



IBM CICS Transaction Server for z/OS V3.1 offers improved integration, application transformation, and enterprise management

Overview

This new version of CICS® Transaction Server (CICS TS) for z/OS® introduces a range of major enhancements, which fall into three main areas.

Access to CICS

A group of functions is introduced to enhance access to CICS. Major new support is provided for Web services, by an evolution of the functions previously provided as the SOAP for CICS optional feature. These capabilities allow CICS-based applications to be integrated with a Service Oriented Architecture (SOA), enabling them to be exposed as Web services.

Distributed transaction coordination is provided for partners complying with the WS-Atomic transaction specification. Message-level security function that complies with the WS-Security specification will be provided later in this release.

New HTTP capabilities are offered as part of CICS Web support, moving the level of specification supported to HTTP 1.1, and adding outbound HTTP function. Security enhancements are provided to the existing support for Secure Sockets Layer (SSL), including support for the TLS 1.0 protocol.

Application transformation

The second important group of enhancements to CICS TS provides new capabilities for the generation of new applications, and the development of existing applications, using contemporary programming languages and techniques. Support is introduced for totally Language Environment®-enabled Assembler application programs.

A new mechanism is provided for inter-program data transfer, which offers an alternative that is not subject to the 32-KB restriction of the COMMAREA mechanism. All the EXEC CICS Web API commands have been made threadsafe. Support for the XPLink feature of z/OS enables improved performance of applications written in C/C++.

More efficient use of z/OS multiprocessor capabilities is enabled by extension of Open Transaction Environment (OTE) support to use open TCBS.

The Information Center is provided as a plug-in to the Eclipse platform. It brings benefits through commonality with this framework now being employed by many other IBM products.

Enterprise management

The third area of enhancements is to the systems management capabilities of CICS TS V3.1. Many improvements are made to the CICSPlex® SM Web User Interface, both providing new functions and enhancing its usability. This makes it the interface of choice for all systems management actions. A new interface is provided for the CICSPlex SM data repository batch update facility. With these enhancements, CICSPlex SM can be configured, set up, and run without involving the TSO or CAS components, saving time and effort for both existing and new users.

Key prerequisites

CICS TS for z/OS V3.1 requires z/OS V1.4 (5694-A01), or later.

Planned availability date

March 25, 2005

At a glance

CICS TS V3.1 focuses around an important range of new functions. They fall into the following groups:

- **Access to CICS.** Major new capabilities are provided in the areas of Web services, HTTP function, and security.
- **Application transformation**
 - C/C++ capability is enhanced by support for XPLink.
 - CICS Web API commands are now threadsafe.
 - OTE function has been extended.
 - Language Environment-enabled Assembler applications are supported.
 - A new mechanism is provided for inter-program data transfer.
 - The Information Center has moved to the Eclipse platform.
- **Enterprise management**
 - Functional and usability improvements are provided to the CICSPlex SM Web User Interface, enabling systems to be fully managed without the TSO End User Interface
 - New batch update mechanism is provided for the CICSPlex SM data repository

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Description

For a full description of the content of CICS TS V3.1, refer to the **Functions delivered in CICS TS V3.1** section.

Accessibility by people with disabilities

The following features support use by people with disabilities:

- Operation by keyboard alone
- Optional font enlargement and high-contrast display settings
- Ability to run with screen readers and screen magnifiers for use by people with visual impairment
- Optional display of audio alerts for people with hearing impairment
- Communication of all information independently of color
- Ability for the user to request more time to complete timed responses

The Information Center is accessible to people with visual, physical, or hearing impairment. Features are incorporated which have been designed for users with visual impairment. All functions can be performed without the use of a mouse. Instead of viewing diagrams, users can choose to read text descriptions. Command syntax diagrams can be displayed in three different formats, including one which has been designed for visually impaired users. Some information is provided in PDF format; this is accessible using Acrobat Reader 6.0.

Section 508 of the U.S. Rehabilitation Act

CICS TS for z/OS V3.1 is capable as of March 25, 2005, when used in accordance with IBM's associated documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly interoperates with it.

Product positioning

CICS TS and WebSphere® Application Server (WAS) are strategic middleware products that interoperate well using new technologies such as Web services, to support end-to-end on demand systems. They exploit and complement z/OS qualities of service, such as high availability and scalability at low cost per transaction, with excellent security. In combination, WAS and CICS TS support almost any mission-critical solution.

- WAS is the premier Java™ 2 Enterprise Edition (J2EE) and Web services-based application server. It is available on the broadest number of platforms (including z/OS and Linux™) and provides a robust, proven environment for Java applications.
- CICS TS provides the base for the majority of mainframe applications today and excels in the execution of high-volume business applications. It supports the development of modern applications in the most popular business languages, COBOL, PL/I, C/C++, and Java, together with functioning as a Web services-based application server, leveraging existing investments and skills, whilst exploiting new technologies.

These products are fundamental to the on demand environment. CICS TS in particular provides capabilities to enable CICS-based applications to be integrated within a Service Oriented Architecture (SOA), enabling them to be exposed as Web services. The function delivered in CICS TS V3.1 should be seen as a major advance over the SOAP for CICS feature delivered on CICS TS V2. With the provision of workload distribution and resource management facilities for this new workload, it ensures it receives the qualities of service expected for a CICS function.

CICS TS V3 continues on the road established in CICS TS V2 by enabling enhancement of existing applications, and construction of new applications, using contemporary programming languages, constructs, and tools. It provides for programming interfaces and tools which promote the construction of new mixed language transactional applications which are natural and intuitive to the application implementers.

CICS introduced the concept of the Open Transaction Environment (OTE) to exploit the SMP clustering technology which is available on z/OS. In CICS TS V2.2, support was added that enabled CICS/DB2® applications to run in an OTE, which provided the benefit of reduced TCB switching which improved their performance. In CICS TS V3.1, this ability has been extended to non-CICS/DB2 applications. This removes a major bottleneck for applications running in CICS, and provides real value to existing workloads.

z/OS application development using the C/C++ languages is a growth area, and a growing number of z/OS application programs are expected to be written in C/C++. With CICS TS V3, C/C++ support is enhanced to deliver similar performance as for COBOL and PL/I applications.

The CICSplex System Manager is an integrated part of CICS TS. Its role is to reduce the complexity of management of CICS systems by presenting them as a simple and integrated whole. It integrates all the major CICS management functions into one interface. It cooperates with Tivoli® products to meet the need to integrate management and automation of CICS with z/OS and the network.

This release continues the strategic themes for enterprise management of integration, simplification, monitoring, and automation. Through the CICSplex SM Web User Interface, which continues to be enhanced, CICS TS has a modern intuitive interface for all aspects of CICS system management, rendering the TSO End User Interface unnecessary.

In summary, the role of CICS TS V3 in an enterprise solution on z/OS is to enable:

- Enhancement of existing applications, and construction of new applications, using contemporary programming languages, constructs, and tools
- Reuse of CICS applications within a broader SOA, via standard APIs and protocols
- Effective management of multiple run-time configurations via modern user interfaces, in support of flexible IT infrastructures

Statements of direction

WebSphere Studio Enterprise Developer (WSED)

WSED is the strategic development environment supporting CICS TS V3. IBM intends to deliver, during 2005, an update to WSED to enable developers with skills in COBOL, PL/I, Java, and Web services to easily reuse, build, and deploy components that integrate into an enterprise-wide SOA. It will also include BMS Map editing and Enterprise Generation Language (EGL) generation supporting the conversion of VisualAge® Generator Web transactions. In addition it will provide a batch program for use by automated software build procedures such as JCL, which will input the XML Schema Definition (XSD) or language structure declaration to generate client Web Services Description Language (WSDL) and converters for the CICS Web services implementation. This batch program will be made available early by download for use with CICS TS V3.1.

Integration capabilities for CICS

IBM recognizes the significance and benefits of Web services to CICS customers who have chosen to exploit the SOAP for CICS capability as an effective means of enabling both existing and new CICS applications to become peer participants in a Service Oriented Architecture. IBM intends to release application development tools in 2005 that will extend WSED to:

- Enable the composition of CICS application assets to form business service functions that can be exposed as Web services. This will enable an external business process engine, such as WebSphere Business Integration Server Foundation, to externally orchestrate business service functions implemented in CICS whilst retaining the inherent qualities of service of the CICS applications.

Customers extending the use of their CICS applications can do so in a Service Oriented manner, integrating their CICS investments with more parts of the business across an Enterprise Service Bus. While doing so, customers can benefit from the reduced risk and solution delivery time resulting from asset reuse, and in addition will continue to benefit from the value invested in existing CICS applications.

- Provide a strategic migration path for customers using Message Driven processor (MDp, a product formerly marketed by Early, Cloud & Company) to migrate to the latest capabilities of CICS Transaction Server for z/OS.

WSED will provide the visual development environment supporting Web services, SOAP for CICS, and aggregation of CICS resources.

CICS Configuration Manager for z/OS

IBM intends to deliver, before the end of first half 2005, a product to provide comprehensive CICS resource definition management for CICS TS V2 and V3.1. This will allow customers to more effectively manage migrations and upgrades to their CICS TS environment and supporting applications. It will enable creation, updating, deletion, and copying of CICS RDO/CSD and CICSplex SM BAS/EYUDREP resource definitions and allow them to be customized for development, test, and production environments. It will also provide the ability to

change-manage these entities, providing an audit history and generating reports on resource relationships.

Tivoli OMEGAMON XE for CICS V310 on z/OS

IBM intends to deliver this product by third quarter 2005. This will support CICS TS V3.1, with exploitation of some of its new function.

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

Hardware and software support services

SmoothStart™ /installation services

IBM Technology Assessment and Consultancy — Healthcheck on CICS Transaction Server: The IBM Technology Assessment and Consulting Services — Healthcheck for CICS TS provides the customer with an assessment of their CICS TS and e-business environment and requirements. The offering will assist in identifying areas of concern where their transaction server environment does not satisfy their current and future requirements, and consequently, recommendations to address these problems or issues. Optionally, the assessment will include one or more of the following topics which the customer can select:

- High availability
- Performance
- Scalability
- Security
- Systems management
- Application development

IBM services for CICS Web enablement: IBM Global Services has the capability to provide on-site services to assist you with Web enabling your existing or new CICS applications. These services can include an analysis of your organization's environment and infrastructure, business requirements for e-business, general Internet strategy, and candidate CICS applications for Web enablement. We can also assist you with the installation and implementation of the most appropriate CICS Web enablement method that matches your e-business requirements.

IBM migration services for CICS TS: IBM Global Services has the capability to provide on-site assistance from our CICS services specialists to work with your technical staff to produce a CICS TS for z/OS V3 migration plan that can include the following:

- Changes in startup, shutdown, and recovery operations of CICS regions
- Evaluation of CICS resource definitions
- Assessment of applications that use the CICS Web support
- Evaluation of connectivity between CICS regions
- Consideration of CICS environment use of DB2 and DL/1 resources

Installation and implementation planning is provided in accordance with this migration plan.

IBM installation services for CICSplex SM: IBM Global Services has the capability to provide on-site assistance from our CICS services specialists to work with your technical staff to produce a CICSplex SM installation plan that can include the following:

- CICS transaction affinities
- CICS region configuration design and implementation of improved CICS and CMAS JCL structure
- Implementation of Dynamic Transaction Routing and Dynamic Program Link Routing
- Implementation of the CICSplex SM Web user interface
- Demonstration of the CICSplex SM API
- Exploitation of CICSplex SM single point of control
- Exploitation of CICSplex SM Business Application Services
- Exploitation of CICSplex SM Real Time Analysis
- Implementation of VSAM Record Level Sharing

Installation and implementation planning of CICSplex SM is provided in accordance with this plan.

TCAM to WebSphere MQ Gateway Migration Services:

The TCAM to WebSphere MQ Gateway Migration program is designed to give guidance to those migrating from use of TCAM in the implementation of a WebSphere MQ-based gateway with CICS on z/OS. For more information on this offering, refer to

<http://www-106.ibm.com/developerworks/websphere/services/services.html#mq>

For general information on IBM Global Services, refer to

<http://www.ibm.com/services/>

For services for CICS, refer to

<http://www.ibm.com/software/ts/cics/service/>

Reference information

For information on WAS for z/OS, V5.1, refer to Software Announcement 204-113, dated May 25, 2004.

For information on CICS Transaction Gateway V6.0 and CICS Universal Client V6.0, refer to Software Announcement 204-284, dated November 30, 2004.

For information on CICS Transaction Gateway for z/OS V6.0, refer to Software Announcement 204-283, dated November 30, 2004.

For information on CICS VSAM Recovery V3.3, refer to Software Announcement 204-187, dated August 17, 2004.

For information on CICS VSAM Transparency for z/OS V1.1, refer to Software Announcement 204-019, dated February 17, 2004.

For information on CICS VSAM Copy for z/OS V1.1, refer to Software Announcement 204-120, dated June 8, 2004.

For information on CICS Batch Application Control for z/OS V1.1, refer to Software Announcement 204-267, dated November 2, 2004.

For information on CICS Interdependency Analyzer for z/OS V1.3, refer to Software Announcement 204-190, dated August 17, 2004.

For the latest information on CICS Performance Analyzer for z/OS V1.3, refer to Software Announcement 204-121, dated June 8, 2004.

For information on Session Manager for z/OS V1.2, refer to Software Announcement 204-138, dated June 22, 2004.

For information on CICS Business Event Publisher for MQSeries® V1.2, refer to Software Announcement 204-111, dated May 25, 2004.

For information on CICS Online Transmission Time Optimizer V1.1, refer to Software Announcement 201-364, dated November 18, 2001.

For the last announcement of MQSeries Integrator Agent for CICS Transaction Server V1.1, refer to Software Announcement 204-040, dated March 16, 2004.

For information on Enterprise COBOL for z/OS V3.3, refer to Software Announcement 204-020, dated February 17, 2004.

For information on Enterprise PL/I for z/OS V3.3, refer to Software Announcement 203-280, dated October 14, 2003.

For information on IBM Fault Analyzer for z/OS V5.1, refer to Software Announcement 204-207, dated September 21, 2004.

For information on IBM Debug Tool for z/OS V5.1, refer to Software Announcement 204-206, dated September 21, 2004.

For the general availability of z/OS V1.6 and the preview of z/OS V1.7, refer to Software Announcement 204-180, dated August 10, 2004.

For information on the IBM XML Toolkit for z/OS V1.7, refer to Software Announcement 204-181, (RFA40226) dated August 10, 2004.

CICS Web pages

For up-to-date information on CICS, refer to

<http://www.ibm.com/software/ts/cics/>

For the latest information on CICS TS V3.1, refer to

<http://www.ibm.com/software/ts/cics/v3/>

You can search for terms, phrases, error codes, or APAR numbers on the CICS support page, at

<http://www.ibm.com/cics/support/>

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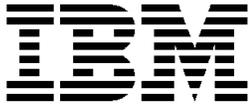
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IBM US Announcement Supplemental Information

November 30, 2004

Functions delivered in CICS TS V3.1

The following are the principal new functions provided in CICS Transaction Server for z/OS® V3.1 (CICS TS V3.1).

This new version of CICS TS provides a wide range of enhancements, which are grouped within three main themes: access to CICS; application transformation; and enterprise management.

On demand access to CICS

A range of new and enhanced capabilities is provided which enable re-use of existing CICS applications within broader e-business scenarios, by the use of broadly adopted APIs and standard protocols.

Web services support: A major extension and evolution is provided from the SOAP for CICS function, previously made available as an optional feature for use with CICS TS V2.2 or CICS TS V2.3. This function is integrated into CICS TS V3.1, as part of support by CICS for Web services. Together with a range of extensions and new capabilities, this enables CICS business logic to be exposed as Web services, as part of a SOA solution.

Within an overall SOA, CICS applications will naturally act in the role of both service provider and service requester. Additionally, the CICS support for Web services enables applications to implement mediations in the style of the Enterprise Service Bus pattern. The services are defined using Web Services Description Language (WSDL). The infrastructure provided as part of CICS TS V3.1 includes a distributed transaction coordination capability compatible with the WS-AtomicTransaction specification. It will also include a WS-Security compatible implementation for securing SOAP messages. This will be delivered, via the service channel, at a later date.

In order to enable this, the CICS Web Services Assistant is introduced. This is a build-time capability provided to create a WSDL document from a simple language structure, or a language structure from an existing WSDL document. This support is provided for COBOL, C/C++, and PL/I. The Assistant also generates information used to enable automatic run-time conversion of the SOAP messages to containers (refer to below) and COMMAREAs, and vice versa.

The ability of CICS to act as a Web services service provider means that it is relatively simple to transform an existing CICS application into a Web service. The ability of CICS to act as a service requester means that a CICS application can use a Web service provided by any external provider.

The CICS Web Services Assistant includes Eclipse technology.

Enhanced HTTP support: CICS Web support has been enhanced by upgrading the support for HTTP. It is now conditionally compliant with the HTTP 1.1 specification. Outbound HTTP support has been added, so that CICS can act as both an HTTP server (CICS Web inbound support) or as an HTTP client (CICS Web outbound support).

CICS now meets the requirements of RFC 2616 for the roles or facilities that it is designed to provide. Persistent sessions are now the default for interactions between CICS and a remote partner; and CICS supports pipelining and chunking of messages. As well as serving HTTP requests as an HTTP server, outbound requests can be created using EXEC CICS commands for a CICS application as an HTTP client.

New Resource Definition Online (RDO) definitions for objects known as URIMAPs can manage the HTTP server facility; CICS automatically creates virtual hosts using these definitions, so multiple host names can be provided at the same IP address, which can be managed using CICS system commands. Static responses can be provided for HTTP requests, formed from a document template or Hierarchical File System (HFS) file.

This means that CICS application programs can be written using a common HTTP protocol for business-to-business communication, to control hardware or software, or to access information in non-browser HTTP applications.

Changes to the management of connected, but inactive, IP sockets allow many more clients to connect to a CICS system. Using an internal pseudo-conversational model no CICS task resources are consumed by IP sockets waiting for a message from a partner.

Improvements to SSL support: CICS TS V3.1 introduces a range of improvements to security. In addition to the existing support for Secure Sockets Layer (SSL) 3.0, support is provided for the Transport Layer Security (TLS) 1.0 protocol. This includes support for the Advanced Encryption Standard (AES) cipher suites, which offer 128-bit and 256-bit encryption.

Resource definitions have been enhanced to allow the user to specify the precise list of cipher suites to be used in the negotiation. This capability is also included in the new URIMAP resource definition. To support management of the new capabilities and resources, there are new System Programming Interface (SPI) commands.

Certificate revocation lists (CRLs) are now supported when negotiating with clients, allowing any connections using revoked certificates to be closed immediately. A new supplied transaction, CCRL, is provided for updating the CRL in an LDAP server. More flexibility is offered in these negotiations: a minimum as well as a maximum encryption level can be specified for negotiation.

It is now possible to specify whether session IDs are shared across a sysplex, so improving the current use of the cache at the address space level. Caching enables an SSL handshake to be optimized based on a previous

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negotiation, thereby improving the performance of connection setup.

An increased number of simultaneous SSL connections can now be active, as a result of the introduction of support for pthreads within the Language Environment® enclave from which System SSL is invoked. This achieves better throughput and improves the support for new functions such as Web services.

All these functions also apply with the new outbound HTTP function, already described.

Support for mixed-case passwords: CICS TS V3.1 has the ability to support an underlying capability for case-sensitive passwords. When this function is active, it will be indicated on the CICS-supplied signon panel.

This capability will also be made available on CICS TS V2.2 and CICS TS V2.3 via the service channel.

Improved userid checks for START: The revoked status of a userid or group connection is now tested for by the EXEC CICS START USERID() command when it is issued, in order that the issuer can get notified by the USERIDERR condition if applicable.

Application transformation

This theme provides a range of new functions that enable enhancement of existing applications, and construction of new applications, using contemporary programming languages, constructs, and tools.

Enhanced C/C++ support: New support for C/C++ has been introduced, which brings the performance of these applications to a level comparable with that obtained with COBOL, PL/I, or Assembler applications. This is provided by the Extra Performance Linkage (XPLink) feature of z/OS, which provides high performance subroutine linkage mechanisms and guard pages for stack extension, resulting in highly optimized execution path lengths. These benefits are achieved by running these applications in the CICS Open Transaction Environment (OTE), instead of in the Quasi-Reentrant (QR) task control block (TCB). This also has the benefit that the applications can be run on dedicated TCBs. The applications use standard Language Environment services, with CICS storage management.

This requires that the C/C++ applications be written to threadsafe standards, and maximum performance will be achieved only if the applications are limited to the use of threadsafe CICS commands.

XPLink support under CICS enables the latest compiler and optimization technologies included with C/C++ to be exploited. In particular, XPLink DLLs used outside CICS can now be used inside CICS as well. This means greater C/C++ code reusability.

Enhanced Open Transaction Environment: CICS TS V3.1 extends the use of the OTE by providing support for COBOL, PL/I, Assembler, and non-XPLink C/C++ OPENAPI application programs. The program will run on its own OTE TCB from the start. OPENAPI requires the application to be coded to threadsafe standards; use of any non-threadsafe CICS commands will cause a switch to the QR TCB, then CICS will switch back to the OTE TCB before returning control to the program.

The main benefit of this support allows application workloads to be moved off the single QR TCB onto multiple OTE TCBs, thereby allowing better utilization of machine resources to achieve better throughput. Note

that existing recommendations concerning use of non-CICS APIs continue to apply when executing on an OTE TCB.

Language Environment MAIN support for Assembler: Support has been introduced to enable coding of totally Language Environment enabled application programs in Assembler: in other words, Language Environment MAIN support is provided for Assembler programs. A new translator option LEASM is provided which causes Language Environment function to be used to set up the program's environment. This improves the ease of integration of these applications into the Language Environment, so that Language Environment services can be run more easily. Improved Debugger support is available.

Support for Assembler is now added to the **Application programming summary** section.

Enhanced inter-program data transfer (beyond the 32-KB COMMAREA limit): The restriction of a maximum of 32 KB that has previously applied to the amount of data that can be passed between programs by using a COMMAREA has been 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. A channel can be passed on EXEC CICS LINK, START, XCTL, and RETURN commands. Data can be exchanged on a DPL, remote START, or pseudo-conversation between CICS TS V3.1 systems connected by either MRO or ISC.

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.

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. Moreover, whereas in COMMAREA applications data conversion is controlled by the system programmer, with the new mechanism it is controlled by the application programmer.

This mechanism can only be used for communication between programs running under CICS TS V3.1. Communication with programs running under earlier levels of CICS Transaction Server still requires the use of COMMAREAs. Note that channels and COMMAREAs can coexist within the same task.

Threadsafe Web Commands: All the EXEC CICS Web API commands have been made threadsafe. These are WEB READ, WEB WRITE, WEB SEND, WEB RECEIVE, WEB RETRIEVE, WEB STARTBROWSE, WEB READNEXT, WEB ENDBROWSE, WEB EXTRACT, EXTRACT WEB, EXTRACT TCPIP, and EXTRACT CERTIFICATE. This removes the requirement for CICS to return to the quasi-reentrant task control block (QR TCB) to execute these commands, so

applications (both Java™ and non-Java) that use these commands should be able to obtain the performance improvements resulting from reduced TCB switching. Also threadsafe are the new Web API commands in support of outbound HTTP — WEB OPEN, WEB CLOSE, WEB CONVERSE, and WEB PARSE URL.

64-bit addressing toleration: Although CICS TS V3.1 does not support execution of 64-bit applications, support is introduced which allows 64-bit code (such as in Task Related User Exits (TRUEs)) to execute in a CICS address space. Extensions are provided to the CICS abend capture mechanisms to allow the contents of the full 64-bit general purpose registers to be reported.

Codepage conversion enhancements: To the existing CICS codepage conversion capabilities, which enable conversion between a range of EBCDIC and ASCII codepage combinations, are added the conversion of data between EBCDIC or ASCII and Unicode, in either direction. This support makes use of z/OS conversion services. The capability applies to either UTF-8 or UTF-16, and support is also provided for conversion between these forms of Unicode. Little endian to big endian transpositions for UTF-16 data are carried out if needed.

This capability is expected to be used mainly for HTML, XHTML, and XML data, as part of the CICS support for HTTP 1.1 (refer to **Enhanced HTTP support** section) by Web services, and by the new Channel Container commands introduced in this version of CICS (refer to the **Enhanced inter-program data transfer** section). However, the enhanced codepage conversions are available for any application need so long as the application can identify the source and target codepage CCSIDs and the specific conversion is enabled in z/OS conversion services.

Enterprise management

These new capabilities enable effective management of large run-time configurations by the use of modern user interfaces, so that demanding service level objectives can be met.

These functions are provided by the CICSplex® SM element of CICS TS V3.1, to which additional capabilities are also added to support the new functions introduced in this version of CICS.

CICSplex SM Web User Interface enhancements: The Web User Interface already provides important functions that are not available with the old TSO End User Interface, in addition to its greatly improved usability. CICS TS V3.1 introduces a further range of improvements to the Web User Interface that deliver significant user benefits. (For information on the future of the TSO End User Interface, refer to the **Compatibility** section).

New functions added are:

- Improvements to screen design. These enhancements maximize the use of screen space in views and menus:
 - The view editor now allows detailed views to be displayed in two column format. Users are able to create their own detail views in two columns, if they wish.
 - The **Select All** and **Deselect All** buttons have been replaced in tabular views by icons in the record heading of the table, thereby reducing white space.
 - Filters on tabular views can now be collapsed, so that more screen space is available for the display of data.

- User favorites. These allow the saving by the user of tabular and detail views to a menu. This menu can be edited and is easily accessible, allowing the chosen views to be accessed with a single click.
- User group profiles. Profiles for groups of users, containing information such as default context, scope, CMAS context, and result set warning count can now be set by administrators. This allows them to configure the Web User Interface in ways that are tailored to the needs of particular groups of users.
- Result set warning counts. These can be set to allow a warning to be issued before a view is opened that would generate a large number of records. This allows a filter to be altered on the view in order to reduce the number of records returned, so avoiding unnecessary waits.
- Filter confirmation. The view editor now allows the user, when creating or updating views, to include a filter confirmation panel before a view is opened. This means that, when navigating to a view, the user will have the opportunity to enter filters, whatever the size of the record set that will be returned.
- Dynamic selection lists. Usability is enhanced by the Web User Interface now generating lists of valid potential values for users to select attributes in input panels. Users no longer have to remember values that could be entered.
- The previous set of samples known as the starter set is now included as a fully documented set of IBM-supplied views.
- The BAS administration views (introduced in CICS TS V2.3) have been restructured to improve their usability. They have been divided into two groups: basic BAS (which emulates RDO function) and advanced BAS (which exploits the advanced features of CICSplex SM).

With these enhancements to the Web User Interface, together with jobstep access to batchrep (see below), CICSplex SM can be configured completely without any need to activate the CAS or TSO components. Establishing it in this configuration significantly reduces the time to exploitation of CICSplex SM functionality for new users. For existing users, it simplifies migration to the new level of CICS TS.

CICSplex SM batchrep access enhancements: In CICS TS V3.1, a group of new facilities is introduced which provide a batch update mechanism for maintenance of definitions on the CICSplex SM data repository. These are:

- A BATCHREP resource table, which may be accessed by the CICSplex SM API
- Support in the Web User Interface for the BATCHREP resource table
- A z/OS utility program, which enables the definitions to be maintained from a job step

These new capabilities offer improved usability for the batchrep facility, together with introducing the ability to maintain CICSplex SM definitions from a job step. They also provide access to the batchrep facility through the Web User Interface.

Other items

Sample application: A new sample application is provided which illustrates how to code and implement a Web services provider and requester application, together with a range of other functions including COMMAREAs and channels, as an example of suggested best practices using the new functions of CICS TS V3.1.

Information Center on Eclipse platform: In CICS TS V3.1, the Information Center is powered by Eclipse technology. It consists of an Eclipse Help System, with the information for CICS TS as a plug-in. This brings a range of benefits to the user. A major benefit is the use of a common framework which is now the infrastructure of choice adopted by many IBM products, offering a common look and feel, together with consistency of behavior and a new search engine. This infrastructure also allows users to customize their own Information Centers using plug-ins from multiple products, or to write their own plug-ins. The CICS TS V3.1 Information Center also delivers plug-ins for other products from the CICS portfolio. The new Information Center enables direct links (eSupport) from CICS TS information to support information.

The Information Center is also now supported on a wider range of platforms, including z/OS (refer to the **Software requirements** section).

New functions included are:

- A "What's New" section organized by major functional area, available through the navigation and welcome page. This is similar to the long-established *Release Guide*, but is not a separate document, having integrated links into the rest of the Information Center.
- Learning Paths — a sequence of topics that help a user learn about a new area of the product. In this release, they are provided for Web services, CICSplex SM, and channels and containers.
- Information Roadmaps — a topic that provides a set of comprehensive links, role or function based, to information from a variety of sources. In this release, they are provided for Web services, Java in CICS, and CICSplex SM.
- A troubleshooting and support section — a self-help resource that consists of components for searching external support sites, getting fixes, and contacting IBM support. It will also contain a selection of Technotes.

The Information Centers for CICS TS for z/OS V2.2 and V2.3 will also be offered as plug-ins for the Eclipse platform, enabling them to obtain some of the benefits of using that base. The Information Centers for these products on the current technology base will continue to be available, though those on the new base will be required in order to obtain the latest updates.

Additional Information

Eclipse: Eclipse is an award-winning, open source framework for the construction of powerful software development tools and rich desktop applications. Leveraging the Eclipse plug-in framework to integrate technology on the desktop saves technology providers time and money by enabling them to focus their efforts on delivering differentiation and value for their offerings. Eclipse is a multi-language, multi-platform, multi-vendor supported environment that is built by an open source community of developers and is provided royalty-free by the Eclipse Foundation.

Eclipse is written in the Java language, includes extensive plug-in construction toolkits and examples, and can be extended and deployed on a range of desktop operating systems including Windows™, Linux™, QNX and Macintosh OS X. Full details on Eclipse and the Eclipse Foundation are available at <http://www.eclipse.org>.

CICS Transaction Server for z/OS V2.2: Since the general availability of CICS TS V2.3, CICS TS V2.2 has also remained in marketing to provide a solution for users who are running a level of operating system lower than z/OS V1.4. It is planned that CICS TS V2.2 will be withdrawn from marketing effective March 31, 2005.

Support by CICS Tools and related products

IBM provides a range of CICS Tools and other products which support use of CICS Transaction Server for z/OS V2. All of these products may be used with CICS TS V3.1. For more information on CICS Tools, refer to

<http://www.ibm.com/software/htp/cics/tools/>

For information on the required levels and PTFs for support of CICS TS V3.1 by CICS Tools, refer to the General Information section of the Preventive Service Planning (PSP) bucket for CICS TS V3.1 on RETAIN®. For this, go to the IBM CICS support page, at

<http://www.ibm.com/cics/support>

Select Preventive Services Planning (under the heading **Plan**). This information will also be in the PSP bucket on RETAIN for each of the CICS Tools.

Information on the required levels and PTFs for support of CICS TS V3.1 by CICS Tools, as at the time of this announcement, is given in the **Software requirements** section, below.

For the latest announcements of CICS Tools, refer to the **Reference information** section.

Education support

The training offerings listed below are available. Note that most countries have course codes in the format of WWWWsss, where WWWW is the worldwide course code, and sss is a 1 to 3 character suffix.

- **CICS Transaction Server for z/OS: EJB Support and More!** (worldwide course code CS04). This is a no-charge Web-based course teaching the features and functions of CICS Transaction Server for z/OS V2.2. It can be accessed at

<http://www-3.ibm.com/software/webservers/learn/cs04/>

- **CICS TS for z/OS Transition to V2.3** (worldwide course code CI97). This is a classroom course for system programmers who need information helpful for planning migrations from prior CICS versions to CICS TS V2.3.
- **Fastpath for Migrating CICS/ESA® Applications to CICS Transaction Server for z/OS V2** (worldwide course code CI96). This classroom course teaches students basic need-to-know information to transition a set of CICS/ESA applications to the latest release of CICS. It does not teach new functional enhancements, but concentrates on migrating existing applications.

- **Enabling Java Support in CICS TS V2** (worldwide course code is CI21). This classroom course teaches students how to enable Java support in CICS Transaction Server for z/OS, including how to configure an EJB container and how to deploy enterprise beans in the CICS environment.
- **Connecting CICS to WebSphere® Application Server via CICS Transaction Gateway** (worldwide course code CI71). This classroom course shows how to use the CICS Transaction Gateway (CICS TG) to access CICS Transaction Server for z/OS applications.
- **CICS TS for z/OS Planning for Recovery** (worldwide course code CI28). This course covers the recovery and restart facilities of CICS Transaction Server for z/OS, using classroom lectures and classroom paper projects.
- **CICSplex System Manager Administration** (worldwide course code CI76). This classroom course will teach the students how to install, configure, and use functions of the CICSplex System Manager (SM) component of CICS Transaction Server.
- **CICS TS for z/OS Problem Analysis** (worldwide course code CI29). This classroom course teaches the CICS system programmer how to analyze problem related information provided by CICS Transaction Server.
- **CICS Application Programming with Java** (worldwide course code CI19). This three-day classroom course teaches Java application programmers how to develop basic CICS applications written in Java.
- **CICS Fundamentals** (worldwide course code CI01). This course teaches about the major CICS concepts and facilities that are applicable to the CICS family of products. It focuses on the tasks involved in designing, programming, and managing applications.
- **CICS TS for z/OS Basic Tailoring** (worldwide course code CI20). This classroom course is intended for Systems Programmers who will be installing and tailoring CICS Transaction Server for z/OS for the first time.
- **CICS Application Programming** (worldwide course code CI17). This classroom course teaches you how to design, code and debug modern CICS application programs for e-business or traditional environments.
- **CICS Application Development for SOAP, with XML, COBOL, PL/I** (worldwide course code CI11 (SW337)). This course will become available late in 2004 or in early 2005. This e-class course describes how CICS is enabled securely to support mission-critical applications with Web services, independently of platform, environment or programming languages.
- **Introduction to CICS Web Enablement** (worldwide course code CI72). This web lecture will become available in early 2005. This web lecture introduces how to access CICS application programs and transactions from the Web.
- **CICS Web Enablement** (worldwide course code CI70 (SW336)). This course will become available later in 2004 or in early 2005. This e-class course teaches implementation-level skills that enable students to access CICS application programs and transactions from the Web.

For additional information, visit the IBM IT Education Services Web page and select your country to view available offerings

<http://www.ibm.com/services/learning/>

This site has descriptions of all classroom and self-study courses available in each country. The Web page also contains information on course schedules and enrollment procedures.

If you cannot find the information you need on the Web page, please call IBM IT Education Services at 800-IBM-TEACH (426-8322) for additional details or to enroll in a course.

Technical information

Hardware requirements

Processors: The basic requirement is for a processor that supports the prerequisite operating system and has sufficient processor storage to meet the requirements of the operating system, CICS TS V3.1, the application programs, the access methods, and all other software being run.

This includes the IBM *@server*® zSeries® 990.

Parallel Sysplex® support: A Parallel Sysplex environment is required by each of the data-sharing facilities supported by CICS, and by the MVS™ system logger's log stream merging facility. This requires one or more coupling facilities with their associated coupling links installed, an IBM Sysplex Timer® to provide a common external time source, and sufficient DASD paths to support the number of central processor complexes (CPCs) in the sysplex. The DASD paths can be provided either by DASD controllers with enough paths to dedicate one to each CPC in the sysplex, or by an ESCON® director to provide the paths.

CICS support for data sharing can be used to access data in IMS™ databases, DB2® databases, VSAM data sets, CICS temporary storage, coupling facility data tables, or named counters.

If customers wish to exploit the WS-Security capability, which relies upon the z/OS Integrated Cryptographic Services Facility (ICSF), then appropriate zSeries cryptographic hardware is required.

Katakana Terminal Devices: Because CICS has to issue certain messages in mixed-case, the product is not supported with displays or terminal emulators that are restricted to the non-extended single-byte character set (SBCS) Katakana part of code page 930.

Software requirements: Note that the *Program Directory* (GI10-2586) will normally contain the most up-to-date information on software requirements.

Operating environment:

- CICS TS for z/OS V3.1 requires z/OS V1.4 (5694-A01), or later. Note that it will not initialize in an environment with a lower level of operating system installed.
- The Language Environment library SCEERUN must be available to CICS during CICS initialization, by inclusion in either the STEPLIB concatenation or the LNKLIST. Language Environment services are used by a number of CICS functions.
- For Java application programs, enterprise beans, or the Web Services Assistant, the IBM SDK for z/OS, Java 2 Technology Edition, featuring persistent reusable JVM technology, Version 1.4 (5655-I56). This must be at the V1.4.2 level.

- The IBM SDK for z/OS, Java 2 Technology Edition, V1.4, is available, at no charge, on tape or by download from:

<http://www.s390.ibm.com/java/>

- Note that IBM 64-bit SDK for z/OS, Java2 Technology Edition, V1.4 (5655-M30), is not supported.

In order to use WS-Security support, the IBM XML Toolkit for z/OS V1.7 is required. This is a no-charge product (5655-J51).

For deployment of enterprise beans, WebSphere Application Server V5.0, or later, is required.

- The component to be used is the Application Server Toolkit (ASTK) for Windows. Note that the Application Assembly Tool (AAT), provided with early deliveries of V5.0, is not supported.
- Note also that the ASTK is also included in WebSphere Studio Enterprise Developer V5.1. A copy of this product is shipped with CICS TS V3.1 as a marketing promotion, and so can be used for this deployment: but note that, in this marketing promotion, it is unsupported.

JNDI support for enterprise beans can be provided by the LDAP server provided in SecureWay® Security Server and licensed as part of the base z/OS operating system.

CICS TS V3.1 will interoperate with WebSphere Application Server (any platform) V5 and V6. This applies directly for customers using RMI/IIOP for interoperability, and via CICS Transaction Gateway V5.0 or later for those using JCA.

For developing Java programs (including enterprise beans) for use with CICS TS V3.1, the members of the WebSphere Studio family V5, and Rational® Application Developer V6, are supported.

The following levels of other products are supported for use with CICS TS V3.1:

- IMS Database Manager V7 (5655-B01)
- IMS Database Manager V8 (5655-C56)
- IMS Database Manager V9 (5655-J38)
- DB2 Universal Database® Server for OS/390® V6.1 (5645-DB2)
 - For SQLJ/JDBC support, with PTF for APAR PQ84783
 - Does not support DB2 Group Attach
- DB2 Universal Database Server for OS/390 V7.1 (5675-DB2)
 - For SQLJ/JDBC support, with PTFs for APARs PQ84783 and 86525
 - For DB2 Group Attach, with APARs PQ44614, PQ45691, and PQ45692
- DB2 Universal Database for z/OS, V8.1 (5625-DB2)
 - For SQLJ/JDBC support, with PTFs for APARs PQ84783 and 86525
- WebSphere MQ for z/OS V5.3 (5655-F10)
- Tivoli® Decision Support for OS/390 (5698-ID9) V1.6, with necessary service applied
- Tivoli Business Systems Manager V3.1
- CICS Universal Client V5.0, or later
- CICS Transaction Gateway V5.0, or later

The Information Center is supported on:

- Microsoft Windows 2000 Server, Advanced Server, Professional (32-bit)
- Windows XP Professional (32-bit)
- Linux Red Hat Enterprise 3.0 (AS), 32-bit
- Linux SUSE Enterprise 8 and 9, 32-bit

- AIX® V5.2 and V5.3, 32-bit

Also, for server installation only:

- z/OS V1.4, or later
- Linux Red Hat Enterprise 3.0 for zSeries
- Linux SUSE Enterprise 8 and 9 for zSeries

For browsing the Information Center:

- A browser that supports HTML 4.0 and the Document Object Model (DOM) standard. Suitable browsers include:
 - For Windows: Internet Explorer 6.0, or later; Mozilla 1.7, or later
 - For AIX or Red Hat Linux: Mozilla 1.7, or later
 - For SUSE Linux: Mozilla 1.7, or later; Konqueror (SUSE Linux system browser, in basic mode only)

However, note that, for accessibility purposes, screen readers may impose restrictions on browser choice.

- PDF files shipped with the Information Center have been generated using Adobe Acrobat Distiller 6.0 at the Acrobat 6.0 (PDF 1.5) level. They can be read using Adobe Acrobat Reader 5.0, but Reader 6.0 is necessary if the accessibility features of Distiller 6.0 are required.

Supporting levels of CICS Tools and related products:

This information applies at the time of announcement. For up-to-date information, as previously stated, refer to information on RETAIN.

- CICS Interdependency Analyzer for z/OS (CICS IA) V1.3, with PTF for APAR PQ95065, can be used with CICS TS V3.1. A further PTF later in 2005 will provide exploitation of new function.
 - CICS IA V1.1 and V1.2 do not run with CICS TS V3.1.
- A future release of CICS Performance Analyzer for z/OS (CICS PA) will support CICS TS V3.1. CICS PA V1.3 will not support SMF 110 data from CICS TS V3.1.
- CICS Performance Monitor (CICS PM) for z/OS V1.1 does not support CICS TS V3.1. CICS PM V1.2, with service applied, provides toleration support for CICS TS V3.1, at the CICS TS V2.3 level. There are no plans to exploit CICS TS V3.1 data.
- Candle OMEGAMON II for CICS V520, Candle OMEGAMON XE for CICS V100, and Candle OMEGAMON XE for CICSplex V220, with required service, will support CICS TS V3.1 from its general availability. Note that this support does not include exploitation of the new function of CICS TS V3.1.
- CICS VSAM Recovery V3.2 or V3.3 provides recovery support for VSAM files processed by CICS TS V3.1. No PTF is required.
- CICS Business Event Publisher for MQSeries® V1.2, with service applied, can be used with CICS TS V3.1.
- CICS Online Transmission Time Optimizer for z/OS V1.1 can be used with CICS TS V3.1. No PTF is required.
- Session Manager for z/OS V1.1 or V1.2 can be used with CICS TS V3.1. No PTF is required.
- CICS VSAM Transparency for z/OS V1.1 can be used with CICS TS V3.1. No PTF is required.
- CICS VSAM Copy for z/OS V1.1, with service applied, can be used with CICS TS V3.1.

- CICS Batch Application Control for z/OS V1.1, with service applied, can be used with CICS TS V3.1.
- MQSeries Integrator Agent for CICS Transaction Server V1.1 does not run with CICS TS V3.1.
- Fault Analyzer for z/OS and OS/390 V3.1, with PTF UQ77156 for APAR PQ74048, or Fault Analyzer for z/OS V4.1, or Fault Analyzer for z/OS V5.1, can be used with CICS TS V3.1.
- Debug Tool for z/OS V5.1, with PTF for APAR PQ94401, can be used with CICS TS V3.1.

Compatibility

z/OS conversion services: CICS TS V3.1 can use z/OS services to perform conversions beyond those supported by CICS TS in previous releases. An example is conversions to and from Unicode, which may be required to support Web services. Exploiting this new capability requires z/OS to have the initial conversion image installed, which can only be done on a system IPL.

Java program objects: As indicated in previous announcements, CICS TS V3.1 does not support Java program objects (that is, Java applications that have been compiled using the VisualAge® for Java Enterprise Toolkit for OS/390 (ET/390) byte-code binder; they are sometimes referred to as compiled Java programs or as HPJ programs). To run under CICS TS V3.1, such applications must be rebuilt and run in JVM mode.

JVM modes in CICS: Customers using Java programs in CICS TS V3.1 are recommended to use continuous mode. Support for continuous mode was introduced in CICS TS V2.3; in order to bring CICS use of Java into line with standard practices, support for resettable mode will be removed in a future release of CICS TS.

SOAP for CICS feature: The SOAP for CICS feature, orderable with CICS TS V2.2 and V2.3, is not orderable with CICS TS V3.1. However, to assist migration for customers who already have this feature, the feature may be used and is supported with CICS TS V3.1, and applications will continue to run. Customers are recommended to migrate to the Web services support capabilities of CICS TS V3.1.

One-byte console IDs: As was previously announced, support for one-byte console IDs, which has remained only for migration and compatibility purposes, has now been removed. This means that the `CONSOLE()` attribute has been removed from the RDO definition for `TERMINAL`, and the `CONSNAME()` attribute must be used instead.

CICSplex SM Windows agent: The CICSplex SM remote MAS agent for Windows is not provided with CICS TS V3.1.

CICSplex SM resource tables: As was indicated in the *CICSplex SM Resource Tables Reference* for CICS TS V2.3, CICS TS V3.1 is the last release to support the resource tables `XDSPGBL`, `XDSPPOOL`, `XJVMPOOL`, `XLSPRBUF`, `XMONITOR`, `XPROGRAM`, `XSTREAM`, `XTASK`, and `X2TASK`. The information in them has migrated to other tables, as indicated in the documentation.

TCAM support: TOR support for ACF/TCAM (DCB) is removed in CICS Transaction Server for z/OS V3.1. Customers who have a continued need for a queued communications method should consider modifying their applications to use WebSphere MQ. Support for TCAM applications will continue to be available in a CICS TS

V3.1 AOR, when transaction routed from an earlier release of CICS TS.

BTAM support: Support for BTAM applications is removed from a CICS Transaction Server for z/OS V3.1 AOR. (TOR support was removed in CICS/ESA V3.1).

Common Connector Framework (CCF): The Common Connector Framework (CCF), which was the predecessor interface to the Common Client Interface (CCI), is not supported by CICS TS V3.1. The intention to remove this support was indicated in the announcement of CICS TS V2.3.

ECI Base Classes (ECIREQUEST): The ECI Base Classes (ECIREQUEST, which were introduced for compatibility with the CICS Transaction Gateway), are not included in CICS TS V3.1. The recommended replacement is the **Common Client Interface Connector for CICS TS** (CCI Connector for CICS TS), introduced in CICS TS V2.3, when it was announced that ECIREQUEST would be removed.

OS/VS COBOL: As indicated in previous announcements, most recently in the announcement of CICS TS V2.3, CICS run-time support for OS/VS COBOL (5740-CB1, 5734-CB4, and 5740-LM1) is not provided in CICS TS V3.1. (Refer to the **Application programming summary** section).

TSO End User Interface: Equivalent functions to the TSO End User Interface are now provided, in a more usable form, by the Web User Interface. The TSO End User Interface is stabilized at the CICS TS V2.3 level and does not support new capabilities introduced since. It will be removed in the next release of CICS TS for z/OS.

CWI commarea interface removal: Notice is given that the support for passing HTTP requests and responses via commareas between applications and CICS will be removed in a future release of CICS TS. This mechanism, which was part of the initial CICS Web Interface, was superseded by the CICS Web Support APIs in CICS TS V1.3. Web-aware programs and converters using this interface should be migrated to use the EXEC CICS WEB commands designed for HTTP server applications.

DFHWBCLI commarea interface removal: As previously indicated in the announcement of the SOAP for CICS feature, the DFHWBCLI function introduced to provide outbound HTTP support will be withdrawn in a future release of CICS TS. Consideration should be given to migrating applications that link to DFHWBCLI, to use the new CICS Web Support EXEC CICS WEB SESSTOKEN() commands for HTTP client applications, made available in this release.

Web server plug-in removal: The CICS WebServer plug-in, DFHWPAPI, will be removed in a future release of CICS TS. This is the CICS supplied plug-in program that enables a passthrough mechanism from the IBM HTTP Server, via the EXCI, into CICS Web support using the CICS business logic interface. Users are recommended to migrate to use the CICS Transaction Gateway.

Removal of ONC RPC in a future release: CICS support for Open Network Computing Remote Procedure Call (ONC RPC) clients will be removed in a future release of CICS TS. The recommended migration path is to access CICS using the new support for Web services.

EXEC CICS SIGNON exit: As previously announced, the semantics of the EXEC CICS SIGNON / SIGNOFF command were changed in CICS TS V2.2, when the ability to alter the current security identity of an executing CICS terminal attached transaction was removed. A migration aid in the

form of a global user exit (XSSEX) was provided which modifies the behavior to that in CICS TS V1.3. Following customer comments, the temporary nature of this user exit has been reassessed. It is now being retained, but for compatibility reasons only; the statement "The XSSEX exit is a temporary measure only, to be withdrawn in a later release" has been removed from the Customization Guide.

EXEC CICS INQUIRE SYSTEM RELEASE (): In this release the value returned will be 0640. INQUIRE SYSTEM RELEASE is now only maintained for compatibility with previous releases. The recommendation is now to use INQUIRE SYSTEM CICSTSLEVEL. Note that the CICS version and release number are no longer implicit in the CICS level number. As an exclusive element of CICS Transaction Server for z/OS, CICS does not have a product version and release number of its own. The 0640 number also appears in other forms, for example in output from offline utilities such as statistics and dump formatters, as the suffix in module names such as DFHPD640, and in the CICS region view in the CICSplex SM Web User Interface.

Transaction Affinities utility: CICS TS V3.1 does not include the detector and reporter components previously provided as part of the CICS Transaction Affinities utility. These components are now incorporated in IBM CICS Interdependency Analyzer for z/OS V1.3, announced in August 2004, with service applied, which will have the capability of analyzing both interdependencies and affinities. The load library scanner component of the CICS Transaction Affinities utility remains in CICS TS V3.1, and can produce reports on application programs which have potential affinities.

Application programming summary: The following summarizes the support in CICS TS V1.3, CICS TS V2.2, CICS TS V2.3, and CICS TS V3.1 for application programming considerations.

COBOL Compilers

Compiler	Compiler in Service?	CICS Translator Support (see note 8)	CICS Runtime Support (see note 4)	Use of IBM Distributed Debugger (see note 1)	Use with WebSphere Studio Enterprise Developer
OS/VS COBOL (5740-CB1, 5734-CB4, and 5740-LM1) (see note 2)	No	-CICS TS V1.3: supported -CICS TS V2.2, V2.3, V3.1: not supported	-CICS TS V1.3, V2.2, V2.3: the Language Environment component of z/OS is required; applications will run unchanged. -CICS TS V3.1: OS/VS COBOL modules will not execute in this and subsequent releases of CICS TS	No	No
VS COBOL II (5668-022, 5668-023, and 5668-958)	No	-CICS TS V1.3: supported with COBOL2 option -CICS TS V2.2, V2.3, V3.1: supported with the COBOL2 or COBOL3 option	-CICS TS V1.3, V2.2: the Language Environment component of z/OS is required; applications will run unchanged. -CICS TS V2.3, V3.1: the Language Environment component of z/OS is required; CICS will use Language Environment runtime exclusively. Application behavior may change (see note 7)	Yes, with restrictions	No
SAA(R) AD/Cycle(R) COBOL/370(TM) (5688-197 5668-958)	No	-CICS TS V1.3: supported with COBOL2 option -CICS TS V2.2, V2.3, V3.1: supported with the COBOL2 or COBOL3 option	Language Environment	Yes, with restrictions	No
COBOL for MVS and VM (5688-197)	No	-CICS TS V2.2, V2.3, V3.1: supported with the COBOL2 or COBOL3 option			
COBOL for OS/390 and VM V2 (5648-A25)	Yes				
COBOL for OS/390 and VM V2 (5648-A25) with PTF for APAR PQ45462	Yes	Can use integrated translator (see note 3) with the COBOL2 or COBOL3 option	Language Environment	Yes, with restrictions	Yes, with restrictions
Enterprise COBOL for z/OS and OS/390 V3 (5655-G53)	Yes	Can use integrated translator (see note 3) with the COBOL2 or COBOL3 option	Language Environment	Yes	Yes

PL/I Compilers

Compiler	Compiler in Service?	CICS Translator Support	CICS Runtime Support (see note 4)	Use of IBM Distributed Debugger (see note 1)	Use with WebSphere Studio Enterprise Developer
OS PL/I Optimizing Compiler V1 (5724-PLI)	No	Yes	-CICS TS V1.3, V2.2, V2.3: the Language Environment component of z/OS is required; applications will run unchanged.	Yes, with restrictions	No
OS PL/I Optimizing Compiler V2 (5668-909, 5668-910, and 5668-911)		No	-CICS TS V3.1: support for modules is removed from this and subsequent releases of CICS TS		
SAA AD/Cycle PL/I for MVS and VM (5688-235)	No	Yes (see note 5)	Language Environment	Yes, with restrictions	No
PL/I for MVS and VM V1 (5688-235)	No				
VisualAge PL/I for OS/390 V2 (5655-B22)	No				
Enterprise PL/I for z/OS and OS/390 V3 (5655-H31)	Yes	Can use integrated translator (see note 5)	Language Environment	Yes	Yes

C or C++ Compilers

Compiler	Compiler in Service?	CICS Translator Support	CICS Runtime Support (see note 4)	Use of IBM Distributed Debugger (see note 1)	Use with WebSphere Studio Enterprise Developer
C/370(TM) V1 (5688-040)	No	Yes	-CICS TS V1.3, V2.2, V2.3: the Language Environment component of z/OS is required; application will run unchanged.	Yes, with restrictions	No
C/370 V2 (5688-187 and 5688-188)	No		-CICS TS V3.1: support for these modules is removed in this and subsequent releases of CICS TS		
SAA AD/Cycle C/370 (5688-216)	No	Yes	Language Environment	Yes, with restrictions	No

Compiler	Compiler in Service?	CICS Translator Support	CICS Runtime Support (see note 4)	Use of IBM Distributed Debugger (see note 1)	Use with WebSphere Studio Enterprise Developer
C/C++ for MVS/ESA(TM) (5655-121)	No				
C/C++ for OS/390 (component of 5647-A01)	Yes				
C/C++ for z/OS and OS/390 (component of 5694-A01)	Yes	Yes	Language Environment	Yes	No
z/OS V1R4 C/C++ (component of 5694-A01)	Yes				
z/OS V1R5 C/C++ (component of 5694-A01)	Yes				

Java Support

Compiler/JVM	Function in Service?	CICS Translator Support	CICS Runtime Support	Use of IBM Distributed Debugger (see note 1)	Use with WebSphere Studio Enterprise Developer
VisualAge for Java, Enterprise Edition V2 – Enterprise Toolkit for OS/390 (5655-JAV) (see note 6)	No	No translator required – use JCICS classes. Supported by CICS TS V1.3, CICS TS V2.2, CICS TS V2.3, CICS TS V3.1	Language Environment	Yes, with restrictions	No
Java for OS/390 at SDK 1.1.8	Yes	No translator required – use JCICS classes. Supported by CICS TS V1.3 only	Language Environment	Yes	Yes
Developer Kit for OS/390, Java 2 Technology Edition, V1.3.1 (5655-D35)	Yes	No translator required – use JCICS classes. Supported by CICS TS V2.2 only	Language Environment	Yes	Yes
SDK for z/OS, Java 2 Technology Edition, V1.4 (5655-I56)	Yes	No translator required USE JCICS classes. Supported by CICS TS V2.3, V3.1	Language Environment	Yes	Yes

Compiler	Compiler in Service?	CICS Translator Support	CICS Runtime Support (see note 9)	Use of IBM Distributed Debugger (see note 1)	Use with WebSphere Studio Enterprise Developer
High Level Assembler for MVS and VM and VSE V1.1 (5696-234)	No	Yes	-CICS TS V1.3, V2.2, V2.3: modules must run natively	Yes	Yes
High Level Assembler for MVS and VM and VSE V1.2 (5696-234)	No		-CICS TS V3.1: application modules can run as Language Environment MAINs if the LEASM translator option is employed		
High Level Assembler for MVS and VM and VSE V1.3 (5696-234)	No				
High Level Assembler for MVS and VM and VSE V1.4 (5696-234)	Yes				

Notes

- IBM Distributed Debugger is available as a component of WSED V5, and other IBM products. For more information, refer to <http://www.ibm.com/software/awdtools/debugger/>
- This is a clarification of the information on OS/VS COBOL given in previous announcements.
- The integrated translator function requires COBOL for OS/390 and VM V2R2, with PTF for APAR PQ45462, or Enterprise COBOL for z/OS and OS/390 V3. Note, however, that the COBOL3 translator option must be active.
- Refer to **Publications** for information on the use of the Language Environment condition handler.
- The integrated translator function requires VisualAge PL/I for OS/390, V2R2.1, with PTF for APAR PQ45562, or Enterprise PL/I for z/OS and OS/390 V3.
- Refer to the statement below on migration of Java Program Objects.
- Refer to the paper **Language Environment within CICS TS: Questions and Answers**, available at <http://www-3.ibm.com/software/htp/cics/library/indexes/whitepapers.html>
- APAR PQ84313 re-introduced the COBOL2 translator option for CICS TS V2.2 and CICS TS V2.3 and is shipped as part of CICS TS V3.1.
- CICS TS V3.1 permits application assembly language modules to run as Language Environment MAINs, fully within the scope of the Language Environment run-time, if translated with the LEASM option.

Performance considerations

Traditional workloads: Comparisons with CICS TS V2.3, using IBM internal procedural language benchmarks, show that CICS TS V3.1 has similar performance characteristics in terms of Internal Transaction Rate (ITR).

Java support: Comparisons with CICS TS V2.3, using IBM internal Java benchmarks, show that CICS TS V3.1 has similar performance characteristics in terms of ITR.

SSL support: Changes to SSL support in CICS TS V3.1 allow many more simultaneous secure connections per region than in CICS TS V2.3.

HTTP support: Changes to the Web interface in CICS TS V3.1 provide improved scalability, and capacity benefits by reducing the resources used by HTTP connections.

User group requirements: Requirements from the worldwide user group communities satisfied or partially satisfied by enhancements in CICS TS V3.1 include the following:

Requirement number	Description	Satisfied by
MR00022973	Allow multiple commareas when linking / XCTling	Containers and channels
MR0321023547	Access to original commarea	Containers and channels
MR00025820	COMMAREA redesign	Containers and channels
MR121301660	API enhancement for Link Program	Containers and channels
MR0209042634	Original error (fault message) not passed back to SOAP application	Web services support
MR0516013721	Requirement for CICS to be able to post out bound HTTP	Enhanced HTTP support
MR0623046353	Notification for revoked Userid on EXEC CICS START USERID	Improved userid checks for START
MR0701031432	Notification for revoked Userid on EXEC CICS START USERID	Improved userid checks for START
MR120903187	Notification for revoked Userid on EXEC CICS START USERID	Improved userid checks for START
MR0726046851	CICS SOAP insufficient serviceability AWST abend	Web services support
MR0728045346	Verify a Userid is not suspended before doing an EXEC CICS START USERID	Improved userid checks for START
MR0813046428	Retention of XSNEK exit	Migration aid XSNEK is now being retained
MR0827017255	CICS should continue to honor the RACF(R) Revoke status of a Userid	Improved userid checks
MR103100591	CICS Web interface – browser caching problem	Enhanced HTTP support
MR0528036420	Use DFHOSTAT to see if special tracing is still enabled, and for which transactions or terminals	Sample program enhanced
MR0715043131	CICS Soap Messages in CSMT TDQ	Web services support
MR0520021827	CICS/TS V2.2 documentation via OS/390 USS and browser	Information Center on Eclipse platform
MR0929033731	Enhance CICS Assembler macros to be LE-Compliant	Language Environment MAIN support for Assembler
MR1220016212	No CPSM-Utility for batch available	CICSplex SM batchrep access enhancements
MR1024017313	CPSM Web User Interface needs to allow users to specify a warning record count as they can do for the TSO End User i/f	CICSplex SM Web User Interface enhancements
MR102401486	CPSM Web User Interface needs to allow users to specify a warning record count as they can do for the TSO End User i/f	CICSplex SM Web User Interface enhancements
MR0105044511	Add LE XPLINK Support to CICS	Enhanced C/C++ support

Planning information

Packaging

Elements included in CICS TS for z/OS V3.1: The base CICS element of CICS TS for z/OS V3.1 is CICS V6.4; the CICSplex System Manager element is CICSplex SM V3.1.

The other elements included in CICS TS V3.1 are:

- REXX Development System for CICS/ESA
- REXX Runtime Facility for CICS/ESA
- CICS Application Migration Aid V1.1

Also shipped with this product as a marketing promotion is a media pack with one free license of WSED V5.1. WSED is not part of CICS TS, and is not required in order to use CICS TS. WSED is an Integrated Development Environment (IDE) that helps developers create dynamic Web applications including support for Java 2 Enterprise Edition (J2EE), XML and Web services technologies that can integrate WebSphere software and traditional transactional environments, including CICS, IMS, and Batch systems. It promotes the reuse and transformation of existing applications, and supports Java, COBOL, PL/I, and Enterprise Generation Language (EGL) development.

Items shipped: The following items are shipped together with the basic machine-readable material for the product:

- Hardcopy publications as listed in the publications section

- CD-ROM: Licensed CICS Information Center (SK3T-6964)
- Media Pack: WebSphere Studio Enterprise Developer V5.1

5655 M15

Some specification sheets of related IBM products may also be included.

Security, auditability, and control

For information on security, refer to the *RACF Security Guide* (SC34-6454).

In CICS TS V3.1, support is introduced for Web services security, and for the Transport Layer Security (TLS) 1.0 protocol. For more information, see the sections **Web services and Enterprise Service Bus support** and **Improvements to SSL support**, above. The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering information

Advance publications: The publication *CICS Transaction Server for z/OS Version 3 Release 1: Release Guide* (GC34-6421), is available now for download in PDF format, free of charge, from

<http://www.ibm.com/software/ts/cics/>

Ordering z/OS through the Internet

ShopzSeries provides an easy way to plan and order your z/OS ServerPac or CBPDO. It will analyze your current installation, determine the correct product migration, and present your new configuration based on z/OS. Additional products can also be added to your order (including determination of whether all product requisites are satisfied). ShopzSeries is available in the U.S. and several countries in Europe. In countries where ShopzSeries is not available yet, contact your IBM representative (or IBM Business Partner) to handle your order via the traditional IBM ordering process. For more details and availability, visit the ShopzSeries Web site at

<http://www14.software.ibm.com/webapp/ShopzSeries/ShopzSeries.jsp>

New licensees

Orders for new licenses can be placed now.

Registered customers can access IBMLink™ for ordering information and charges.

Shipment will not occur before the availability date.

Unless a later date is specified, orders entered before the planned availability date will be assigned a schedule date of one week following availability.

Orders entered after the planned availability date will be assigned a schedule date for the week following order entry.

The base CICS TS product code can only be ordered through Customized Offerings. However, an MES order may be used for optional components that are not specified on the base order. For these orders, specify:

Type Model

Basic license: To order a basic license, specify the program number. To order a basic license, specify the program number 5655-M15. Specify feature number 9001 for asset registration. Note that this registration is required even though delivery is by Customized Offerings (CBPDO and ServerPac).

ESL: To order an ESL license, specify the program number, feature number 9001 for asset registration, and the applicable ESL OTC feature number. Also specify the feature number of the desired distribution medium.

Specify the applicable ESL OTC license option.

Entitlement identifier	Description	License option/ pricing metric
S0118T7	CICS TS for z/OS V3	Basic OTC ESL

ESL machines can be determined by referring to the IBM Entry End User/390 Attachment (Z125-4379).

Parallel sysplex license charge (PSLC) basic license: To order a basic license, specify the program number and quantity of MSU.

If there is more than one program copy in a Parallel Sysplex, the charge for all copies is associated to one license by specifying the applicable PSLC license options and quantity represented by the sum of the Service Units in Millions (MSUs) in your Parallel Sysplex. For all other program copies, specify the System Usage Registration No-Charge (SYSUSGREG NC) Identifier on the licenses.

Entitlement identifier	Description	License option/ pricing metric
S0118T7	CICS TS for z/OS V3	Basic MLC, PSLC below 3 MSU Basic MLC, PSLC AD SYSUSGREG NC, PSLC AD

Workload License Charge (WLC) basic license: If there is more than one program copy in a Parallel Sysplex, the charge for all copies is associated to one license by specifying the applicable WLC license options and quantity represented by the sum of the Service Units in Millions (MSUs) in your Parallel Sysplex. For all other program copies, specify the Workload Registration Variable WLC Identifier on the licenses.

Entitlement identifier	Description	License option/ pricing metric
S0118T7	CICS TS for z/OS V3 Registration, WLC	Basic MLC, WLC Workload

Entry Workload License Charge (EWLC) basic license

To order a basic license, specify the program number and the quantity of MSUs.

Entitlement identifier	Description	License option/ pricing metric
S0118T7	CICS TS for z/OS V3	Basic MLC, Entry WLC

S/390® and zSeries usage pricing (usage license charge)

basic license: To order a basic license, specify the appropriate program and feature number, if required, for asset registration. Specify the applicable S390 and zSeries Usage Pricing feature. Also, specify the feature number of the desired distribution medium.

Charges will be based upon the Peak MSUs. Usage reported between thresholds of features 1, 2, or 3, will be rounded up to the next MSU level. Above 1.0 MSU, usage will be rounded to the nearest whole MSU. For example, 2.4 MSUs would round to 2.0 MSUs for pricing, and 2.5 MSUs would round to 3.0 MSUs for pricing.

The customer pricing will be determined by selecting either:

- Feature 1 (if usage is below 0.25 MSU)
- Feature 2 (if usage is between 0.26 and 0.50)
- Feature 3 (if usage is between 0.51 and 1.0)

Feature 3 + (# MSUs from 2-11 times the charge associated with feature number 4) + (# MSUs from 12-44 times the charge associated with feature number 5) + (# MSUs from 45-78 times the charge associated with feature number 6) + (# MSUs above 78 times the charge associated with feature number 7 —if applicable)

Entitlement identifier	Description	License option/ pricing metric
S0118T7	CICS TS for z/OS V3	Basic MLC, usage license charge

Examples for ordering:

A customer with a measured usage (from the IBM Measured Usage report) of 0.3 MSU would order quantity 1 of the 0.26 to 0.5 MSU base feature.

A customer with 6.6 MSUs (from the IBM Usage report) would:

- Be rounded up to 7.0 MSUs
- Order quantity 1 of the “0.51 to 1.0 MSU” base feature
- Order quantity 6 of the Level A 1 MSU feature

A customer with 15 MSUs (from the IBM Usage report) would:

- Order quantity 1 of the “0.51 to 1.0 MSU” base feature
- Order quantity 10 of the Level A 1 MSU feature
- Order quantity 4 of the Level B 1 MSU feature

A customer with 50 MSUs (from the IBM Usage report) would:

- Order quantity 1 of the “0.51 to 1.0 MSU” base feature
- Order quantity 10 of the Level A 1 MSU feature
- Order quantity 33 of the Level B 1 MSU feature
- Order quantity 6 of the Level C 1 MSU feature

A customer with 85 MSUs (from the IBM Usage report) would:

- Order quantity 1 of the “0.51 to 1.0 MSU” base feature
- Order quantity 10 of the Level A 1 MSU feature
- Order quantity 33 of the Level B 1 MSU feature
- Order quantity 34 of the Level C 1 MSU feature
- Order quantity 7 of the Level D 1 MSU feature

Growth opportunity license charge (GOLC): To order a basic license, specify the program number and the correct level.

Specify the GOLC monthly license option.

Entitlement identifier	Description	License option/ pricing metric
S0118T7	CICS TS for z/OS V3	Basic MLC, GOLC

Specify the GOLC monthly charge feature number from the table below. Also, specify the feature number for the desired distribution medium.

zSeries entry license charge (zELC): To order zELC software, specify the program number and z800 model.

Specify the zELC monthly license option.

Entitlement identifier	Description	License option/ pricing metric
S0118T7	CICS TS for z/OS V3	Basic MLC, zELC

Single version charging: To elect single version charging, the customer must notify and identify to IBM the prior program and replacement program and the designated machine the programs are operating on.

Basic machine-readable material:

The executable code of this product is shipped only via the Customized Offerings (CBPDO, ServerPac, SystemPac®), the order for which defines the media for the delivery of the executable code. Non-customized items (including the Information Center, licensing materials and other paper deliverables) are shipped via the stand-alone product order, for which the appropriate feature number, below, must be specified.

For an order with hardcopy publications in US English, specify feature number 5822

Note that orders with hardcopy publications in Japanese are not accepted in the United States.

Customization options: Select the appropriate feature numbers to customize your order to specify the delivery options desired. These features can be specified on the initial or MES orders.

Example: If publications are not desired for the initial order, specify feature number 3470 to ship media only. For future updates, specify feature number 3480 to ship media updates only. If, in the future, publication updates are required, order an MES to remove feature number 3480; then, the publications will ship with the next publications release of the program.

Description	Feature number
Initial Shipments	
Serial number only (suppresses shipment of media and documentation)	3444
Ship media only (suppresses initial shipment of documentation)	3470
Ship documentation only (suppresses initial shipment of media)	3471
Single Pallet delivery	3483

Update Shipments

Ship Media updates only (suppresses update shipment of documentation)	3480
Ship documentation only (suppresses update shipment of media)	3481
Suppress updates (suppresses update shipment of media and documentation)	3482

Optional machine-readable material: To order, select the feature number for the desired distribution medium:

Optional Source (excludes Object-Code Only modules)

description	Feature number
Optional Source (excludes Object-Code Only modules) —3480 Tape Cartridge *Contains "RESTRICTED MATERIAL OF IBM"	5832

Publications

Information Center: The Information Center can be run from the CD-ROM or can be installed onto a workstation or Web server. In CICS TS V3.1, there are major changes to the Information Center from that previously shipped. For full details of these, and the enhancements they bring, refer to the **Information Center on Eclipse platform** section in the **Functions delivered in CICS TS V3.1** section in this announcement.

Requirements for using the Information Center are given in the **Software requirements** section.

Note that there are two versions of the Information Center CD-ROM: with and without the licensed publications. Licensed publications are only available to customers who have a license for the product, and so the version of the Information Center with licensed publications is only available to these customers.

The Information Center CD-ROM with licensed publications is form number SK3T-6964. One copy of this is automatically shipped as part of the product. Further copies can be ordered, at no additional charge, by specifying feature 7132.

The Information Center without the licensed publications is form number SK3T-6965. It can be ordered on CD-ROM, or downloaded over the Internet, from the IBM Publications Center, at

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

The welcome page and the navigation of the Information Center are translated to French, German, Spanish, Simplified Chinese, and Korean; these translations are included on both versions of the Information Center CD-ROM.

Printed publications: In addition to the softcopy information in the Information Center, the following printed documentation is delivered as hardcopy with the product.

Title	Form number
CICS Transaction Server for z/OS V3.1: Release Guide	GC34-6421
CICS Transaction Server for z/OS V3.1: Licensed Program Specifications	GC34-6608
CICS Transaction Server for z/OS V3.1:	GI10-2585

Memo to Licensees
CICS Transaction Server for z/OS V3.1: GI10-2586
Program Directory

Additional printed copies of these books can be purchased for a fee. Contact your IBM representative, or go to the online IBM Publications Center, at

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

A PDF version of the release guide for CICS TS V3.1 is available now at

<http://www.ibm.com/software/ts/cics/>

In addition to the hardcopy publications, the following unlicensed publications are provided within the Information Center. Note that the **Web Services Guide** is new in this release. These publications are not separately available, but if hardcopy is required, they may be printed from the PDF files provided in the Information Center.

Title	Form number
CICS Transaction Server for z/OS V3.1: Migration from CICS Transaction Server for OS/390 V1.3	GC34-6423
CICS Transaction Server for z/OS V3.1: Migration from CICS Transaction Server for z/OS V2.2	GC34-6424
CICS Transaction Server for z/OS V3.1: Migration from CICS Transaction Server for z/OS V2.3	GC34-6425
CICS Transaction Server for z/OS V3.1: Installation Guide	GC34-6426
CICS Transaction Server for z/OS V3.1: Application Programming Guide	SC34-6433
CICS Transaction Server for z/OS V3.1: Application Programming Reference	SC34-6434
CICS Transaction Server for z/OS V3.1: Customization Guide	SC34-6429
CICS Transaction Server for z/OS V3.1: Intercommunication Guide	SC34-6448
CICS Transaction Server for z/OS V3.1: Internet Guide	SC34-6450

Title	Form number
CICS Transaction Server for z/OS V3.1: Operations and Utilities Guide	SC34-6431
CICS Transaction Server for z/OS V3.1: Resource Definition Guide	SC34-6430
CICS Transaction Server for z/OS V3.1: CICS Supplied Transactions	SC34-6432
CICS Transaction Server for z/OS V3.1: System Definition Guide	SC34-6428
CICS Transaction Server for z/OS V3.1: System Programming Reference	SC34-6435
CICS Transaction Server for z/OS V3.1: Problem Determination Guide	SC34-6441
CICS Transaction Server for z/OS V3.1: Messages and Codes	GC34-6442
CICS Transaction Server for z/OS V3.1: Trace Entries	SC34-6443
CICS Transaction Server for z/OS V3.1: External Interfaces Guide	SC34-6449
CICS Transaction Server for z/OS V3.1: Business Transaction Services	SC34-6439
CICS Transaction Server for z/OS V3.1: Front End Programming Interface User's Guide	SC34-6436
CICS Transaction Server for z/OS V3.1: Web Services Guide	SC34-6458
CICS Transaction Server for z/OS V3.1: C++ OO Class Libraries	SC34-6437
CICS Transaction Server for z/OS V3.1: CICS DB2 Guide	SC34-6457
CICS Transaction Server for z/OS V3.1: Distributed Transaction Programming Guide	SC34-6438
CICS Transaction Server for z/OS V3.1: IMS Database Control Guide	SC34-6453
CICS Transaction Server for z/OS V3.1: Java Applications in CICS	SC34-6440
CICS Transaction Server for z/OS V3.1: Performance Guide	SC34-6452
CICS Transaction Server for z/OS V3.1: RACF Security Guide	SC34-6454
CICS Transaction Server for z/OS V3.1: Recovery and Restart Guide	SC34-6451
CICS Transaction Server for z/OS V3.1: Shared Data Tables Guide	SC34-6455
CICS Transaction Server for z/OS V3.1: Transaction Affinities Utility Guide	SC34-6456
CICSplex SM: Administration	SC34-6462
CICSplex SM: Application Programming Guide	SC34-6468
CICSplex SM: Application Programming Reference	SC34-6469
CICSplex SM: Concepts and Planning	SC34-6459
CICSplex SM: Managing Business Applications	SC34-6467
CICSplex SM: Managing Resource Usage	SC34-6466
CICSplex SM: Managing Workloads	SC34-6465
CICSplex SM: Messages and Codes	GC34-6471
CICSplex SM: Monitor Views Reference	SC34-6464
CICSplex SM: Operations Views Reference	SC34-6463
CICSplex SM: Problem Determination	GC34-6472
CICSplex SM: Resource Tables Reference	SC34-6470
CICSplex SM: User Interface Guide	SC34-6460
CICSplex SM: Web User Interface Guide	SC34-6461
CICS Family: Interproduct Communication	SC34-6473
CICS Family: Communicating from CICS on System/390®	SC34-6474

Translated books: The following books are translated. These books can be obtained, or hardcopy (where available) ordered, from the IBM Publications Center.

Title	Form number
CICS Transaction Server for z/OS V3.1: Release Guide — Japanese	GD88-6377
CICS Transaction Server for z/OS V3.1: Migration from CICS Transaction Server for OS/390 V1.3 — Japanese	GD88-6378
CICS Transaction Server for z/OS V3.1: Migration from CICS Transaction Server for z/OS V2.2 — Japanese	GD88-6379
CICS Transaction Server for z/OS V3.1: Migration from CICS Transaction Server for z/OS V2.3 — Japanese	GD88-6380
CICS Transaction Server for z/OS V3.1: Installation Guide — Japanese	GD88-6381
CICS Transaction Server for z/OS V3.1: Front-End Programming Interface User's Guide — Japanese	SD88-6382
CICS Transaction Server for z/OS V3.1: Web Services Guide — Japanese	SD88-6383
CICS Transaction Server for z/OS V3.1: Performance Guide — Japanese	SD88-6391
CICS Family: Communicating from CICS on System/390 — Japanese	SD88-6385
CICS Family: Interproduct Communication — Japanese	SD88-6384
CICS Transaction Server for z/OS V3.1: Release Guide — Simplified Chinese	G151-0050
CICS Transaction Server for z/OS V3.1: Installation Guide — Simplified Chinese	G151-0048
CICS Transaction Server for z/OS V3.1: Internet Guide — Simplified Chinese	S151-0049

Collection Kit for Transaction Processing and Data Products: This Collection Kit (SK2T-0730) is a set of CD-ROMs, containing books in BookManager® form for a range of IBM transaction processing and data products, including CICS TS V3.1 and other members of the CICS family. It contains only unlicensed information.

One copy of the Collection Kit CD-ROM will be shipped, free of charge, with the product if feature number 7133 is specified in the order. Further copies of the Collection Kit are available from the online IBM Publications Ordering System, for a fee.

Licensed documentation: The following licensed publications are provided:

Title	Form number
CICS Transaction Server for z/OS V3.1: Diagnosis Reference	LY33-6110
CICS Transaction Server for z/OS V3.1: Data Areas	LY33-6107
CICS Transaction Server for z/OS V3.1: Supplementary Data Areas	LY33-6108
CICS Transaction Server for z/OS V3.1: Debugging Tools Interface Reference	LY33-6109

The licensed books are delivered, in PDF format, on the licensed version of the CICS Information Center CD-ROM. They are not offered in hardcopy: if hardcopy is required, the books can be printed from the PDF files.

Licensed Product Kit: In addition, the licensed Product Kit (LK3T-6966) is provided for customers who wish to use BookManager for softcopy publications. It provides both unlicensed and licensed publications for this product in BookManager softcopy form on CD-ROM. Licensees of CICS TS V3.1 can order one copy of the licensed Product Kit, at no charge, by specifying feature number 7099. Further copies may be ordered, for a fee of 100 dollars, by specifying feature number 8293.

Redbooks™: The following Redbooks are relevant to CICS TS V3.1:

- Workload Management for Web Access to CICS (SG24-6118)
 - Published February 13, 2001
- Java Connectors for CICS: Featuring the J2EE Connector Architecture (SG24-6401)
 - Published March 22, 2002
- Enterprise JavaBeans for z/OS and OS/390 CICS Transaction Server V2.2 (SG24-6284)
 - Published July 31, 2002
- Threadsafe considerations for CICS (SG24-6351)
 - Published August 2, 2004
- CICS Transaction Gateway V5: The WebSphere Connector for CICS (SG24-6133)
 - Published August 22, 2002
- Revealed! Architecting Web Access to CICS (SG24-5466)
 - Previous level published October 8, 2002; new level published November, 2004.
- Java Application Development for CICS (SG24-5275)
 - Published 30 November 1999, new level expected

Note that there are also many Redbooks about CICS Tools.

For further information on Redbooks, go to

<http://www.redbooks.ibm.com/>

The following Red papers are relevant to CICS TS V3.1:

- From code to deployment: Connecting to CICS from WebSphere for z/OS (REDP-0206)
 - Published May 14, 2002
- A CICS-to-Linux Grid Implementation (REDP-3758)
 - Published October 13, 2003
- Performance Considerations and Measurements for CICS and System Logger (REDP-3768)
 - Published December 8, 2003

For further information on Redpapers, go to

<http://www.redbooks.ibm.com/Redbooks.nsf/redpapers/>

Source information

Source listings: No source listings are provided for CICS TS V3.1. If you require access to such listings, use the View Program Listings (VPL) system. For further information on the VPL system, refer to

http://publib.boulder.ibm.com/pubs/html/vpl/vpl_ugcust22.html

Optional source: Refer to **Optional machine-readable material** in the **Ordering information** section.

Subsequent updates (technical newsletters or revisions between releases) to the publications shipped with the product will be distributed to the user of record for as long as a license for this software remains in effect. A separate publication order or subscription is not needed.

Customized offerings

This product is shipped only via Customized Offerings (CBPDO, ServerPac, and SystemPac). Non-customized items (such as CD-ROMs, licensing materials, hardcopy publications, and memo to licensees) continue to be shipped via the stand-alone product order.

Terms and conditions

Agreement: IBM Customer Agreement (ICA)

Variable charges apply: No

Indexed monthly license charge (IMLC) applies: No

Location license applies: No

Use limitation applies: No

Educational allowance available: Yes, 15% education allowance applies to qualified education institution customers.

Volume orders: Not applicable

Information Center: Customers with a license for CICS Transaction Server for z/OS V3.1 are licensed, at no additional charge, to install and run the Information Center on suitable workstation or server machines, which are not the designated machine, within the same enterprise. It may be run on as many machines as are reasonably necessary for use in conjunction with CICS TS V3.1. This permission includes the licensed version of the Information Center.

WebSphere Studio Edition Developer V5.1: This program is accompanied by a copy of WSED V5.1, with one Proof of Entitlement (Poe). This entitles you to install and use WSED V5.1 for any purpose, subject to the terms and conditions of the license agreement which accompanies WSED V5.1. There are no additional restrictions on its use.

WSED is not part of this program, is subject to its own license agreement, and is provided solely for promotional purposes.

SOAP for CICS feature: A license for CICS Transaction Server for z/OS V3.1 includes a license entitlement for the "SOAP for CICS" feature; customers who are licensed to use the "SOAP for CICS" feature of IBM CICS Transaction Server for z/OS V2.2 or V2.3 may retain this feature after their license for CICS TS V2.2 or V2.3 has been relinquished and continue to use it with IBM CICS Transaction Server for z/OS V3.1.

Connectivity Code: Customers with a license for CICS TS V3.1 may copy, free of charge, the following connectivity code to any S/390 or z/Architecture™ machine in the same sysplex, whether running CICS or not, to enable communication with the licensed CICS TS V3.1:

- CICS External Communication Interface (EXCI — Load Library SDFHEXCI)
- CICS inter-region communication SVC (DFHIRP)

The service and support entitlement under the license for the CICS TS V3.1 extends to copies of the above items when they are running on a different S/390 or z/Architecture machine for this purpose.

Application development and system utilities: To assist developing, testing, or analyzing their applications off-line from their production CICS systems, customers with a CICS Transaction Server for z/OS V3.1 license may copy the following utilities, free of charge, to any S/390 or z/Architecture machine within the same enterprise:

- The CICS Translator (modules DFHEAP1\$, DFHEDP1\$, DFHECP1\$, and DFHEPP1\$, which are to be found in SDFHLOAD)
- The Exec Interface stubs DFHELII, DFHEAI, and DFHEAIO
- The Statistics utility program (DFHSTUP)
- The Trace utility program (DFHTUP)
- The Dump utility program (DFHDUP)
- The IPCS Dump Exit module (DFHPD640)
- The IPCS trace formatting modules (DFHTU640 and DFHTG640)
- The Monitoring utility program (DFHMNDUP)
- The System Definition File utility program (DFHCSDUP)
- The CICS Transaction Affinities utility program (formerly 5696-582, now part of the CICS element)
- The Load Module Scanner (DFHEISUP)
- The BMS macro generation utility program (DFHBMSUP)
- The Journal utility program (DFHJUP)
- The Sample monitoring data print program (DFH&dollar.MOLS)
- The CICS log stream subsystem interface (SSI) exit routine (DFHLGCNV and DFHGTCNV)
- The CICS log stream and coupling facility sizing utility (DFHLSCU)
- CICS tools for Web services (the USS scripts DFHWS2LS and DFHLS2WS, the JCLs DFHWS2LS and DFHLS2WS, and the HFS files dfjwsdl.jar, xsd.jar, ecore.change.jar, xsd.resources.jar, common.jar, ecore.jar, xsd.test.jar, common.resources.jar, qname.jar, and wsdl4j.jar)

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Translator use with CICS TS V3.1: The translators which are shipped with CICS TS V3.1 cannot be used with some earlier (pre-Language Environment) compilers. With respect to any translator which can be used with earlier compilers, the following conditions apply:

- Provided the customer has a current license for both CICS TS V3.1 and the applicable compiler, the customer may retain, and continue to use, any translator shipped with any earlier level of CICS; and
- Customers do not require a license for earlier levels of CICS merely in order to support any such use or retention of translators.

Note: If used in this way, any translator which was shipped with a level of CICS that is not (or no longer) in service is unsupported.

Jar files: Customers with a license for CICS Transaction Server for z/OS V3.1 are licensed to make and use as many copies of applicable jar files as they require in conjunction with their use of the licensed CICS TS V3.1. These are:

- The JCICS classes: dfjcics.jar
- CICSEJBClient.jar

Open Source items: This product contains Open Source items, including the Eclipse components XSD, EMF, and UA. Licensing text for these is included in the product Licensed Program Specifications.

Products eligible for single version charging

Replaced program	Replacement program
CICS/OS/VS V1 (5740-XX1)	CICS Transaction Server for z/OS V2 (5697-E93)
CICS/MVS® V2 (5665-403)	CICS Transaction Server for z/OS V2 (5697-E93)
CICS/ESA V3 (5685-083)	CICS Transaction Server for z/OS V2 (5697-E93)
CICS/ESA V4 (5655-018)	CICS Transaction Server for z/OS V2 (5697-E93)
CICS DDM (5665-463)	CICS Transaction Server for z/OS V2 (5697-E93)
CICSplex SM V1 (5695-081)	CICS Transaction Server for z/OS V2 (5697-E93)
REXX Development System for CICS/ESA (5655-086)	CICS Transaction Server for z/OS V2 (5697-E93)
REXX Runtime Facility for CICS/ESA (5655-087)	CICS Transaction Server for z/OS V2 (5697-E93)
REXX for CICS (5655-B54)	CICS Transaction Server for z/OS V2 (5697-E93)
CICS Transaction Affinities Utility (5696-582)	CICS Transaction Server for z/OS V2 (5697-E93)
CICS Transaction Server for OS/390 V1 (5655-147)	CICS Transaction Server for z/OS V2 (5697-E93)
CICS/OS/VS V1 (5740-XX1)	CICS Transaction Server for z/OS V3 (5655-M15)
CICS/MVS V2 (5665-403)	CICS Transaction Server for z/OS V3 (5655-M15)
CICS/ESA V3 (5685-083)	CICS Transaction Server for z/OS V3 (5655-M15)

Replaced program Replacement program

CICS/ESA V4 (5655-018)	CICS Transaction Server for z/OS V3 (5655-M15)
CICS DDM (5665-463)	CICS Transaction Server for z/OS V3 (5655-M15)
CICSplex SM V1 (5695-081)	CICS Transaction Server for z/OS V3 (5655-M15)
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CICS Transaction Server for z/OS V2 (5697-E93)	CICS Transaction Server for z/OS V3 (5655-M15)

Warranty applies: Yes

Licensed program materials availability

- Restricted materials of IBM: Some
- Non-restricted source materials: Some
- Object Code Only (OCO): Some

Publication that identifies OCO components: Not applicable.

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Available until discontinued: 12-months written notice

Delivery of service for the Information Center is by download over the Web. To locate service updates, go to

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IBM Operational Support Services — SoftwareXcel: Yes

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