



TXSeries for Multiplatform V6.1

Product Overview and Update

Wen Lu

Technical Track

SOA on your terms and our expertise – ibm.com/cics

© 2007 IBM Corporation



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.

The CICS Family

Transaction Servers

- CICS Transaction Server for z/OS
- TXSeries for Multiplatforms
 - AIX, Solaris, HP etc.
- CICS Transaction Server for VSE/ESA

Connectors and Tools

- CICS Connectors
 - CICS Transaction Gateway
 - CICS Universal Client
- CICS Tools
 - Subsystem management
 - Enterprise integration

Agenda

Topics for Consideration

- **Introduction to TXSeries**
 - What is TXSeries? What can TXSeries do?
 - Common Deployment Scenarios
 - TXSeries and CICS Transaction Server Comparison
- **TXSeries v6.1 Product Functionality (3 Themes)**
 - Simplification
 - Enhanced administration
 - More power and higher availability
- **TXSeries working with key WebSphere products**
- **TXSeries Future Thoughts and Further Reading**



What is TXSeries for Multiplatforms?

- **Part of IBM's CICS family of products - the distributed transaction processing environment**
- **Provides transaction and integration capabilities for CICS applications written in COBOL, C, C++ and PL/I**
- **Widely used as a companion to CICS Transaction Server and WebSphere deployments**
- **Enables Scaling to CICS Transaction Server as your business grows**



5

What can TXSeries do for you?

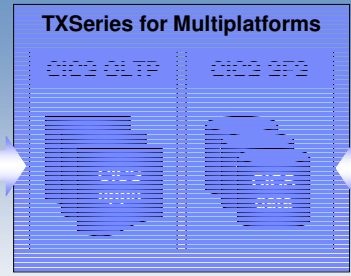
- **Access** data and applications in various distributed and enterprise systems including
 - CICS and IMS
 - DB2 and Oracle
 - WebSphere MQ
- **Reuse** existing CICS applications and application programming skill sets in your organisation
- **Extend** CICS applications to the web and web services via the CICS Transaction Gateway and WebSphere Application Server
- **Build** new CICS applications using COBOL, PL/I, C, C++
 - Test environment in WD4z

6

Product Delivery

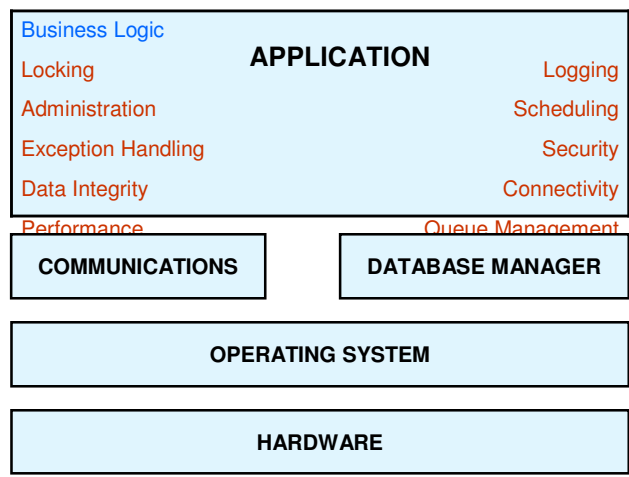
A transactional processing environment that supports CICS applications written in COBOL, C, C++ and PL/1.

Lets you focus on solving business problem, handles everything else

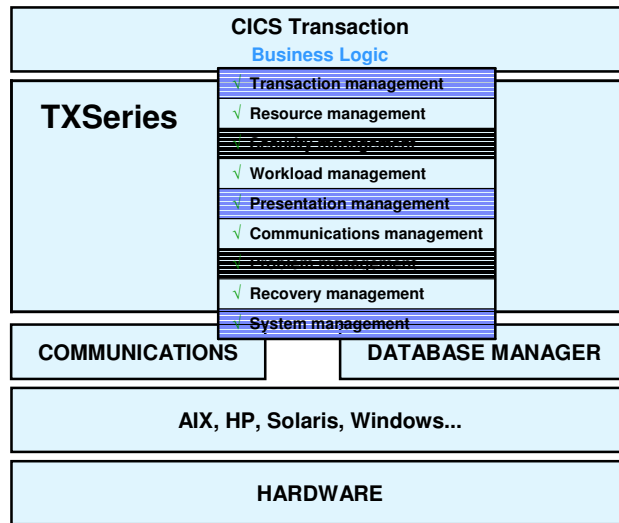


for VSAM-style data storage with access via online or batch programs

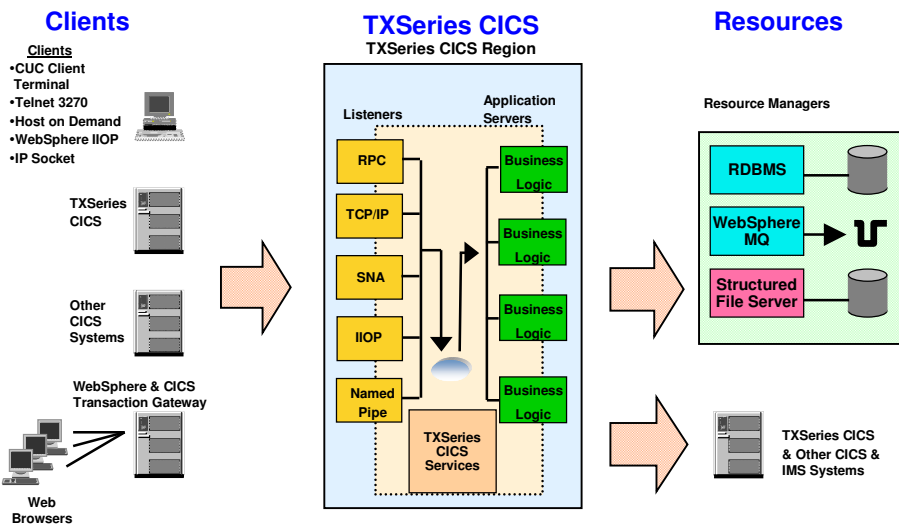
Business Application Requirements



TXSeries Functions



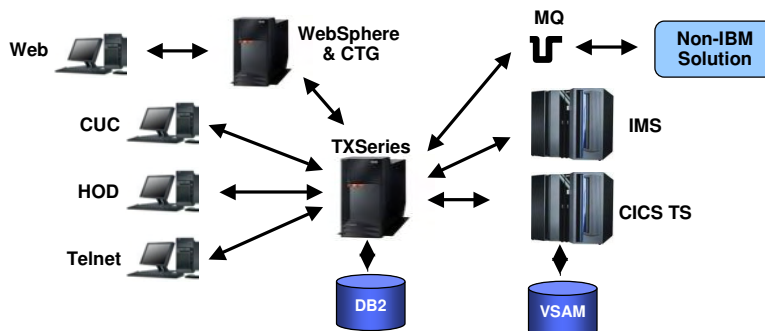
TXSeries Architecture



Common Deployment Scenarios

Integration Capabilities

- A consolidating mid-tier terminal server
- An intelligent mid-tier gateway
- A comprehensive mid-tier integration server

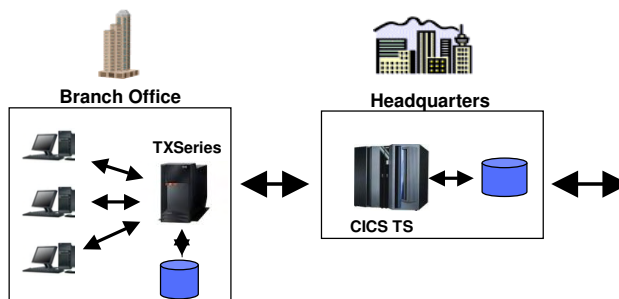


11

Common Deployment Scenarios

Distributed transaction processing capabilities

- As a transactional run time for custom application services
- As a composite transaction server connected to WebSphere Application Server
- As a distributed CICS server for local branch-level processing



12

High level Comparison

▪ CICS Transaction Server for z/OS, Version 3.1

- CICS TS for z/OS is the worlds most sophisticated transaction server
- CICS TS for z/OS V3.1 is the most successful release in history
- Over 35 years of constant innovation
- The majority of the worlds largest corporations rely on CICS TS for z/OS
- Large ecosystem of supporting products and services (from IBM and BP's)



▪ TXSeries for Multiplatforms, Version 6.1

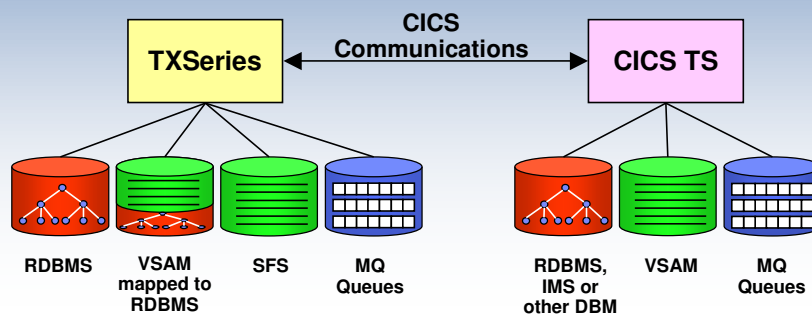
- TXSeries V6.1 is the most significant new release in 10 years +
- Implements designs, concepts and a subset of CICS TS functionality
- Excellent CICS interconnectivity and upward compatibility
- Provides a choice to suit business needs and maximised data integrity



13

Maximise Data Integrity: A Major benefit

- 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



14



TXSeries for Multiplatforms v6.1

Product Themes

SOA on your terms and our expertise – ibm.com/cics

© 2007 IBM Corporation



TXSeries v6 Themes Major Enhancements in Three Key Value Areas

Simplification

- Removal of DCE and Encina prerequisites
- Communication using high-performance and secure shared memory
- Simplified installation with InstallShield

Enhanced Administration

- Web based administration utility on all platforms
- Improved administration commands
- TXSeries client replaced by CICS Universal Client

More Power & Higher Availability

- Improved XA resilience with Resource Managers
- Full Synclevel 2 support across tcp/ip
- New cicserr command
- Improved security integration with RACF

16

TXSeries v6 Themes

Simplification

- Removal of DCE and Encina prerequisites
- Communication using high-performance and secure shared memory
- Simplified installation with InstallShield

Enhanced Administration

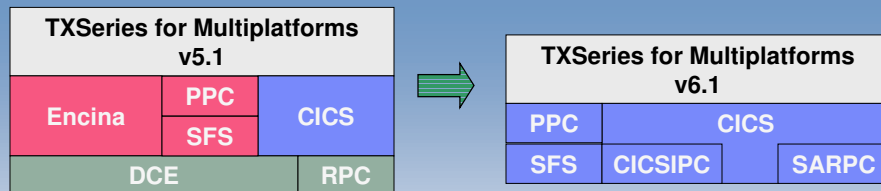
- Web based administration utility on all platforms
- Improved administration commands
- TXSeries client replaced by CICS Universal Client

More Power & Higher Availability

- Improved XA resilience with Resource Managers
- Full Synclevel 2 support across tcp/ip
- New cicserr command
- Improved security integration with RACF

17

Simplification Removal of DCE & Encina Prerequisites

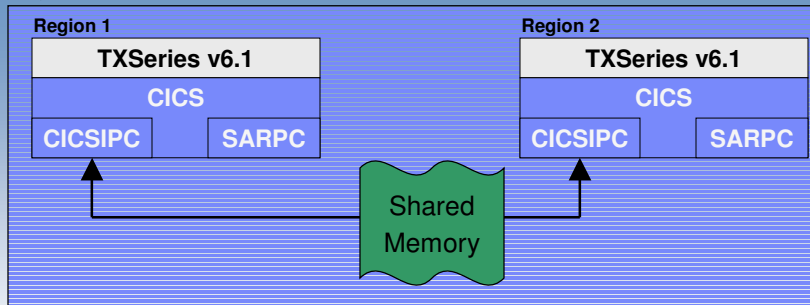


- TXSeries for Multiplatforms, Version 6.1 provides a version of TXSeries without the DCE or Encina prerequisites across the AIX, Windows, HP-UX and Sun Solaris platforms.
- This capability means that the installation, configuration and administration is simplified, helping to increase system programmer and system administrator productivity.

18

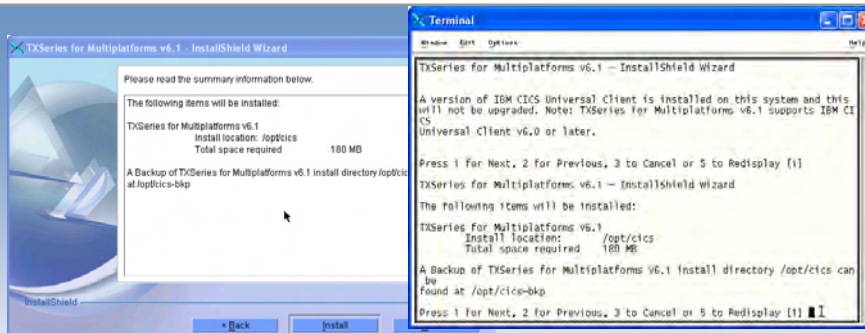
Simplification Communication using Shared Memory

Physical Machine



- CICSIPC component replaces RPC calls with Shared Memory calls for region-region communications on the same physical machine
- Shared Memory is faster and more secure

Simplification Simplified Installation with InstallShield



- Installation and version-to-version upgrades are enhanced with InstallShield for Multiplatforms
- InstallShield can be run as a GUI, a command-line console or as a silent install with no user interaction.
- Removed SMIT (AIX) install option

TXSeries v6 Themes

Simplification

- Removal of DCE and Encina prerequisites
- Communication using high-performance and secure shared memory
- Simplified installation with InstallShield

Enhanced Administration

- Web based administration utility on all platforms
- Improved administration commands
- TXSeries client replaced by CICS Universal Client

More Power & Higher Availability

- Improved XA resilience with Resource Managers
- Full Synclevel 2 support across tcp/ip
- New cicserr command
- Improved security integration with RACF

21

TXSeries for Multiplatforms, Version 6 Highlights

New, intuitive administration capability

Enhanced Administration

- Web based administration utility on all platforms
- Improved administration commands
- TXSeries client replaced by CICS Universal Client

- Security-rich remote administration using a Web-based interface that enables authorized users to administer the TXSeries system from a Web browser.
- Display of current status information for all configured TXSeries regions, SFSS and peer-to-peer communication (PPC) gateways.
- Intuitive grouping and sorting of information regarding TXSeries systems, properties, resources, transactions and so on.
- Assistance with the configuration of TXSeries resources using drop-down menus, radio buttons, tables, online help and so on.
- Problem-determination capabilities that enable viewing, filtering and searching of event logs, with error codes now hyperlinked to message explanations.
- Availability of the administration console in all Group 1 languages, including French, Korean, Chinese, Spanish, Portuguese-Brazilian, German, Japanese, Italian & English.

22

Enhanced Administration Secured administration console displays TXSeries status

The screenshot displays the TXSeries Administration Console interface. On the left is a tree structure for navigation. The main content area is divided into sections:

- Summary of servers / regions and their running status:** A table showing the status of various components.

	Total	Starting	Recovering	Started	Stopped
Regions	5	--	--	2	3
SFS Servers	2	--	--	2	--
PPC Gateway Servers	1	--	--	--	1
- Product details along with interim fix details:** A section titled "About Your TXSeries For Multiplatforms installation" listing various APAR numbers and their descriptions.
- Language selection:** A dropdown menu to select the console language.
- CICS regions, SFS servers and PPC gateways will be listed here in a tree structure. User navigates to the necessary sections from here.** This points to the left-hand navigation tree.
- Users and Administrators must first be authenticated using their security credentials:** A callout pointing to the login form on the right.

The login form includes fields for "User ID" and "Password" and a "Log in" button.

23

Enhanced Administration Assistance with the configuration of TXSeries resources

The screenshot shows the configuration page for a region (Region: TVTREG). The interface includes several key elements:

- Hostname:** A text field for entering the region's hostname.
- Text Field:** A general label for input fields in the configuration.
- Drop Down Menu:** A menu for selecting options, such as the "Date-Month-Year(YY)" format.
- Radio Button:** Used for selecting between "Cold" and "Hot" startup types.
- Button grid display:** A grid of buttons for selecting a resource security level (e.g., None, All, 1-64).
- Regions, servers and other resource links:** A callout pointing to the left-hand navigation tree.
- Resource attributes are logically grouped and will be show under different nodes. These groups can be hidden if required.** A callout pointing to the grouped configuration options like Security, File Server, and Scheduling.

24

Enhanced Administration

Enables viewing, filtering and searching of event logs

Search for a string

View errors, information, warnings or non-ERZ messages separately. Or you can view all the contents at a time. By default, it shows the last 50 lines of the current console file.

Errors, warnings and non-ERZ messages are shown with different colors and icons, for easy identification

Click on the error link to get a short description of the error.

Alternate rows will be of different colors

25

Enhanced Administration

Availability of the administration console in many languages

When the cursor move over the description, it changes to help cursor.

On clicking the description, a short description of the property is displayed in a separate Pop-up window.

Language selection

Region's console file in Japanese

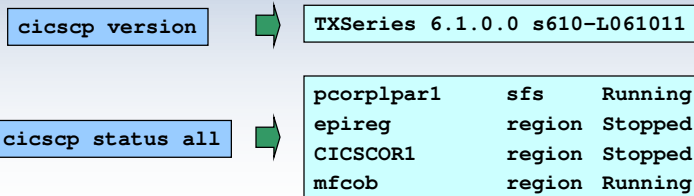
Filtering section is hidden by default. Click on this icon to view the 'search' section

26

Enhanced Administration

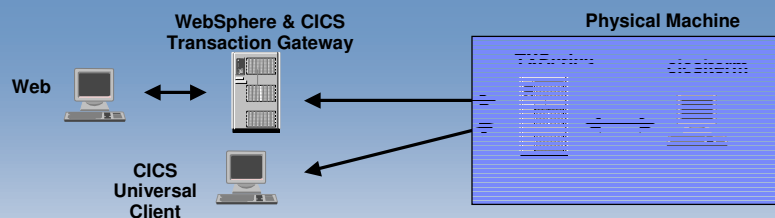
New Administration Commands

- **CICSCP is now synchronous**
 - Only returns control once command is complete
- **New command options added to CICSCP**



Enhanced Administration

TXSeries Client Replaced by CICS Universal Client



- **Original TXSeries client replaced by CICS Universal Client**
 - Smooth upgrade path when moving from CUC to CTG
- **One license for CUC supplied with TXSeries installation image**
- **Local CICS terminal renamed from *cicsterm* to *cicslterm***
 - Removes name conflict with CUC version of *cicsterm*
 - Only available on same physical machine as the CICS region

TXSeries v6 Themes

Simplification

- Removal of DCE and Encina prerequisites
- Communication using high-performance and secure shared memory
- Simplified installation with InstallShield

Enhanced Administration

- Web based administration utility on all platforms
- Improved administration commands
- TXSeries client replaced by CICS Universal Client

More Power & Higher Availability

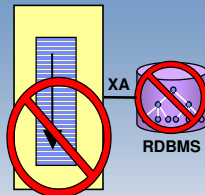
- Improved XA resilience with Resource Managers
- Full Synclevel 2 support across tcp/ip
- New cicserr command
- Improved security integration with RACF

29

More Power & Higher Availability

Improved XA Resilience with Resource Managers

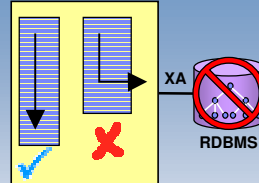
TXSeries v6.0 & earlier



Database Failure

- In-flight transactions fail
- Region abends
- Fix database before region restart

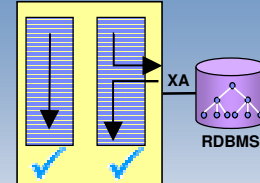
TXSeries v6.1



Database Failure

- **Non-database transactions succeed**
- **Database transactions receive an SQL error**

TXSeries v6.1



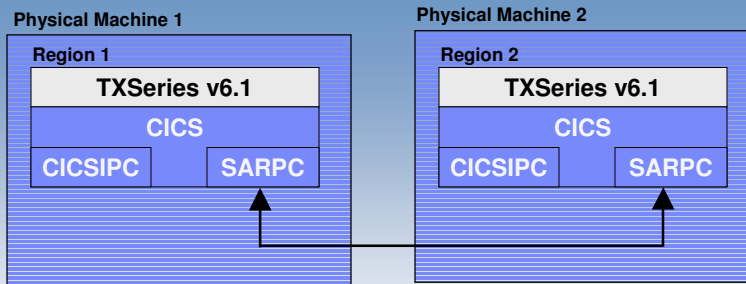
Database Recovery

- All transactions succeed
- No need for region restart

30

More Power & Higher Availability

Full Synclevel 2 Support Across TCP/IP



- DCE provided RPC process for inter-machine calls is replaced by SARPC (Standalone RPC)
- Full SyncLevel 2 support across TCP/IP is now enabled

31

More Power & Higher Availability

New cicserr Command

- New `cicserr` command provides information on error messages
- Avoids looking in the CICS Messages and Codes manual for an explanation of error messages

`cicserr ASRA`



Explanation: The task has terminated abnormally because of a signal or exception.
System action: CICS abnormally terminates the transaction and produces a transaction and possibly a system dump.
User response: Determine and correct the cause of the signal or exception.

`cicserr ERZ010020I`

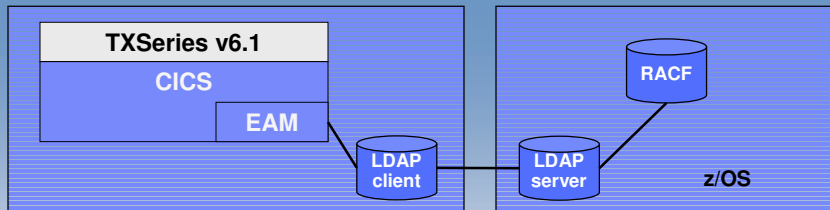


ERZ010020I * CICS startup is complete *****
Explanation: The region is now ready for use.
System action: CICS continues processing.
User response: None

32

**More Power &
Higher Availability**

Improved Security Integration with RACF



- Requires External Authentication Manager (EAM) component from TXSeries
- LDAP Client such as IBM Directory Server installed on TXSeries machine
- LDAP Server running on z/OS in Security Database Manager (SDBM) mode
- z/OS with RACF 1.7 or later
- TSLKey and RSLKey attributes added to RACF 1.7 to allow integration between TXSeries and LDAP

33

TXSeries for Multiplatforms, Version 6.1 Summary

Vastly simplified and more powerful



**The Next Generation
of Distributed CICS**



**New and Intuitive
Administration
Environment**

TXSeries for Multiplatforms V6.1 Summary of Key Highlights

- **A significantly simplified infrastructure**
 - ▶ Offers simplified installation, configuration and administration by removing the DCE and Encina prerequisites from all platforms
- **New intuitive administration capability**
 - ▶ Provides a powerful and intuitive new Web-based administration console, designed to look and operate like the WebSphere Application Server administration console
- **More power and higher availability:**
 - ▶ Offers a higher-availability infrastructure that enables TXSeries to withstand planned or unplanned downtime of XA-connected resources

34

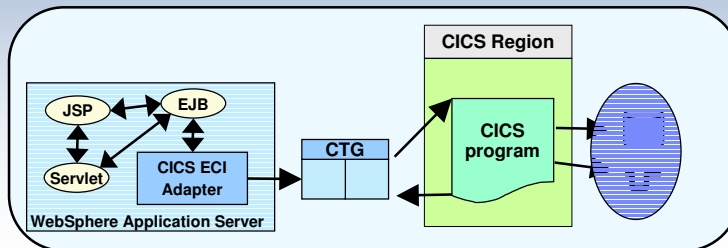
TXSeries for Multiplatforms v6.1

Integration with SOA Product Portfolio

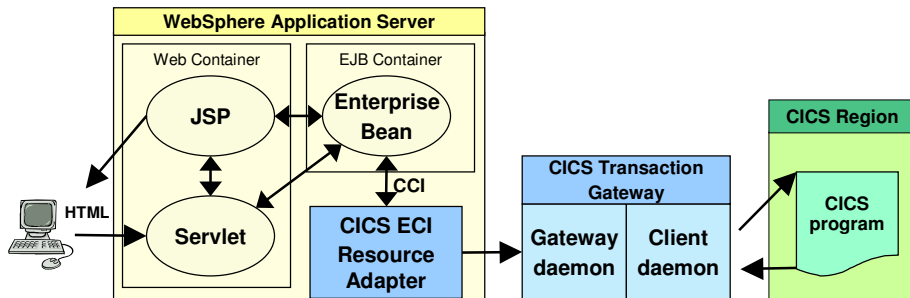
SOA on your terms and our expertise – ibm.com/cics

TXSeries as a part of a SOA solution

- TXSeries enables end-to-end distributed solution through integration with WebSphere and CICS Transaction Server for z/OS
- Close SOA integration is achieved using a combination of products
- Combination of TXSeries and WebSphere SOA Foundation products delivers a proven and robust solution



SOA Integration with J2EE Application Servers

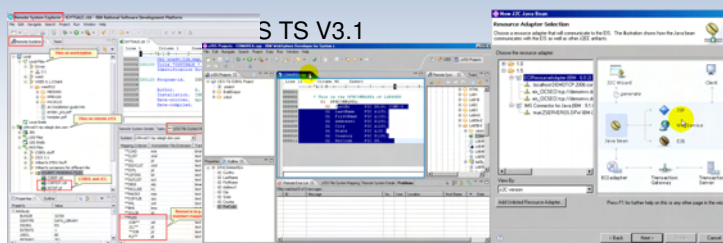


- CICS Transaction Gateway (CTG) provides an external interface to TXSeries
- CICS Resource Adapter allows J2EE applications to access CTG

37

TXSeries is now a part of WD4z

- **A version of TXSeries is shipped with WD4z V7 onwards**
 - Developer license
 - Replaced CICS TS for Windows
 - Provide local syntax check for multiple version of CICS APIs



38



TXSeries for Multiplatforms v6.1

Strategy and Directions

SOA on your terms and our expertise – ibm.com/cics

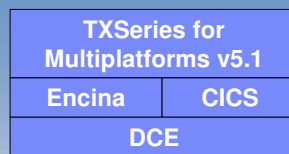
© 2007 IBM Corporation



TXSeries Strategy: Phase 1 Separate then Remove DCE and Encina

Continue to support existing Encina customers on v5.1 until at least 2009 (2011 via contracts)

End of Life DCE (except for Encina customers)

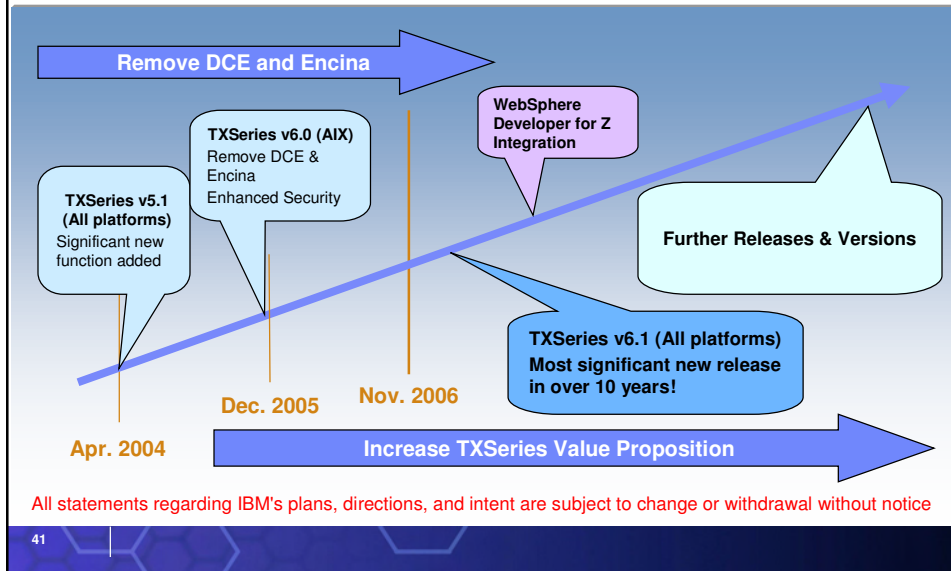


Action	Objective & Customer Benefit
Remove DCE & Encina Repackage TXSeries	Remove complexity Simplify installation and administration
Develop CICS alternatives to DCE & Encina	Maintain and enhance functionality Enable full CICS application compatibility

TXSeries for Multiplatforms, Version 6.1 is now the strategic migration path for:

- TXSeries CICS v4, v5 and v6.0
- CICS TS for Windows
- CICS TS for OS/2 customers

TXSeries Strategy: Phase 2 Increase TXSeries Value Proposition



Statement of Direction and Future Thoughts

IBM Software Announcement 206-096 (2nd May 2006) announced:

- "IBM intends to focus on the integration of TXSeries assets in modern SOAs by delivering a structured method of inter-program communication that can be used across standards-based networks."
- "This will be delivered in line with established CICS design principles to maintain upward compatibility with CICS Transaction Server for z/OS."

Other Future Thoughts (not committed plans) include:

Enhancement Area	Potential Enhancements (not committed plans)
Communications and Integration	Channels and Containers; Enhanced TCP/IP; Enhanced MQ Integration
Systems Management and Administration	Extensions to new Admin WUI; Add more online management capability
Availability and Workload Management	Enhance current WLM implementation; Integrate with Admin WUI
Management and Problem Determination	Extend monitoring, logging and PD capability; Integrate with Admin WUI
Security Management and Integration	Introduce administration 'groups'; Enhance Tivoli Integration

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

For hands on people out there

The screenshot shows the IBM CICS TS for Windows website. A red circle highlights the 'Get Downloads' link for TXSeries V6.1. To the right, a book cover titled 'Revealed! The Next Generation of Distributed CICS' is displayed, featuring the number '8' and the text 'The BigBlueBank sample application'. Below the book cover, there is a brief description of the application and a link to the book.

CICS TS for Windows

Search for: within CICS TXSeries for Multiplatforms

TXSeries V6.1
Get Downloads

Revealed! The Next Generation of Distributed CICS
8
The BigBlueBank sample application

Using IBM WebSphere Developer for System z and TXSeries for Multiplatforms to build CICS applications

Level: Intermediate
URL: http://books.ibm.com/author/title.do?title_id=63891&edition_id=63891, Software Developer, TXSeries, IBM
14 Mar 2007
Updated 10 Apr 2007

This article teaches how to write CICS® applications in IBM® COBOL using IBM® WebSphere® Developer for System z v7.0 (hereafter called WebSphere

Product Documentation

The screenshot shows the IBM TXSeries for Multiplatforms Information Center website. The 'Education Assistant' section is highlighted, showing a navigation menu with 'Home', 'Products', 'Services & solutions', 'Support & downloads', and 'My account'. The 'Getting started' section is also visible, with a search bar and a 'GO' button. The 'Contents' section lists various topics such as 'What is TXSeries for Multiplatforms', 'Planning for TXSeries', and 'Installing TXSeries'. The 'Service and support' section includes links for 'Additional product information', 'TXSeries forums', and 'System requirements'. A 'Problem' section is also visible, detailing an error message: '1 03620 03/09/27-10:31:10.624260 20106c36 F Encina Internal Error --Call your Support Representative: rpe_server_ung_handings failed: 0x00000000 1 03620 03/09/27-10:31:10.654421 00000000 FT://encina/5.0/source/win32_v86/src/client/trpc/trpc_tran.c 2745 abnormal program termination'.

Software information center

Search Results: 437 result(s) found for start region

Welcome to the TXSeries for Multiplatforms Information Center

IBM TXSeries for Multiplatforms is an architecture of integrated software components that you can use to create CICS environments. TXSeries for Multiplatforms Version 6.0 provided a drastically simplified CICS product that is available on the AX platform. TXSeries for Multiplatforms Version 6.1 extends this code base onto other support platforms. TXSeries for Multiplatforms Version 6.1 is available and supported on AIX, HP-UX, Solaris, and Windows.

This information is either HTML or PDF.

Education Assistant

Home Products Services & solutions Support & downloads My account

Search: Search scope: All topics

Contents

- What is TXSeries for Multiplatforms
- Planning for TXSeries
- Installing TXSeries

Service and support

- Additional product information
- TXSeries forums
- System requirements

Problem

When Starting TXSeries on a Windows 2000 laptop with no network connection the following errors occurred.

1 03620 03/09/27-10:31:10.624260 20106c36 F Encina Internal Error --Call your Support Representative: rpe_server_ung_handings failed: 0x00000000 1 03620 03/09/27-10:31:10.654421 00000000 FT://encina/5.0/source/win32_v86/src/client/trpc/trpc_tran.c 2745 abnormal program termination

Questions and More Resources

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:

- ▶ Datasheets/Brochures
- ▶ Redbooks
- ▶ Whitepapers
- ▶ Presentations
- ▶ Hints and Tips
- ▶ Technical Library
- ▶ And more....

© IBM Corporation 2007. All Rights Reserved.

The workshops, sessions and materials have been prepared by IBM or the session speakers and reflect their own views. They are provided for informational purposes only, and are neither intended to, nor shall have the effect of being, legal or other guidance or advice to any participant. While efforts were made to verify the completeness and accuracy of the information contained in this presentation, it is provided AS IS without warranty of any kind, express or implied. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, this presentation or any other materials. Nothing contained in this presentation is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software.

References in this presentation to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates. Product release dates and/or capabilities referenced in this presentation may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. Nothing contained in these materials is intended to, nor shall have the effect of, stating or implying that any activities undertaken by you will result in any specific sales, revenue growth or other results.

Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon many factors, including considerations such as the amount of multiprocessing in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve results similar to those stated here.

All customer examples described are presented as illustrations of how those customers have used IBM products and the results they may have achieved. Actual environmental costs and performance characteristics may vary by customer.

The following are trademarks of the International Business Machines Corporation in the United States and/or other countries. For a complete list of IBM trademarks, see www.ibm.com/legal/copytrade.shtml
 AIX, CICS, CICSplex, DB2, DB2 Universal Database, i5/OS, IBM, the IBM logo, IMS, iSeries, Lotus, OMEGAMON, OS/390, Parallel Sysplex, pureXML, Rational, RCAF, Redbooks, Sametime, System i, System i5, System z, Tivoli, WebSphere, and z/OS.

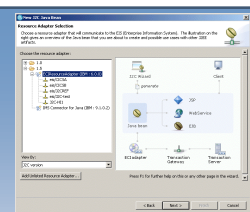
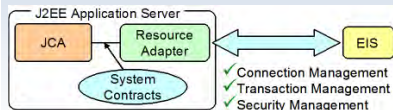
Java and all Java-based trademarks are trademarks of Sun Microsystems, Inc. in the United States, other countries, or both.
 Microsoft and Windows are trademarks of Microsoft Corporation in the United States, other countries, or both.
 Intel and Pentium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.
 UNIX is a registered trademark of The Open Group in the United States and other countries.
 Linux is a registered trademark of Linus Torvalds in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.

The J2EE Connector Architecture (JCA)

J2EE standards based access to Enterprise Information Systems

- A component of the Java™ 2 Platform Enterprise Edition specification, alongside other standard services, such as JMS, JDBC and JNDI
- Standard programming interface to all Enterprise Information Systems (EIS), such as CICS, IMS and SAP
- Widely supported in education materials and software tooling from IBM and non IBM vendors
- Delegated management of Connections, Transactions and Security for better, faster application development



TXSeries Functionality Overview

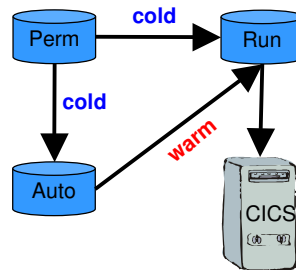
- **Data Access .. all via 2 phase commit XA protocols**
 - CICS SFS or DB2 / Oracle for VSAM emulation
 - SQL database access via leading RDBM products
 - Messaging via MQSeries
- **Full CICS ISC Support**
 - FS, DPL, DTP, TR, Starts
 - Sync Level 2 support over SNA
 - Sync Level 1 and 2 support over TCP/IP (TXSeries CICS to TXSeries CICS only)
- **Security**
 - CICS Provided
 - External Security

TXSeries Functionality Overview

- **Administration Commands**
 - CICS Control Program (cicscp) for most situations
 - Plenty of other commands if you need control
 - Web based administration tool
- **Supplied Transactions**
 - CICS - CEMT, CECI/CECS, CESN/CESF, CEBR, CEDF ...
 - TXSeries - CJDB/CADB/CDCN, CMLV, CALF ...
- **Problem Determination**
 - Several diagnostic and console files
 - Dumps, Traces, Monitoring, Statistics

TXSeries Resource Management

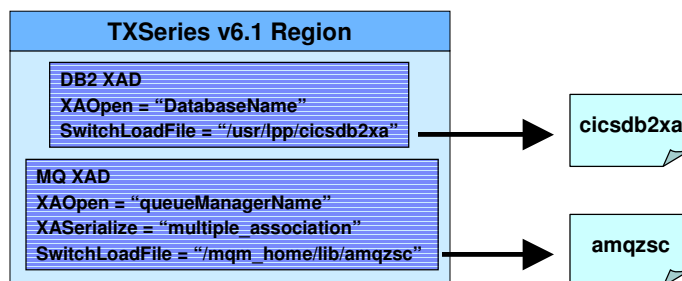
- **Command line interface on all platforms**
- **User Interface on AIX and Windows**
 - Windows - TXSeries Administration Tool
 - AIX - System Management Interface Tool (SMIT)
- **RDO is supported, but no CEDA transaction**
- **Resource definition database**
 - Composed of stanza (text) files
 - One stanza per resource type
 - Stanza names are different from CICS TS
- **Three databases**
 - Permanent, Auto and Runtime



51

Integration with XA Resource Managers

1. Prepare the CICS Region

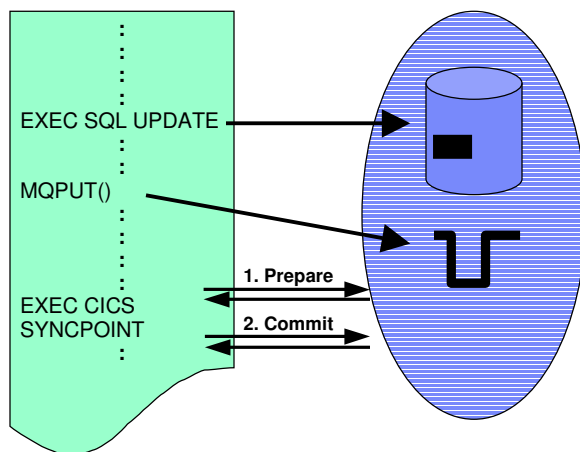


1. **Compile the supplied Switch Load File**
 - The library interface between CICS and the resource manager (DB2 or WMQ)
2. **Define the Switch Load File to CICS**
 - Create an XAD Stanza entry

52

Integration with XA Resource Managers

2. Accessing the Resources



- Update Resource Managers using native commands
- CICS transaction syncpoint will drive 2 Phase Commit processing in all Resource Managers (RM)
 1. Prepare each RM in turn
 2. Commit each RM in turn