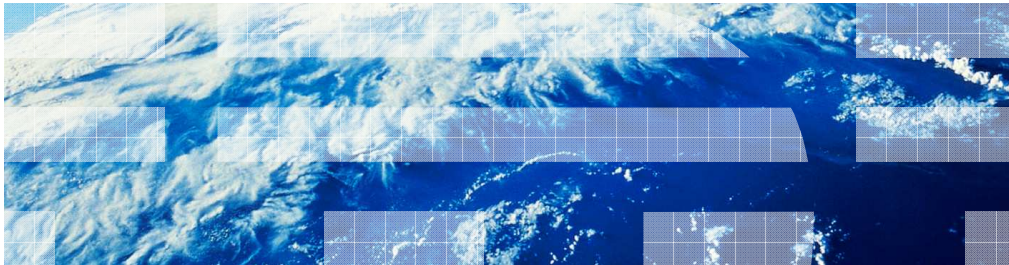


Introduction to CICS TG V8



Systems and servers

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Hello, and welcome to this introduction to the new features that have been introduced with CICS® Transaction Gateway version 8

Outline

- High availability
- Extended interoperability
- Identity propagation
- CICS Explorer™

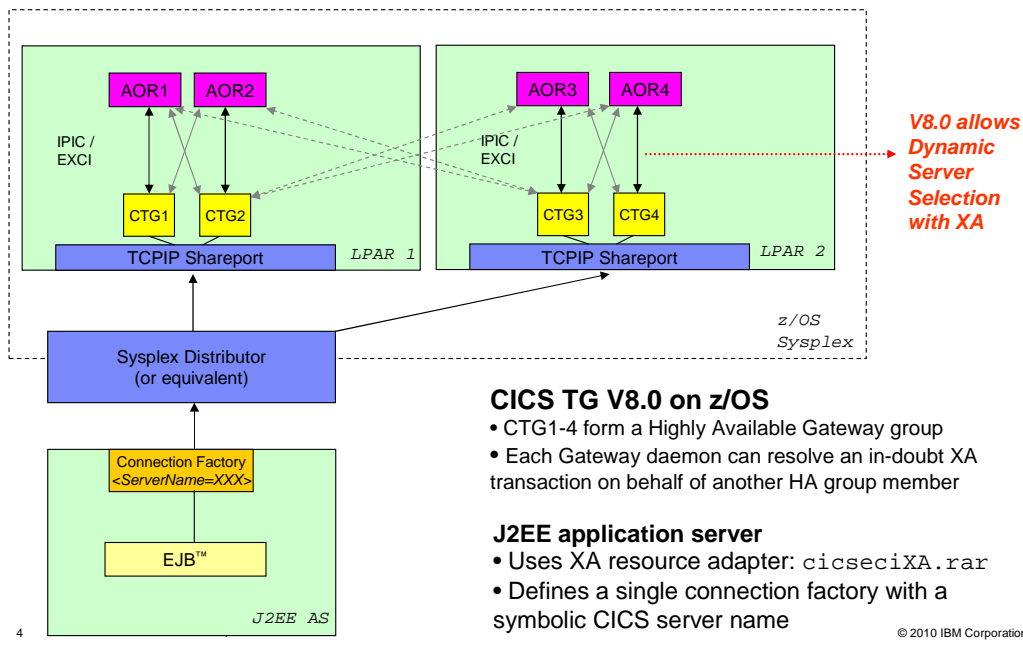
In this presentation we will look at the new function that has been added in this release of the CICS Transaction Gateway. This includes updates to the High Availability functionality, extended interoperability between client applications and the Gateway daemon, support for identity propagation and integration with the CICS Explorer.

High availability for XA transactions

- CICS TG V7.2 delivered support for XA transactions in High Availability topologies using TCP/IP load balancing in a z/OS® Sysplex
- CICS TG V8.0 provides additional High Availability capabilities, allowing dynamic selection of a CICS server within the Gateway daemon
- SupportPac CA1T provides a working, configurable CICS request exit (including source) for performing failover or round robin

CICS TG version 7.2 release added support for TCP/IP load balancing of XA transaction requests across a z/OS Sysplex. It also added support for Dynamic Server Selection through the use of Logical Servers or the CICS request exit. However, these two facilities could not be used together. CICS TG version 8 has lifted this restriction, and allows High Availability solutions to utilize dynamic server selection as well as TCP/IP load balancing with two phase commit XA transactions across a z/OS Sysplex. The SupportPac CA1T has been updated to make use of the new function, providing a configurable CICS request exit that is ready for use in a production environment.

An HA/XA topology



Here we can see an example of a highly available system involving CICS Transaction Gateway routing XA transactions between a number of CICS Application Owning Regions. The JEE application server uses the ECI XA resource adapter to communicate with the z/OS Sysplex, which can then route the request to one of the available LPARs. Each LPAR has a shared TCP/IP port on which the Gateway daemons are listening, and the Gateway daemons are then connected to each of the AORs. Work can be distributed between the AORs using Logical CICS Server definitions or a CICS request exit, and any Gateway daemon in the group can complete an in-doubt transaction on behalf of any other Gateway daemon. In this topology the failure of any component in the sysplex from CICS region to an LPAR does not cause a failure of the whole system, and it is able to continue, albeit at reduced capacity.

Extended interoperability

J2EE Install Verification Test (IVT) program

- Entitles customers to full CICS TG support from IBM provided their J2EE 1.4 certified application server passes the IVT
- Extends interoperability of CICS TG to a wider range of J2EE platforms

Local mode IPIC connectivity from 64-bit J2EE Application Servers

- Avoids the need to have an intermediate 32-bit Gateway daemon

Java 6

- CICS TG for z/OS and CICS TG for Multiplatforms have been updated to be compatible with Java 6
- Java 6 will be the minimum level support for the Gateway daemon in the v8.0 GA release
- Java 6 provides numerous enhancements
 - Performance benefit with improved garbage collection
 - Shared class cache can improve Gateway daemon memory requirements

The ability for client applications to communicate with a CICS server and the technologies used by the CICS Transaction Gateway have been extended within this release. An Install Verification Test program for J2EE application servers is now shipped as part of the product install. This program can be used to check that the ECI resource adapters have been correctly installed and configured. This also allows the CICS Transaction Gateway to support a wider range of JEE application servers. If the IVT runs successfully then the resource adapter can be used within that application server for user created applications. Using 64bit applications servers on Windows®, UNIX® or Linux® used to require an intermediate Gateway daemon. With version 8, providing the communication with CICS is via the IPIC protocol, it is now possible to configure the resource adapter to run in local mode. The CICS TG now supports Java 6. By moving to Java 6 we are able to provide improved performance due to new Garbage collection methods, and use the shared class cache functionality to help reduce memory costs.

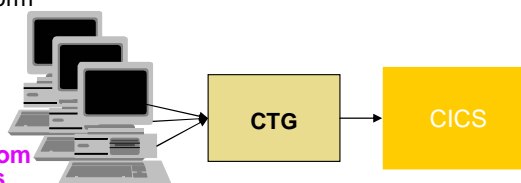
Remote C client – Channels and containers

- ECI v2 C language bindings
 - AIX®, Linux, HP-UX, Solaris, Windows platform support
 - Potential usage from COBOL and .NET environments

- **Now with channels and containers**
 - **Allows the delivery of higher pay loads from remote C, COBOL and .NET environments**

- Migration path from CICS Universal Client
 - Lightweight client footprint
 - Simple code changes from ECI v1

- Exploit CTG QoS
 - Performance
 - High availability
 - Security
 - One phase commit



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Introduction to CICS TG V8

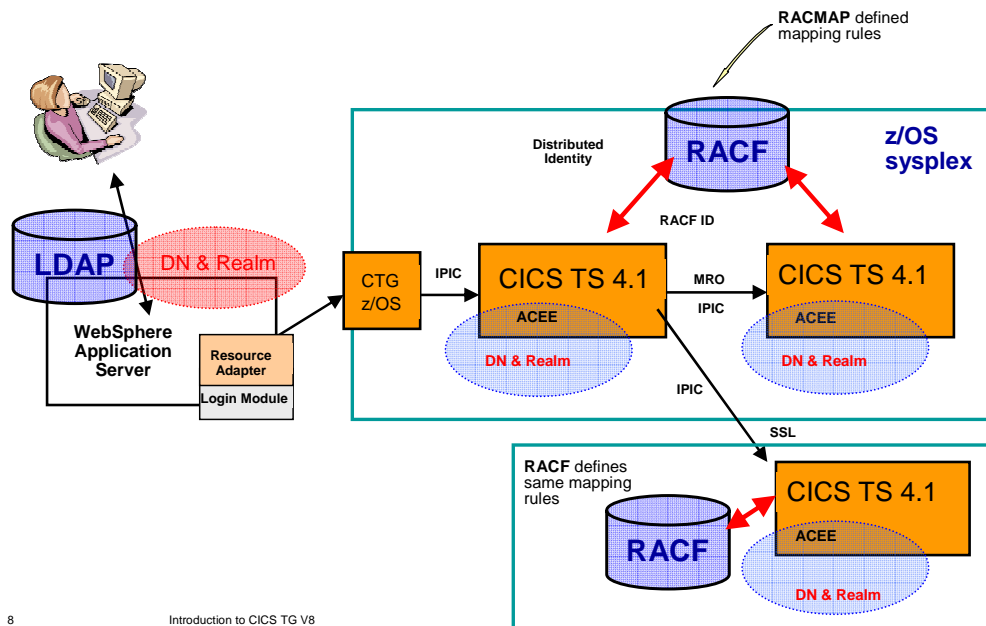
The ECIv2 API, which was first introduced as part of version 7.2, has been extended to support the use of Channels and Containers. This allows applications to move beyond the 32 kilobyte limit of COMMAREAs and structure data more easily.

Identity propagation

- Provides the ability for user's distributed identity to appear in z/OS run-time security context along with the RACF® user ID, associated with the "back-end" process providing for example, enhanced auditing.
- Provide the ability to do identity 'assertions' using a user's distributed identity
 - Thus bypasses need to map "up-front" to z/OS user ID.
 - Places the control of identity mapping within the administrative scope of the z/OS Security Administrator rather than the Application Administrator
 - *Implies that the installed z/OS External Security Manager product supports the mapping of a distributed identity to a z/OS user ID*
- Establishes end-user accountability and control
 - Passing distributed event history to z/OS for proper event logging and possibly access control
 - Potentially, for the future, extensions to access control might use "foreign" user IDs within access control decisions made by RACF

Identity Propagation provides the means for a user's distinguished name to be propagated through a system. This means that the requirement of creating a special user ID for communicating with a CICS region is no longer required, and there is greater auditability of the work that has been done in the CICS region. Support is required from all components in the system, including the external security manager used on the z/OS system. Support is available in CICS 4.1, z/OS 1.11 and WebSphere® application server 6.1.

Identity propagation – WebSphere Application Server multiplatform and CICS TS z/OS

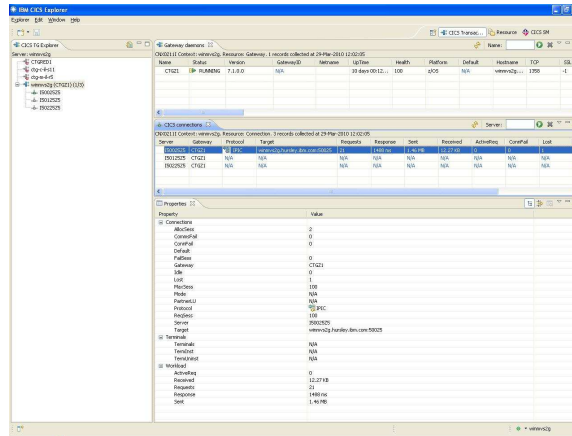


In this diagram we can see how the distinguished name and realm information are passed from the WebSphere Application Server, through a CICS TG running on z/OS, into the CICS regions required to run the transaction. RACF is used to provide a mapping between the supplied information and an ID that can be used by existing CICS security components.

New CICS Explorer support

- The CICS Explorer provides an intuitive, easy-to-use way of managing one or more CICS regions.
- Manage Gateway daemons at version V7.1 or later on any platform.
- Improved set of views and customizations, together with integrated connection management and built-in Gateway and CICS test functions.
- The earlier unsupported SupportPac (CS05) is replaced by the CICS TG V8.0 CICS Explorer plug-in. For further details visit [this link](#)

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



Finally, the CICS Explorer plug-in for CICS TG has been updated to provide a more integrated way of viewing information about Gateway daemons, along side existing information about CICS regions. This replaces the previous SupportPac and can be used to monitor Gateway daemons at version 7.1 or higher.

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