IBM TXSeries for Multiplatforms V7.1 delivers simplified interoperability with IBM CICS Transaction Server, improved system resilience, problem determination, and application development tooling

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At a glance

The latest release, TXSeries® for Multiplatforms V7.1, offers significant enhancements in integration and connectivity, system resilience, application development and problem determination tooling, web administration console, and installation.

Major enhancements in the latest release are classified under:

- **Integration and connectivity**: Enhanced CICS® API and SPI support with removal of data size restrictions for transfer between programs using Containers and Channels, and simplified interoperability between TXSeries and CICS Transaction Server (CICS TS) regions using TCP/IP networking protocol for Distributed Program Link
- **Tooling**: Enhancements to provide higher resilience, easier problem determination, and application development
- **Usability**: Advanced features such as workload management and monitoring tooling added to its powerful and intuitive Web-based administration console to ease administration, providing a consistent look and feel with the rest of the IBM® Software Portfolio

Overview

TXSeries for Multiplatforms is a distributed CICS Online Transaction Processing (OLTP) environment for business-critical mixed language applications. It is widely used for integrating data and applications between distributed solutions and enterprise systems. It is also used for the deployment of high-performance, distributed CICS applications written in COBOL, C / C++, and PL/I. This integrates well into mixed-language, multiplatform service oriented architecture (SOA) solution.

The latest release, TXSeries for Multiplatforms V7.1 offers significant enhancements in integration and connectivity, system resilience, application development and problem determination tooling, Web administration console, and installation. Earlier versions of TXSeries vastly simplified infrastructure, enhanced the administration capabilities by introducing the Web administration console, improved usability, system resilience, and interoperability, addressed a large number of customer requirements.
Significantly enhanced integration and connectivity

TXSeries for Multiplatforms V7.1 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. Functional enhancements include:

- **Support for containers and channels:** TXSeries for Multiplatforms V7.1 delivers the new containers and channels functionality, a group of new APIs providing enhanced options for transmission of data within the enterprise. The restriction of a maximum of 32 KB of data that can be passed between programs by using a COMMAREA has been removed, giving application programmers greater flexibility for taking program design decisions.

  Channels provide a more flexible and more structured method of passing data between program components. Variation in the size and number of containers can conveniently be accommodated to allow easier evolution of the interfaces between programs. The size of a container is limited only by the amount of storage available. There is no limit to the number of containers that can be added to a channel. This mechanism also removes the need for programs to sense the exact size of the data returned. When containers go out of scope, they are automatically destroyed, so that the programmer is relieved of storage management concerns.

  Channels can be used by applications written in any of the programming languages supported by CICS. Options on the container and related API commands are provided for data conversion, providing a much simpler mechanism than that employed with a COMMAREA. While in COMMAREA applications data conversion is controlled by the system programmer, in the case of containers and channels it is controlled by the application programmer.

- **Interoperability between CICS regions over TCP/IP:** TXSeries for Multiplatforms V7.1 now enables TXSeries CICS regions and CICS TS regions to interoperate over Internet Protocol (IP) for Distributed Program Links (DPL). With this new functionality, networks can be standardized on IP, resulting in simplification of configuration and administration and thus making the system robust. Customers can continue to use their existing connection definitions to route work between TXSeries and CICS TS systems using ISC over SNA. SNA and IP Interconnectivity networks and definitions will be able to coexist, with existing IP-based protocol support across TXSeries CICS regions continuing to work as in the previous releases.

  This IP Interconnectivity for DPL function offers similar capabilities to those provided using other Intersystem Communication (ISC) protocols, including transactional syncpointing (without support for restart and recovery), security controls, and support for the exchange of either COMMAREA or channels and containers. In addition, TXSeries offers SSL encryption and authentication support for this IP interconnectivity protocol.

Improved system resilience, problem determination, and application development tooling

TXSeries for Multiplatforms V7.1 continues to expand its core value propositions by delivering enhanced system resilience, improved problem determination, and application development tooling through:

- **Isolation of memory usage:** Memory used internally by TXSeries and the user applications will be segregated starting from this release. This will prevent applications from overwriting system memory across the boundary in most cases and hence improve overall reliability and problem determination.

- **Task history logging:** History of all tasks executed through an application server process aids better problem determination. This provides a first information report on occurrence of a problem. The system can be configured through the Web administration console to enable this logging.

- **Transaction mapping between the backend regions and the front end applications:** Linked programs across regions can be mapped to one back level region to obtain critical information such as the transaction, program and application ID information from the front-end region.

- **TXSeries along with IBM Rational® Developer for zSeries® provides support for syntax checking of CICS TS applications written in COBOL and PL/I.** Further, enhancements have been made to ensure BMS map compatibility between TXSeries and CICS TS.
• Work Load Manager (WLM) enhancements: TXSeries WLM has been enhanced in this release for faster region takeover which helps maximizing the throughput. This also ensures higher availability of Application Owning Regions (AOR), which avoids transaction ABENDS in case of AOR change overs.

Enhancements to Web Administration Console and Installation packaging

• Enhanced usability in selecting multiple applications for start and shutdown using a pop-up window
• Improved performance and usability by moving WLM attribute validations from the server to the client
• Intuitive reorganization of WLM view using groups perspective
• Improved granular control for users on monitoring data
• Ability to monitor multiple regions concurrently

Installation enhancements include:

• Now uses InstallAnywhere, as the installer program, for installation packaging
• Process checks before installation/uninstallation helping avoid version inconsistency/overwrite during upgrades
• Includes enhanced readability of install logs

Key prerequisites

TXSeries for Multiplatforms V7.1 requires the following platforms:

• IBM AIX® users: AIX V5.3 TL7 or AIX 6.1 TL2
• Microsoft® Windows® users: Microsoft Windows Server 2003 or Microsoft Windows Server 2008
• SUN Solaris users: SUN Solaris 10 running on SPARC processors
• HP-UX users: HP-UX 11iV2, running on PA-RISC or HP Integrity platforms or HP-UX 11iV3, running on PA-RISC or HP Integrity platforms

Planned availability date

March 20, 2009 -- Electronic software delivery
April 21, 2009 -- Media and documentation

See the complete letter for globalization details.

Description

TXSeries for Multiplatforms V7.1 provides a stand-alone, distributed OLTP server with an integrated Structured File System (SFS) for mix language applications written in enterprise programming languages like COBOL, C, C++, PL/1, and Core Java™ (J2SE).

You can use it to:

• **Host** business-critical transactional CICS applications on distributed platforms in standalone deployments
• **Integrate between** data and applications in distributed solutions and enterprise systems including CICS, IMS™, DB2®, and WebSphere® MQ
• **Run and extend** CICS applications to the Web and Web services via the CICS TG and 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 CICS TS

Java support (JCICS) assists interoperability with Java applications running outside of TXSeries. CICS Foundation classes (CFC) support access to CICS facilities as C++ objects.

TXSeries for Multiplatforms includes two core components:

• Distributed CICS OLTP
• CICS SFS

CICS OLTP supports the base-level CICS API with the fundamental transactional qualities of atomicity, consistency, isolation, and durability. By providing services that interact with the underlying hardware and software, TXSeries hides the complexity of your IT systems without compromising function. 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 is a VSAM-emulating, record-oriented file system that can provide indexed, relative, and sequential access to file-based data. It allows developers to store fully recoverable file-based data that can be processed in a batch environment. The CICS SFS files can be shared among TXSeries, CICS TS, and non-CICS applications, such as IMS. This maximizes the ability to interoperate in an enterprise environment.

The design of 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 enables COBOL, C, C++, PL/1, and Java specialists to develop modern, reusable applications that fit into a corporation’s enterprise-wide requirements. Data sources can be included in a single unit of work, providing two-phase commit for data integrity across the network.

TXSeries can be integrated as a component of your SOA, enabling end-to-end, distributed mixed language solutions through integration with WebSphere. The Java Connector Architecture (JCA) interface provided in the CICS TG can connects TXSeries to the WebSphere SOA server products such as WebSphere Application Server, WebSphere Enterprise Service Bus, and WebSphere Process Server. WebSphere MQ can be used to connect TXSeries to WebSphere Message Broker, or to any other product that supports native MQSeries® transport.

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

Uniquely, TXSeries allows you to scale up to CICS TS on the mainframe if the needs of your business grow.

Delivers a vastly superior administration interface with advanced features

TXSeries for Multiplatforms V7.1 comes with an advanced and user-friendly administration console. This console is designed to be very similar to the WebSphere Application Server administration console, which will reduce the learning curve significantly. The new admin console is Web-based and can run on any supported Web browser. (Internet Explorer or Firefox). It supports true remote administration and configuration of CICS regions, other servers, and resources.

New functions include:

• Enhanced usability in selecting multiple applications for start and shutdown using a pop-up window
• Improved performance and usability by moving WLM attribute validations from the server to the client
• Intuitive reorganization of WLM view using groups perspective
• Improved granular control for users on monitoring data
• Ability to monitor multiple regions concurrently

Existing functions include:

• Display of current status information for all configured TXSeries regions, SFS servers and Peer to Peer Communication (PPC) gateways
• Intuitive grouping and sorting of information regarding TXSeries systems, properties, resources, and transactions, and so on
• Assistance with the configuration of TXSeries resources using drop-downs, radio buttons, tables and online help, and so on
• Problem determination capability that enables viewing, filtering and searching of event logs, with error codes now hyperlinked to message explanations
• Ability to edit environment files
• Ability to run arbitrary CICS commands
• Easy configuration through the powerful and intuitive Web administration console
• Dump tooling for greater problem determination capabilities
• Region resilience and enhanced recovery process to ensure greater system availability
• Ability to define and configure a monitoring profile to include specific transactions, programs, and fields
• Ability to graphically view of the generated monitoring data

This new administration console is available on all TXSeries supported platforms. It replaces the existing tsconfig utility on Windows systems.

**Delivers significantly enhanced integration and connectivity**

TXSeries for Multiplatforms V7.1 delivers major integration and connectivity enhancements allowing for simplified interoperability with CICS TS and CICS TG on standard protocols.

TXSeries now includes a group of new APIs, which introduce containers and channels. The restriction of a maximum of 32 KB previously applied to the amount of data that can be passed between programs by using a COMMAREA is removed by the introduction of **containers** and **channels**. Containers are named blocks of data for passing information between programs. Any number of containers can be passed between programs. Containers are grouped together in named channels. Channels can be used as a standard mechanism for exchanging data between programs.

Channels provide a more flexible and more structured method of passing data between program components. Variation in the size and number of containers can conveniently be accommodated to allow easier evolution of the interfaces between programs. The size of a container is limited only by the amount of storage available. There is no limit to the number of containers that can be added to a channel. This mechanism also removes the need for programs to know the exact size of the data returned. When containers go out of scope, they are automatically destroyed, so that the programmer is relieved of storage management concerns.

The ability to interconnect CICS regions over TCP/IP for Distributed Program Link (DPL) lets you to take advantage of Internet Protocol (IP) networking. Just as TXSeries CICS regions can communicate with one another over IP, with this enhanced capability, TXSeries CICS regions and CICS TS regions can also interoperate over IP. This provides an alternative to Systems Network Architecture (SNA) in connecting to CICS TS. All CICS TCP/IP workloads benefit from simple and robust system and workload-management facilities. Existing IP based protocol support across TXSeries CICS regions continue to work the same as before.

**Provides improved system resilience, problem determination, and application development tooling**

TXSeries for Multiplatforms V7.1 continues to expand its core value propositions by delivering enhanced system resilience, improved problem determination, and application development tooling.

Memory used internally by TXSeries and the user applications will be segregated starting from this release. This will prevent applications from overwriting system memory and hence improve overall reliability and problem determination.
History of all tasks executed through an application server process will now be available to aid better problem determination. This will provide a first information report on occurrence of a problem. The system can be configured through the web administration console to enable this logging.

Linked programs across regions can be mapped to one back level region to obtain critical information such as the transaction, program and application id information from the front end region.

TXSeries along with IBM Rational Developer for zSeries provides support for syntax checking of CICS-TS applications written in COBOL and PL/I. Further, enhancements have been made to ensure BMS map compatibility between TXSeries and CICS TS.

WLM has been enhanced in this release for faster region takeover which helps maximizing the throughput. This also ensures higher availability of Application Owning Regions (AOR), which avoids transaction ABENDS in case of AOR change overs.

Customers and IBM Business Partners who have applications running inside the Encina® OLTP monitor function in isolation from the base CICS OLTP server, should not upgrade to TXSeries V6. Refer to the statement of direction regarding Encina support, as published in Software Announcement ZP05-0544, dated December 06, 2005

Security handling is simplified when you use TXSeries in conjunction with a mainframe. A new External Authentication Manager (EAM) module uses the Lightweight Directory Access Protocol (LDAP) to integrate with the version of RACF® that is supplied with z/OS V1.7, or later. All system users can be centrally defined and maintained in a RACF repository. Users and system administrators can maintain a single user ID and password for both TXSeries and CICS TS.

Installation and version-to-version migration is significantly enhanced with InstallAnywhere as the installer on all platforms. Using an industry-standard installation program enables quick and easy customization. InstallAnywhere installer program can be run as a GUI, a command-line console, or as a silent install without user interaction. In addition, InstallAnywhere installer program makes it easier to integrate into packaged applications that rely on the transaction monitor facilities of the TXSeries OLTP as a component of larger industry-specific solutions.

TXSeries for Multiplatforms V7 extends support for the most recent versions of other products that are commonly used by TXSeries clients, including databases, communications subsystems, and system compilers for all supported programming languages. Also added is support for Acucorp open systems COBOL called ACUCOBOL-GT. ACUCOBOL-GT is a COBOL development system that includes a compiler, a source-level interactive debugger, and nearly a dozen support utilities. ACUCOBOL-GT lets you write a program once, and run it in any other TXSeries platform without recompiling.

A major revision to the documentation library provides a much clearer product overview, leading to faster and easier product deployment and administration. The TXSeries documentation is dramatically reduced in size and complexity:

- The Concepts and Planning guide is completely revised.
- A single installation guide is available for all platforms, reflecting easier installation and configuration.
- The documentation library is fully incorporated into the standard Eclipse-based information center. You can search all installed Eclipse-based IBM information centers in one search.

Also included is a new system function diagnostic facility that provides additional internal state information. This facility can help IBM support representatives to remotely diagnose potential problems.

**Accessibility by people with disabilities**

The following features support use by people with disabilities:

- Supports interfaces commonly used by screen readers
- Can be operated using only the keyboard
- Does not require the user to make responses within time limits
• Has command-line interfaces to allow for customization of display attributes such as color, contrast, and font size
• Communicates all information independent of color
• Supports interfaces commonly used by screen magnifiers
• Provides documentation in an accessible format
• Does not flash the screen at rates that could induce epileptic seizures
• Contains accessible command-line or text file-based interfaces for core functions provided by GUI

IPLA and Subscription and Support considerations

IPLA licenses can be transferred from one machine to another within, but not limited to an enterprise. You may aggregate the capacity for all the processors the product is operated on to achieve a more economic price. This will result in a single Proof of Entitlement (PoE). It is your responsibility to manage the distribution of Value Units within the limits of the entitlement of the product license.

Subscription and Support must cover the same capacity as the product license entitlement. Subscription and Support will be available in the country in which the agreement is made.

Product positioning

A transaction-processing monitor is a key component of a healthy corporate IT system. It manages and augments the transactional processes that keep an organisation's revenues flowing. TXSeries for Multiplatforms has, for more than a decade, delivered high-performance transaction services in a robust and extensible environment. It lets you maximize existing COBOL, C/C++, PL/I and Core Java skilled employees and IT assets across AIX, Microsoft Windows, SUN Solaris, HP-UX PA-RISC, and HP Integrity platforms.

TXSeries for Multiplatforms is a distributed OLTP environment for mixed language applications. It is widely used for reliably and efficiently integrating data and applications between distributed solutions and enterprise systems, and the deployment of CICS applications written in COBOL, C, C++, PL/I, and Core Java (J2SE).

Product positioning - globalization

TXSeries V7.1 provides national language support for:

• Portuguese-Brazilian
• Chinese-Simplified
• Chinese-Traditional
• French
• German
• Italian
• Japanese
• Korean
• Spanish
• English
Statement of direction

IBM intends, during the second half of 2009, to deliver new inbound SOAP interface support specifically for, TXSeries to support the standard-based in bound 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.

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

Availability of national languages

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<tr>
<th>Product description</th>
<th>Language</th>
<th>General availability date</th>
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<tr>
<td>TXSeries V7.1.0</td>
<td>Multilingual</td>
<td>April 21, 2009</td>
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<tr>
<td></td>
<td>(French, Korean, Chinese-Simplified, Spanish, Portuguese-Brazilian, German, Japanese, Chinese-Traditional, English, Italian)</td>
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Program number

<table>
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<tr>
<th>Program number</th>
<th>VRM</th>
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<tr>
<td>5724-B44</td>
<td>7.1.0</td>
<td>TXSeries for Multiplatforms</td>
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</tbody>
</table>

Offering Information

Product information is available via the Offering Information Web site

http://www.ibm.com/common/ssi

Also, visit the Passport Advantage® Web site

http://www.ibm.com/software/passportadvantage

Publications

No publications are shipped with this product.

The IBM Publications Center

http://www.ibm.com/shop/publications/order

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. Payment options for orders are via credit card (in the U.S.) or customer number for 20 countries. A large number of publications are available online in various file formats, and they can all be downloaded by all countries free of charge.
Information about publications is available through mysupport. To subscribe, visit

Technical information

Specified operating environment

Hardware requirements

IBM AIX users

Any IBM eServer® pSeries® hardware capable of running AIX V5.3 TL7 or AIX 6.1 TL2

SUN Solaris users

Any SUN SPARC hardware capable of running SUN Solaris V10

Microsoft Windows users

Any x86-based hardware capable of running Microsoft Windows Server 2003 or Microsoft Windows Server 2008

HP-UX users

Any HP-UX PA-RISC or Integrity compatible hardware capable of running HP-UX V11i V2 or V3

Required disk space on all supported platforms

<table>
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<tr>
<th>Description</th>
<th>AIX</th>
<th>Solaris</th>
<th>Windows</th>
<th>HP-UX</th>
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<tr>
<td>TXSeries</td>
<td>165 MB</td>
<td>170 MB</td>
<td>135 MB</td>
<td>310 MB</td>
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<td>75 MB</td>
<td>110 MB</td>
<td>75 MB</td>
<td>190 MB</td>
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<td>Universal client (if installed)</td>
<td>265 MB</td>
<td>296 MB</td>
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</table>

Software requirements

TXSeries for Multiplatforms V7.1 consists of 32-bit processes. All libraries linked with TXSeries (including those running in a 64-bit kernel) must be 32-bit libraries.

New versions and releases of software in the specified operating environment may be supported after planned availability of TXSeries V7.1. For the most up-to-date information, visit http://www.ibm.com/software/htp/txseries/support/

Operating systems

- AIX 5.3 TL7 and AIX 6.1 TL2
- SUN Solaris V10
- Microsoft Windows Server 2003 SP2 and Microsoft Windows Server 2008 SP1
- HP-UX 11i V2 (PA-RISC and HP Integrity platforms) and HP-UX 11i V3 (PA-RISC and HP Integrity Platforms)

Supported software for IBM AIX

- IBM Communications Server V6.3.1
- CICS Universal Client V7.1 (available with TXSeries)
• WebSphere MQ V7.0
• Databases
  – DB2 V9.5
  – Informix® Dynamic Server V3.5
  – Oracle V10g R2
  – Sybase Adaptive Server Enterprise V15.0.0.2
• Languages
  – IBM XL C/C++ Enterprise Edition V9.0 for AIX
  – IBM COBOL Set for AIX V2
  – IBM PL/I set for AIX V2
  – Micro Focus Server Express COBOL V5.1
  – ACUCOBOL-GT - V7.2
  – Java(TM) 2 Runtime Environment, Standard Edition V1.5 SR7

Supported software for SUN Solaris

• SNAP-IX Data connection V7.0.2.9
• CICS Universal Client V7.1 (available with TXSeries)
• WebSphere MQ V7.0
• Databases
  – DB2 V9.5
  – Informix Dynamic Server V3.5
  – Oracle V10g R2
  – Sybase Adaptive Server Enterprise V15.0.0.2
• Languages
  – Sun Studio Compiler Collection V11.0
  – Micro Focus Server Express COBOL V5.1
  – ACUCOBOL-GT - V7.2
  – Java(TM) 2 Runtime Environment, Standard Edition V1.5 SR7

Supported software for Microsoft Windows Server 2003/Microsoft Windows Server 2008

• IBM Communication Server V6.1.3
• CICS Universal Client V7.1 (available with TXSeries)
• WebSphere MQ V7.0
• Databases
  – DB2 V9.5
  – Oracle V10g R2
  – Microsoft SQL Server V2008
• Languages
  – Micro Focus Net Express COBOL V5.1
  – ACUCOBOL-GT - V7.2
  – Java(TM) 2 Runtime Environment, Standard Edition V1.5 SR7

Supported software for HP-UX 11i V2/HP-UX 11i V3 (PA-RISC and Integrity)

• HP SNAPPlus2 R.7.11.23.100/R.7.11.31.100
• CICS Universal Client V7.1 (available with TXSeries)
• WebSphere MQ V7.0
• Databases
  – DB2 V9.1.3
  – Informix Dynamic Server V3.5
  – Oracle V10g R2
  – Sybase Adaptive Server Enterprise V15.0.0.2

• Languages
  – HP ANSI C C.11.23.15.2/C.11.31.04.2 bundle
  – HP aC++ C.11.23.15.2/C.11.31.04.2 bundle
  – Micro Focus Server Express COBOL V5.1
  – ACUCOBOL-GT - V7.2
  – Java(TM) 2 Runtime Environment, Standard Edition V1.5 SR7

The program's specifications and specified operating environment information may be found in documentation accompanying the program, if available, such as a README file, or other information published by IBM, such as an announcement letter. Documentation and other program content may be supplied only in the English language.

Limitations
For additional information, refer to the Terms and conditions section of this announcement, or to the license information document that is available on the IBM Software License Agreement Web site


Planning information

Software Subscription and Support (also referred to as Software Maintenance) is included with licenses purchased through Passport Advantage and Passport Advantage Express. Product upgrades and technical support are provided by the Software Subscription and Support (also referred to as Software Maintenance) offering as described in the Agreements. Product upgrades provide the latest versions and releases to entitled software, and technical support provides voice and electronic access to IBM support organizations, worldwide.

IBM includes one year of Software Subscription and Support (also referred to as Software Maintenance) with each program license acquired. The initial period of Software Subscription and Support (also referred to as Software Maintenance) can be extended by the purchase of a renewal option, if available.

Packaging
The media pack for TXSeries for Multiplatforms contains:

• QuickStart CD-ROM (contains Quick Start Guide and Publications)
• Program CD-ROMs
• CICS Universal Client CD-ROM

Security, auditability, and control

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Global Technology Services

Contact your IBM representative for the list of selected services available in your country, either as standard or customized offerings for the efficient installation, implementation, or integration of this product.
**Ordering information**

For ordering information, consult your IBM representative or authorized IBM Business Partner, or visit


This product is only available via Passport Advantage. It is not available as shrinkwrap.

**Product information**

<table>
<thead>
<tr>
<th>Licensed function title</th>
<th>Product group</th>
<th>Product category</th>
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<tbody>
<tr>
<td>IBM TXSeries</td>
<td>IBM CICS</td>
<td>CICS</td>
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<table>
<thead>
<tr>
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<td>IBM TXSeries</td>
<td>5724-B44</td>
<td>Sub-capacity Processor Value Unit (PVU)</td>
</tr>
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<td>IBM TXSeries</td>
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<td>PVU</td>
</tr>
<tr>
<td>IBM TXSeries</td>
<td>5724-B44</td>
<td>Processor Day</td>
</tr>
</tbody>
</table>

**Charge metrics definitions**

**Processor Value Unit (PVU)**

PVU is the unit of measure by which this program is licensed. PVU entitlements are based on processor families (vendors and brands). A Proof of Entitlement (PoE) must be obtained for the appropriate number of PVUs based on the level or tier of all processor cores activated and available for use by the program on the server. Some programs allow licensing to less than the full capacity of the server’s activated processor cores, sometimes referred to as sub-capacity licensing. For programs which offer sub-capacity licensing, if a server is partitioned utilizing eligible partitioning technologies, then a PoE must be obtained for the appropriate number of PVUs based on all activated processor cores available for use in each partition where the program runs or is managed by the program. Refer to the International Passport Advantage Agreement Attachment for Sub-Capacity Terms or the program’s License Information to determine applicable sub-capacity terms. The PVU entitlements are specific to the program and may not be exchanged, interchanged, or aggregated with PVU entitlements of another program.

For general overview of PVUs for processor families (vendors and brands), go to


To calculate the exact PVU entitlements required for the program, go to

https://www-112.ibm.com/software/howtobuy/passportadvantage/valueunitcalculator/vucalc.wss

**Passport Advantage program licenses**

**TXSeries for Multiplatforms**

<table>
<thead>
<tr>
<th>Part description</th>
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<td>TXSeries Value Unit Annual SW S&amp;S RnwI</td>
<td>E025BLL</td>
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<td>TXSeries Value Unit Lic + SW S&amp;S 12 Mo</td>
<td>D55VCLL</td>
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<tr>
<td>TXSeries Value Unit SW S&amp;S Reinstate 12 Mo</td>
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</table>
Passport Advantage supply

Program name//description                              Part number

TXSeries V7.1.0
TX Series V7.1 Multiplatform Media Pack, Multilingual BA0VFML

Passport Advantage customer: Media pack entitlement details

Customers with active maintenance or subscription for the products listed are entitled to receive the corresponding media pack.

TXSeries V7.1.0

Entitled maintenance offering description Media packs description Part number

TXSeries Multiplatform Value Unit TX Series V7.1 Multiplatform Media Pack, Multilingual BA0VFML
TXSeries per Sub Capacity Value Unit TX Series V7.1 Multiplatform Media Pack, Multilingual BA0VFML

Sub-capacity licensing

IBM TXSeries

Part number Part description

E025CLL TXSeries SubCap Value Unit Annual SW S&S Rnw1
D55VELL TXSeries SubCap Value Unit Lic + SW S&S 12 Mo
D55VFLL TXSeries SubCap Value Unit SW S&S Reinstate 12 Mo

Sub-capacity licensing for selected middleware products

Sub-capacity licensing on a per processor or per Value Unit basis is available for selected middleware products. To offer sub-capacity licensing, IBM software products implement IBM Tivoli® License Compliance Manager within their offerings so that you can monitor and report quarterly to IBM on the use of the programs on a continuous basis.

More information can be found on the Passport Advantage Web site

http://www.ibm.com/software/passportadvantage

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For more information on required and entitled license capacity, license requirements, and reporting, refer to Software Announcement ZA05-0101, dated April 19, 2005.

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IBM Tivoli License Manager for IBM Software is documented in the following customer publications, which are available from IBM Publications Center at


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For IBM Tivoli License Manager configuration guidance and instructions for specific products (including this product) acquired with sub-capacity terms, refer to:

http://www.lotus.com/sub-capacity

The Web site will give you information about how to set up the product for detection by IBM Tivoli License Manager, any required maintenance, and any required steps that are unique to this product.

On/Off CoD

IBM TXSeries

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<td>TXSeries Processor Day Per Use-DAY, On Off Capacity on demand Temporary Us</td>
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License Information form number

<table>
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<th>Program name</th>
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<tr>
<td>TXSeries for Multiplatforms</td>
<td>5724-B44</td>
<td>L-SBRY-7NNJGS</td>
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</table>

The program's license information will be available for review on the IBM Software License Agreement Web site


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Yes

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Product name

TXSeries for Multiplatforms No
**Volume orders (IVO)**
No

**Passport Advantage applies**
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**System i Software Maintenance applies**
No

**Educational allowance available**
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