



Compete, comply, and control with IBM CICS Transaction Server for z/OS V4.1

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At a glance

CICS® Transaction Server (CICS TS) V4.1 delivers important new function to help organizations respond to the demands of increased regulatory scrutiny, address changing demographics, and position themselves to take advantage of new growth opportunities. New function includes:

- Non-invasive detection and emission of business events from CICS applications provides insight into business behavior.
- Atom feeds and RESTful interfaces enable existing CICS programs and resources to participate in mashups, Web 2.0 and other situational applications.
- The CICS Explorer simplifies the development and management of traditional and modern applications and provides an integration point for IBM® and third-party tools.

CICS TS V4.1 introduces a wide range of other technical and operational capabilities, including many requirements raised by individual customers and user communities.

A beta version of the product is available free of charge, subject to acceptance by users of associated licensing and other terms and conditions. The beta can be used until July 31, 2009. For more information, visit

<http://www.ibm.com/software/htp/cics/tserver/v41/openbeta>

For ordering, contact your IBM representative, an IBM Business Partner, or IBM Americas Call Centers at 800-IBM-CALL (Reference: LE001).

Overview

CICS Transaction Server for z/OS® (CICS TS) is a modern, dependable, cost-effective application platform. It is designed to execute mixed language application workloads, supporting both modern and traditional programming languages and models. Its extensive data communication services, and its foundations in service oriented architecture (SOA), provide unparalleled connectivity and scalability. As a result, CICS TS fits naturally into a "smart" infrastructure of the kind needed for a flexible, global enterprise.

CICS TS V4.1 addresses the needs of a rapidly changing business environment. Its features include the emission of business events, Web 2.0 programming support, and new operational tooling. These and other enhancements bring a new agility

to CICS, complementing established qualities of security, reliability, availability, scalability, data integrity and application responsiveness.

CICS TS V4.1 brings new levels of ease-of-use and flexibility to meet the needs of the next generation of business users, and is aimed at helping users in:

- Competing for new opportunities by gaining insight into business processes and responding by modifying key business applications quickly and with confidence.
- Complying with corporate, industry and government policies to manage business risk of critical business applications.
- Controlling costs by simplifying IT infrastructure and improving development and operations productivity through easier-to-use interfaces and functions.

The increase in insight and responsiveness is provided by new technologies, such as event-driven processes, business dashboards and Web 2.0 applications. These enable the innovation required to deliver growth in even the most challenging business climate. For example, CICS applications can use new capabilities to:

- Support business event detection and emission from CICS without the need to change existing applications, enabling the creation of production business views using dashboards in a matter of hours.
- Create new business insight by publishing key application data, enabling rich client developers to use Web 2.0 technologies, such as Atom feeds and RESTful interfaces, to create mashups and other situational applications.
- Modify processes rapidly and with confidence by assembling and deploying new business applications quickly using service components.

It has never been more important for a business to exercise proper governance and demonstrate compliance to government and industry standards. Line-of-business managers need to monitor critical business processes, and their supporting application programs, to identify exceptions. They need both real-time status information and mechanisms for handling exceptions.

CICS TS V4.1 meets the need for greater control. It can be configured to feed business event processing engines and business dashboards, without the need to change existing applications. This allows line-of-business managers to ensure that business processes are monitored, to assess compliance requirements, and react to compliance failures, security breaches, and incidents of fraud.

Although CICS TS V4.1 places great emphasis on the needs of customer lines-of-business, it also offers relief to IT support staff. As first- and second-generation IT staff leave the industry, their successors need tools and other help to cope with the workload. CICS TS V4.1 addresses these issues. For example:

- With the CICS Explorer it provides a powerful tooling environment that brings many facets of CICS system programming to a single, modern dashboard. The environment can be shared with complementary CICS tools, including those commonly available from IBM partners.
- Through extensions to its TCP/IP support, CICS TS V4.1 continues to remove dependence on SNA networking skills.
- Through new change management logging and support for identity propagation, it provides greater accountability and auditability in an increasingly complex environment.

CICS TS V4.1 also offers performance improvements when compared against CICS TS V3.2. These improvements have been observed in the areas of traditional workloads, dynamic workload management, TCP/IP connectivity and XML processing.

These and many other new capabilities make it possible for IT departments to "do more with less".

Key prerequisites

The minimum required level of operating system for CICS TS V4.1 is IBM z/OS V1.9 (5694-A01).

CICS TS V4.1 has no conditional operational requisites.

Planned availability date

June 26, 2009

Open Beta program: A beta version of the product is available free of charge, subject to acceptance by users of associated licensing and other terms and conditions. The beta can be used until July 31, 2009. For more information, visit

<http://www.ibm.com/software/hcp/cics/tserver/v41/openbeta>

Description

CICS TS V4.1 can help organizations respond to the challenges of unstable financial markets, increased regulation, and changing skill levels. At the same time it can help position organizations to take advantage of opportunities for growth in challenging economic times. The new version of CICS TS provides support for three distinct themes that relate directly to many organizations' business priorities and initiatives.

- **Compete:** Making it easier to create, extend, and reuse applications quickly, to meet changing business needs.
- **Comply:** Helping to ensure and demonstrate effective management control over business applications and IT facilities.
- **Control:** Helping IT staff to perform their tasks more effectively, while assuming a mixture of skill levels.

Key functions delivered

The key functions provided by CICS TS V4.1 support two or more of the themes described earlier, simultaneously. These key functions are:

- Support for event processing
- Atom feeds from CICS
- The CICS Explorer

For example, in support of multiple themes in this version of CICS TS, the ability to generate business events without changing application programs both reduces cost and complexity **and** delivers compliant flexible business solutions.

Functions delivered by theme

Support for event processing

Users can specify business events and then capture and emit them from a CICS application, without the need to change the application. These business events can be used in many ways, such as providing insight into business activity and processing, and driving new processing to respond to business opportunities or threats. For example, they could feed into another CICS application or be placed on a WebSphere® MQ queue. Once on the queue, they could be consumed in a variety of ways, including:

- By a business event processing engine, such as WebSphere Business Events.
- By business monitors and dashboards, such as WebSphere Business Monitor.
- Other methods, such as reading the event in another program.

CICS event processing is focused on application events of significance to the business, rather than systems management or IT events. The primary intent of this function is to allow existing applications to be non-invasively instrumented for events, so that events can be produced by the applications without the need for any code changes. For those customers writing new applications, or willing to open up

existing applications, an event API capability is provided in CICS to explicitly event-enable applications.

The CICS Explorer includes an event binding editor, which allows event specifications to be created and edited. The event specifications define the events to be emitted by CICS, how the occurrence of the events can be detected in applications at runtime, and where and in what format the event is to be emitted. Event bindings can be deployed into CICS using the new CICS bundle resource type and enabled or disabled as required.

Atom feeds from CICS

CICS can provide access to CICS resources and application programs in a RESTful style, by exposing them as Atom feeds or collections, structured according to the Atom Syndication Format and the Atom Publishing Protocol. This implementation of REST (Representation State Transfer) permits the HTTP methods GET, PUT, POST, and DELETE to be used to read and update the contents of CICS resources from an external HTTP client application. This allows the business content to be viewed and manipulated using feed readers, mashups, and other Web 2.0 and situational applications.

The early availability of CICS SupportPac™ CA8K - Delivering Atom feeds from CICS, provided sample code to demonstrate how to generate Atom feeds to publish data contained in CICS resources or obtained by running a CICS application. For CICS TS V4.1, the Information Center contains guidance on how to upgrade Atom feeds, based on SupportPac CA8K, to use the new Atom facilities of CICS TS V4.1. Also, in relation to REST support, SupportPac CA1S - REST support in CICS has enabled programmers to use the PHP scripting language to access CICS resources, without the need to acquire traditional CICS skills.

Support for application bundles

Users can deploy a set of resources that are supported by the new *CICSbundle* resource type. By enabling and disabling a bundle, users can manage the availability and the life cycle of resources created as part of the bundle. CICS can dynamically create, enable, or disable the set of resources and maintain the relationship between them.

A bundle is a collection of CICS resources, artifacts, references, and a manifest that users can deploy into a CICS region to represent an application. The manifest is a file that describes the contents of the bundle, including any prerequisites that the application requires to run in CICS, and any interfaces to other 'applications', such as bind files, Web Service Description Language (WSDL), event bindings and channel descriptions.

A bundle is different from a Resource Definition online (RDO) group because it maintains a relationship with all of the resources created as part of a bundle after they are installed, so that users can manage all of the created related resources as a single entity. For example, if a bundle resource is disabled, to stop an application from running, CICS disables all of the created application resources automatically.

Improvements to data mappings

CICS TS V4.1 provides both faster and enhanced conversion between XML and language structures for all Web services, and new APIs to use these services, independent of Web services.

Support for Web services addressing

CICS TS V4.1 supports services that use the Worldwide Web Consortium (W3C) Web Services Addressing (WS-Addressing) specifications. WS-Addressing is a transport-neutral mechanism for passing messaging information between Web services.

The WS-Addressing specifications defines two constructs, message addressing properties(MAP) and endpoint references(EPR), that normalize the information that is typically provided by transport protocols and messaging systems.

Using WS-Addressing, asynchronous message exchange patterns can be produced to split the request and response communications path. Using EPRs it is possible to send a WS-Addressed SOAP message to a Web service and have the normal or fault response sent to another Web service endpoint based on EPRs held in the SOAP header. EPRs can also be used to pass Reference Parameters between Web service end points, rather than having these associated with an underlying transport. WS-Addressing also defines MAPs that are not EPRs, these can be used to denote the action to take in a Web service and to define relationships between a set of messages.

Support for Java 6

CICS TS V4.1 supports the latest Java™ language features, environment and unique IBM System z® extensions provided by IBM 31-bit SDK for z/OS Java Technology Edition, V6. The IBM 31-bit SDK for z/OS Java Technology Edition, V6, is designed to be compliant with the Java SDK 6 compatibility test and provides the stability, service, and scalability that you expect from System z. It also provides an opportunity to realize your investment in System z Application Assist Processors (zAAPs). CICS continues to manage large workloads comprising Java applications or a mixture of Java, COBOL and other compiled languages.

Support for Service Component Architecture

To make it easier to publish and use CICS applications in a service oriented application, CICS TS V4.1 provides infrastructure and run-time support for deploying and managing application components. These components provide a common programming interface for service invocation, and a service description that is compliant with the Service Component Architecture (SCA). SCA components can be developed using tooling provided with IBM Rational® Developer for System z.

The SCA capability provided by CICS TS gives customers investigating their own component architecture solutions the opportunity to exploit the CICS infrastructure instead, reducing their maintenance costs and potentially providing a richer more flexible solution. For customers that have not yet embarked on a SCA strategy, this capability provides both a low cost of entry option to doing so and a benefit from the CICS tooling enhancements built on top of the component architecture.

Support for business services

CICS TS V4.1 is shipped with CICS Service Flow Runtime, which previously was available only as a separately orderable feature. The runtime allows the deployment of CICS business services (or service flows) created by the Service Flow Modeller component of IBM Rational Developer for System z V7.1, or later.

Improvements in management of resource definitions

A new resource signature in CICS TS V4.1 provides change management information for selected resources that are installed or changed under CICS. Users can take advantage of these improved details to detect resource modifications to support audit tracking and problem resolution.

The resource signature captures details of when, how, and by whom the resource definition was installed and last changed. The information relating to definition changes is stored in the CICS system definition data set (CSD) or the CICSplex® SM data repository (EYUDREP).

Support for distributed identities

With the introduction of IBM z/OS V1.11, CICS TS V4.1 will support, by year end 2009, the forthcoming z/OS identity propagation capabilities that allow security identities operating in the distributed environment to be associated with security

identities used on the server (z/OS user IDs). This enables CICS applications to participate in end-to-end security solutions, and therefore benefiting from improved cross-platform accountability and auditing, providing an alternative to custom written identity mapping. For further details on IBM z/OS V1.11, refer to Software Announcement [209-029](#), dated February 24, 2009.

This function provides support for identity contexts in the following cases:

- Inbound to CICS from WebSphere Application Server through the CICS ECI resource adapter over a trusted IPIC connection.
- Inbound to CICS as a WS-Security header element in a Web services request.
- Propagating out across IPIC and MRO connections between CICS systems in the same sysplex.

Addition of basic authentication for Web services

Support for user-supplied basic authentication credentials has been added with a new AUTHENTICATE parameter for USAGE(CLIENT) type URIMAP definitions. A value of BASIC will now enable the XWBAUTH Client Authentication Exit to be driven for outbound Web services requests. The default value of NO will exhibit the same behaviour as before. The exit is already driven for explicit outbound HTTP requests by EXEC CICS WEB commands from applications using AUTHENTICATE(BASICAUTH). This facility is extended to the implied use of HTTP by Web services requestor applications. For consistency, this definitional change also applies to explicit HTTP client applications that do not specify AUTHENTICATE, but instead use the URIMAP option on the WEB SEND command.

Security improvement for DB2 users

The CICS interface with DB2® provides additional function when using IBM DB2 and IBM RACF®. CICS can be configured to pass the address of its region user ID Access Control Environment Element (ACEE) to simplify the recommended migration from DB2 internal security to using RACF, or alternative external security provider.

Support for WebSphere Service Registry and Repository

A service registry and repository provides features required by CICS TS customers to fully realize the value of Web services and SOA in an enterprise environment. The CICS Web services assistant now includes support for directly publishing and reading WSDL information from the WebSphere Service Registry and Repository.

The WebSphere Service Registry and Repository provides a central store of services descriptions and policies (for example, WSDL files), service metadata, relationships between services, APIs and user interfaces to store, search/discover, and retrieve service descriptions. Facilities are provided by the registry to manage the governance, lifecycle and policy enforcement of services, and provide the ability to connect and federate information with other repositories (for example, UDDI servers).

The CICS Explorer

The CICS Explorer - "the new face of CICS" - is the new systems management tool framework for CICS, first announced in an IBM statement of direction (SoD) on August 5, 2008 (IBM Software Announcement [208-248](#), dated August 5, 2008). It provides an intuitive, easy-to-use way of managing one or more CICS regions. The CICS Explorer, provided with CICS TS V4.1, supports all of the new function in the release - for example resources associated with event processing and resource bundles. It allows the viewing and updating of resource definitions and performing system management operations for both single and multiple CICS regions, by exploiting the capabilities of the CICS Management Client Interface (CMCI). The CICS Explorer also acts as a point of integration for other CICS tools. Developers of complementary tools, whether from IBM teams, business partners, or customers, can use the CICS Explorer Software Development Kit (SDK) to extend and integrate their software tools as plug-ins to the Explorer framework.

Extensions to CICS-to-CICS intercommunications over TCP/IP

As part of the multi-release IP interconnectivity (IPIC) initiative, CICS provides the facility to use TCP/IP instead of SNA for key intercommunications functions, including 3270-based transaction routing and START and CANCEL commands. This is in addition to Distributed Program Link (DPL) introduced in CICS TS V3.2. Support is also provided for the definition and installation of IPIC connections between CICS regions using SYSLINK resources, using CICSplex SM.

In summary IPIC now supports the following CICS intercommunication functions:

- Distributed program link (DPL) calls between CICS TS and/or TXSeries® regions*.
- External Call Interface (ECI) requests using the facilities of the CICS Transaction Gateway V7.1, or later.
- Transaction routing between CICS TS V4.1 regions for 3270 terminals such as LU2 sessions and TN3270 devices.
- The routing transaction: CRTE
- Function Shipping of START and CANCEL commands between CICS TS V4.1 regions (one of the so called asynchronous processing methods).

Note: For details of complementary IPIC functions provided in IBM TXSeries V7.1, refer to Software Announcement [209-040](#), dated March 17, 2009.

Support for Internet Protocol version 6

CICS TS V4.1 can now operate natively in an Internet Protocol version 6 (IPv6) network, without the need for address translation. IPv6 provides for a greater number of addresses and provides improvements in areas such as routing and network auto-configuration. IPv6 is the protocol designed by the Internet Engineering Task Force (IETF) to replace the current version of the Internet Protocol, IP Version 4 (IPv4). The IPv6 format has a much larger address space than IPv4 (128 bits compared to 32 bits), which provides greater flexibility in allocating addresses and for routing traffic. CICS can operate in a mixed IPv6 and IPv4 network, and also in an IPv4 network solely, as before. The CICS IP protocols that take advantage of this new support are:

- IP interconnectivity (IPIC) CICS-to-CICS, and CICS Transaction Gateway to CICS interconnectivity
- HTTP for CICS Web support and Web services
- IIOP support for CORBA clients and EJB
- USER protocol for non-HTTP

Support is not provided for non-atomic TCPIP SERVICE transport protocols, such as:

- External Call Interface (ECI)
- Open Network Computing (ONC) Remote Procedure Call (RPC)

In support of use of IPv6 with CICS, Resource Definition online (RDO), the System Programming Interface (SPI), the Application Programming Interface (API), Global User Exits, Commareas, Monitoring and Statistics Records have all been enhanced in CICS TS V4.1 to handle IPv6 addresses as well as IPv4 addresses.

Support for WebSphere MQ group attach

With this new version of CICS TS, the CICS-WMQ connection has been made easier to configure and manage, while at the same time making it more robust. New resource definitions configure the CICS-WMQ connection and can specify a WebSphere MQ queue-sharing group. CICS can connect to any eligible queue manager in the group, and in failure scenarios automatically reconnect to another member. The new resource definitions enable the configuration to be standardized across CICS regions and z/OS images, and managed easily together with other CICS application resources using CICSplex SM and the CICS Explorer.

Improvements to workload management support

CICS can now use the coupling facility to store more detailed, accurate workload management data. This enhancement supports dynamic workload management capabilities when running in a z/OS Parallel Sysplex® environment and enables improved performance and overall transaction throughput.

These enhancements provide the following benefits:

- Improved workload throughput through a new workload management optimization function.
- Exploitation of the z/OS coupling facility to improve the routing of distributed workloads in a sysplex.
- Improved recognition of CICS region status for more efficient work load management routing decisions.
- Additional CICSplex SM Web User Interface (WUI) views that can help with problem determination in route selection.
- Implementation of new functions that help to reduce configuration time.

The CICS Management Client Interface

CICS TS V4.1 provides a powerful new CICS systems management client API using Representational State Transfer (RESTful) principles - the CICS Management Client Interface (CMCI). This new client API is used by HTTP client applications, including the CICS Explorer, and can be used to develop RESTful client applications that manage CICS resources. This interface can be used to access CICS regions under CICSplex SM control, or connect to a single CICS region without requiring CICSplex SM to be active.

New system programming commands for managing the CSD

A new set of CICS System Programming Interface (SPI) commands are provided that enable automation programs to inquire, change, and install resource definitions in the CICS System Definition (CSD) file as an alternative to the 3270 user transaction CEDA, the programmable interface program DFHEDAP, and the DFHCSDUP batch utility. These new commands are accessible through the CMCI.

The Discovery Library Adapter for CICS

The new Discovery Library Adapter (DLA) utility for CICS provides a way to collect runtime configuration and relationship information about CICS and CICSplex SM resources. This relationship information can then be used to generate IDML files that can be imported into products such as Tivoli® Change and Configuration Management Database, or directly exploited by, for example, Tivoli Business Service Manager for the purpose of generating business service views and dashboards, allowing an enterprise to track resources and interdependencies.

Improvements in CICS monitoring

New performance data metrics have been provided by CICS for Web and Web service applications, enabling improved performance reporting and analysis of these applications. New transaction resource class monitoring data is provided for distributed program link (DPL) requests, enabling users to better understand the work load management of their DPL applications. Users are now able to set dynamically the monitoring options that limit the number of distributed program links, files, and temporary storage queues for which CICS is to perform transaction resource monitoring. To help reduce the volume of monitoring record output, CICS now compresses these monitoring records by default.

Improved CICSplex SM Web User Interface views

Over 70 CICSplex SM Web User Interface (WUI) operations view sets have been redesigned to improve their usability and function. The improvements include the reordering of fields into more logical groupings and the addition of new detailed views to make common tasks easier and faster.

The redesigned operations views include the following improvements:

- Additional hyperlinks to speed up the navigation between often-used views.
- New detailed views that display logical groupings of fields on a single screen.
- Reordered fields and columns that make it easier to find associated attributes.
- Additional filters to quickly display the resources and objects that you want.
- SYSLINKs for IPCONN resources are also now supported.

CICS architectural enhancements

Together with the three principal themes of the CICS TS V4.1 release, work has also been on-going in the area of enhancements, optimizations and improved performance for CICS workloads.

Improvements to XML parsing in CICS

The performance of XML parsing in CICS has improved with the introduction of the IBM z/OS XML System Services parser, which is used to parse SOAP messages in CICS. The XML System Services parser also allows XML parsing to be off loaded to a zSeries® Application Assist Processor (zAAP).

Large file hosting

CICS TS V4.1 is now more efficient when serving files over HTTP. In particular for large files CICS retrieves and sends multiple portions of the file at a time.

Qualify VTAM persistent sessions support

Prior to this release, CICS regions that specified VTAM(YES) were always initialized as persistent sessions capable even though it might not have been used.

With this release of CICS TS, a CICS region with VTAM(YES) specified can be initialized without support for VTAM® persistent sessions. If this capability is not requested during initialisation, then it cannot be subsequently requested at run time.

VTAM persistent sessions support for a CICS region can now be disabled, using the new value NOPS for the PSTYPE system initialization parameter. Removing persistent sessions support where it is not required, such as in a CICS region that is used only for development or testing, can enable users to increase the number of CICS VTAM(YES) regions in an LPAR.

Wild branch diagnosis improvements

CICS TS V4.1 supports the Breaking Event Address Register (BEAR) in System z or MVS™ environments. This register captures the address of the instruction that generated the last successful branch, which helps with the diagnosis of wild branch problems. The Breaking Event Address Register is held in the system diagnostic work area.

Performance improvements

This release of CICS TS offers performance improvements when compared with CICS TS V3.2. These improvements have been observed in the following areas:

- **Optimized use of MVS timer services:** When compared with CICS TS V3.2, between 1% to 5% CPU reduction was observed due to optimizations in the use of MVS timer services on System z9® or z10 hardware.
- **Faster XML processing:** CICS TS V4.1 showed a reduction in the CPU time used to parse XML messages, due to CICS now utilizing the z/OS XML parser.
- **Improved capacity and faster intersystems:** When compared to workloads currently using LU6.2 and VTAM for transaction routing or Dynamic Program Link (DPL), CICS TS V4.1 showed a reduced response time and overall CPU usage by migrating to TCP/IP and the IPIC functionality.
- **System z9 and z10 hardware:** Users might see a reduction in CPU per transaction for those applications running on IBM System z9 or z10, due to exploitation of this new IBM hardware.
- **Throughput improvements with CICSplex SM Work Load Management:** Users who exploit the CICSplex SM Work Load Management component should see throughput improvements, particularly for distributed workload requests when exploiting the new sysplex optimised workload management facilities.
- **Improved efficiency and resilience management:** Changes have been made to CICSplex SM Topology that allow it to track more resource types, and provide customisable limits on the number of resources to be returned. Users should therefore benefit from more efficient and resilient management, particularly when using CICSplex SM APIs, CICS Management Client Interface (new in this release), Web User Interface (WUI), and the CICS Explorer.

Extended z/Architecture MVS linkage support

CICS TS V4.1 supports the z/Architecture® MVS linkage support for the access registers, all the floating point registers, and the 64-bit general registers. This improved linkage support provides execution context for programs, that follow the linkage conventions, to ensure they can successfully pass control from one to the other while preserving the register contents and parameter data that they need to run successfully. System and transaction dumps display all of the registers. Extensions to the MVS linkage conventions have evolved over recent years, and are part of the current z/Architecture. In particular, the MVS linkage convention now includes register and save area conventions for non-volatile floating point registers (FPRs), a floating point control (FPC) register, access registers (ARs) and 64-bit general registers (GRs). Consequently CICS must support these current MVS Linkage Conventions to maintain system integrity for programs (i.e. user applications) that use FPRs, FPC, ARs or 64-Bit GRs.

New FLAGSET option on INQUIRE and SET TRACETYPE commands

For this release of CICS TS, the new FLAGSET option on the INQUIRE and SET TRACETYPE commands, with its CVDA, replaces the STANDARD and SPECIAL options of earlier releases of CICS TS. Existing programs that use this command will continue to work unchanged.

New ENQUEUE_TYPE option on ENQUEUE and DEQUEUE XPI functions

This release permits users to use the new optional ENQUEUE_TYPE parameter on the XPI ENQUEUE command, to enqueue on the same resource being enqueued on by EXEC CICS ENQ or vice versa. Applications can synchronize processes using EXEC CICS and XPI commands.

Support for a new business application manager domain function

CICS TS V4.1 introduces a new business application manager domain function, INQUIRE_ACTIVATION XPI. This new function obtains the activity name and process type for the business transaction activity of the current transaction.

Improved messages to report recovered units of work

Four new CICS system log messages have been introduced with this release, issued from the CICS recovery manager to describe clearly what units of work (UOW) are being recovered.

The system log is critical for the successful recovery of transactions during a restart, and while the log is highly reliable it is not an infallible resource. When a problem is detected with the log or in the data it holds, then there is no other point of reference from which to perform an alternative recovery. Usually the contents of the log are trusted absolutely. However, when the log cannot be trusted there is no other source of recovery reference. In the case of a corrupt log, then there is no alternative but to force an initial start of the system, which both ignores the log and empties it. Thus, new work is possible, but against data that was not properly recovered from the uncommitted updates from the previous execution of CICS.

Four new messages are now issued from clearly identified points in the recovery manager UOW module to describe what is being recovered.

Support for CSiv2 asserted identity

CICS TS V4 now supports the Common Secure Interoperability Protocol Version 2 (CSiv2) asserted identity on inbound and outbound messages, as provided by WebSphere Application Server, version 6.1 or later. The Common Secure Interoperability Specification, Version 2 (CSiv2) defines the Security Attribute Service that enables interoperable authentication, delegation, and privileges.

Support for IMS V10

CICS TS V4 supports IBM IMS™ V10, which includes new functionality available to CICS users through the DBCTL interface to allow the PCB address list and PCBs

accessed by applications to reside in storage above 31-bit. Previously the PCB address list and PCBs were always in 24-bit storage, even if the application ran in amode(31).

Further functional enhancements

Further functional enhancements have been applied to the set of capabilities for CICS TS. These include:

- Enhancements to CICSplex SM topology, which can now keep track of more resource types, leading to performance improvements when referencing those resources. This is achieved by directing requests at appropriate regions.
- The CICSplex SM Web User Interface (WUI) server now supports the ability to enforce limits on the number of resources that can be retrieved for a given query. Previously the CICSplex SM WUI only supported warning counts where the user could continue the query and still create large result sets. This capability is also available now for CICS TS V3.2 (see CICS support Web page, APAR reference PK70038/UK42036).

Accessibility by people with disabilities

A US Section 508 Voluntary Product Accessibility Template (VPAT) containing details on the products accessibility compliance can be requested through the IBM Web site

http://www.ibm.com/able/product_accessibility/index.html

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 Adobe® Acrobat Reader 8.0, or later.

Section 508 of the U.S. Rehabilitation Act

CICS Transaction Server for z/OS V4.1 is capable, as of June 26, 2009, when used in accordance with the associated IBM 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. A US Section 508 Voluntary Product Accessibility Template (VPAT) can be requested at

http://www.ibm.com/able/product_accessibility/index.html

Product positioning

CICS Transaction Server for z/OS (CICS TS) and WebSphere Application Server are strategic middleware products that perform well using new technologies such as event processing, Web 2.0, Web services and service components to support SOA environments. These middleware products exploit and complement z/OS qualities of service, such as high availability and scalability at low cost per transaction,

with excellent security and governance capabilities. In combination, WebSphere Application Server and CICS TS support almost any mission-critical solution.

The new capabilities in CICS TS V4.1 position it squarely in the event processing domain, as a supplier of events to products such as WebSphere Business Events and WebSphere Business Monitor. It can also be positioned in the business process management domain as both a process initiator - when single or aggregated events are used to trigger a business process instance, and as a service supplier - when a process instance invokes a service in CICS.

WebSphere Application Server is the premier Java Enterprise Edition (JEE) 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 a large number 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, as well as functioning as a Web services-based application server, leveraging existing investments and skills, whilst exploiting new technologies.

These applications are fundamental to the SOA environment and CICS continues to enhance its ability to enable CICS-based applications to be exposed as loosely-coupled components in an SOA, enabling them to emit events and interact with Web services. The functions delivered in CICS TS V4.1 should be seen as an extension to capability delivered in CICS TS V3.2, and a major advance over the SOAP for CICS feature delivered on CICS TS V2. Along with the provision of optimized transports, improved interoperability, and better security integration for this new workload, CICS TS V4.1 delivers the qualities of service expected from a CICS function.

For customers requiring tightly-coupled inbound connectivity from JEE application servers into CICS TS, the CICS Transaction Gateway (CICS TG) is a production-proven and market-leading JEE connector, providing a high-performing, security-rich, and scalable method of SOA access to CICS. Tightly-coupled connectivity solutions such as JCA, along with other JEE standard services such as Java Message Service (JMS) and Java Database Connectivity (JDBC), can coexist with loosely-coupled Web services to take advantage of the agility of On Demand Business. For further details on the latest enhancements provided in CICS TG V7.2, refer to Software Announcement [208-343](#), dated November 4, 2008.

TXSeries for Multiplatforms is a distributed CICS Online Transaction Processing (OLTP) environment, for mixed language enterprise applications. TXSeries can act as a gateway to CICS TS by handling terminal concentration, protocol conversion, or intelligent business logic locally, which can increase the performance of CICS TS and protect it from client-originated disruption. TXSeries is a complementary deployment environment for high-performance, distributed transactional applications that integrate well into mixed-language, service oriented architecture solutions. TXSeries for Multiplatforms V7.1 extends and enhances the next generation of distributed CICS across a number of platforms and introduced IPIC-based inter-connectivity along with channels and containers for improved interoperability with CICS TS. For further details on TXSeries for Multiplatforms V7.1, refer to Software Announcement [209-040](#), dated March 17, 2009.

CICS TS V4.1 delivers important new functionality that can help you to build flexible and agile application systems that enable your business to be more responsive to the changing needs of your customers and partners. To help you to reap immediate benefit from these advanced capabilities, the IBM System z tools portfolio is keeping pace, and all key products will either support CICS TS V4.1 without change or will deliver enabling PTFs or new releases, in most cases providing Day 1 support.

IBM System z tools help you to modernize and transform existing CICS applications, whether your goal is to develop and deploy new workloads to leverage the unique performance, availability, security, and cost benefits of System z; to increase your responsiveness to business requirements by modernizing your mainframe platform;

or to optimize management of your IT environment, reducing cost and complexity while improving governance and compliance.

To help you to transform CICS TS into your SOA hub on System z, the IBM System z tools deliver support right across the life cycle whether you are building new applications or reusing existing applications. For CICS application developers, IBM Rational Developer for System z provides a single integrated development environment (IDE) for all supported languages and architectural styles, whether you are creating new CICS applications from scratch or are wrapping, refactoring, or otherwise reusing your CICS application assets.

Developers can also use CICS Performance Analyzer for z/OS (CICS PA) to understand the performance of new or changed CICS applications and to identify performance improvements, including the benefits of running applications in threadsafe mode prior to deployment. This helps to get the most benefit from your CICS application investments with reduced risk. CICS IBM Interdependency Analyzer for z/OS (CICS IA), IBM Rational Studio Asset Analyzer, and IBM Asset Transformation Workbench (ATW) help you to understand the structure of your most complex applications, for example to determine which programs can most easily be refactored as Web services. IBM Host Access Transformation Services (HATS), on the other hand, enables developers to expose existing 3270 applications as Web services.

System z tools support the IBM Service Management initiative to help you to optimize your IT infrastructure and key service management processes, such as those defined by the IT Infrastructure Library® (ITIL®), as well as delivering a new Discovery Library Adapter to further identify CICSplex SM configuration items for use in ITL processes. For example, CICS PA and IBM Tivoli OMEGAMON® XE for CICS on z/OS can work together to provide detailed CICS metrics that help to diagnose performance-related problems in the problem management process, and to provide performance trend information for the capacity management process. CICS Batch Application Control for z/OS (CICS BAC) and IBM File Manager for z/OS provide automation and flexibility to the task of sharing CICS resources with batch systems, thus helping to improve system availability.

The need for governance and compliance is a requirement in business, but recent regulatory legislation such as the Sarbanes-Oxley Act has made it even more relevant to the business of IT. IBM System z tools can help to implement compliance-related initiatives. For example, CICS Configuration Manager for z/OS (CICS CM) can be used to automate and manage CICS configuration changes in a controlled and authorized manner, and CICS VSAM Recovery for z/OS (CICS VR) can help to maintain the integrity of VSAM data. Clients subject to strict PCI (and other data governance) requirements can convert CICS and batch VSAM files to DB2, and encrypt sensitive data using a combination of CICS VSAM Transparency and IBM Data Encryption Tool for DB2 without needing to make any application program changes.

WebSphere ILOG Rules for COBOL is part of the WebSphere Business Rules Management System that accelerates the adoption of agile business models on the CICS platform. ILOG Rules for COBOL enables you to define and externalize business decision logic in CICS COBOL applications, and make this logic accessible and manageable by line of business experts and analysts, while preserving the stability of your core CICS applications infrastructure. For further details on ILOG Rules for COBOL, refer to Software Announcement [209-113](#), dated April 28, 2009.

CICS seminars

IBM offers free customized CICS seminars delivered by CICS technical experts, at your own location and with the opportunity to choose the topics and time. Given to a mixture of personnel involving operations, development, and strategy, this can provide an effective discussion on how CICS can deliver real value to your business. Ask your IBM Account Team to contact

cicssem@uk.ibm.com

SmoothStart/installation services

IBM Services has the breadth, depth, and reach to manage your services needs. You can leverage the deep technical skills of our WebSphere lab-based services and the business consulting, project management, and infrastructure expertise of our IBM Global Services team. Also, IBM Services extends our reach through IBM Business Partners to provide an unmatched portfolio of capabilities. Together, we provide the global reach, intellectual capital, industry insight, and technology leadership to support any critical business need.

For information on IBM Global Services, visit

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

To learn more about IBM Software Services, visit

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

To locate an IBM Business Partner, visit

<http://www.ibm.com/software/solutions/isv>

For services for CICS, refer to

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

IBM Software Announcements

A software announcement from IBM describes the content of a new version or release of a software product. A full product announcement will contain information such as overall description of the product, details of the functional content, availability date, and ordering information. The following software announcements are relevant to CICS TS V4.1:

For information on Application Performance Analyzer for z/OS V9.1, refer to Software Announcement [208-264](#), dated September 23, 2008.

For information on CICS Configuration Manager for z/OS V1.2, refer to Software Announcement [206-197](#), dated September 5, 2006.

For information on the CICS Explorer, refer to Software Announcement [208-248](#), dated August 5, 2008.

For information on CICS Online Transmission Time Optimizer for z/OS V1.2, refer to Software Announcement [109-321](#), dated April 14, 2009.

For information on CICS Performance Analyzer for z/OS V2.1, refer to Software Announcement [207-053](#), dated March 27, 2007.

For information on CICS Performance Analyzer for z/OS V3.1, refer to Software Announcement [209-086](#), dated April 28, 2009.

For information on CICS Transaction Gateway for Multiplatforms V7.2, refer to Software Announcement [208-348](#), dated November 4, 2008.

For information on CICS Transaction Gateway for z/OS V7.2, refer to Software Announcement [208-343](#), dated November 4, 2008.

For information on CICS Transaction Server for z/OS V3.2, refer to Software Announcement [207-051](#), dated March 27, 2007.

For information on CICS VSAM Recovery for z/OS V4.3, refer to Software Announcement [208-138](#), dated June 24, 2008.

For information on Debug Tool for z/OS V9.1, refer to Software Announcement [208-264](#), dated September 23, 2008.

For information on Enterprise PL/I for z/OS V3.8, refer to Software Announcement [208-365](#), dated October 28, 2008.

For information on Fault Analyzer for z/OS V9.1, refer to Software Announcement [208-264](#), dated September 23, 2008.

For information on File Manager for z/OS V9.1, refer to Software Announcement [208-264](#), dated September 23, 2008.

For information on IBM 31-bit SDK for z/OS, Java Technology Edition, V6, refer to Software Announcement [207-318](#), dated December 4, 2007.

For information on IBM Rational Developer for System z V7.5, refer to Software Announcement [208-375](#), dated October 7, 2008.

For information on IBM Rational Host Access Transformation Services V7.0, refer to Software Announcement [207-032](#), dated February 27, 2007.

For information on TXSeries for Multiplatforms V7.1, refer to Software Announcement [209-040](#), dated March 17, 2009.

For information on WebSphere Application Server V7.0, refer to Software Announcement [208-266](#), dated September 9, 2008.

For information on WebSphere ILOG Rules for COBOL, refer to Software Announcement [209-113](#), dated April 28, 2009

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 V4.1, refer to

<http://www.ibm.com/cics/tserver/v41>

The CICS support Web page can be used to search for terms, phrases, error codes, and APAR numbers

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

CICS SupportPacs

The following SupportPacs have been introduced and/or updated at the CICS SupportPac Web page

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg27007241>

CA1N: CICS Support for the WebSphere Service Registry and Repository

CA1P: CICS Web Services Samples

CA1R: CICS Explorer SDK

CA1S: REST support in CICS using PHP

CA8K: Delivering Atom feeds from CICS

CB11: CICS Events for WebSphere Business Events (WBE)

CH1C: Service Flow Feature - Service Flow Examples

CS04: WSBind File Display and Change Utility

CS05: CICS TG plug-in for the CICS Explorer

CS1I: CICSplex SM IP Connector Utility

CS1J: CICS Explorer for use with CICS TS V3 (Microsoft® Windows®)

CS1N: CICS tools plug-ins for use with CICS Explorer

CS1O: CICS Explorer for use with CICS TS V3 (Linux)

CS1Q: CICS Explorer - WebSphere MQ Explorer integration

Program number

Program Name	VRM	Program Number
CICS Transaction Server for z/OS	410	5655-S97

Integrated tools for CICS products

CICS Interdependency Analyzer

CICS Interdependency Analyzer (CICS IA) customers, using the CICS Explorer with the CICS IA plug-in (available in SupportPac CS1N), are able to intuitively query CICS relationship data, manage queries and navigate through complex application relationships from a standard interface. The CICS IA plug-in integrates with other CICS Explorer perspectives, for example, to click on a transaction in a CICS PA bar chart and immediately see its dependencies, relationships, and affinities.

CICS Performance Analyzer

CICS Performance Analyzer (CICS PA) customers can now analyze the performance of their CICS applications in the CICS Explorer, by importing performance extract files that are created using standard CICS PA TSO jobs. These extract files can be visualized in the CICS Explorer in a number of ways, including spreadsheet views, with sortable, re-orderable columns, bar chart views, and pie chart views. Various performance task scenarios, including threadsafe, response time, storage, and file analysis. Customers who also have CICS IA, can link in context, for example from a CICS PA view showing transactions with large numbers of Task Control Block (TCB) switches, to a CICS IA view showing the programs that comprise the transaction.

CICS Configuration Manager

CICS Configuration Manager (CICS CM) customers can now access many product capabilities using a plug-in for the CICS Explorer (available in SupportPac CS1N), including the ability to search and query all CICS resource definitions whether stored in CSDs or the CICSplex SM repository. Rich editors are provided allowing new definitions to be created or existing ones updated, while hiding much of the complexity previously experienced by users. The CICS CM capabilities are seamlessly integrated with the CICS Explorer views to provide powerful editing and auditing capabilities transparent to the user.

CICS Transaction Gateway

With the delivery of CICS Transaction Gateway (CICS TG) for z/OS V7.2 and CICS TG for Multiplatforms V7.2, in December 2008, CICS TG customers can now use a new Java API for systems monitoring, giving access to CICS TG runtime statistics from remote Java clients. This API is now used by a new CICS Explorer plug-in (available in SupportPac CS05) to provide view of the status and activity of Gateway daemons running on the z/OS platform and the connections between CICS servers and the Gateway daemons.

IBM Rational Developer for System z

IBM Rational Developer for System z enables business flexibility to design and construct traditional CICS applications while extending and integrating those applications to SOA-based composites quickly and efficiently. IBM Rational Developer for System z is provided with an embedded version of the CICS Explorer and adds support for CICS TS V4.1, including the ability to create application components, work with events, including creating and editing event specifications, deploy bundles, and create new Web 2.0 style RESTful services.

When IBM Rational Developer for System z is used with the IBM Software Development Platform, developers can extend processing to meet a broad range of requirements, including change management with such tools as IBM ClearCase® or

IBM Rational Team Concert for System z, and testing tools such as IBM Debug Tool, IBM Fault Analyzer, and IBM File Manager. All of these products can be integrated into a single development environment usable directly from the IBM Rational Developer for System z environment or IDE.

IBM Rational Developer for System z offers two products that provide additional flexibility:

- IBM Rational Developer for System z with Enterprise Generation Language (EGL) for an end-to-end development environment able to create next-generation EGL Rich UI Web 2.0 style interfaces connecting to CICS TS V4.1.
- IBM Rational Developer for System z with Java for a complete development workbench for both Java Enterprise Edition and CICS TS V4.1 applications.

Enterprise Generation Language support in CICS

CICS customers can use tools that support the Enterprise Generation Language (EGL) Rich User Interface, such as IBM Rational Developer for System z with EGL. These make it possible to modernize existing CICS applications or create powerful Web 2.0 applications that can interact with CICS using Web services, RESTful interfaces and Atom feeds. These applications will increase the amount of information and flexibility for end users through the delivery of powerful graphical interfaces and their ability to interact with CICS-based COBOL, PL/I, C, C++, Java, PHP as well as EGL "back end" business processes.

OMEGAMON XE for CICS

Customers with OMEGAMON XE for CICS or OMEGAMON XE for CICS TG will be able to use a plug-in with CICS Explorer that will be available on the Tivoli OPAL web site. This will provide for more integration of performance related data between the CICS Explorer and the Tivoli Enterprise Portal for operations and problem resolution capabilities. The user will now have a broad reach and range of information to view both monitoring and situation (alert) information collected by these products. For more information visit

<http://www.ibm.com/tivoli/opal>

Stabilization of support and discontinued functions

Some functions that were supported in CICS TS V3.2 have been stabilized, reduced in scope, or discontinued in this latest release of CICS TS.

Removal of support for selected versions of Java

In CICS TS V4.1, support for IBM Java SDK Version 1.4.2 and IBM Java SDK Version 5 is withdrawn. Customers should upgrade to IBM SDK for z/OS, Java Technology Edition, V6, Service Refresh 4 (SR4), provided with this version of CICS TS.

Enterprise Java Bean support

CICS TS V4.1 support for session beans using the Enterprise Java Bean (EJB) 1.1 specification and the associated CICS EJB Server components are stabilized. It is IBM's intention to discontinue support for session beans in a future release of CICS TS. Customers are encouraged to migrate these applications to be Java SE components and make them available through Web services or the JEE Connector Architecture (JCA). CICS continues to support Java as a first class application programming language for CICS applications, including enhancements to the CICS Java class library JCICS and support for Java 6.

REXX for CICS support

In CICS TS V4.1, REXX™ language features are stabilized and REXX for CICS continues to be enhanced for new CICS programming interfaces.

Removal of support for the DFHCS DUP MIGRATE command

In CICS TS V4.1, support for the DFHCSDUP MIGRATE command is withdrawn.

Removal of support for Enterprise Work Load Manager

In September 2008, IBM TechNote 1305697 announced the end of support for Enterprise Work Load Manager (EWLM) in CICS TS V3.2 and CICS TG for z/OS V7.1. Similarly, CICS TS V4.1 does not support EWLM.

Removal of support for SOAP for CICS feature

In CICS TS V4.1, support for the SOAP for CICS feature is withdrawn. Customers should upgrade to the Web services capabilities provided as part of CICS TS V3, or later.

Removal of CICS Application Migration Aid V1.1

In CICS TS V4.1, CICS Application Migration Aid V1.1 is no longer available as an element of CICS TS. Historically, this was used to provide assistance to upgrade from CICS macro-level API to command-level API.

CICS Service Flow Feature

CICS TS V4.1 includes support for business services through the service flow runtime capability, described in section [Key functions delivered](#) and section [Planning information](#). This integrated capability of the CICS TS V4.1 runtime is fully compatible with the CICS Service Flow Feature V3.2. Customers upgrading to CICS TS V4.1 may use the integrated support for business services in this release as a direct replacement for the CICS Service Flow Feature V3.2.

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. Note also that courses or course codes and titles might change.

- **CICS Fundamentals** (worldwide course code WM800). 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 Basic Tailoring** (worldwide course code WM810). This course is intended for systems programmers who will be installing and tailoring CICS TS.
- **CICS Additional System Programming Topics** (worldwide course code WM820). This course is designed to teach experienced CICS system programmers the more advanced resource definition and tailoring skills needed to fully leverage the many features available in today's CICS environments. This course teaches topics including troubleshooting, configuration and tailoring, planning for recovery, and tailoring CICS support for Web services.
- **CICSplex System Manager Introduction** (worldwide course code WM840). This course teaches students the concepts and facilities of CICSplex System Manager.
- **CICSplex System Manager Administration** (worldwide course code WM850). This course builds upon the foundation established in WM840 and teaches students how to install, configure, and manage a CICSplex environment using CICSplex System Manager.
- **CICS Command Level Coding** (worldwide course code WM860). This course teaches students to design, code and debug CICS Command Level application programs.
- **CICS Advanced Application Development for SOA and Web Services** (worldwide course code WM870). This course teaches students how to design, code, and debug CICS application programs that utilize CICS Web support and Web services facilities.

For additional information, or to check for the latest updates, visit the IBM Education Web page at

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

Select your country to view the available offerings. This site has links to descriptions for 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, call IBM Education at 800-IBM-TEACH (426-8322) for additional details or to enroll in a course.

Business Partner information

If you are a Direct Reseller - System Reseller acquiring products from IBM, you may link directly to Business Partner information for this announcement. A PartnerWorld ID and password are required (use IBM ID).

<https://www.ibm.com/partnerworld/mem/sla.jsp?num=209-135>

Specified operating environment

Hardware requirements

Processors

The basic requirement is a processor that supports the prerequisite operating system and has sufficient processor storage to meet the requirements of the operating system, CICS TS V4.1, the application programs, the access methods, and all other software being run.

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.

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 System z cryptographic hardware is required. For System z 800 and 900, this hardware is the Cryptographic Coprocessor Feature and the PCI Cryptographic Coprocessor. For System z 890, 990, z9™ and z10, it is the CP Assist for Cryptographic Functions and the Crypto Express 2 coprocessor.

Katakana Terminal Devices

CICS has to issue certain messages in mixed-case, therefore 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: For additional information on software requirements, refer to the *Program Directory* (GI13-0536). For online information, click on *Detailed system requirements* under *Planning upgrades* on the **CICS Support Page**.

<http://www.ibm.com/software/hcp/cics/tserver/support/>

Operating environment

- z/OS (5994-A01) V1.9, or later is required. CICS TS V4.1 will not initialize in an environment with a lower level of operating system installed.
 - If used with z/OS V1.9, PTF for APAR OA19565 is required.
 - Ensure that the following APARs are applied: OA20352, PK45354, OA20343, OA19958.
 - If used with WebSphere MQ for z/OS V6.0, then the following APARs are required: PK38772, PK42616.
- The IBM SDK for z/OS, Java Technology Edition, V6, Service Refresh 4 (SR4) is required for use of Java application programs, enterprise beans, or the CICS Web services assistant.
 - The IBM SDK for z/OS is available, without charge, on tape or by download from

<http://www.ibm.com/servers/eserver/zseries/software/java/>

Note: The IBM 64-bit SDK for z/OS, Java 2 Technology Edition, Version 1.4 (5655-M30), is not supported. Also, IBM 31-bit SDK for z/OS, Java 2 Technology Edition, V5 (5655-N98), is not supported.

For developing Java programs, a suitable integrated development environment (IDE) is required, such as IBM Rational Developer for System z V7.5. A trial copy of IBM Rational Developer for System z V7.5 is shipped with this release of CICS TS. This unsupported trial copy can be used to gain experience of the advantages of a fully functional mixed language application development environment at no additional charge. A IBM Rational Developer for System z trial download Web site is available at

<http://www.ibm.com/developerworks/downloads/r/rdz/>

For developing enterprise beans one of the following IDEs is recommended:

- IBM Rational Developer for System z V7.5
- IBM Rational Application Developer for WebSphere Software V7.0

The packaging application (Application Server Toolkit) provided with WebSphere Application Server V6.0, or WebSphere Application Server V6.1 can also be used for the deployment of enterprise beans.

CICS TS V4.1 will interoperate with supported levels of WebSphere Application Server (any platform) V6.0, or later. This applies directly for customers using RMI/IOP or SOAP, and applies to CICS Transaction Gateway (CICS TG) V6.0, or later for those using JCA. It includes use of the SOAP for CICS feature.

The following levels of other products are supported for use during the service period of CICS TS V4.1:

- IBM IMS Database Manager V8 (5655-C56)
- IBM IMS Database Manager V9 (5655-J38)
- IMS Database Manager V10 (5635-A01)
- IBM DB2 Universal Database™ Server for OS/390® V7.1 (5675-DB2)
- WebSphere MQ for z/OS V5.3 (5655-F10)
- WebSphere MQ for z/OS V6.0 (5655-L82)
- WebSphere Business Events V6.1.0.1 (5724-U90), or later
- WebSphere Business Monitor V6.1 (5724-M24), or later
- IBM Tivoli Decision Support for z/OS (5698-A27) V1.7, with PTF for APAR PK39321
- IBM Tivoli Business Systems Manager V3.3 (toleration support only)
- IBM Tivoli Federated Identity Manager V6.1.1
- IBM Tivoli Composite Application Manager for SOA V6.1
- IBM Tivoli Composite Application Manager for WebSphere V6.1
- The IBM Tivoli Composite Application Manager for SOA product provides monitoring and management of Web services in different environments, and has been enhanced to provide support to monitor CICS Web services. This enhancement added support to consume the data from the WebSphere Registry and Repository and publish into a database. This publishing provides the ability to compare the services that are observed in the environment to the services defined by WebSphere Registry and Repository. IBM Tivoli Composite Application Manager for SOA also provides a mechanism to forward the status events of the Web services to WebSphere Registry and Repository, providing a view of the operational status of Web services in the WebSphere Registry and Repository.
- CICS Universal Client V6.0, or later
- CICS TG for Multiplatforms V6.0, or later
- CICS TG for z/OS V6.0, or later

Note: From V6.0 onwards, this is two products: CICS TG for Multiplatforms and CICS TG for z/OS.

CICSplex SM Web User Interface

The CICSplex SM Web User Interface can be used with Web browsers that support HTML V4. IBM has validated the use of the CICSplex SM Web User Interface with these browsers:

- Microsoft Internet Explorer 6.x to 7.0
- Mozilla Firefox 2.x to 3.0

The CICS Explorer

The CICS Explorer is supported on the following platforms:

- Microsoft Windows Vista
- Microsoft Windows XP (32-bit)
- Microsoft Windows Server 2003 and 2008 (32-bit)
- Red Hat Enterprise Linux V5 (Intel®) (32-bit)

Details relating to service and support for the CICS Explorer are available at

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg21380083>

Information Center

The Information Center can run locally on a workstation, or run on a server with remote access using a browser. This is supported on the following platforms:

- IBM AIX® V5.3 and V6.1 (64-bit)
- Microsoft Windows Vista
- Microsoft Windows XP (32-bit)
- Red Hat Enterprise Linux V5 (Intel) (32-bit)

For best results, view the Information Center using one of the following browsers:

- Microsoft Internet Explorer 6.x, or later
- Mozilla Firefox 1.x, or later

PDF files shipped with the Information Center can be read using Adobe Acrobat Reader 5.0, or later, but Adobe Acrobat Reader 6.0, or later, is necessary to benefit from the accessibility features introduced in Adobe Acrobat Distiller 6.0.

Note: For accessibility purposes, screen readers might impose restrictions on browser choice.

System z tools (including CICS tools)

For information on these, refer to the [Functions delivered by theme](#) section.

Compatibility

Event processing in CICS

Existing users of SupportPac CB11, CICS Events for WBE, are advised to use the new non-invasive mechanism for emitting events from CICS to WebSphere Business Events in CICS TS V4.1. Any new events should use this new mechanism, and consideration should be given to changing events that are currently emitted using the SupportPac to gain benefit from the additional flexibility and performance offered by the new support.

JVM modes in CICS

Support for Java programs using resettable mode was removed in CICS TS V3.2. Programs must use continuous mode, support for which was introduced in CICS TS V2.3, bringing CICS use of Java into line with standard practices.

When moving applications from a resettable mode JVM to a continuous mode JVM, static variables are no longer reset automatically, so programs that rely on this behavior must be changed. To assist in this, SupportPac CH1B, CICS JVM Application Isolation Utility, was introduced in May 2006. This is a code analyzer that inspects Java bytecodes in class or jar files and reports on their use of static variables and the methods in which they are modified. (For more information on CICS SupportPacs, refer to *CICS SupportPacs* in the [Reference information](#) section).

SOAP for CICS feature

In CICS TS V4.1, support for the SOAP for CICS feature is withdrawn.

BookManager publications

CICS documentation is no longer published in BookManager® Book format. Customers are recommended to use the Information Center as detailed in the 'Information Center and publications' section.

For previous levels of CICS TS that are still in service, the documentation that has previously been licensed will be included in an unlicensed Information Center at the next refresh cycle.

Web services assistant

WSBind files created using the Web services assistant of CICS TS V3 (including the Web services assistant for Microsoft Windows, SupportPac CA71) can be deployed into a CICS TS V4.1 region. However, users of CICS TS V4.1 creating new WSBind files are recommended to use the Web services assistant of CICS TS V4.1, which allows exploitation of the new features of this release.

CWI COMMAREA interface removal

The support for passing HTTP requests and responses by means of COMMAREAs between applications and CICS will be removed in a future release of CICS TS. This mechanism, 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 upgraded to use the EXEC CICS WEB commands designed for HTTP server applications.

DFHWBCLI COMMAREA interface removal

The DFHWBCLI function, introduced to provide outbound HTTP support, will be withdrawn in a future release of CICS TS. Consideration should be given to upgrading applications that link to DFHWBCLI to use the CICS Web Support EXEC CICS WEB SESSTOKEN() commands for HTTP client applications, made available in CICS TS V3.1.

Web server plug-in removal

The CICS WebServer plug-in, DFHWBAPI, 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, through the EXCI, into CICS Web support using the CICS business logic interface. Affected users are recommended to upgrade, to use CICS Transaction Gateway.

ONC RPC removal

CICS support for Open Network Computing Remote Procedure Call (ONC RPC) clients will be removed in a future release of CICS TS. IPv6 support has not been provided for this protocol. It is recommended that access to CICS be performed using CICS support for Web services.

Application programming summary

The following tables give information on applications written in COBOL, PL/I, C/C++, Java, and Assembler.

COBOL compilers

Product name	Program number	CICS translator support	CICS TS support	V4.1 run-time support **
* OS/VS COBOL	5740-CB1 5734-CB4 5470-LM1	No		No #
* VS COBOL II	5668-022 5668-023 5668-958	Yes		Yes @
* SAA® AD/Cycle® COBOL/370™	5688-197	Yes		Yes
* COBOL for MVS and VM V1	5688-197	Yes		Yes
* COBOL for OS/390 and VM V2.1	5648-A25	Yes		Yes
* COBOL for OS/390 and VM V2.2	5648-A25	Yes +		Yes
* Enterprise COBOL for z/OS and OS/390 v3.1 to v3.4	5655-G53	Yes +		Yes
Enterprise COBOL for z/OS V4.1	5655-S71	Yes +		Yes

Will not execute

@ VS COBOL II run-time not supported; must use Language Environment.

+ COBOL compiler provides support for CICS integrated translator run-time.

PL/I compilers

	Program number	Translator support	Run-time support **
* OS PL/I V1.5	5734-PLI 5734-LM4	No	No
* OS PL/I V2.3	5668-909 5668-910 5668-911	No	No
PL/I for MVS and VM	5688-235	Yes	Yes
* VisualAge PL/I for OS/390 V2.2	5655-B22	Yes +	Yes
* Enterprise PL/I for z/OS and OS/390 v3.1 & v3.2	5655-H31	Yes +	Yes
Enterprise PL/I for z/OS and OS/390 v3.3 to v3.6	5655-H31	Yes +	Yes

+ PL/I compiler provides support for CICS integrated translator.

C and C++ compilers

Product name	Program number	CICS translator support	CICS TS V4.1 run-time support **
* C/370 V1	5688-040	No	No
C/370 V2	5688-039 5688-187 5688-188	No	No
* SAA AD/Cycle C/370 V1.1	5688-216	Yes	Yes
SAA AD/Cycle C/370 V1.2	5688-216	Yes	Yes @
* C/C++ for MVS/ESA V3.1	5655-121	Yes	Yes
C/C++ for MVS/ESA V3.2	5655-121	Yes	Yes
OS/390 V1.1 C/C++	5645-001 #	Yes	Yes
* OS/390 V1.2 & V1.3 C/C++	5645-001 #	Yes	Yes
* OS/390 V2.4 to V2.9 C/C++	5647-A01 #	Yes	Yes
OS/390 V2.10 C/C++	5647-A01 #	Yes	Yes
z/OS V1.1 to V1.6 C/C++	5694-A01 #	Yes	Yes
z/OS V1.7 & V1.8 XL C/C++	5694-A01 #	Yes +	Yes

+ C/C++ compiler provides support, with required PTF, for CICS integrated translator

@ C/370™ run-time library not supported; must use Language Environment® run-time

A component of this operating system

Java

Product name	Program number	Bytecode compilation	CICS TS V4.1 run-time support
IBM 31-bit SDK for z/OS, Java 2 Technology Edition, V1.4	5655-I56	Yes +	No
IBM 31-bit SDK for z/OS, Java 2 Technology Edition, V5	5655-N98	Yes +	No
IBM 31-bit SDK for z/OS, Java Technology Edition, V6	5655-R31	Yes	Yes

+Most Java application bytecodes that executed on SDK for z/OS, Java 2 Technology Edition, V1.4 are expected to run unchanged on the IBM SDK for z/OS Java Technology Edition, V6, provided that they do not use deprecated Java 2 SDK V1.4 APIs or new API keywords. Additionally, in some cases, because of a small number of incompatibilities introduced industry wide between Java 2 SDK V1.4 and SDK V5 APIs, some applications might have to change. For more details on Java byte code compatibility, refer to

<http://java.sun.com/javase/6/webnotes/compatibility.html>

Assembler compilers **

Product name	Program number	CICS translator support	CICS TS V4.1 run-time support
* High Level Assembler for MVS and VM and VSE V1.1 to V1.4	5696-234	Yes %	Yes
High Level Assembler for MVS and VM and VSE V1.5	5696-234	Yes %	Yes

By CICS are still supported.

% Application assembly language modules can run as Language Environment MAINs fully within the scope of Language Environment run-time, if translated with LEASM option

For further information, refer to the paper *Language Environment within CICS TS: Questions and Answers*, at

ftp://service.boulder.ibm.com/software/http/cics/PDF/le_qa.pdf

Performance considerations

The following performance improvements have been observed when executing workloads on CICS TS V4.1 region(s) in a controlled test environment:

- **Optimized use of MVS timer services:** When compared with CICS TS V3.2, a traditional workload consisting primarily of COBOL programs accessing VSAM data running in CICS TS V4.1 provided better performance characteristics, including between 1% to 5% CPU reduction, due to optimizations in the use of MVS timer services. The saving varied according to the frequency the MVS timer service IEATTUSD was used by CICS when executing the workload on IBM System z9 and z10.
- **Faster XML processing:** When compared with CICS TS V3.2, a workload consisting of Web services connectivity running in CICS TS V4.1 showed a reduction in the CPU time used to parse XML messages due to CICS utilizing the z/OS XML System Services parser. In addition, some aspects of XML processing can now be off-loaded from general processors to IBM System z Application Assist Processors (zAAP) possibly giving performance and cost benefits.
- **Improved capacity and faster intersystems connectivity:** When compared to workloads currently using LU6.2 and VTAM for transaction routing or Dynamic Program Link (DPL), CICS TS V4.1 showed a reduced response time and overall CPU usage by migrating to TCP/IP and the IPIC functionality. In addition, the migration to TCP/IP can provide further performance improvements due to capabilities in the System z networking infrastructure including gigabit network exploitation provided by OSA-Express and the zIIP-Assisted HiperSockets™ available in IBM z/OS V1.10. In addition CICS TS V4.1 users also migrating to IBM z/OS V1.11 can benefit from improved performance for wide area networks through dynamic tuning of the TCP window's size. For further details on IBM z/OS V1.10, refer to Software Announcement 208-186, dated August 5, 2008. For further details on IBM z/OS V1.11, refer to Software Announcement 209-029, dated February 24, 2009.
- **System z9 and z10 hardware:** Users that upgrade to CICS TS V4.1 could see a reduction in CPU per transaction for those applications running on IBM System z9 or z10 due to the exploitation of new hardware.
- **Throughput improvements with CICSplex SM Work Load Management:** Users who exploit the CICSplex SM Work Load Management component should see throughput improvements, particularly for distributed workload requests when exploiting the new sysplex optimised workload management facilities.
- **Improved efficiency and resilience management:** Users of the CICSplex SM APIs, CICS Management Client Interface (new in this release), Web User Interface (WUI) and CICS Explorer should see benefits from more efficient and resilient management, with the introduction of CICSplex SM Topology changes that now track more resource types, and provide customisable limits on the number of resources to be returned to the requestor. This reduces cycles and dataspace consumption, including backing storage.

Further performance information is available in the Performance Guide (SC34-7033), from general availability. In addition, at a later date, a performance report will be available on request from your IBM representative.

User group requirements

Requirements from the worldwide user group communities satisfied or partially satisfied by enhancements in CICS TS V4.1 include the following:

CICS TS Requirements

Requirement number	Description	Partially addressed?
MR00022971	RACF Info via ACEE not updated in AOR after Signon	
MR00062326	Provide a way to refresh ACEEs in remote regions	
MR00064475	Include GMT and ZONEOFFSET options with ASKTIME and FORMATTIME	
MR00069405	Provide new "nocache" operand on CESF LOGOFF transaction	
MR00072828	Groupnamefield additional in each CICS-Resource-Table	
MR00076307	CICS Web CWI Send of HTTP not deferred	
MR0131032613	There is currently no easy way of identifying where a CICS resource was installed from	
MR0226071636	Provide PING for TCP/IP connections	Y
MR0321051552	CICS Timestamp Granularity	
MR0325032537	INQUIRE CONNECTION CICS	Y
MR0331081514	CICS Web services support for WSDLs generated by RD/z	
MR042707637	Ability to remove a userid from userid table before USRDELAY expires	
MR042805341	Reverify for CICS (RACF 2004-XX)	
MR0506051713	VTAM Persistent Session capability in CICS	
MR0521086621	Store and display USERID (for creates or changes on) the CSD file	
MR052406477	DFHSO0106 occurs during CICS initialization when regions use same port	
MR0524064943	TCPIPService definition install message during region startup	
MR0524075847	Extra MIPS consumed when processing a web service/incoming XML document	
MR0527032938	Extension to EXEC CICS FORMATTIME	
MR0611034916	Move of DBCTL and MQ subsys names to RDO	Y
MR0621072748	DFHSO0106 occurs during CICS initialization when regions use same port	
MR0627083359	CICS to facilities XML parsing	
MR0628062313	DB2Entry AUTHTYPE(REGIONID) Parameter	

MR0707064040 DFHEX0002 does not provide enough information as to which region or transaction is involved in the failure

MR0721085847 CICS outbound webservice use of URIMAPS

MR0825084210 Dynamic refresh of RACF user ID that sign-on remotely

MR0909036654 CICS needs greater time precision for ASKTIME/ABSTIME

MR0912075644 Delete function to remove a user from the CICS user table

MR0917076350 Add remote sysid to transaction inquiry via CEMT

MR0923034030 CKQC Transaction should not abend even the length of input message is wrong

MR092705360 Allow definition of percentile GOALS for CICS

MR0929033729 Record CSD Group Name with Resource

MR1014086929 Minor CICS System Dump Formatter Enhancement

MR1016076438 Prevent abend loops between CICS and LE

MR1018071325 Displaying recovery info on a CICS non-COLD restart

MR1025041503 CICS needs greater time precision for ASKTIME/ABSTIME

MR1029083846 Improvements to starting MQ by linking to DFHMQQCN

MR1109054726 MQ CICS Queue Sharing Name

MR111901534 MQ GROUP ATTACH

MR1119071445 Subtypes and complex type in WSDL's does not work with CICS WS Y

MR1119085814 Output handling in CICS Web documents enhancements

MR1120015532 Ability to run a POSIX(ON) C program from CICS

MR1123075656 DFHCSDUP should provide capability to add groups to lists in a particular order

MR1206013452 CICS NEEDS GREATER TIME PRECISION FOR ASKTIME/ABSTIME

MR1207076827 CICS TS 3.2 Translator is working differently than Enterprise COBOL 3.4.1 compiler

MR1210022147 Unescaped characters returned on querystring

MR1210072729 Delete function to remove a user from the CICS user table

MR1219081345 Message and dump when CICS QR TCB's ESTAE driven for cleanup

CICSplex SM requirements

Requirement number	Description	Partially addressed?
MR0430044531	Ability to configure CICSplex SM MASY heartbeat interval.	Y
MR0502004844	CPSM exception trace layout and types	Y
MR0613062854	CPSM Exception Trace Layout and Types	Y
MR0708053058	Allow CPSM TOR router to specify the WLM task load threshold percentage for determining link weight	Y
MR1016033620	Ability to configure CICSplex SM MAS heartbeat interval	Y
MR1108044950	CPSM Exception Trace Layout and Types	Y

Planning information

Elements included in CICS TS V4.1

The base CICS element of CICS Transaction Server for z/OS V4.1 is CICS V6.6.

The CICSplex System Manager element is CICSplex SM V4.1.

Other elements of CICS TS V4.1, that were previously available as separate IBM products, are:

- CICS REXX Runtime Facility
- CICS REXX Development System
- CICS REXX Common for z/OS

CICS TS V4.1 is shipped with CICS Service Flow Runtime, previously only available as a separately orderable feature, which allows the deployment of CICS business services (or service flows) created by the Service Flow Modeller component of IBM Rational Developer for System z V7.5. The service flow runtime capability of CICS TS V4.1 is fully compatible with CICS Service Flow Feature V3.2. Customers upgrading to CICS TS V4.1 might use the integrated support for business services in this release as a direct replacement for CICS Service Flow Feature V3.2.

Shipped with this product as a marketing promotion is a media pack with a trial license for IBM Rational Developer for System z, V7.5 (LK4T-2623). IBM Rational Developer for System z is not part of CICS TS and is not required to use CICS TS, but does provide several productivity enhancing tools for developers and system programmers, including complete integration with the CICS Explorer. IBM Rational Developer for System z is a workstation-based integrated development environment (IDE) that helps developers create dynamic Web, Web 2.0, and traditional CICS applications all from the same desktop tool. It includes support for Java Enterprise Edition (JEE), XML, and Web services technologies that can integrate IBM Rational and WebSphere software, and traditional transactional environments, including CICS, IMS, and Batch systems. IBM Rational Developer for System z promotes the reuse and transformation of existing CICS applications, and supports Java, COBOL, PL/I, C/C++, Assembler, REXX, JCL, and Enterprise Generation Language (EGL) development. A IBM Rational Developer for System z trial download Web site is available at

<http://www.ibm.com/developerworks/downloads/r/rdz/>

CICS Application Migration Aid V1.1 is no longer provided as a separate element of CICS TS V4.1.

Physical delivery

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

- CICS TS V4.1 hardcopy publications:
 - Program Directory (GI13-0536)
 - Memo to Licensees (GI13-0537)
 - What's New (GC34-6994)
- Licensing material:
 - CICS Transaction Server for z/OS V4.1: Licensed Program Specifications (GC34-7040)
 - CICS Transaction Server for z/OS V4.1: Non-IBM License (GC34-7074)
 - Note that the IPLA licensing material for IBM Rational Developer for System z V7.5 is included with this trial copy (GC34-7042)
 - IBM Rational Developer for System z V7.5: Proof of Entitlement (GC34-7043)
 - CICS tools trial flyer (GI13-0538)
 - CICS portfolio products flyer (GI13-0542)
- CD-ROM: CICS Information Center for Microsoft Windows (SK4T-2624)
- CD-ROM: CICS Information Center for Linux (SK4T-2626)
- CD-ROM: CICS Information Center for AIX (SK4T-2627)
- Subset of media pack: IBM Rational Developer for System z V7.5 trial kit (LK4T-2623)

Certain other items, such as specification sheets of related IBM products, might be included.

Electronic delivery

After general availability of CICS TS V4.1, customers can download and use a fully featured version of the CICS Explorer for CICS TS V4.1. A version of the CICS Explorer for CICS TS V3 customers is also to be made available as a no-charge optional feature. Further information about the CICS Explorer and how to download it can be found at

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

Security, auditability, and control

For information on security, refer to the *CICS Transaction Server for z/OS V4.1 RACF Security Guide*, (SC34-7003).

CICS TS V4.1 includes new enhancements in support of security, auditability and control. For details, refer to the [Description](#) section of this announcement. 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 English-only publication *CICS Transaction Server for z/OS Version 4 Release 1: What's New*, (C34-6994), is available now for free download, in PDF format, from the IBM Publications Center, at

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

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 upgrade, 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., Canada 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 through 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

Shipment will begin on the planned availability date.

- Orders that ship before the planned availability will receive CICS TS V3.2.
- Orders that ship after the planned availability date will receive CICS TS V4.1.

The ordering information for CICS Transaction Server for z/OS Version 4 (5655-S97) is unaffected by this announcement. However, The whole ordering information is repeated here for the convenience of users.

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: 5655 Model: S97

To order a basic license, specify the program number 5655-S97.

Specify option number 9001 for asset registration. Note that this registration is required even though delivery is by Customized Offerings (CBPDO and ServerPac).

Note that an order placed by the standalone path results in the shipment of the associated items but not of the machine-readable media. To receive machine-readable media, an order must be placed through the Customized Offerings.

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
S015H9T	CICS Transaction Server for z/OS V4.1	Basic MLC, PSLC below 3 MSU, SYSUSGREG NC, PSLC AD

Variable Workload License Charge (VWLC) 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.

Variable Workload License Charge (VWLC) Basic License

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

Entitlement identifier	Description	License option/Pricing metric
S015H9T	CICS Transaction Server for z/OS v4.1	Basic MLC, Variable WLC, Workload Registration

Entry Workload License Charge (EWLC) Basic License

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

To order EWLC software, specify the program number and the EWLC monthly charge option number from the following table. Also, specify the option number for the desired distribution medium.

Entitlement identifier	Description	License option/Pricing metric
S015H9T	CICS Transaction Server for z/OS v4.1	Basic MLC, Entry WLC

S/390® and System z Usage License Charge, basic license:

Specify the applicable S/390 and System z Usage License Charge option.

Charges will be based upon the Peak MSUs. Usage reported between thresholds of options 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:

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

Program name: CICS TS v4.1
Program ID: 5655-S97

Entitlement identifier	Description	License option/Pricing metric
S015H9T	CICS Transaction Server for z/OS v4.1	0 to 0.25 MSU Base 0.26 to 0.5 MSU Base 0.51 to 1.0 MSU Base Level A Chg/MSU (2 to 11 MSUs) Level B Chg/MSU (12 to 44 MSUs) Level C Chg/MSU (45 to 78 MSUs) Level D Chg/MSU (Above 78 MSUs)

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 option

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 option Order quantity 6 of the Level A 1 MSU option

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

Order quantity 1 of the "0.51 to 1.0 MSU" base option Order quantity 10 of the Level A 1 MSU option Order quantity 4 of the Level B 1 MSU option

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

Order quantity 1 of the "0.51 to 1.0 MSU" base option Order quantity 10 of the Level A 1 MSU option Order quantity 33 of the Level B 1 MSU option Order quantity 6 of the Level C 1 MSU option

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

Order quantity 1 of the "0.51 to 1.0 MSU" base option
Order quantity 10 of the Level A 1 MSU option
Order quantity 33 of the Level B 1 MSU option
Order quantity 34 of the Level C 1 MSU option
Order quantity 7 of the Level D 1 MSU option

System z entry license charge (zELC)

To order zELC software, specify the program number and z800 model. Also specify option number 9001 for asset registration.

Specify the zELC monthly license option.

Entitlement identifier	Description	License option/Pricing metric
S015H9T	CICS Transaction Server for z/OS v4.1	Basic MLC, zELC

Specify the zELC monthly charge option number. Also, specify the option number for the desired distribution medium.

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

Orderable supply ID	Language	Distribution Medium	Description
S015G3J	Japanese	3480 Tape Cartridge	CICS TS V4.1
S015G3H	Simplified Chinese	3480 Tape Cartridge	CICS TS V4.1
S015G3K	US English	3480 Tape Cartridge	CICS TS V4.1

Note: additional media type selections (3480 compressed, 3490E, 3590, and 3592) are offered during Custom Build Offering ordering.

Note that the base product as delivered includes messages and CICSplex SM Web User Interface (WUI) panels and online help translated to all of these languages. All languages exist on the same tape; the different orderables only affect the shipment of translated hardcopy publications together with the tapes.

The CICS Explorer is delivered by means of electronic download, as this component runs on distributed platforms, such as Microsoft Windows and Linux. National language support for the CICS Explorer, provided with the same download, includes Japanese and Simplified Chinese translation. Further information about the CICS Explorer and how to download it can be found at

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

Optional machine-readable material

To order, select the option number for the desired distribution medium:

Optional Source (excludes Object-Code Only modules)

Description	Orderable Supply ID
Optional Source (excludes Object-Code Only modules) - 3480 Tape Cartridge	S015G3S

IBM currently offers a set of source code modules as an optional no-charge feature of CICS Transaction Server for z/OS (CICS TS) V4.1. These source code modules comprise the latest version of the source code modules that are offered with CICS TS V3.2, together with certain new source code modules that were introduced with CICS TS V4.1 and are eligible for inclusion in the optional no-charge feature.

IBM does not intend, in future releases of CICS TS, to extend this set of optional no-charge source code modules. Licensed users of CICS TS should therefore not expect that IBM will offer new no-charge source code modules as part of this feature in any future CICS TS release.

Program Source Materials

Customers with access to View Program Listings (VPL), such as through S/390 SoftwareXcel, can use the VPL facility for online viewing of available program listings. Those customers without access to VPL can contact their IBM representative.

*Contains "RESTRICTED MATERIAL OF IBM"

Information Center and publications

Information Center

The Information Center is powered by Eclipse technology. It consists of an IBM Eclipse Help System, with the information for CICS TS V4.1 as a set of plug-ins. The Information Center can be run from the CD-ROM provided with the product, or it can be installed onto a workstation or server.

Information Center CD-ROMs are automatically shipped as part of the product:

- CICS Information Center for Microsoft Windows (SK4T-2624)
- CICS Information Center for Linux (SK4T-2626)
- CICS Information Center for AIX (SK4T-2627)

The Information Center can also be viewed, downloaded, or ordered on CD-ROM (for a fee) from the IBM Publications Center, at

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

The Information Center Readme and What's New sections are translated into Brazilian Portuguese, Japanese, Korean, Simplified Chinese and Spanish. The Upgrading section is also translated into Japanese, Korean and Spanish. Additional sections which might be translated at a later date can also be accessed in this way.

The translated content of the Information Center is also available with updates to the English language version from an Update Manager site. IBM refreshes the content of the Information Center on a regular basis. A user may obtain these updates directly from an installed Information Center using the Update Manager function, rather than reinstalling the entire Information Center from the supplied CD-ROM or by means of a download.

Information Center enhancements

The CICS TS V4.1 Information Center is upgraded to run on the IBM Eclipse Help System V3.4.1 level. As a result, the Information Center has a number of enhancements:

- An enhanced search engine and search result listing. The enhanced search engine returns results with a summary for each topic. Search results can also be grouped by product.
- Improvements to the user interface. These include new icons for the "Quick menu", which allows users either to search or print a topic or section of the navigation, a new icon to collapse all of the navigation, and a new icon to keep the navigation synchronized with the content when following hyperlinks.

In the CICS TS V4.1 Information Center, the CICS documentation has been enhanced to include the following:

- Additional learning path and scenarios section
- Navigation breadcrumb trail that appears at the top of each topic

The inclusion of all the documentation for CICS TS V4.1, in a single unlicensed Information Center (available as a CD-ROM and also online and by download from the Publications Center) makes for much easier availability of all information on CICS TS.

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
What's New (English)	GC34-6994
Licensed Program Specifications*	GC34-7040
Non-IBM License*	GC34-7074
Memo to Licensees*	GI13-0537
Program Directory	GI13-0536
CICS tool trial flyer*	GI13-0538
CICS portfolio products flyer*	GI13-0542
IPLA licensing material for Rational Developer for System z V7.5*	GC34-7042
Rational Developer for System z V7.5: Proof of Entitlement*	GC34-7043

They are not provided in the Information Center.

The following translated editions of the *What's New* publication are also available:

Title	Form number
What's New (Brazilian Portuguese)	G517-9444
What's New (Japanese)	GC88-5845
What's New (Korean)	GA30-3935
What's New (Simplified Chinese)	G151-1222
What's New (Spanish)	GC11-3887

A PDF version of *What's New for CICS TS V4.1* is available now at the IBM Publications Center. Additional printed copies of these books can be purchased for a fee from the online IBM Publications Center, at

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

Publications

Some information for CICS TS is provided in the Information Center in HTML format only. General product information that is provided in this way includes:

- The product overview
- Learning paths
- Information Roadmaps
- The CICS glossary
- Detailed product information provided in this way includes:
 - The Discovery Library Adapter for CICS
 - Event processing
 - CICS integration with WebSphere MQ
 - The System Management Client Interface

The following publications are provided softcopy, in PDF format, in the Information Center and the IBM Publications Center. If hardcopy is required, then these publications can be printed from the supplied PDF files.

Title	Form number
CICS Transaction Server for z/OS V4.1: Program Directory	GI13-0536
CICS Transaction Server for z/OS V4.1: Upgrading from CICS Transaction Server for z/OS V2.3 to V4.1	GC34-6996
CICS Transaction Server for z/OS V4.1: Upgrading from CICS Transaction Server for z/OS V3.1 to V4.1	GC34-6997
CICS Transaction Server for z/OS V4.1: Upgrading from CICS Transaction Server for z/OS V3.2 to V4.1	GC34-6998
CICS Transaction Server for z/OS V4.1: What's New	GC34-6994
CICS Transaction Server for z/OS V4.1: Installation Guide	GC34-6995
CICS Transaction Server for z/OS V4.1: System Definition Guide	SC34-6999
CICS Transaction Server for z/OS V4.1: Customization Guide	SC34-7001
CICS Transaction Server for z/OS V4.1: Resource Definition Guide	SC34-7000
CICS Transaction Server for z/OS V4.1: Operations and Utilities Guide	SC34-7002
CICS Transaction Server for z/OS V4.1: CICS Supplied Transactions	SC34-7004
CICS Transaction Server for z/OS V4.1: Application Programming Guide	SC34-7022
CICS Transaction Server for z/OS V4.1: Application Programming Reference	SC34-7023
CICS Transaction Server for z/OS V4.1: System Programming Reference	SC34-7024
CICS Transaction Server for z/OS V4.1: Front End Programming Interface Guide	SC34-7027
CICS Transaction Server for z/OS V4.1: C++ OO Class Libraries	SC34-7026

CICS Transaction Server for z/OS V4.1: Distributed Transaction Programming Guide	SC34-7028
CICS Transaction Server for z/OS V4.1: Business Transaction Services	SC34-7029
CICS Transaction Server for z/OS V4.1: Java Applications in CICS	SC34-7025
CICS Transaction Server for z/OS V4.1: Problem Determination Guide	GC34-7034
CICS Transaction Server for z/OS V4.1: Messages and Codes	GC34-7035
CICS Transaction Server for z/OS V4.1: Trace Entries	SC34-7013
CICS Transaction Server for z/OS V4.1: Intercommunication Guide	SC34-7018
CICS Transaction Server for z/OS V4.1: External Interfaces Guide	SC34-7019
CICS Transaction Server for z/OS V4.1: Internet Guide	SC34-7021
CICS Transaction Server for z/OS V4.1: Recovery and Restart Guide	SC34-7012
CICS Transaction Server for z/OS V4.1: Performance Guide	SC34-7033
CICS Transaction Server for z/OS V4.1: IMS Database Control Guide	SC34-7016
CICS Transaction Server for z/OS V4.1: RACF Security Guide	SC34-7003
CICS Transaction Server for z/OS V4.1: Shared Data Tables Guide	SC34-7017
CICS Transaction Server for z/OS V4.1: CICS DB2 Guide	SC34-7011
CICS Transaction Server for z/OS V4.1: Web Services Guide	SC34-7020
CICS Transaction Server for z/OS V4.1: CICSplex SM Concepts and Planning	SC34-7044
CICS Transaction Server for z/OS V4.1: CICSplex SM Web User Interface	SC34-7045
CICS Transaction Server for z/OS V4.1: CICSplex SM Administration	SC34-7005
CICS Transaction Server for z/OS V4.1: CICSplex SM Operations Views Reference	SC34-7006
CICS Transaction Server for z/OS V4.1: CICSplex SM Monitor Views Reference	SC34-7007
CICS Transaction Server for z/OS V4.1: CICSplex SM Managing Workloads	SC34-7008
CICS Transaction Server for z/OS V4.1: CICSplex SM Managing Resource Usage	SC34-7009
CICS Transaction Server for z/OS V4.1: CICSplex SM Managing Business Applications	SC34-7010
CICS Transaction Server for z/OS V4.1: CICSplex SM Application Programming Guide	SC34-7030
CICS Transaction Server for z/OS V4.1: CICSplex SM Application Programming Reference	SC34-7031
CICS Transaction Server for z/OS V4.1: CICSplex SM Resource Tables Reference	SC34-7032
CICS Transaction Server for z/OS V4.1: CICSplex SM Messages and Codes	SC34-7036
CICS Transaction Server for z/OS V4.1: CICSplex SM Problem Determination	GC34-7037
CICS Transaction Server for z/OS V4.1: Diagnosis Reference	GC34-7038
CICS Transaction Server for z/OS V4.1: Data Areas	GC34-7014
CICS Transaction Server for z/OS V4.1: Supplementary Data Areas	GC34-7015
CICS Transaction Server for z/OS V4.1: Debugging Tools Interface Reference	GC34-7039

Translated books

A subset of the publications will be translated to Brazilian Portuguese, Japanese, Korean, Simplified Chinese and Spanish. These books can be obtained, or hardcopy (where available) ordered, from the IBM Publications Center on or after June 26, 2009. Additional publications which might be translated at a later date can also be accessed in this way.

Title	Form number
CICS Transaction Server for z/OS V4.1: What's New - Japanese	GC88-5845
CICS Transaction Server for z/OS V4.1: Installation Guide - Japanese	GC88-5846

CICS Transaction Server for z/OS V4.1: Upgrading from CICS Transaction Server for z/OS V2.3 - Japanese	GC88-5847
CICS Transaction Server for z/OS V4.1: Upgrading from CICS Transaction Server for z/OS V3.1 - Japanese	GC88-5848
CICS Transaction Server for z/OS V4.1: Upgrading from CICS Transaction Server for z/OS V3.2 - Japanese	GC88-5849
CICS Transaction Server for z/OS V4.1: Web Services Guide - Japanese	SC88-5852
CICS Transaction Server for z/OS V4.1: Intercommunication Guide - Japanese	SC88-5857
CICS Transaction Server for z/OS V4.1: Internet Guide - Japanese	SC88-5853
CICS Transaction Server for z/OS V4.1: Application Programming Guide - Japanese	SC88-5850
CICS Transaction Server for z/OS V4.1: Application Programming Reference - Japanese	SC88-5851
CICS Transaction Server for z/OS V4.1: Performance Guide - Japanese	SC88-5854
CICS Transaction Server for z/OS V4.1: CICSplex SM Concepts and Planning - Japanese	SC88-5855
CICS Transaction Server for z/OS V4.1: CICSplex SM Web User Interface Guide - Japanese	SC88-5856
CICS Transaction Server for z/OS V4.1: What's New - Simplified Chinese	G151-1154
CICS Transaction Server for z/OS V4.1: Installation Guide - Simplified Chinese	G151-1155
CICS Transaction Server for z/OS V4.1: Internet Guide - Simplified Chinese	S151-1156
CICS Transaction Server for z/OS V4.1: What's New - Spanish	GC11-3887
CICS Transaction Server for z/OS V4.1: Installation Guide - Spanish	GC11-3888
CICS Transaction Server for z/OS V4.1: Upgrading from CICS Transaction Server for z/OS V2.3 - Spanish	GC11-3889
CICS Transaction Server for z/OS V4.1: Upgrading from CICS Transaction Server for z/OS V3.1 - Spanish	GC11-3890
CICS Transaction Server for z/OS V4.1: Upgrading from CICS Transaction Server for z/OS V3.2 - Spanish	GC11-3891
CICS Transaction Server for z/OS V4.1: What's New - Korean	GA30-3935
CICS Transaction Server for z/OS V4.1: Installation Guide - Korean	GA30-3936
CICS Transaction Server for z/OS V4.1: Upgrading from CICS Transaction Server for z/OS V2.3 - Korean	GA30-3937
CICS Transaction Server for z/OS V4.1: Upgrading from CICS Transaction Server for z/OS V3.1 - Korean	GA30-3938
CICS Transaction Server for z/OS V4.1: Upgrading from CICS Transaction Server for z/OS V3.2 - Korean	GA30-3939
CICS Transaction Server for z/OS V4.1: What's New - Brazilian Portuguese	G517-9444

Product Kits (PKITs)

In addition, the books for the product, as included on the Information Center CD-ROM in PDF format, are available separately for download from the IBM Publications Center:

Order	Form number
PDF PKIT	SK4T-2625
Softcopy publications*	SBOF-7862

*The softcopy publications (SBOF) form number enables customers to perform a look-up in the IBM Publications Center to locate all softcopy publications for this product.

Collection Kit for transaction processing and data products

This Collection Kit is a set of CD-ROMs, containing books in PDF format for a range of IBM transaction processing and data products, including members of the

CICS family; its form number is SK2T-0730. It is also available in DVD format (SK3T-6996).

The CICS TS V4.1 books are planned to be included in the Collection Kit, in the next refresh following general availability, scheduled for September 25, 2009.

One copy of the Collection Kit CD-ROM or DVD will be shipped, free of charge, with the product if the following is specified in the order.

Description	Orderable Supply ID
Collection Kit for Transaction Processing and Data Products - CD	S015G3P
Collection Kit for Transaction Processing and Data Products - DVD	S015G3V

Information Center CD

Orderable Supply ID	Language	Distribution Medium	Description
S015G3M	US English	CD-Rom	Information Center CDR

CICS publications and media

Many recent publications on CICS and related CICS products are available, in various media formats. A collection of these publications are listed as follows, grouped by product category.

CICS TS for z/OS V4.1

(Preview announcement) CICS Transaction Server for z/OS V4.1 will support Event Processing, Web 2.0, and the CICS Explorer,

Software Announcement [209-035](#), dated February 24, 2009

Whitepaper

Why to choose CICS Transaction Server for new IT projects,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg27013865>

Online video

CICS TS V4.1 Business Value,

http://www.youtube.com/watch?v=W_w6t81VbYc&feature=channel_page

Online video

CICS TS v4.1 High Level Technical Overview,

http://www.youtube.com/watch?v=8KoyvfieQZ8&feature=channel_page

CICS Explorer

SupportPac

For MS-Windows and Linux,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg24020718>

Webcast

CICS Explorer - The new face of CICS,

<http://www.ibm.com/software/os/systemz/webcast/5nov/>

Online animation

CICS Explorer - The new face of CICS,

http://www.youtube.com/watch?v=-NzWwUi5ILw&feature=channel_page

Online animation

CICS Explorer - Creating a sample plug-in,

<http://www.youtube.com/watch?v=DtcXuYaDyJ4>

Demonstration

CICS Explorer Threadsafe Analysis,

[ftp://ftp.software.ibm.com/software/http/cics/explorer/CICS_Explorer_Thre
adsafe_Analysis.zip](ftp://ftp.software.ibm.com/software/http/cics/explorer/CICS_Explorer_Thre
adsafe_Analysis.zip)

Datasheet

CICS Explorer,

ftp://ftp.software.ibm.com/software/http/cics/explorer/CICS_Explorer_flye r.pdf

CICS and SOA

Whitepaper

Options for integrating CICS applications in an SOA,

[ftp://ftp.software.ibm.com/software/http/cics/tserver/v32/library/WSW1133 9-
USEN-00_CICS_Web_svs_wp_V3.pdf](ftp://ftp.software.ibm.com/software/http/cics/tserver/v32/library/WSW1133 9-
USEN-00_CICS_Web_svs_wp_V3.pdf)

Article

CICS and System z help harness the power of SOA - IBM Systems magazine, May/
June 2008,

<http://www.ibmssystemsmag.com/mainframe/mayjune08/features/20324p1.aspx>

Article

CICS Web Support: Moving Transactions to the Web - IBM Systems magazine,
November 2008,

<http://www.ibmssystemsmag.com/mainframe/enewsletterexclusive/23048p1.aspx>

Webcast

Strategic options for extending CICS to an SOA,

<http://www.ibm.com/software/os/systemz/telecon/23apr/>

Redbook

Exploiting IBM System z in a Service-Oriented Architecture, 26 February 2009,
SG24-7651, ISBN 0738432008,

<http://www.redbooks.ibm.com/Redbooks.nsf/RedbookAbstracts/sg247651.html>

Redpaper

Case study: SOA Banking Business Pattern, February 20, 2009, REDP-4467,

<http://www.redbooks.ibm.com/Redbooks.nsf/RedbookAbstracts/redp4467.html>

Redbook

Architecting Access to CICS within an SOA, November 1, 2006, SG24-5466-05, ISBN 0738496952,

<http://www.redbooks.ibm.com/abstracts/sg245466.html>

Redbook

Securing Access to CICS Within an SOA, December 12, 2006, SG24-5756-01, ISBN 0738496715,

<http://www.redbooks.ibm.com/abstracts/sg245756.html>

Redpaper

The Value of the IBM System z and z/OS in Service-Oriented Architecture, September 8, 2006, REDP-4152,

<http://www.redbooks.ibm.com/abstracts/redp4152.html>

CICS and Web services

Whitepaper

Deploying CICS Web services to preserve IT investments in the banking industry,

ftp://ftp.software.ibm.com/software/http/cics/tserver/v32/library/WSW1400_2-USEN-00_CICS_WS_banking.pdf

Redbook

CICS Web Services Workload Management and Availability, March 31, 2008, SG24-7144-01, ISBN 073848511X,

<http://www.redbooks.ibm.com/abstracts/sg247144.html>

Redbook

Securing CICS Web Services, December 1, 2008, SG24-7658, ISBN 0738431664,

<http://www.redbooks.ibm.com/Redbooks.nsf/RedpieceAbstracts/sg247658.html>

Redbook

Implementing CICS Web Services, November 2008, SG24-7657, ISBN 0738431753,

<http://www.redbooks.ibm.com/Redbooks.nsf/RedbookAbstracts/sg247657.html>

Redbook

Application Development for CICS Web Services, May 11, 2006, SG24-7126, ISBN 0738496219,

<http://www.redbooks.ibm.com/abstracts/sg247126.html>

Redbook

SOAP Message Size Performance Considerations, August 29, 2007, REDP-4344,

<http://www.redbooks.ibm.com/abstracts/redp4344.html>

Webcast

CICS Web services,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg27013267>

Webcast

CICS Web Services: Problems and Pitfalls,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg27012643>

IBM case study

Major regional bank experiences expanded capabilities of CICS, Version 3 solution,

ftp://ftp.software.ibm.com/common/ssi/pm/ab/n/wsc14036usen/WSC14036USEN_HR.PDF

SupportPac

CA1P: Web services samples for use with CICS TS for z/OS V3,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg24020774>

SupportPac

CS04: CICS TS for z/OS WSBIND File Display and Change Utility,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg24018039>

CICS and Web 2.0

Webcast

Extending SOA and CICS with Web 2.0,

<http://www.ibm.com/software/os/systemz/telecon/11jun/>

Webcast

Web 2.0 made simple for System z,

<http://www.ibm.com/software/os/systemz/telecon/jan28/>

IBM article

CICS innovations: CICS gets into the mashup with Atom feeds,

<http://www.ibm.com/software/tivoli/features/ccr2/ccr2-2008-08/CICS-Atom-feeds.html>

SupportPac

CA8K: CICS TS for z/OS: Delivering Atom feeds from CICS,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg24018619>

SupportPac

CA1S: REST support in CICS using PHP, for use with CICS TS for z/OS V3,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg24021196>

Online video

PHP on CICS SupportPac CA1S,

<http://www.youtube.com/watch?v=GtyHRAQROnw>

CICS and Event Processing

Whitepaper

IBM event processing solutions for Business Risk Management on System z with CICS and WebSphere Business Events,

ftp://ftp.software.ibm.com/software/http/cics/pdf/CICS_Events_WSW14043USE_N.pdf

Brochure

Using SOA to optimize business event processing,

http://download.boulder.ibm.com/ibmdl/pub/software/solutions/soa/pdfs/SOA_EVENTS_PROCESSING_BR.pdf

SupportPac

CB11: CICS Events for WBE,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg24021039>

Online animation

CICS and WebSphere Business Events,

http://www.youtube.com/watch?v=S0orwDxSOvM&feature=channel_page

CICS Channels and Containers

Whitepaper

Using containers and channels to enhance CICS interprogram data transfer,

<ftp://ftp.software.ibm.com/software/http/cics/pdf/cics-g224753500.pdf>

Redbook

CICS Transaction Server V3R1 Channels and Containers Revealed,

<http://www.redbooks.ibm.com/abstracts/sg247227.html>

Article

CICS TS 3.2 and 64-Bit Storage Support,

<http://zjournal.com/index.cfm?section=article&aid=960>

Article

An Overview of CICS Channels and Containers,

<http://www.zjournal.com/index.cfm?section=article&aid=756>

Quick tour demonstration

CICS Channels & Containers,

ftp://ftp.software.ibm.com/software/http/cics/quicktours/CICS_Channels_and_Containers_Quick_Tour.zip

ThreadSafe and the CICS OTE

Article

Does CICS Still Love Fast Engines?,

<http://www.zjournal.com/index.cfm?section=article&aid=748>

Article

ThreadSafety and the CICS Open Transaction Environment: Background, Hints and Tips,

<http://www.zjournal.com/index.cfm?section=article&aid=975>

IBM case study

HUK-COBURG achieves significant savings in CPU usage by embracing IBM's threadsafe initiative to help optimize its IBM Customer Information Control System (CICS) technology,

<ftp://ftp.software.ibm.com/common/ssi/pm/ab/n/wsc14077usen/WSC14077USEN.PDF>

Webcast

CICS VSAM Threadsafe Support,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg27013082>

Redbook

Threadsafe considerations for CICS,

<http://www.redbooks.ibm.com/abstracts/sg246351.html>

CICSplex System Manager

Whitepaper

Managing your CICS systems now and in the future,

ftp://ftp.software.ibm.com/software/http/cics/pdf/CICS_Mngment_G224-7589-00.pdf

Article

CICSplex System Manager Web User Interface: Simpler CICS Systems Management in a Smart SOA,

<http://www.zjournal.com/index.cfm?section=article&aid=987>

Redbook

CICS System Manager WUI as the Principle Management Interface,

<http://www.redbooks.ibm.com/abstracts/sg246793.html>

Webcast

CICSplex SM Workload Manager Level Tracing,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg27011211>

Presentation

CICSplex SM MAS Resource Monitoring,

ftp://ftp.software.ibm.com/software/http/cics/tserver/library/CICS_MRM_tour.ppt

More CICS Transaction Server Information

Redbook

Java Application Development for CICS,

<http://www.redbooks.ibm.com/abstracts/sg245275.html>

Webcast

CICS File Control Debugging Techniques,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg27012589>

Webcast

IP Interconnectivity (IPIC) Connection Overview,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg27014414>

Whitepaper

CICS Transaction Server for z/OS - a robust platform for Java,

ftp://ftp.software.ibm.com/software/http/cics/pdf/WSW11333-USEN-00_cics_java_wp_0620.pdf

Whitepaper

CICS delivers IP interconnectivity,

ftp://ftp.software.ibm.com/software/http/cics/tserver/v32/library/WSW1400_3-USEN-00_cics_ipic_wp1207.pdf

Webcast

CICS Performance Basics,

<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg27015047>

CICS Transaction Gateway

Datasheet

CICS Transaction Gateway V7.2,

ftp://ftp.software.ibm.com/software/http/cics/pdf/6087_CICS_Transaction_Gateway_-_US_Data_sheet_-_final_-_Dec_24-08.pdf

Webcast

SOA access to CICS with CICS Transaction Gateway: High availability, new application environments and more,

<http://www.ibm.com/software/os/systemz/telecon/3dec/>

Whitepaper

Integrating WebSphere Application Server and CICS using CICS Transaction Gateway,

<ftp://ftp.software.ibm.com/software/http/cics/pdf/WSW14013-USEN-00.pdf>

CICS and WebSphere MQ

Whitepaper

Increase the value of CICS applications with WebSphere MQ,

<ftp://ftp.software.ibm.com/software/integration/wmq/WSW11355-USEN-00.pdf>

Redbook

Developing Web Services Using CICS, WMQ, and WMB,

<http://www.redbooks.ibm.com/abstracts/sg247425.html>

CICS tools

Evaluation code

Trial Code Download: CICS tools,

<http://www.ibm.com/software/os/systemz/trials/cicstools/>

Whitepaper

IBM service management for CICS with System z tools,

ftp://ftp.software.ibm.com/software/http/cics/tools/WSW11330-USEN-00_cics_tools_itsm_WP_0619D.pdf

Redbook

Migration Considerations for CICS Using CICS CM, CICS PA, and CICS IA,

<http://www.redbooks.ibm.com/abstracts/sg247294.html>

IBM PD tools family

Demonstration

IBM Rational Developer for System z and Problem Determination Tools integration demo,

ftp://ftp.software.ibm.com/software/http/pdtools/Modern_Three_Product_Demo_final.exe

Webcast

Solving CICS performance issues,

<http://www.ibm.com/software/os/systemz/telecon/9dec/>

CICS and the WebSphere family

Online animation

CICS and WAS Working in Harmony,

http://www.youtube.com/watch?v=8yuyz4zPMO8&feature=channel_page

Demonstration

CICS integration with WebSphere Service Registry & Repository;

ftp://ftp.software.ibm.com/software/http/cics/demo/cics_and_wsrr_demo.exe

CICS and the IBM Rational Family

Datasheet

IBM Rational Developer for System z Version 7.5,

<ftp://ftp.software.ibm.com/common/ssi/pm/sp/n/rad14065usen/RAD14065USEN.PDF>

Demonstration

IBM Rational Developer for System z Version: V7.5,

<http://publib.boulder.ibm.com/infocenter/ieduasst/rtnv1r0/index.jsp?topic=/com.ibm.iea.rdz/rdz/wdz75.html>

Whitepaper

IBM System z tools for CICS SOA development,

ftp://ftp.software.ibm.com/software/http/cics/tools/System_z_Tools_for_CICS_SOA_Development_white_paper_WSW14000-USEN-00.pdf

CICS and the Tivoli Family

Datasheet

IBM Tivoli OMEGAMON XE for CICS on z/OS,

<ftp://ftp.software.ibm.com/common/ssi/pm/sp/n/tid10261usen/TID10261USEN.PDF>

Datasheet

IBM Tivoli zSecure CICS Toolkit,

<ftp://ftp.software.ibm.com/software/tivoli/datasheets/TID10404-USEN-00.pdf>

Webcast

OMEGAMON XE for z/OS and CICS situation usage and best practices,

<http://www.ibm.com/software/os/systemz/telecon/13nov/>

CICS and the Information Management Family

Webcast

CICS Performance Series - Blow the doors off CICS and DB2,

<http://www.ibm.com/software/os/systemz/telecon/january13/>

For further information on CICS publications, visit

<http://www.ibm.com/software/http/cics/tserver/v41/library/index.html>

For further information on Redbooks, visit

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

For further information on Redpapers, visit

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

CICS workshops

Workshops are available from IBM education services to help customers make the most of CICS and related CICS products. Available courses include:

- CICS and Web services, WRB032, 2.5 days
- CICS tools and CICSplex SM, WRB033, 3 days
- CICS Java development, WRB030, 3 days
- Integrating CICS applications in an SOA, WRB053, 3 days
- SOA application modernization on z/OS, WRB051, 2 days
- IBM Workload Manager: Controlling system performance, WRB061, 3
- Analyzing and optimizing system performance for your installation, WRB058, 5 days
- Cross site data sharing, ITS748, 2 days
- IBM z/OS diagnostics and analysis, WRB034, 2 days

For more information, visit

<http://www.ibm.com/jct03001c/services/learning/ites.wss/us/en?pageType=page&c=a0000313>

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

Product deliverables are shipped only through Customized Offerings (for example, CBPDO, ServerPac, and SystemPac®).

CBPDO and ServerPac are offered for Internet delivery, where ShopzSeries product ordering is available. Internet delivery of ServerPac might help improve automation and software delivery time. For more details on Internet delivery, refer to the ShopzSeries help information at

<http://www.software.ibm.com/ShopzSeries>

Media type for this software product is chosen during the customized offerings ordering process. Based on your customer environment, it is recommended that the highest possible density tape media is selected. Currently offered media types are:

- CBPDOs - 3480, 3480 Compressed, 3490E, 3590, and 3592*
- ServerPacs - 3480, 3480 Compressed, 3490E, 3590, and 3592*
- SystemPacs - 3480, 3480 Compressed, 3490E, 3590, and 3592*

*3592 is highest density media. Selecting 3592 will ship the fewest number of media.

Once a product becomes generally available, it will be included in the next ServerPac and SystemPac monthly update.

Production of software product orders will begin on the planned general availability date.

- CBPDO shipments will begin one week after general availability.
- ServerPac shipments will begin two weeks after inclusion in ServerPac.
- SystemPac shipments will begin four weeks after inclusion in SystemPac due to additional customization, and data input verification.

Terms and conditions

Agreement

IBM Customer Agreement

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.

Replaced programs

Program Number	Program Name
5740-XX1	CICS/OS/VS V1
5665-403	CICS/MVS® V2
5685-083	CICS/ESA® V3
5655-018	CICS/ESA V4
5665-463	CICS DDM
5695-081	CICSplex SM V1
5696-582	CICS Transaction Affinities Utility
5655-147	CICS Transaction Server for OS/390 V1
5697-E93	CICS Transaction Server for z/OS V2

Replacement programs

Program Number	Program Name
5655-M15	CICS Transaction Server for z/OS V3
5655-M15	CICS Transaction Server for z/OS V3
5655-M15	CICS Transaction Server for z/OS V3
5655-M15	CICS Transaction Server for z/OS V3
5655-M15	CICS Transaction Server for z/OS V3
5655-M15	CICS Transaction Server for z/OS V3
5655-M15	CICS Transaction Server for z/OS V3
5655-M15	CICS Transaction Server for z/OS V3
5655-M15	CICS Transaction Server for z/OS V3
5655-M15	CICS Transaction Server for z/OS V3

Replaced programs		Replacement programs	
Program Number	Program Name	Program Number	Program Name
5740-XX1	CICS/OS/VS V1	5655-S97	CICS Transaction Server for z/OS V4
5665-403	CICS/MVS V2	5655-S97	CICS Transaction Server for z/OS V4
5685-083	CICS/ESA V3	5655-S97	CICS Transaction Server for z/OS V4
5655-018	CICS/ESA V4	5655-S97	CICS Transaction Server for z/OS V4
5665-463	CICS DDM	5655-S97	CICS Transaction Server for z/OS V4
5695-081	CICSplex SM V1	5655-S97	CICS Transaction Server for z/OS V4
5696-582	CICS Transaction Affinities Utility	5655-S97	CICS Transaction Server for z/OS V4
5655-147	CICS Transaction Server for OS/390 V1	5655-S97	CICS Transaction Server for z/OS V4
5697-E93	CICS Transaction Server for z/OS V2	5655-S97	CICS Transaction Server for z/OS V4
5655-M15	CICS Transaction Server for z/OS V3	5655-S97	CICS Transaction Server for z/OS V4

Warranty applies

Yes

Licensed program materials availability

Restricted Materials of IBM:	Some
Non-Restricted Source Materials:	Some
Object Code Only (OCO):	None

IBM operational support services - SupportLine

Yes

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Prices

System z entry license charge (zELC)

Program name: CICS TS V4.1
Program ID: 5655-S97

Entitlement identifier	Description	License option/Pricing metric
S015H9T	CICS TS for z/OS V4.1	Basic MLC, zELC

z800
models

0A1
0B1
0C1
001
0A2
002
003
004
110
0E1
0X2

Parallel sysplex license charge (PSLC)

Program name: CICS TS V4.1
Program ID: 5655-S97

Entitlement identifier	Description	License option/Pricing metric
S015H9T	CICS TS for z/OS V4.1	Basic MLC, PSLC below 3 MSU, SYSUSGREG NC, PSLC AD

Variable Workload License Charges

Program name: CICS TS V4.1
Program ID: 5655-S97

Entitlement identifier	Description	License option/Pricing metric
S015H9T	CICS TS for z/OS V4.1	Basic MLC, Variable WLC, Workload Registration

Sub-capacity charges for VWLC products

Sub-capacity charges for VWLC products are based on product LPAR utilization capacity. Product LPAR utilization capacity for a VWLC product is the highest number of MSUs utilized by the combined LPARs in which a VWLC product runs concurrently during a reporting period. The number of MSUs is based on the highest observed rolling 4-hour average utilization used by the combination of the relevant LPARs during the reporting period. For additional details on IBM Workload License Charges, refer to:

- Software Announcement [200-354](#), dated October 3, 2000

- Software Announcement [201-258](#), dated September 11, 2001
- Software Announcement [202-105](#), dated April 30, 2002

Sub-capacity charges terms and conditions

System z software charges at less than full machine capacity for eligible VWLC products apply when z/OS is running in z/Architecture (64-bit) mode on an IBM System z 900, no other MVS-based operating system is licensed to that server, and the required information is provided by the customer in accordance with the applicable terms.

Sub-capacity charges for a VWLC product is based on the utilization of the LPARs where/when the product executes. To obtain charges at less than full machine capacity for VWLC products, the customer is required to:

- Sign and abide by the terms of the Attachment for IBM System z Workload License Charges (Z125-6516).
- Obtain the latest version of the Sub-Capacity Reporting Tool.
- Install any VWLC product and IBM e(logo)server System z 900 Licensed Internal Code (LIC) service required for sub-capacity charging. Required service will be listed on the WLC Web site

<http://www.ibm.com/zseries/swprice>

- Collect SMF data as required by the Sub-Capacity Reporting Tool. Retain the collected SMF data for a period of not less than six months.
- Use the IBM provided Sub-Capacity Reporting Tool to process the collected SMF data. The Sub-Capacity Report produced by the tool is used to determine required license capacity for the VWLC products. Required license capacity is determined based on the largest MSU value of a VWLC product running concurrently in all LPARs during the reporting period. IBM reserves the right to request the system data that supports these product-defined capacity values for a period of up to six months after the data was collected.
- Provide an initial Sub-Capacity Report to begin to receive the benefits of less than full machine capacity charges. Sub-capacity charging will follow submission of a Sub-Capacity Report. There will be no retroactive application of sub-capacity charges.
- Submit Sub-Capacity Reports monthly.
- Submit Sub-Capacity Reports for all VWLC products with complete data for the entire reporting period to the e-mail address and by the date specified on the System z Software Pricing Web site and in the current IBM System z Workload License Charges Exhibit (Z125-6324)

<http://www.ibm.com/zseries/swprice>

Sub-Capacity Reports that reflect a changed product defined capacity will be considered to be orders placed by the customer without further action on the customer's part, and IBM is authorized to make any resulting billing increase or decrease. To place an order for a new license or to discontinue licenses, move licenses between machines, report a hardware model upgrade, or enable or disable product options, the customer must contact IBM or their IBM Business Partner.

- Configure the machine to send weekly Transmit System Availability Data (TSAD) to IBM through the IBM System z 900 Remote Support Facility (RSF). If the machine cannot connect through the RSF, provide this TSAD through an alternate means documented in the z/OS publication "Planning for Workload License Charges" at

<http://www.ibm.com/zseries/swprice>

Entry Workload License Charge (EWLC)

Program name: CICS TS V4.1
Program ID: 5655-S97

Entitlement identifier	Description	License option/Pricing Metric
S015H9T	CICS TS for z/OS V4.1	Basic MLC, Entry WLC

Usage license charge (ULC)

Entitlement identifier	Description	License option/Pricing metric
S015H9T	CICS TS for z/OS V4.1	0 to 0.25 MSU Base 0.26 to 0.5 MSU Base 0.51 to 1.0 MSU Base Level A Chg/MSU (2 to 11 MSUs) Level B Chg/MSU (12 to 44 MSUs) Level C Chg/MSU (45 to 78 MSUs) Level D Chg/MSU (Above 78 MSUs) Level D Chg/MSU (Above 78 MSUs), per 50 MSUs

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Corrections

(Corrected on September 15, 2009)

The Ordering information and Information Center and publications sections are revised.