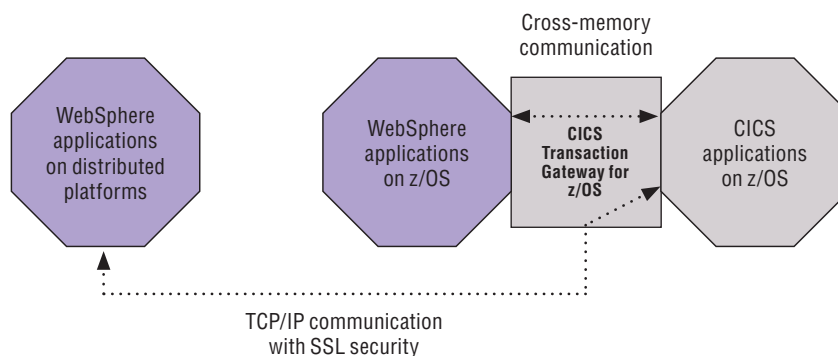


IBM CICS Transaction Gateway for z/OS, Version 6.1

Highlights

- **Connects WebSphere Application Server on any supported platform to CICS Transaction Server on z/OS**
- **Enables rapid deployment of existing CICS applications into a service oriented architecture**
- **Provides J2EE standards-based connectivity that can exploit the JCA specification to manage connections, transactions and security**
- **Adds two-phase commit transactional integration between distributed WebSphere applications and CICS applications running on z/OS**
- **Delivers four major reliability, availability and serviceability enhancements to TCP/IP networking**



CICS Transaction Gateway for z/OS, Version 6.1 provides J2EE standards-based connectivity from both WebSphere Application Server on z/OS and distributed platforms to CICS Transaction Server for z/OS.

Much of the world's data is processed on mainframes, using the qualities of service of proven transaction servers such as IBM CICS® Transaction Server for z/OS. Delivering access to new and existing CICS applications using standards-based interfaces is the cornerstone of On Demand Business.

IBM CICS Transaction Gateway has been proven over many years to provide high-performing, security-rich and scalable access to CICS Transaction Server, requiring minimal changes to CICS systems and usually no changes to existing CICS applications. With IBM CICS Transaction Gateway, Version 6.1, you can use your CICS communications area (COMMAREA)-based applications in comprehensive and sophisticated Java™ 2 Platform, Enterprise Edition (J2EE) and Web services solutions hosted on robust application servers, such as IBM WebSphere® Application Server. Reusing these applications in mixed CICS and WebSphere workloads helps reduce cost, risk and time to market of new applications.

High-performing, security-rich and scalable connectivity

Running CICS Transaction Gateway on an IBM z/OS® operating system provides the highest quality of service in the environments in which CICS Transaction Gateway is supported. In the z/OS environment, CICS Transaction Gateway can support thousands of transactions per second by using multiple gateway regions, and by reusing memory-based External CICS Interface (EXCI) pipes.

Remote communication is Internet Protocol (IP)-based, and CICS Transaction Gateway provides comprehensive security features, including support for Java Secure Socket Extension (JSSE) Secure Sockets Layer (SSL) encryption between the application server and CICS Transaction Gateway. An external configuration option that allows you to specify the SSL cipher suite enables you to define the level of security at the application level, and provides the capability

to take advantage of new levels of encryption as they emerge. You can even map SSL certificate identities to IBM RACF® user IDs, providing integration with existing CICS security mechanisms.

CICS Transaction Gateway uses a multithreaded daemon to handle communication with front-end application servers and back-end CICS systems. Deployment code is optimized, enabling support for large numbers of concurrent requests and subsecond response times to users.

J2EE standards-based composite applications

CICS Transaction Gateway for z/OS supports the standard J2EE Connector Architecture (JCA), Version 1.5 specification as its strategic interface. Using JCA offers two significant development advantages. First, it enables J2EE developers to program to a standard interface that is supported by a variety of tools. Second, JCA provides delegated management of connection pooling, transactional scope and security control, so that J2EE developers don't have to develop these capabilities within the application.

A number of complementary tools with the IBM Software Development Platform support CICS Transaction Gateway and JCA. Together these products can deliver a complete end-to-end IBM solution that can help minimize cost, risk and time to market of new applications.

Rapidly and easily add SOA capabilities to existing CICS applications

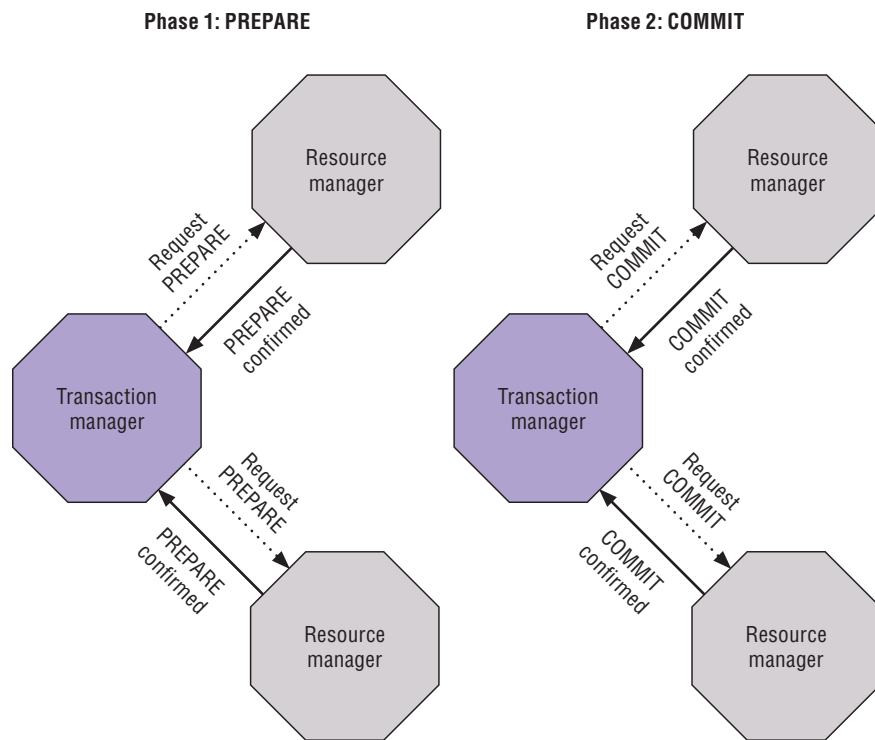
CICS Transaction Gateway for z/OS is designed to enable rapid and easy deployment, using the System Modification Program Extended (SMP/E) standard tool for installation and maintenance. A user-friendly configuration infrastructure expedites the initial setup of CICS Transaction Gateway, and enables multiple CICS Transaction Gateway daemons on z/OS to be configured and run independently to maximize scalability and manageability. System Display and Search Facility (SDSF) provides a robust and highly secure way to manage and control your CICS Transaction Gateway for z/OS environment.

An External Call Interface (ECI) JCA resource adapter enables COMMAREA-based CICS applications to interoperate effectively with WebSphere applications. Using Java servlet or Enterprise JavaBeans (EJB) components, CICS Transaction Gateway allows high-performing access to existing CICS COMMAREA-based transactions, without changing the application.

Significant enhancements in CICS Transaction Gateway for z/OS, Version 6.1

CICS Transaction Gateway, Version 6.1 delivers significant enhancements over previous releases, in two key value areas:

- *Two-phase commit transactional integration between distributed WebSphere applications and CICS applications running on z/OS*
- *Four major reliability, availability and serviceability enhancements to TCP/IP networking*



Two-phase commit transactions help provide maximum transactional integrity by requiring a PREPARE command to be confirmed by each resource manager, before a COMMIT command makes all transaction changes permanent.

Maximum transactional integrity

A global two-phase commit transaction helps ensure that data integrity is maintained when updating multiple resources in a distributed transaction. This capability helps ensure that the entire transaction can commit successfully, or if some error condition occurs, be entirely returned to the state before the transaction. With global two-phase commit, you can physically distribute a composite transaction across heterogeneous servers and operating environments — helping to maximize flexibility without compromising data integrity.

Distributed global transactional integrity is provided through the provision of an XA-capable JCA resource adapter and the use of the z/OS Resource Recovery Services (RRS) subsystem. This feature enables CICS Transaction Server for z/OS to participate in two-phase commit transactions that are initiated in a J2EE, Version 1.4 application server, such as WebSphere Application Server, Version 6.0, on a distributed platform or on a remote z/OS system.

CICS Transaction Gateway, Version 6.1 continues to support local-mode global transactions. This capability provides optimized two-phase commit support when WebSphere Application Server and CICS Transaction Server for z/OS are located on the same z/OS logical partition (LPAR). This configuration also provides the highest qualities of service because communication between the CICS and WebSphere servers is provided through shared memory rather than over a network connection.

The XA two-phase commit capability enables CICS Transaction Gateway to fully participate in a global transaction, where units of work can be coordinated across different resource managers (such as IBM DB2®, IBM IMS™ and SAP software). After a resource manager makes a positive response to a prepare request, it enters a contract to commit the work as part of the global transaction. This decision is persistent in RRS, so that even if the connection is lost or CICS Transaction Gateway is restarted, the controlling transaction manager can recover and commit the work, helping to provide better integrity for the entire global transaction.

Enhanced TCI/IP communications

CICS Transaction Gateway for z/OS, Version 6.1 also provides four major enhancements to TCP/IP reliability, availability and serviceability:

- A load-balancing feature *for XA transactions enables a group of gateways on the same z/OS LPAR to act as one virtual endpoint for incoming TCP/IP requests, helping to maximize scalability and availability.*
- An automatic TCP/IP subsystem reconnect feature *enables new TCP/IP connections to be made to CICS Transaction Gateway after a restart of the TCP/IP subsystem. This enhancement helps improve availability and reduce the need for operator intervention.*
- An IP address binding feature *enables you to control which network interfaces can be used to connect to CICS Transaction Gateway, providing improved security and ease of network management.*
- A connection timeout control feature *provides the option to specify a timeout duration on pending socket connection requests, delivering improved recovery in the TCP/IP network.*

Supporting an end-to-end On Demand Business environment

Tightly coupled connectivity solutions, such as the JCA specification, and loosely coupled Web services coexist to fully take advantage of the agility of an SOA. CICS Transaction Gateway is a tightly coupled, directly bound connector from a midtier application, usually a J2EE Web application server, such as WebSphere Application Server, to a CICS application. It has been production-proven over many years to be a high-performing, security-rich and scalable connectivity method requiring minimal changes to CICS systems and usually no changes to existing CICS COMMAREA applications.

For more information

To learn more about IBM CICS Transaction Gateway, contact your IBM representative or IBM Business Partner, or visit:

ibm.com/cics/ctg

IBM CICS Transaction Gateway for z/OS, Version 6.1 at a glance

Hardware requirements

CICS Transaction Gateway for z/OS, Version 6.1 runs on any IBM S/390® or IBM @server® zSeries® machine that supports the required operating system.

Software requirements

- z/OS, Version 1.4 or later
- IBM Software Developer Kit (SDK) for z/OS, Java 2 Technology Edition, Version 1.4.2

Other supported software:

- CICS Transaction Server for OS/390, Version 1.3
- CICS Transaction Server for z/OS, Version 2.2 or later
- WebSphere Application Server for z/OS, Version 6.0.1 or later
- WebSphere Application Server for Multiplatforms, Version 6.0 or later

Notes:

1. *WebSphere Application Server, Version 5.0 is also supported if deployed with the downloadable JCA, Version 1.0 resource adapter. Some functionality, such as two-phase commit, is not supported in this configuration.*
 2. *CICS Transaction Gateway, Version 6.1 is only available on z/OS. The latest level of CICS Transaction Gateway for Multiplatforms continues to be Version 6.0. This is because the new two-phase commit feature requires the z/OS technology-specific RRS functionality. Both the z/OS and the multiplatform products continue as essential products in the IBM portfolio, with z/OS remaining the flagship platform.*
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