
- ▶ Presentations
- ▶ Technical Library
- ▶ Twitter
- ▶ And more....



# References

- **My Support (Subscribe to weekly technical email updates for TX)**
  - <http://www.ibm.com/software/support/einfo.html>
- **IBM Support Assistant (Desktop workbench – targeted problem research and resolution using built-in and pluggable tools)**
  - <http://www.ibm.com/software/support/isa>
- **IBM Education Assistant (TXSeries can be found under WebSphere)**
  - <http://www.ibm.com/software/info/education/assistant>
- **CICS Newsgroups (includes TXSeries)**
  - <http://www.ibm.com/software/htp/cics/communities/newsgrouphelp.html>
- **Software Lifecycle (TXSeries announcements and support dates)**
  - <http://www.ibm.com/software/support/lifecycle/>
- **TXSeries Support - DCF (technotes/flash/downloads/PTFs/APARs)**
  - <http://www.ibm.com/software/htp/txseries/support>

# Notice and Trademarks

## ■ Notice

- All statements regarding IBM's plans, directions, and intent are subject to change or withdrawal without notice.

## ■ Trademarks

- The following terms are trademarks or registered trademarks of International Business Machines Corporation in the United States of America, other countries, or both: IBM, AIX, CICS, DB2, Encina, IMS, iSeries, MQSeries, OS/390, TXSeries, S/390, VSE/ESA, WebSphere, z/OS, zSeries.
- Java and all Java-based trademarks or logos are trademarks or registered trademarks of Sun Microsystems, Inc. in the United States of America, other countries, or both.
- UNIX is a registered trademark of The Open Group in the United States and other countries.
- Microsoft, Windows, Windows NT, and the Windows logo are trademarks of Microsoft Corporation in the United States of America, other countries, or both.
- Other company, product, and service names may be trademarks or service marks of others.



IBM Software Group

Thank you for joining me, please feel free to  
contact me personally for more information

**Sharad Deshpande**

TXSeries Marketing Manager  
IBM India Software Laboratories, India  
[Sharad.deshpande@in.ibm.com](mailto:Sharad.deshpande@in.ibm.com)



*SOA on your terms and our expertise*