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

At a glance

CICS® Transaction Server (CICS TS) V4.1 will deliver important new function to help businesses meet 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 within CICS applications will provide insight into business behavior.
• Atom feeds and RESTful APIs will enable existing CICS applications to participate in mashups and similar Web 2.0 development styles.
• The CICS Explorer will simplify the development and management of traditional and modern applications and provide an integration point for IBM® and third-party tools.

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

An open beta version of CICS TS V4.1 will be made available free of charge. To register your interest, visit http://www.ibm.com/software/htp/cics/tserver/v41/openbeta

Overview

CICS Transaction Server for z/OS® (CICS TS) is a modern, dependable, and cost-effective application platform. In second or third quarter 2009, CICS TS V4.1 will deliver new business event capabilities, Web 2.0 programming support, and new operational tooling that will enable enterprise agility when responding to business opportunity and risk in rapidly changing markets. Its traditional qualities of security, reliability, availability, scalability, data-integrity, and application responsiveness make CICS TS the perfect transaction-server partner for Web application servers.

CICS TS V4.1 will build on the solid foundations, mature service oriented architecture (SOA) support, and open connectivity of previous CICS versions, bringing new levels of ease-of-use and flexibility to meet the needs of the next generation of business users. It will assist its users in their activities directed at:

• 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

An agile organization with the ability to innovate can position itself for growth even in difficult circumstances, such as a challenging world economy. New technologies, like event-driven
processes, business dashboards, and Web 2.0 applications can enable businesses to respond quickly and effectively, allowing them to capture emerging opportunities as markets recover. CICS TS V4.1 will support these initiatives by delivering new application capabilities to:

- Support business event detection and emission within 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 APIs, to create mashups and other modern applications
- Modify processes rapidly and with confidence by assembling and deploying new business applications quickly using service components

Sound governance and measured compliance are key to managing business risk - an increasing requirement for enterprise lines-of-business and for IT departments. Line-of-business managers need to know the status of critical business application processing and to identify exceptions. They must react swiftly to address such exceptions, while ensuring that compliance with corporate, industry and government standards can be accurately reported at all times.

The new CICS event technology will enable CICS to be configured to feed business event processing engines and business dashboards, without the need for application change. This will better allow the line-of-business to ensure that business processes are under control and to monitor and react to compliance requirements, security breaches, and incidents of fraud.

To support the needs of the lines-of-business, IT departments are required to manage application, resource and configuration change in a controlled manner. CICS TS V4.1 will help by logging new resource signature information to record who last made changes to the resource and when they were made. New support for identity propagation will help to improve cross-platform accountability and the auditing of access to sensitive business information and applications.

CICS TS V4.1 will also continue the process of simplifying complex infrastructure by extending its use of TCP/IP to CICS Transaction Routing. Also, responding to the need to improve operations productivity, adapt to a changing skill-base, and avoid unexpected errors, the CICS Explorer will deliver a powerful tooling environment to help highly-skilled IT staff to be more productive, while providing a more intuitive experience for less experienced personnel. Coupled with many other new capabilities, CICS TS V4.1 will enable IT departments to "do more with less".

Preview announcements provide insight into IBM plans and directions. General availability, prices, ordering information, and terms and conditions will be provided when the product is announced.

**Key prerequisites**

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

**Description**

CICS TS V4.1 will help businesses to meet the challenges of the current economic circumstances, increased regulation, and changing skill levels. At the same time it positions the customer to take advantage of opportunities for growth in challenging economic times. The new version will provide support for three distinct themes that relate directly to many customers' business priorities and initiatives.

- **Business flexibility**: Making it easier to create, extend, and reuse applications quickly, to meet changing business needs
- **Governance and compliance**: Ensuring and demonstrating, effective management control over business applications and IT facilities
- **IT simplification**: Helping IT staff to perform their tasks more effectively, while assuming a mix of skill levels
Key enhancements

CICS TS V4.1 will support two or more of these themes, simultaneously. For example, the ability to generate business events without changing application programs reduces the cost and complexity of delivering compliant and flexible business solutions.

Support for event processing

Users will be able to specify atomic 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, or driving new processing to respond to business opportunities or threats. For example, they could be consumed by another CICS application or 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. Customers with CICS TS V3 can generate events today using SupportPac™ CB11 -- CICS Events for WebSphere Business Events.
- By a dashboard, such as WebSphere Business Monitor
- Other methods, such as reading the event in another program

Atom feeds from CICS

CICS will be able to 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 will allow the business content currently locked within CICS to be viewed and manipulated using modern Web2.0 applications, such as feed readers and mashups.

CICS TS V3 customers can continue to use the currently available SupportPac CA8K -- Delivering Atom feeds from CICS, which provides sample code to demonstrate how to generate Atom feeds to publish data contained within CICS resources or obtained by running a CICS application. SupportPac CA1S -- REST support in CICS using PHP enables programmers without traditional CICS skills to access CICS resources using the modern PHP scripting language. Additionally, the EGL Rich User Interface, available in Rational® Developer for System z® with EGL, simplifies the construction of powerful Web 2.0 applications that can interact with CICS using Web services and Restful interfaces. CICS customers can use EGL RUI to modernize existing CICS applications or create complete new applications by increasing 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.

The CICS Explorer

The CICS Explorer - the new face of CICS - is the new systems management tool framework for CICS. It will provide an intuitive, easy-to-use way of managing one or more CICS regions. The CICS Explorer provided with CICS TS V4.1 will support all of the new function in the release - for example, resources associated with event processing and resource bundles. It allows both viewing and updating operations for resource definition and system management operations, for both single and multiple CICS regions. 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 a supplied software development kit to extend and integrate their software tools as plug-ins to the Explorer framework.
Other important enhancements

The other important enhancements in CICS TS V4.1 are grouped by the theme that they primarily support.

Business flexibility

Support for application components

CICS will provide the infrastructure and runtime support for the deployment and management of application components. These application components will provide a common programming interface for service invocation, and a service description that is compliant with the Service Component Architecture (SCA). This further improves the ability to publish and use CICS applications in an SOA.

Support for application bundles

Users will be able to deploy a set of resources that are supported by the new CICS bundle resource type. By enabling and disabling a bundle, users will be able to manage the availability of an application and the life-cycle of its associated resources. CICS will dynamically create, enable, or disable the set of resources and maintain the relationship between them.

Improvements to data mappings

CICS will provide 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 will support 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. WS-Addressing combines an Endpoint Reference (EPR) with Message Addressing Properties (MAPs).

Support for Java 6

CICS TS V4.1 will support the latest Java language features, environment and unique 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 and exploitation of System z Application Assist Processors (zAAPs) you expect from System z. CICS continues to manage effectively and scale large workloads comprised of Java applications or a mixture of Java, COBOL, and other compiled languages.

Governance and compliance

Improvements in management of resource definitions

A new resource signature will provide change management information for resources that are installed or changed under CICS TS 4.1. Users will be able to take advantage of these improved details to detect resource modifications to support audit tracking and problem resolution.

Exploitation of identity propagation

CICS TS V4.1 will be able to use the z/OS Identify Propagation capabilities that allow distributed end-user identities to be associated with z/OS user IDs, enabling CICS applications to participate in end-to-end security solutions and support accountability auditing. For more information, refer to Software Announcement 209-029, dated February 24, 2009.
Security improvement for DB2 users
The CICS interface with DB2® will provide additional function when using DB2 and 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.

Support for WebSphere Service Registry and Repository to publish and read Web service descriptions
The CICS Web services assistants will include support for directly publishing and reading Web service description language (WSDL) information from WebSphere Service Registry and Repository. WebSphere Service Registry and Repository provides features to store, find, enrich, manage, and govern Web services.

IT simplification

Extensions to CICS-to-CICS intercommunications over TCP/IP
As part of the multi-release IP interconnectivity (IPIC) initiative, CICS will provide the facility to use TCP/IP instead of SNA for key base 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.

Support for Internet Protocol version 6
CICS will 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. CICS will also continue to operate in an IPv4 network as before.

Support for WebSphere MQ queue-sharing groups
The CICS-WMQ connection will be easier to configure, manage and is more robust. New resource definitions configure the CICS-WMQ connection and can specify a WebSphere MQ queue-sharing group. CICS will connect to any eligible queue manager in the group, and in failure scenarios will 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.

Improvements to workload management support
CICS is now able to 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.

The CICS systems management client API
CICS will provide a powerful new CICS systems management client API using Representational State Transfer (RESTful) principles, for use by HTTP client applications including the CICS Explorer. This new API can be used to develop RESTful client applications that manage CICS resources.

New system programming commands for managing the CSD
A new set of CICS System Programming Interface (SPI) commands will enable automation programs to inquire and change resource definitions in the CICS System Definition (CSD) file as an alternative to the 3270 user transaction CEDA and the DFHCSDUP batch utility.
The Discovery Library Adapter for CICS

The Discovery Library Adapter (DLA) for CICS will provide a utility that will collect runtime configuration and relationship information about CICS and CICSPlex® SM resources, and then generate XML files that can be used by a discovery library reader, such as Tivoli® Business Service Manager, for the purpose of generating Business Service Views and dashboards. This will allow an enterprise to track their resources and interdependencies.

Improvements in CICS monitoring

New performance data metrics will be provided for Web and Web service applications, enabling improved performance reporting and analysis of these applications to be performed. New transaction resource class monitoring data will be provided for distributed program link (DPL) requests, enabling users to better understand the workload management of their DPL applications. Users will be able to dynamically set 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. The default will be to perform monitoring record compression, which will help reduce the volume of monitoring output produced.

The CICS Explorer - the new face of CICS

A statement of direction (SoD), announced on August 5, 2008, (Software Announcement 208-248, dated August 5, 2008) stated the IBM intention to introduce a new Eclipse-based GUI, the CICS Explorer, to increase the productivity of highly skilled CICS development and administration personnel, and to enable broadly skilled technical staff to develop and manage CICS system configurations effectively.

The SoD also stated that selected CICS tools would complement and enrich the base data and tasks provided by the CICS Explorer with their own views, tasks and data to support disciplines. The SoD additionally stated that IBM also intended to release a Software Development Kit (SDK) that would enable vendors and customers to develop and integrate their own solutions with the CICS Explorer.

On November 5, 2008, IBM made available the first version of the CICS Explorer SupportPacs CS1J and CS1O, for Microsoft® Windows® and Linux®, respectively. These SupportPacs provided the CICS Explorer framework with connectivity to CICS TS V3 systems, while plug-ins for CICS Interdependency Analyzer (CICS IA), CICS Performance Analyzer (CICS PA), and CICS Configuration Manager (CICS CM), in SupportPac CS1N, provided CICS tools support. At the same time, SupportPac CA1R provided an SDK to allow vendors and customers to integrate existing and new solutions with the CICS Explorer. SupportPacs for both the CICS Explorer and CICS tools plug-ins have been updated since their initial release, adding new capabilities to their existing functionality.

CICS TS V3 customers can use the CICS Explorer currently to view the status of all resources deployed in a CICSPlex or configured in the CICSPlex repository. CICS TS V4.1 customers will additionally be able to create, update, and delete resources as well as perform other control actions such as Open, Close, Purge, Install, and Newcopy.

Integrated tools for CICS products

CICS IA

CICS IA customers, using the CICS Explorer with CICS IA plug-in, are now able to use an intuitive way to 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 drill down to see its dependencies, relationships, and affinities.

CICS PA

CICS PA customers can now analyze the performance of their CICS applications within the CICS Explorer, by importing performance extract files that are created using standard CICS PA TSO jobs. These extract files can be visualized within the CICS Explorer in a number of ways, including spreadsheet views, with sortable, reorderable columns, bar chart views, and pie chart views. A number of performance task scenarios are provided, 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 CM

CICS CM customers can now access many product capabilities using the CICS Explorer, including the ability to search and query all CICS resource definitions whether stored in CSDs or the CICSPlex 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 base 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 new API provides integration with the CICS Explorer, making available the rich set of CICS views, data and methods that the CICS Explorer provides.

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, 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 Tools UAF, 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 desktop.

IBM Rational Developer for System z offers two product choices providing 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.

Open beta program

An open beta version of CICS TS V4.1 will be made available free of charge. To register your interest, visit

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

Reference information

For information on the CICS Explorer, refer to Software Announcement 208-248, dated August 5, 2008.

For information on CICS TS V3.2, refer to Software Announcement 207-051, dated March 27, 2007.
**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).


**Additional information**

**Customized offerings**

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

CBPDO and ServerPac are offered for Internet delivery, where ShopzSeries product ordering is available. Internet delivery of ServerPac may 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.

**IBM Electronic Services**

IBM has transformed its delivery of hardware and software support services to help you achieve higher system availability. Electronic Services is a Web-enabled solution that offers an exclusive, no-additional-charge enhancement to the service and support available for IBM servers. These services are designed to provide the opportunity for greater system availability with faster problem resolution and preemptive monitoring. Electronic Services comprises two separate, but complementary, elements: Electronic Services news page and Electronic Services Agent.

The Electronic Services news page is a single Internet entry point that replaces the multiple entry points traditionally used to access IBM Internet services and support. The news page enables you to gain easier access to IBM resources for assistance in resolving technical problems.

The Electronic Service Agent™ is no-additional-charge software that resides on your server. It monitors events and transmits system inventory information to IBM on a periodic, client-defined timetable. The Electronic Service Agent automatically reports hardware problems to IBM. Early knowledge about potential problems enables IBM to deliver proactive service that may result in higher system availability and performance. In addition, information collected through the Service Agent is made available to IBM service support representatives when they help answer...
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