IBM TXSeries for Multiplatforms
Distributed transaction processing simplified

Available now:
TXSeries V7.1
--> LEARN MORE

A Technical Overview

TXSeries for Multiplatforms V7.1
www.ibm.com/CICS

Agenda

- **What is TXSeries?**

- **What is the technical value of TXSeries?**

- **Who is using TXSeries and How?**

- **What is new in TXSeries for Multiplatforms V7.1?**

- **Where to get more information?**

What is TXSeries - Executive Summary

CICS Family

> **Tools**
>> **Connectors**
>>> **Runtime**
>>> - CICS TS for z/OS
>>> - CICS TS for VSE / ESA
>>> - **TXSeries for Multiplatforms**
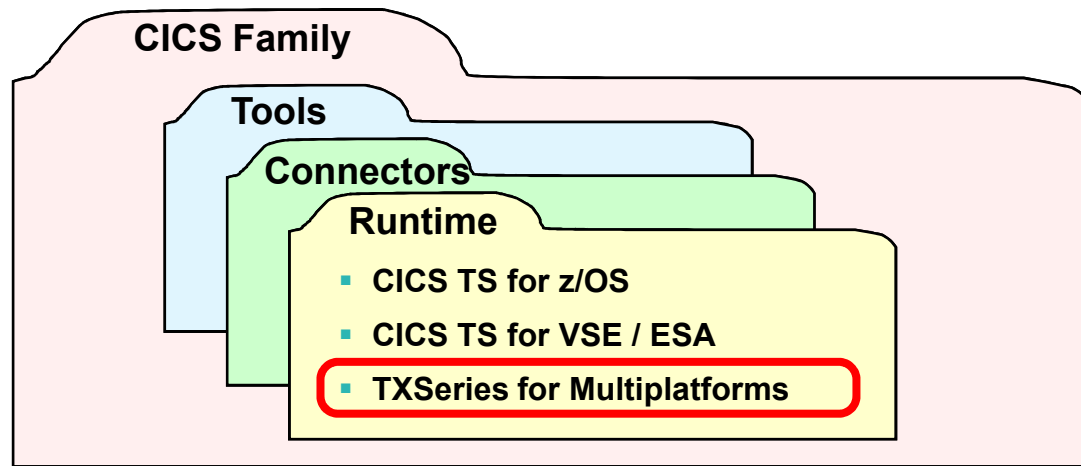
- A core element of IBM **distributed** transaction processing platform family for mixed language applications.

- Used as a **core transaction server** platform hosting mission critical business applications

  - Provides transaction capabilities for CICS style applications written in COBOL, C, C++, Java and PL/I

- Also used as **a companion to** both WebSphere and CICS Transaction Server deployments for reliable, responsive and secure integration between modern SOA or packaged applications on distributed platforms and mainframe hosted business critical applications and master data.

- **Enables Scaling** to CICS Transaction Server as business needs grow

What is TXSeries used for?

- **Create** new CICS applications using languages such as COBOL, PL/I, C and C++

- **Reuse** existing CICS <u>applications</u> and application programming <u>skills</u> in your organisation

- **Extend** CICS applications to the web and web services via the CICS Transaction Gateway and WebSphere Application Server

- **Access** data and applications in various distributed and enterprise systems including
  - CICS and IMS
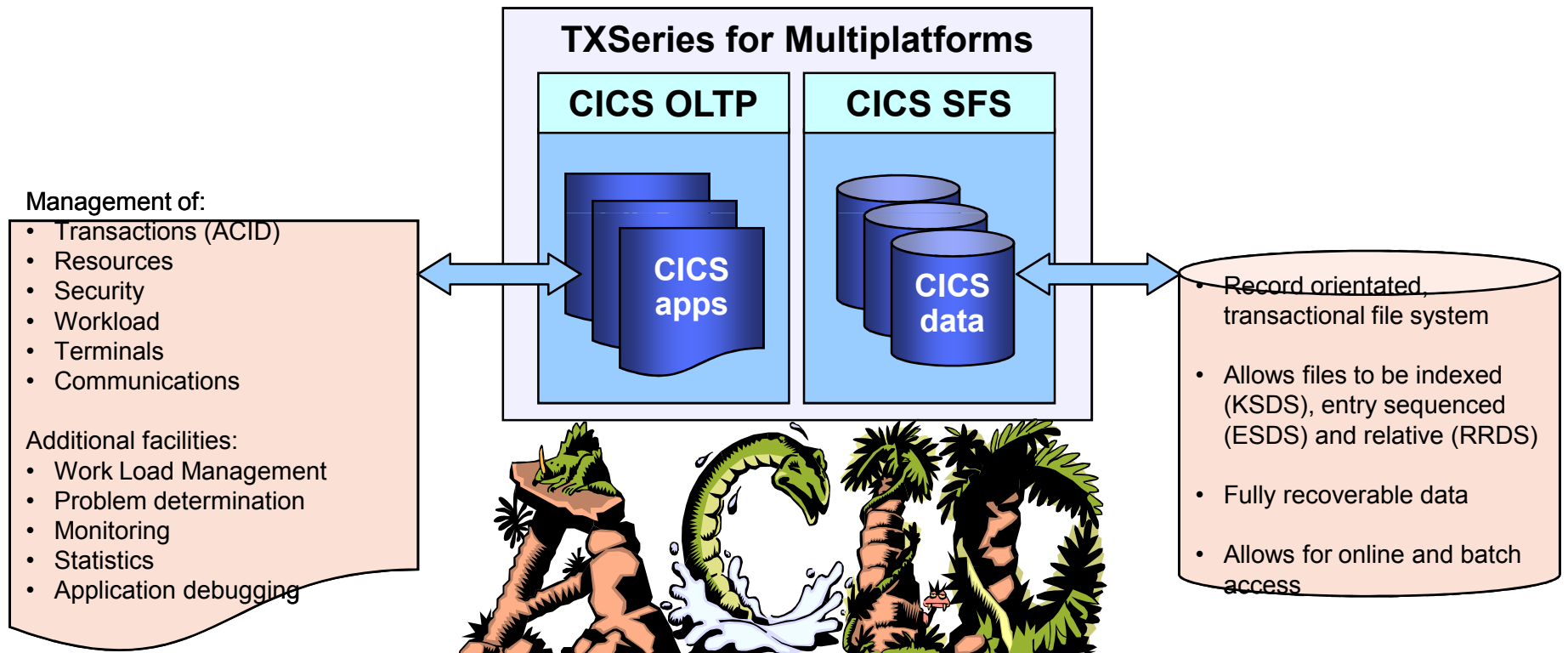 - DB2, Informix, Oracle, and Sybase
  - WebSphere MQ

Agenda

- **What is TXSeries?**

- **What is the technical value of TXSeries?**
  - **Core components**
  - **General Architecture**
  - **Key Features**

- **Who is using TXSeries and How?**

- **What is new in TXSeries for Multiplatforms V7.1?**
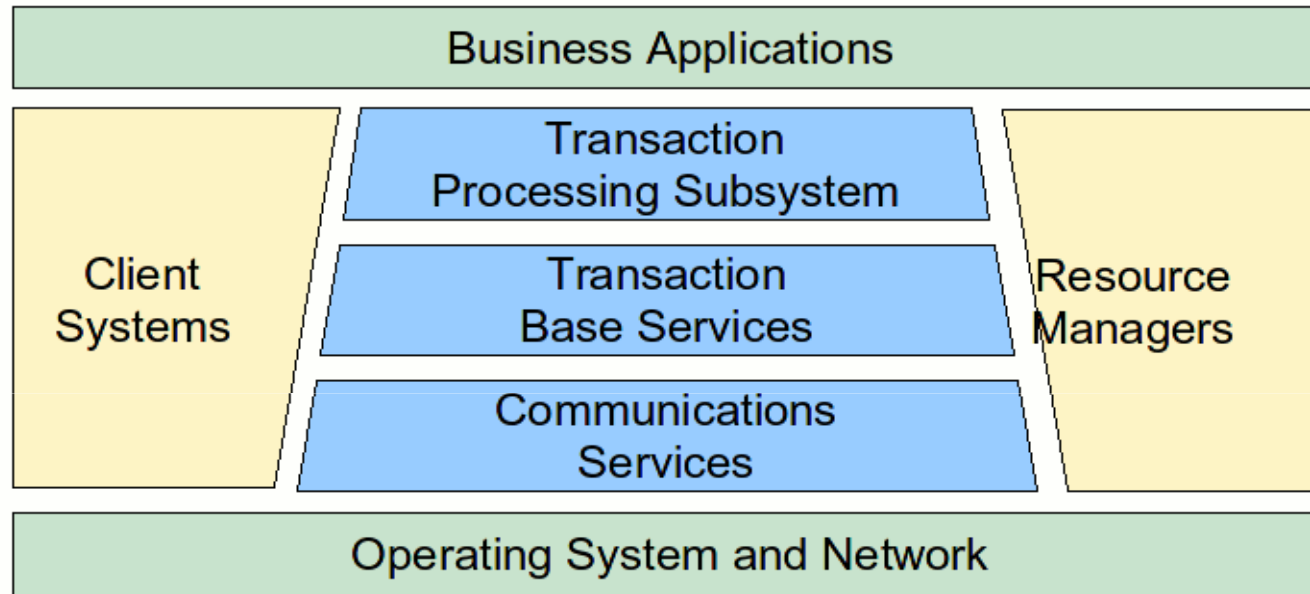
- **Where to get more information?**

TXSeries Core Components & Functionality

TXSeries includes two core components:

- **CICS Online Transaction Processing environment (OLTP)**

- **CICS Structured File Server (SFS)**

TXSeries for Multiplatforms

CICS OLTP

CICS apps

CICS SFS

CICS data

Management of:
- Transactions (ACID)
- Resources
- Security
- Workload
- Terminals
- Communications

Additional facilities:
- Work Load Management
- Problem determination
- Monitoring
- Statistics
- Application debugging

- Record orientated, transactional file system

- Allows files to be indexed (KSDS), entry sequenced (ESDS) and relative (RRDS)

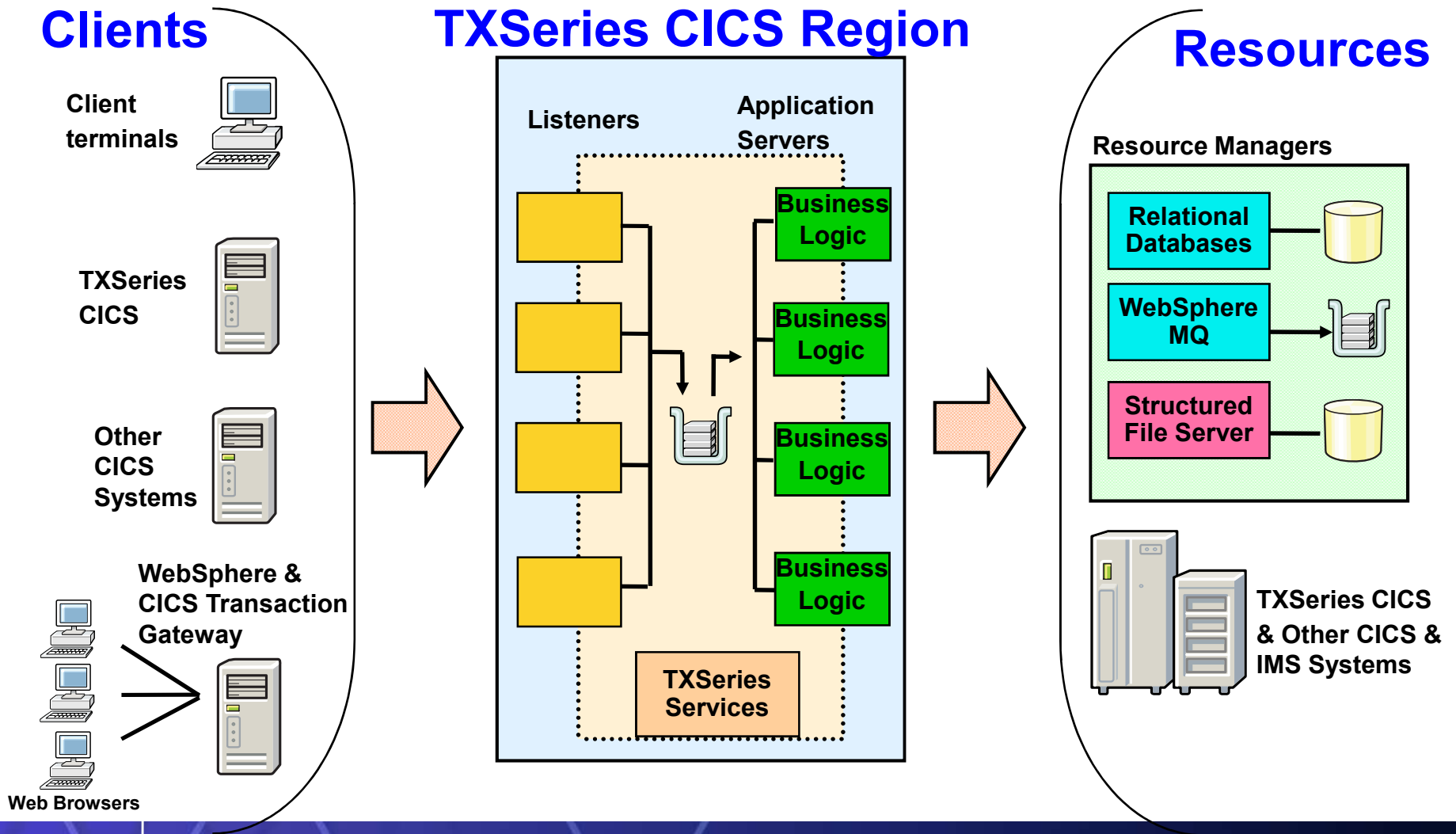- Fully recoverable data

- Allows for online and batch access

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

TXSeries – Key Features

- **Distributed Transaction Management**
  - Two Phase Commit support with XA compliant databases and resource managers
  - Two Phase Commit support across TXSeries systems (Synchronization Level 2)

- **Distributed Platform Support**
  - IBM AIX, Microsoft Windows, Sun Solaris, HP-UX and HP Integrity

- **Application Development**
  - Mixed language programming support: C, C++, Java, COBOL and PL/1
  - Support application development using RDz
  - CICS Application Programming Interface (API): SYNCPOINT, SYNCPOINT ROLLBACK, START TRAN, …

- **Integration - CICS and Non-CICS family Interoperability**
  - Access via standard industry connector protocols (e.g., WebSphere and the Java Connector Architecture Standards, WebSphere MQ)
  - External Access Protocols such as ECI and EPI enabled by an associated product, the IBM CICS Transaction Gateway

TXSeries – Key Features Contd…

- **Database and Resource Managers**
  - DB2, WebSphere MQ, Oracle, Sybase, MS SQL and Informix
  - Support for KSDS, ESDS and RRDS file sets
    - Provides ability to manage the above files sets using a Industry standard relational databases for better handling of large volume data sets, scalability, and performance
    - Easy migration path available for managing flat files using relational database
  - Supports one-phase, two-phase and resource optimization techniques

- **Work Load Management and High Availability**
  - Provides both Horizontal and Vertical Scalability
  - Gives flexibility in making routing decisions

- **Management and Monitoring**
  - Advanced Web based console for ease of administration, configuration and monitoring

- **Security**
 - Supports integration of external security and authentication modules
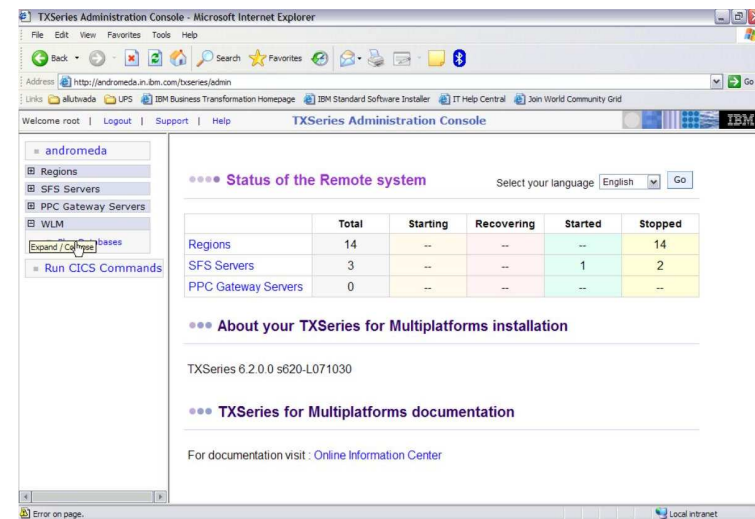
Agenda

- **What is TXSeries?**

- **What is the technical value of TXSeries?**

- **Who is using TXSeries and How?**
  - **Deployment of TXSeries WorldWide**
  - **Common deployment scenarios**

- **What is new in TXSeries for Multiplatforms V7.1?**

- **Where to get more information?**

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

Terminals

TXSeries & CICS

WebSphere

TXSeries

CICS, IMS & WebSphere MQ

Other Enterprise Systems
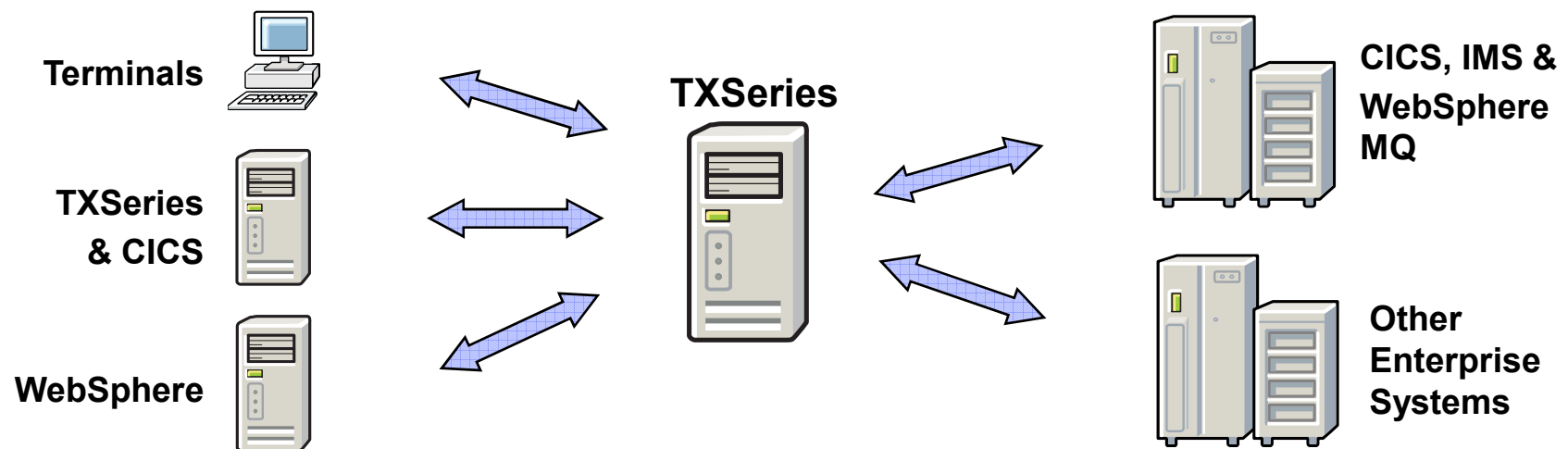
- Minimal business logic and application data in TXSeries

- Leverage integration facilities to:
  - ▸ Communicate with Enterprise Information Systems
  - ▸ Deliver enterprise data to various client systems
  - ▸ Extend enterprise data to the web

TXSeries – As 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
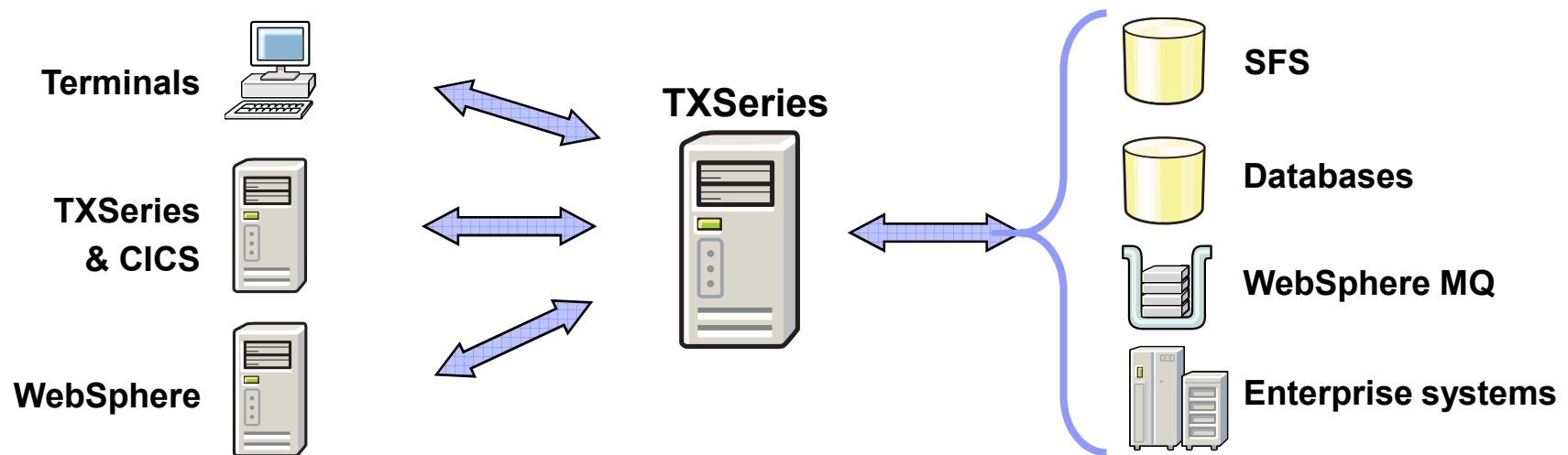
- An application deployment platform for C, C++, Java, COBOL and PL/I applications

- 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 a component of your SOA
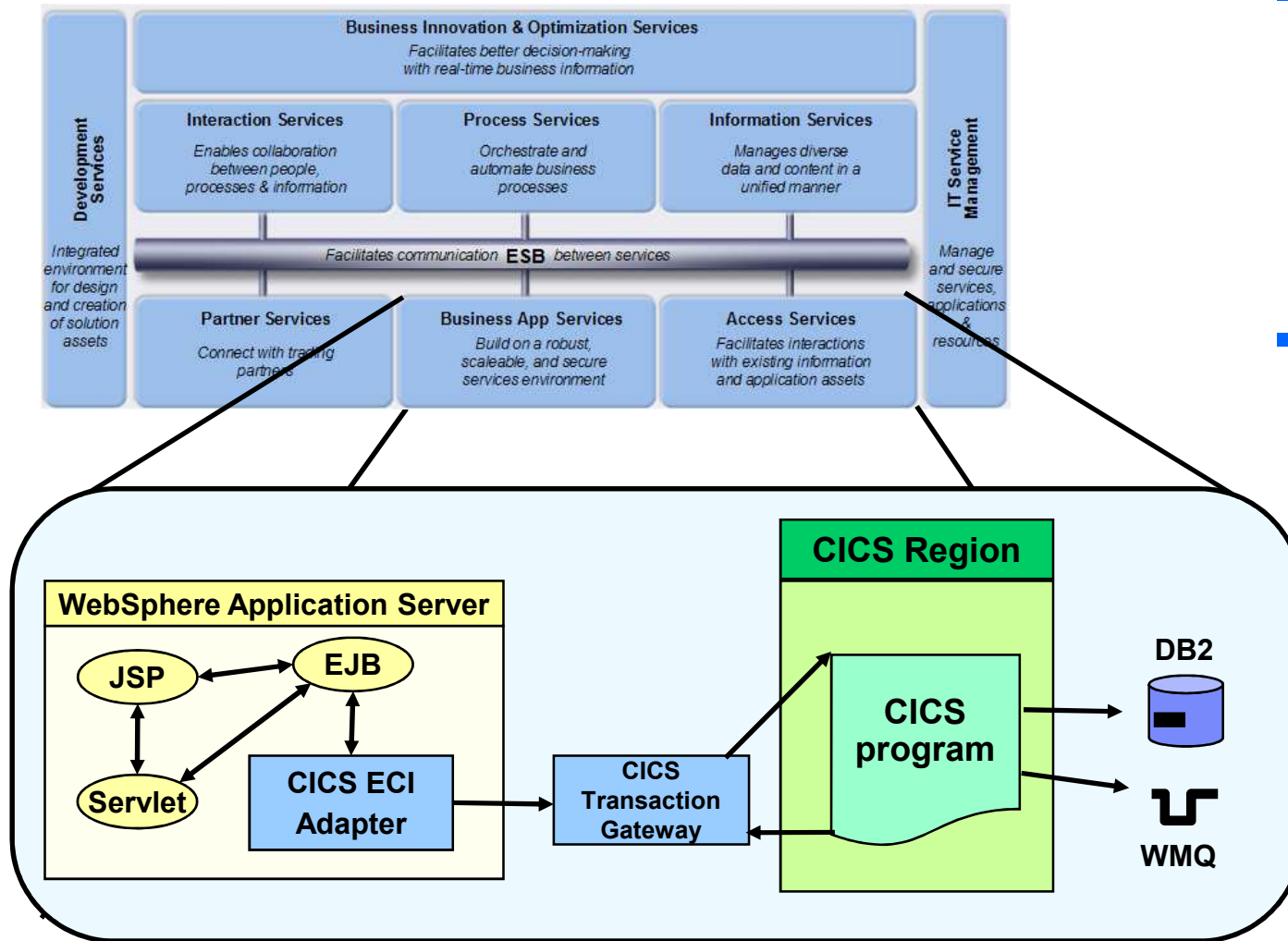
- Full SOA integration is now possible using a combination of products

- Combinations deliver proven and robust solutions

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- **What is TXSeries?**

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- **Who is using TXSeries and How?**

- **What is new in TXSeries for Multiplatforms V7.1?**

  – **Major enhancements in V7.1**

  – **Functional values in V7.1**

- **Where to get more information?**

TXSeries V7.1 Features
Major Enhancements in Three Key Value 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 Center
- 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

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

Consumability

- Deliver a task based Information Center
- Administration Console enhancements
- InstallShield 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

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

- 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.

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

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  - **Customer enablement materials**
  - **Resources and Links**

Customer Enablement

- New TXSeries Education course available now.

    - https://www-304.ibm.com/jct03001c/services/learning/ites.wss/us/en?pageType=course_description&courseCode=WM880

- New TXSeries Redbook available.

    - http://www.redbooks.ibm.com/abstracts/sg247185.html?Open

- Very active TXSeries forum on developerWorks.

    - http://www-128.ibm.com/developerworks/forums/dw_forum.jsp?forum=1014&cat=9

- Large number of TXSeries study material available on the IBM Education Assistant (IEA) Web site.

    - http://www.ibm.com/software/info/education/assistant

Questions and More Resources

www.ibm.com/cics/txseries

www.ibm.com/cics/txseries/library

- **Any Questions?**
  - Ask the IBM product teams and other TXSeries users on the forum

  Google "*TXSeries Forum*"

  - CICS-L Mailing list

  developerWorks.
  TXSeries Technical Forum

- **The TXSeries Library is THE place for information and resources:**
  - Datasheets/Brochures, presentations and redbooks etc
  - **NEW!** Case Study of an Italian Financial Services Customer
  - **NEW!** TXSeries V6.2 Library
  - **NEW!** TXSeries V6.1 Monitoring Solution

- **Want CICS News?**

  ibm.com/cics/enews

  News
  CICS Portfolio e-Newsletter
  ➔ Register

Reference Links

- **My Support** (Subscribe to weekly technical email updates for TXSeries)
  - 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

Question & Answers

I ♥ CICS