

IBM TXSeries for Multiplatforms, Version 6.2

Highlights

- **Offers vast simplification with an enhanced, distributed CICS transaction processor across all supported platforms, including HP Integrity**
- **Delivers advanced workload management and monitoring features to the powerful and intuitive, Web-based administration console**
- **Adds more power, reliability, availability and serviceability (RAS) features to enhance resilience of TXSeries for Multiplatforms systems as well as extend CICS API and SPI coverage**

A transaction-processing monitor is a key component of a healthy corporate IT system. It manages and augments the transactional processes that keep your revenue flowing. You might need to process hundreds of thousands of customer requests every day. You might need to automate an existing manual business process to increase your business effectiveness. Or you might need to design an innovative IT-based service that can be reused throughout your organization. Whatever your business needs, a transaction processing monitor can keep your organization operating at the optimum level.

IBM TXSeries® for Multiplatforms is a distributed IBM CICS® Online Transaction Processing (OLTP) environment for mixed language applications. It is widely used for integrating data and applications between distributed solutions and enterprise systems, and the deployment of CICS applications written in COBOL, C, C++ and PL/I.

You can use TXSeries to:

- *Integrate between data and applications in distributed solutions and enterprise systems, including CICS, IBM IMS™, IBM DB2® and IBM WebSphere® MQ*
- *Run and extend CICS applications to the Web and Web services using IBM CICS Transaction Gateway and IBM WebSphere Application Server*
- *Reuse existing CICS applications and application programming skill sets in your organization consistent with corporate distributed-platform policy*
- *Develop, test and diagnose CICS applications using COBOL, PL/I, C and C++ for deployment to IBM CICS Transaction Server*

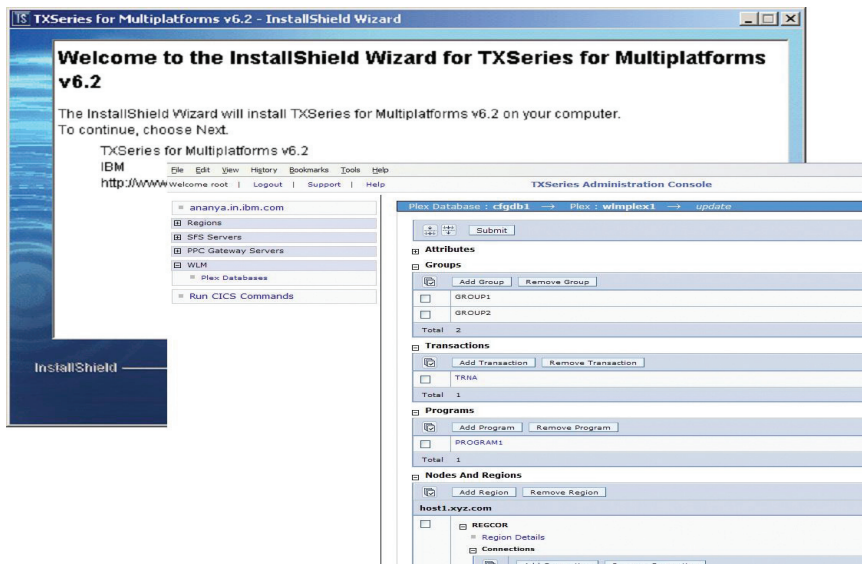


Figure 1. TXSeries for Multiplatforms V6.2 administration console provides superior assistance with tasks such as installation and configuration.

TXSeries for Multiplatforms enables integration and value-add reuse

TXSeries for Multiplatforms can be integrated as a component of your service-oriented architecture (SOA), enabling end-to-end, distributed mixed-language solutions through integration with WebSphere. The Java™ 2 Platform, Enterprise Edition (J2EE) Connector architecture (JCA) interface provided in CICS Transaction Gateway can connect TXSeries for Multiplatforms to WebSphere SOA server products, such as WebSphere Application Server, IBM WebSphere Enterprise Service Bus and IBM WebSphere Process Server. WebSphere MQ can be used to connect TXSeries for Multiplatforms to IBM WebSphere Message Broker, or to any other product that supports native IBM MQSeries® transport.

TXSeries for Multiplatforms also provides extremely good connectivity with IBM CICS Transaction Server for z/OS through full CICS intersystem communication (CICS ISC) support. TXSeries for Multiplatforms can act as a gateway to CICS Transaction Server for z/OS by handling terminal concentration, protocol conversion, or intelligent business logic locally. This can increase the performance of CICS Transaction Server for z/OS and protect it from client-originated disruption.

Uniquely, TXSeries for Multiplatforms is also designed to allow you to scale up to CICS Transaction Server on the mainframe if the needs of your business grow.

Simplified and powerful distributed CICS transaction processing

TXSeries for Multiplatforms, Version 6.2 continues to deliver significant steps forward in distributed CICS transaction-processing monitor technologies with an enhanced distributed CICS transaction processing engine. The functions previously provided by IBM Distributed Computing Environment

(DCE) and IBM Encina® infrastructure have been replaced with equivalent systems functions within the CICS OLTP and CICS Structured File System (SFS).

- **CICS OLTP**

The CICS OLTP supports the base-level CICS application programming interface (API) with the fundamental transactional qualities of atomicity, consistency, isolation and durability. By providing services that interact with the underlying hardware and software, TXSeries for Multiplatforms helps hide the complexity of your IT systems without compromising their functionality. Developers can focus on solving tangible business problems with application logic rather than failure detection, failure recovery and synchronizing access to shared data.

- CICS SFS

The integrated CICS SFS is a Virtual Storage Access Method (VSAM)-like, record-oriented file system that can provide indexed, relative and sequential access to file-based data. The SFS enables you to store fully recoverable file-based data that can be processed in a batch environment. TXSeries for Multiplatforms, CICS Transaction Server and even programs that are not CICS technology-based can share SFS files to help maximize the ability of these applications to interoperate in an enterprise environment.

TXSeries for Multiplatforms facilitates best practices of CICS program design by supporting the separation of the presentation logic, integration logic, business logic and data-access-logic elements of an application. This separation helps enable COBOL, C, C++ and PL/I specialists to develop modern, reusable applications that fit into a corporation's enterprise-wide requirements.

Applications hosted in TXSeries can communicate with CICS Transaction Server for z/OS through CICS ISC mechanisms—meaning that applications can be truly distributed across mainframe and distributed platforms. Multiple data sources, such as relational databases or message queues, can be included in a single unit of work, providing two-phase-commit data integrity across the network. This capability helps make TXSeries for Multiplatforms software an excellent companion product for enterprise mainframe deployments.

Offers increased user effectiveness, system resilience and interoperability

TXSeries for Multiplatforms V6 delivered a vastly simplified infrastructure through the removal of DCE and Encina prerequisites and the addition of a Web administration console with enhanced administration capabilities. The latest release of TXSeries for Multiplatforms V6.2 continues to offer increased user effectiveness, system resilience and interoperability, while addressing a large number of customer requirements. Enhancements have been made in three key areas:

Extension to a significantly simplified infrastructure

TXSeries for Multiplatforms V6.2 extends and enhances the next generation of distributed CICS transaction-processing solutions by providing a version of TXSeries without the DCE or Encina prerequisites across the IBM AIX®, Microsoft® Windows®, Sun Solaris, HP-UX PA-RISC and HP Integrity platforms. The vast simplification of installation, configuration and administration of TXSeries servers increases system programmer and system administrator productivity.

Now all the required DCE and Encina functions have been internalized and are transparent to TXSeries users. A single command set provides the required operations, which helps reduce the time and expense to train users and administrators to understand new configurations and concepts. Also, CICS servers now communicate using secure shared memory, which can enhance the performance and security of applications without requiring additional configuration or administration.

Installation and version-to-version upgrades are enhanced with InstallShield for Multiplatforms as the installer on all platforms. Using this industry-standard installation program enables quick and easy customization. You can run InstallShield for Multiplatforms as a GUI, a command-line console or as a silent installation with no user interaction. And InstallShield for Multiplatforms can also make it easier to integrate TXSeries for Multiplatforms into packaged applications that rely on the transaction-monitor facilities of the CICS OLTP as a component of larger industry-specific solutions.

Additionally, TXSeries for Multiplatforms V6.2 integrates with IBM Tivoli® Provisioning Manager to help automate installation on to multiple computers in a network. TXSeries for Multiplatforms V6.2 also provides a consistent way to install and remove Interim Service Fixes and test fixes with the new, easy-to-use IFixInstaller tool.

```

# ./TXSeriesIFixInstaller.sh
No arguments mentioned
See below for usage
TXSeriesIFixInstaller.sh [help | jarFilename [silent | verbose | extract | info]]

# ./TXSeriesIFixUninstaller.sh
No arguments mentioned
See below for usage
TXSeriesIFixUninstaller.sh [help | jarFilename [silent | verbose | extract | info]]

root@aruna : 5.3.0.0 /usr/lpp/cics/bin

```

Figure 2. IFixInstaller tool helps ensure easy and consistent installation and removal of service and test fixes.

New intuitive administration capability with greater control and improved usability
 TXSeries for Multiplatforms V6.2 enhances the powerful and intuitive new Web-based administration console, which is designed to look and behave in a similar manner to the WebSphere administration console. It reduces complexity when managing tasks, including user authorization and resource management. In addition, it now includes new features, such as the

ability to configure the Workload Manager (WLM) component, which monitors various parameters of a running CICS region.

Configuring Workload Manager using the administration console helps eliminate the need for manual editing of the Workload Manager configuration file. Additionally, if you prefer scripting, a new, easy-to-use command-line utility, *cicswlmcfg*, is now available.

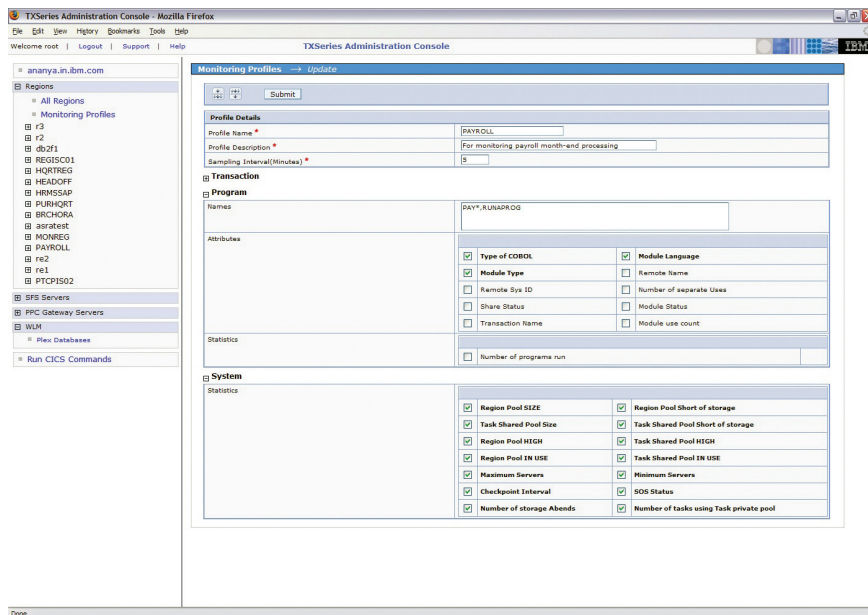


Figure 3. TXSeries for Multiplatforms administration console introduces easy-to-use support for workload management.

```

# cicswlm
11/14/07 20:53:08 BHG8500I Syntax:

cicswlm <action> <subject> <identifier(s)>

<action>      = configure | start | stop | list | load
              verify | clean | purge
              format | trace | help
<subject>    = uap | ucn | uln | process
              all | level | size | routemonitor | healthmonitor
<identifier(s)> = uap name | process id
               trace level | trace log size

Enter cicswlm <action> for more detailed information.

```

Figure 4. The cicswlmcfg command-line utility

The administration console now provides a monitoring feature that can monitor region resources, transactions and programs in a given system. The monitoring supports these capabilities:

- Define a profile for the resources to be monitored, such as a region, programs and transactions.
- Associate a given profile to a region.
- Monitor specific programs or transactions.
- Filter out unwanted attributes for a given resource.
- Automatically archive monitoring data after it's generated.
- Produce a graphical view of various trends from the generated monitoring data.

Additional enhancements to the administration console include the ability to view CICS System Master Terminal (CSMT) logs and symrecs and edit CICS region environment files. You can also run arbitrary noninteractive CICS commands through this Web interface.

Other administration enhancements have been introduced to increase productivity. All CICS servers — such as regions, SFS servers and peer-to-peer communication (PPC) gateways — now use only one user ID, *cics*. This helps to eliminate the need to manage multiple IDs. The need for kernel extensions to run TXSeries for Multiplatforms on the AIX platform has been removed. Administrators can now use a script, which is provided, to quickly build the Oracle dynamic XA switch.

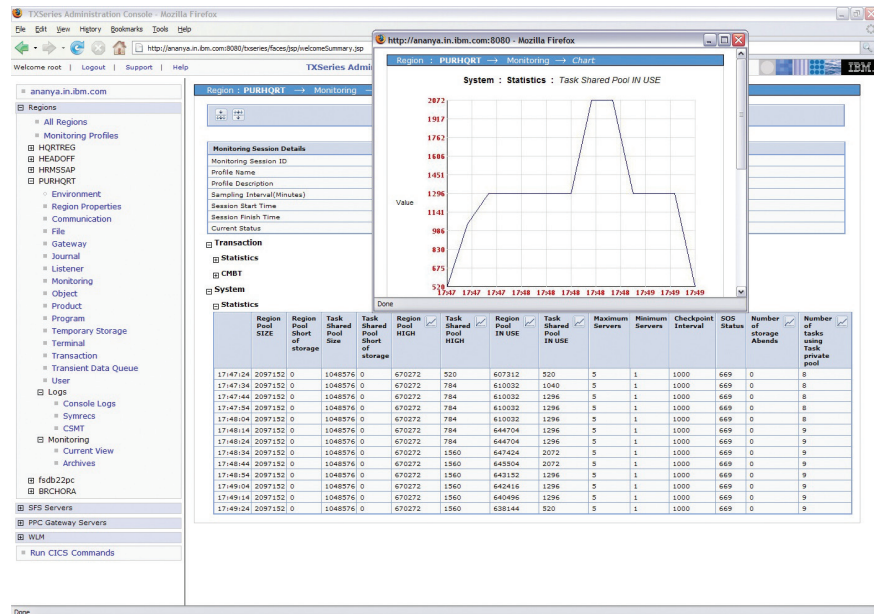


Figure 5. You can set up monitoring profiles to monitor specific transactions and graphically view monitoring data.

Users can now set `SafetyLevel=normal` on the Solaris platform to avoid application overruns into region-owned memory. TXSeries for Multiplatforms also now supports user IDs and passwords in mixed case to increase interoperability, a feature similar to CICS Transaction Server for z/OS.

A few attributes have been introduced to provide further administrative assistance. A new `PrinterComp` attribute in `TD` stanza helps to make use of full printer width. A `MaxSize` attribute in `Transient Data Definition (TDD)` stanza defines a maximum size for extra-partition `Transient Data Queues (TDQs)`, providing increased control to manage application or system log files.

More power, reliability, availability and serviceability

TXSeries for Multiplatforms V6.2 also adds to its core value proposition by delivering higher availability of CICS regions along with improved reliability and serviceability than previous versions. A new infrastructure enhancement now enables TXSeries regions to remain up and running even when an XA-connected resource manager becomes unavailable. As a result, TXSeries now has the increased resiliency to withstand planned or unplanned downtime of the XA-compliant resource managers.

An enhanced recovery process makes CICS regions resilient against abnormal region terminations due to asynchronously cancelled tasks. Forced purging of tasks has been made more reliable in this release to better withstand faults caused by timeouts, communication failures and so on. Significant enhancements in serviceability to the product include native debugger support for CICS application debugging on all UNIX® platforms for IBM COBOL, C and C++ applications, as well as these new external dump tools:

- `cicsedump` utility. *Collects critical dump information while a region is hung. There was no utility before to collect any information after a region stalls.*
- `cipc_dump` utility. *Dumps vital information about CICSIPC data structures.*

TXSeries for Multiplatforms V6.2 enhances its API and system programming interface (SPI) sets with the following features:

- `EXTRACT TCP/IP`. *Allows the acquisition of the IP address of incoming TCP/IP client connections.*
- `ABEND NODUMP`. *Allows restriction of a dump being produced when a transaction has an abnormal end (abend).*
- `DUMP TRANSACTION`. *Causes a transaction to dump.*
- `SET PROGRAM PHASE-IN`. *Works similar to NEWCOPY. Refreshes all the cached programs loaded in the application server process.*

TXSeries for Multiplatforms along with IBM Rational® Developer for System z™ provides support for syntax checking of CICS Transaction Server applications written in COBOL and PL/I. The syntax check feature has been enhanced to support the CICS Transaction Server, Version 3.2 level of APIs.

Extending platform capabilities to HP-UX on HP Integrity

Along with the previously discussed new function, platform support for TXSeries for Multiplatforms has been extended to the HP Integrity platform, allowing users more flexibility.

Simplified security management for IBM RACF users

Security handling is simplified when you use TXSeries for Multiplatforms in conjunction with a mainframe. The new external authentication manager (EAM) module uses Lightweight Directory Access Protocol (LDAP) to integrate with the version of IBM Resource Access Control Facility (IBM RACF®) that is supplied with the IBM z/OS® operating system, Version 1.7 or later. TXSeries for Multiplatforms can define and maintain all system users in an RACF repository and enables users and system administrators to maintain a centralized security repository for both TXSeries and CICS Transaction Server. These functions help to save time for administrators and developers, and potentially reduce security risk.

TXSeries for Multiplatforms extends support for the most-recent versions of other commonly used products, including databases, communications subsystems and system compilers for programming languages supported by TXSeries.

For more information

IBM TXSeries for Multiplatforms, Version 6.2 delivers significantly more capabilities, while helping to reduce the complexity and cost of administration.

To learn more about TXSeries for Multiplatforms transaction-management solutions, contact your IBM representative or IBM Business Partner, or visit:

ibm.com/software/txseries

To learn more about IBM's SOA offerings, visit:

ibm.com/soa

IBM TXSeries for Multiplatforms, Version 6.2 at a glance

Supported operating systems

- AIX, Version 5.3
- Windows Server 2003, Windows VISTA
- Sun Solaris Operating Environment, Version 10
- HP-UX 11i, Version 2, Version 3

AIX

Hardware requirements

- Any IBM System p™ hardware capable of running AIX, Version 5.3 with Technology Level 5
- 1 GB available disk space
- 256 MB RAM recommended (memory and disk requirements depend on TXSeries component configuration)

Software requirements

- AIX, Version 5.3 with Technology Level 5

Windows

Hardware requirements

- Any Intel® Pentium® II or faster, 32-bit processor-based machine or equivalent, capable of running Microsoft Windows 2003 Server
- 1 GB available disk space
- 256 MB RAM recommended (memory and disk requirements depend on TXSeries component configuration)

Software requirements

- Windows Server 2003 with Service Pack (SP) 2
- Windows VISTA
- Windows XP Professional Edition

Sun Solaris Operating Environment

Hardware requirements

- Any Sun SPARC or UltraSPARC desktop or server capable of running Sun Solaris Operating Environment, Version 10
- 1 GB available disk space
- 256 MB RAM recommended (memory and disk requirements depend on TXSeries component configuration)

Software requirements

- Sun Solaris Operating Environment, Version 10

HP-UX

Hardware requirements

- Any HP PA-RISC hardware capable of running HP-UX 11i
- Any HP Integrity hardware capable of running HP-UX 11i
- 1 GB available disk space
- 256 MB RAM recommended (memory and disk requirements depend on TXSeries component configuration)

Software requirements

- HP-UX 11i, Release 2 (11.23)
 - HP-UX 11i, Release 3 (11.31)
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