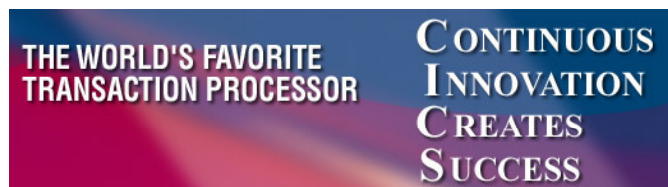




IBM Software Group

# IBM TXSeries for Multiplatforms

Distributed transaction processing simplified



Features overview

TXSeries for Multiplatforms V7.1  
[www.ibm.com/CICS](http://www.ibm.com/CICS)

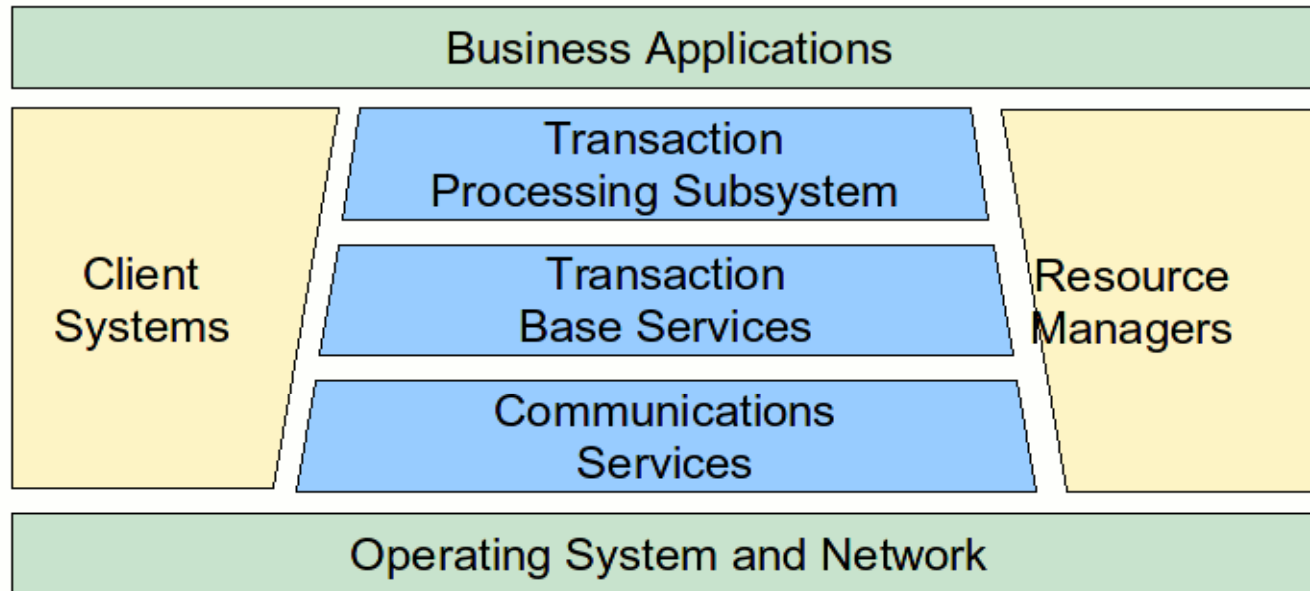
# Agenda

- **Technical value of TXSeries**
- **Brief overview of architecture**
- **Core components of TXSeries**
- **Features overview**
- **WebServices Demo**
- **Reference Material**

# Technical value of TXSeries

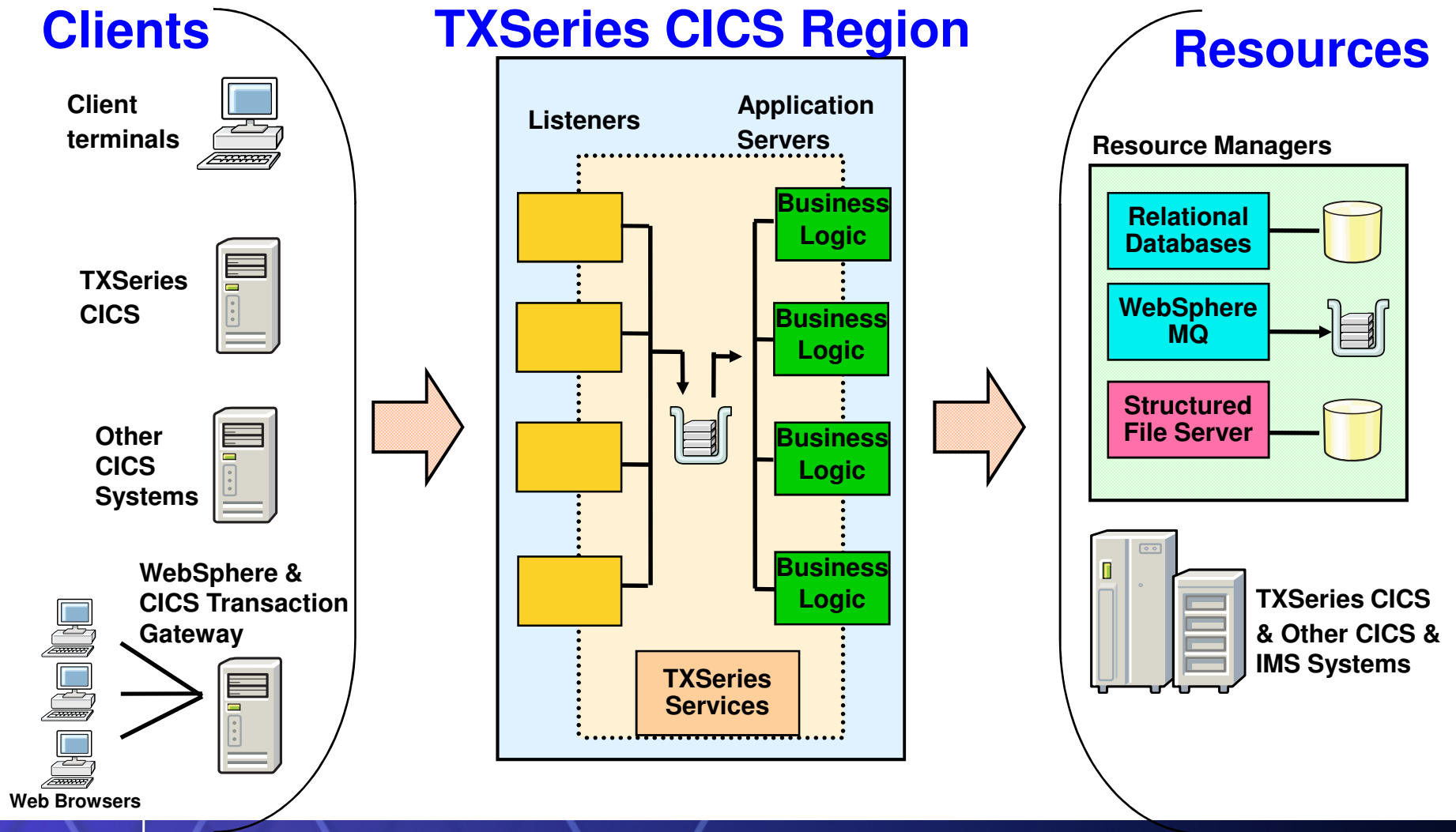
- Entry level distributed transaction processor
- Delivers a managed environment for enterprise applications
- Product for Distributed Transaction Processing in traditional languages
  - Allows building new applications using procedural or object oriented languages
- Suitable for standalone deployments or large deployments which require tighter integration with other product.
  - Core component of your SOA by connecting disparate applications and data
- Robust, extendible , secure and scalable
- Multi-platform support across AIX, Windows, Solaris, HP-UX (PARISC & IA).

# 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

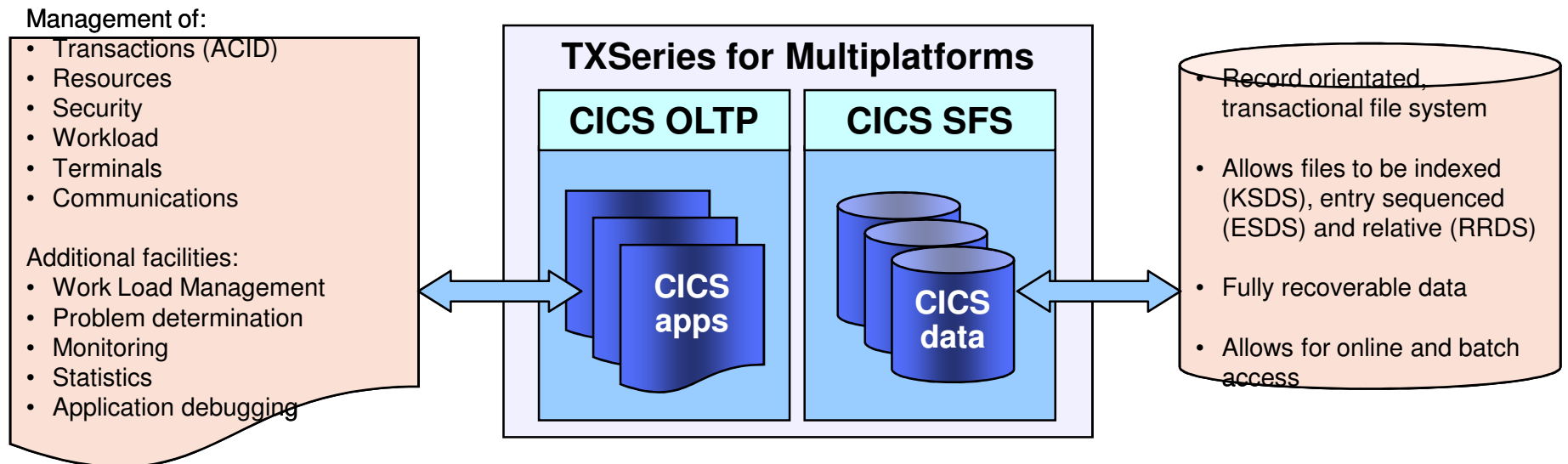
# TXSeries – General Architecture



# TXSeries Core Components & Functionality

TXSeries includes two core components:

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



## Features – Distributed transaction management

- Two Phase Commit support with XA compliant databases and resource managers
  - DB2, Oracle, Informix, MS SQL Server, WebSphere MQ etc.
  - Uses XA protocol to communicate with resource managers.
  - XA support hides complexities from applications.
    - Application programs concentrate on business logic.
- Two Phase Commit support across CICS servers (Synchronization Level 2)
  - TXSeries regions can communicate over TCP or SNA protocol.
  - Two-phase commit support across multiple TXSeries regions or TXSeries to CICS-TS systems.
- Supports failure management and recovery with databases as well as over inter-communication protocols with other TXSeries/CICS systems.

# Features – Application development

- Mixed language programming support: C, C++, Java (non-J2EE), COBOL and PL/1
- Support for CICS API / SPI set
  - Subset of CICS TS level of APIs supported
  - EXEC CICS ...
- API/SPI provide a range of services
  - Presentation management (EXEC CICS SEND... EXEC CICS RECEIVE ... etc.)
  - Data services, file services, queue services, journal services (EXEC CICS READ... EXEC CICS WRITE... etc)
  - Memory management (EXEC CICS GETMAIN... ,EXEC CICS FREEMAIN.. etc.)
  - Business Logic services (EXEC CICS LINK, EXEC CICS SYNCPOINT etc..)
    - Program execution, synchronization, configuration & ISC
  - Problem determination (EXEC CICS HANDLE ABEND... etc.)
    - Error handling, debugging, performance monitoring etc.
- Client application development (COBOL, C , C++ or Java languages)
  - External call interface (ECI)
  - External presentation interface (EPI)
  - COMMAREA or CHANNELS for passing data

# Features – Application development tools

- Application development tooling
  - cicstran – CICS Translator
  - cicstcl – CICS Translate, Compile & Link
  - cicsmap – CICS BMS processor.
  - CECS, CEDF, CDCN, CADB (Animator)
- Development environment
  - Rational developer for system Z (Rdz) provides IDE
  - Rdz provides support for TXSeries application development and CICS TS application syntax checking abilities.
    - Applications translated and compiled using co-processor.
  - Rdz more of an extensive development environment for CICS TS applications.
    - All of CICS TS tooling done through Rdz
  - Other compiler IDEs can be used , but translate

# Features – File and Resource management

- Files & Queues
  - Files :
    - Data stored in the form of records. Used to store data in file structure.
    - Support for KSDS, ESDS and RRDS file sets
  - Queues :
    - Sequence of data elements used for data transfer across transactions.
    - Two types, Transient data queues and Temporary storage queues.
  - TXSeries provides a file manager to oversee administration of queues and files.
    - File manager could be SFS (Structured file server) or RDBMS like DB2/Oracle.
    - Structured File Server provides VSAM emulation.
- Resource Manager support
  - Both XA and non-XA based support available.
  - DB2, Oracle, Informix, Sybase, MSSQL Server and WebSphere MQ support.
    - MQ used as resource manager. XA style calls made to MQ through switch load.
    - Support for MQ trigger transaction.
  - XA Resiliency to take care of sudden resource manager outages.

## Features – Batch Processing

- Support for batch processing with EXTFH interface.
- Supported with all file managers, SFS, DB2 and Oracle
- EXTFH : External File Handler support
  - Used for updating files from non-CICS applications
  - Allows applications to use SFS, DB2 or Oracle.
  -

## Features – System Administration

- Supported through both command line tools and Web User Interface.
- Administration tasks such as create , destroy , start, stop supported for all CICS servers.
- Support for configuration of CICS resource definitions.
- Wide range of command line tools available
  - cicscp, cicsadd, cicsdelete, cicsupdate for CICS region management
  - sfsadmin, tkadmin, cicssdt, cicsddt commands for file manager administration

Examples of command line tools ...

- cicscp -v create sfs\_server ...
  - cicscp -v start region ...
  - cicsadd -c pd -r abc PROG PathName=prog
- 
- Admin console or WUI for administration
    - Web interface for TXSeries administration.
    - Perform start/stop/configuration etc from the WUI.
    - Various other features with help information like view logs, view environment etc...

# TXSeries administration console

TXSeries Administration Console - Mozilla Firefox: IBM Edition

File Edit View History Bookmarks Tools Help

TXSeries Administration Console Welcome root Support Help Logout IBM.

abacus.in.ibm.com

Regions

- All Regions
- Monitoring Profiles
- PAYROLL
- BRCHORA
- PURHQRT
  - Environment
  - Application Probe
  - Region Properties
  - Communication
  - File
  - Gateway
  - Journal
  - Listener
  - Monitoring
  - Object
  - Product
  - Program
  - Temporary Storage
  - Terminal
  - Transaction
  - Transient Data Queue
  - User
- Logs
- Monitoring
- HEADOFF
- HORTREG

●●● Status of the Remote system

Select your language English Go

	Total	Starting	Recovering	Started	Stopped
Regions	6	--	--	1	5
SFS Servers	2	--	--	1	1
PPC Gateway Servers	0	--	--	--	--

●●● About your TXSeries for Multiplatforms installation

TXSeries 7.1.0.0 r000-L090121

●●● TXSeries for Multiplatforms documentation

For documentation visit : [Online Information Center](#)

Done

## Features – Install and Migration

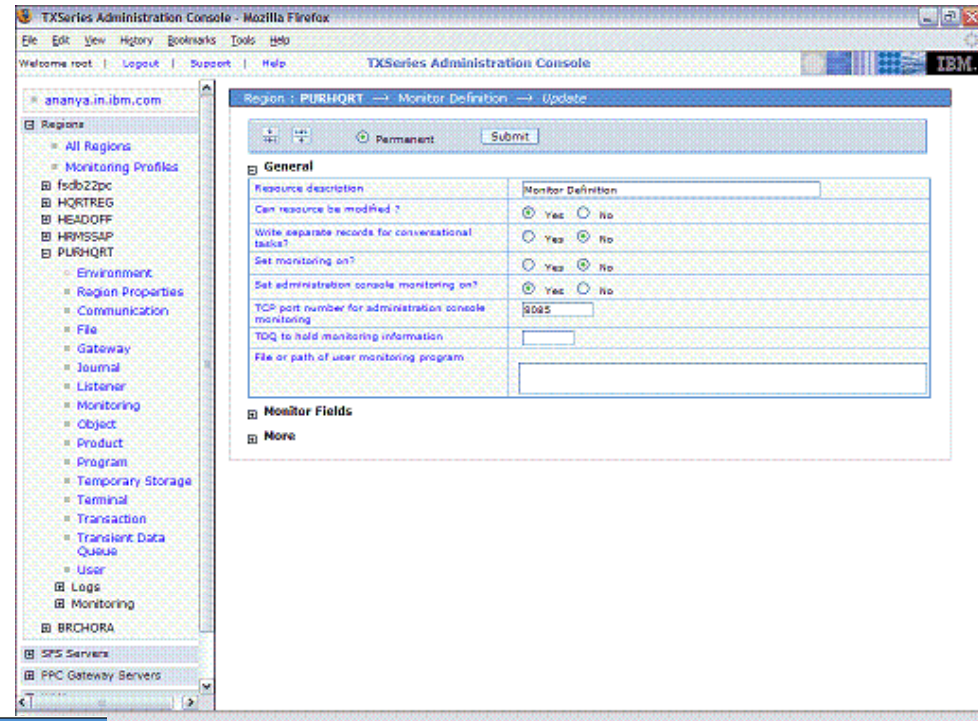
- Easy and intuitive TXSeries installer
  - Provides GUI mode, console mode and silent mode.
  - Supported through Tivoli provisioning manager.
  
- Version migration assistance tool
  - cicsexport utility : Exports cics region data into an archive
  - cicsimport utility : Imports data from the archive
  - cicsmigrate : Migrates the existing CICS region to latest level.



# Features : Monitoring

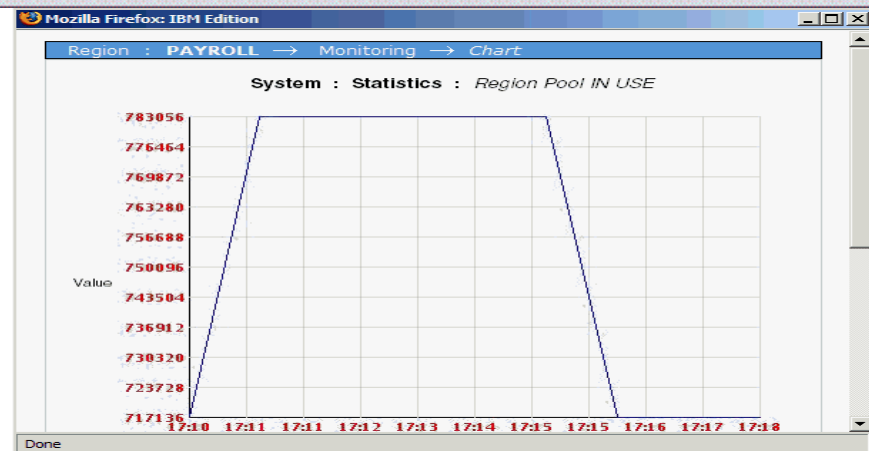
## Monitoring using administration console.

- GUI based monitoring
- Provides facility to collect task related monitoring information and statistical information for resources such as transactions, programs etc.
- Monitoring information generated based on a monitoring profile at regular intervals.
- Monitoring profile includes definitions of resources to be monitored e.g. transactions, programs etc.
- Monitoring data collected and saved at regular intervals.
- Collected monitoring data is archived. It can be viewed in text format or in a graphical format.



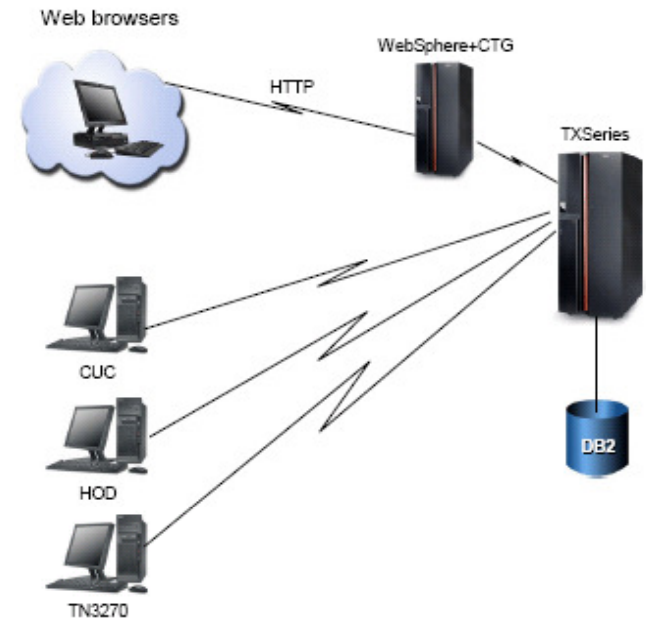
Region : HRMSSAP → Monitoring → Archives

Session ID	Profile Name	Session Start Time	Session Finish Time	
16	PAYTRAN	29/Jan/2009 15:16:19	29/Jan/2009 15:18:15	Delete
15	PAYTRAN	29/Jan/2009 15:12:40	29/Jan/2009 15:15:58	Delete
14	PAYTRAN	29/Jan/2009 15:12:05	29/Jan/2009 15:12:13	Delete
13	DEFAULT	29/Jan/2009 15:11:58	29/Jan/2009 15:12:01	Delete
12	REGSTAT	29/Jan/2009 15:11:47	29/Jan/2009 15:11:49	Delete
11	PAYTRAN	29/Jan/2009 15:11:33	29/Jan/2009 15:11:38	Delete
10	PAYTRAN	29/Jan/2009 15:10:54	29/Jan/2009 15:11:03	Delete
9	PAYTRAN	29/Jan/2009 14:28:44	29/Jan/2009 15:03:37	Delete
8	PAYTRAN	29/Jan/2009 14:28:01	29/Jan/2009 14:28:18	Delete
7	PAYTRAN	29/Jan/2009 14:27:30	29/Jan/2009 14:27:41	Delete
6	REGSTAT	29/Jan/2009 14:26:59	29/Jan/2009 14:27:02	Delete
5	PAYTRAN	29/Jan/2009 14:26:47	29/Jan/2009 14:26:52	Delete



# Features – Connectivity (Communication)

- Client connectivity
  - Connects various client systems to TXSeries regions over TCP mainly.
  - CUC/CTG, Telnet clients (HOD, HATS, 3270 terminals ), Local terminal
  - Connectivity from Web Clients using WAS & CTG.
- Inter CICS region connectivity
  - Connects other TXSeries regions or CICS TS regions.
  - Supported over TCP and SNA protocols.
  - Support Sync Level 1 and Sync Level 2.
    - Sync Level 1 : Simple acknowledgement
    - Sync Level 2 : Updates across two regions handled as a LUW. Similar to two-phase COMMIT.
  - Supported TCP protocols:
    - CICSTCP : Used across TXSeries regions. (Sync Level 1)
    - PPC-TCP : Used to interconnect TXSeries regions (Sync Level 2)
    - IPIC : Used to connect TXSeries and CICS TS regions (Sync Level 1)
  - SNA support
    - Local SNA (Sync Level 1)
    - Through PPC-Gateway (Sync Level 2)



## Web Services DEMO

Questions ???

Question & Answers

**I ♥ CICS**