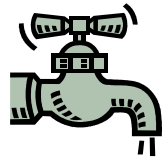




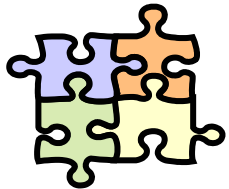
CICS Transaction Gateway Strategy for v6 and beyond

CICS Connectors, strategy and future
development.

What is the CTG?



- 1. Plumbing** - Connectivity into CICS
 - Primary inbound connector to CICS
 - COMMAREA (ECI) and 3270 (EPI) based connectors



- 2. Interfaces** - Java and non-Java APIs
 - JCA API is strategic and provides enhance QoS
 - Base Java, C, COBOL and COM are stabilised



- 3. Integration** - WebSphere and CICS and others
 - 10 versions of CICS supported
 - 3 versions of WAS on 7 platforms
 - Java + 4 other languages (C, C++, COBOL, COM)
 - 5 SNA servers (AIX, Windows, zLinux)

CICS Transaction Gateway - Positioning

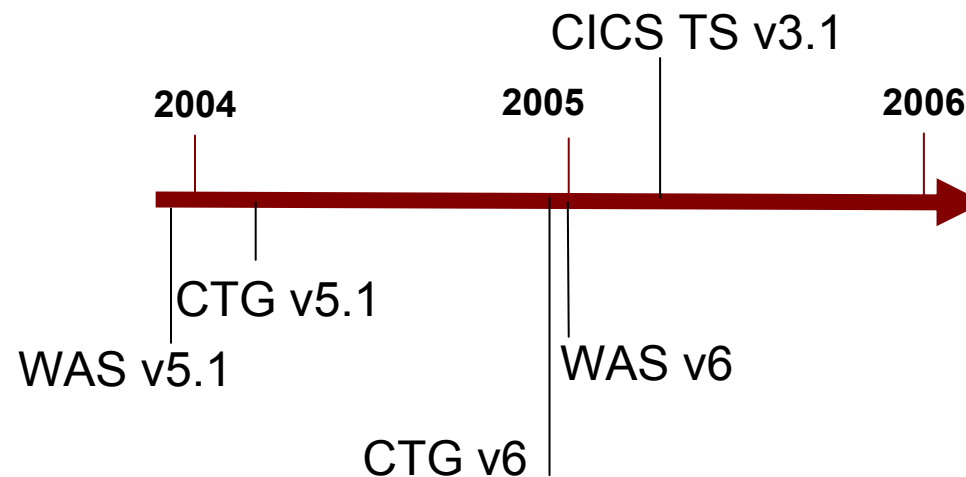
- Preferred implementation for JCA
Access all CICS servers from WebSphere Application Server.
- High performing, secure, scalable and tightly integrated access method
- Ease of installation and flexible configuration
It requires (minimal changes to CICS, - usually no changes to existing CICS applications).
- Supports a range of non Java clients
including C, C++ COBOL and COM

CTG timeline – current release history

- **CTG v3.12**
Entitled product, now EOS
- **CTG v4**
Chargeable product, withdrawn from marketing
- **CTG v4.02**
First J2EE support with WAS v4
Linux/390 support
- **CTG v5**
Dynamic tracing
ARM support
JSSE SSL 128
- **CTG v5.01**
WAS z/OS v5 support - 1 Aug 2003, GA
- **CTG v5.1 – Current release**
1Q/04 release, Java 1.4.1 and WAS 5.1
- **CTG v6**
Dec 2004, Customer value function and WAS v6 support
- **CTG v6.1/v7**
~3Q05/1Q06

CICS TG v6, WAS v6 and CICS TS v3 –release plan

CICS TG v6 Announce:	30th Nov 2004	CICS TS v3.1 Announce:	30th Nov 2004
CICS TG v6 eGA:	10th Dec 2004	CICS TG v3.1 GA:	25 th March 2005
CICS TG v6 GA:	14th Jan 2005		



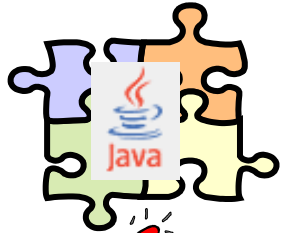
CICS TG v6 includes following products:

- CICS TG v6 for z/OS
- CICS TG v6 for multi-platforms
- CICS UC v6

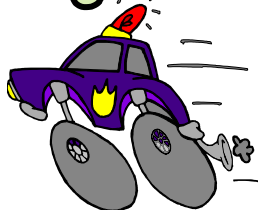
CICS TG v6 development strategy

1. Interoperation and standards
 - Standards are key to our interoperation strategy
2. Customer value
 - Build on our customer value proposition
 - Deliver key requirements
- Four areas of requirements:
 1. Architectural limits
 2. Systems control
 3. Log and trace
 4. API

CTG v6 – What's in the box?



- JCA 1.5 and WebSphere v6 interoperability



- Performance/Scalability



- Systems Management



- Security

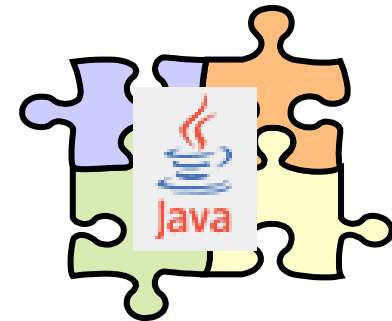


- Ease of Use

CTG v6 – Main features

Theme	Feature	Description
Standards	13205	SMP/E installer and Value unit pricing enablement
Standards	15406	ISMP standard packaging and installation
Standards	15795	Support for NPTL/SLES9 on zLinux and Intel
Standard	16748	APPC support on zLinux
Standards	13198	JCA 1.5 RAR and RAD tooling integration
Customer Value - Architectural limits	14500	Address 100 EXCI pipes limit + CICS TS v2 DCR 7496
Customer Value - Systems control	14829	Basic system controls
Customer Value - Systems control	13473	Consolidated JES logging CTGBATCH replacement for BPXBATCH
Customer Value - Systems control	SSL hardening 13645/15221/13775/14899	JSSE consolidation (no SystemSSL) JCE 4758 Crypto support + RACF keyrings

JCA 1.5 - WebSphere App. Server



- WebSphere App. Server v6 = JCA 1.5 = J2EE v1.4 spec level
- CICS TG v6 ECI and EPI Resource Adapters will support JCA 1.5 only
i.e. CICS TG v6 RARs support WebSphere Application Server v6 only
WebSphere v5/5.1 customers can use CICS TG v5.1 (JCA 1.0) RARs to talk to a **remote**
CICS TG v6 Gateway daemon
CICS TG v5.1 RARS (JCA v1.0) will be made available for download from the internet
- JCA 1.5 provides
J2EE 1.4 Application Server compliance
Connection Optimizations
Note: There is no plan to provide JCA 1.5 inbound support for the CICS TG
- Tooling support:
Rational/WebSphere Studio tooling integration will continue to be provided

Performance - improvements



- CTG z/OS
 - Improved scalability with EXCI pipes
 - Compiler optimizations (~upto ~10K instructions saved)
 - Null truncation optimization (up to ~200K instructions saved in z/OS JNI code)
 - zSeries crypto support for SSL handshakes via JSSE
 - zAAP (IFA) support for CPU offload (~50% offload potential)
- CTG/CUC on multi-platforms
 - Internal runtime tracing improvement upto ~10% general throughput improvement
 - NPTL Linux threading model on SLES9 and RHEL3 – higher scalability
- JCA 1.5
 - Connection optimisations
 - Lazy transaction enlistment – improved performance if RA not enlisted
 - Smart handles – improved connection pooling with get-use-cache
- Java/J2EE remote client
 - Optimized performance when returning data to Java client

EXCI pipe scalability

- **Description:**
 - CICS limits max of 100 allocated EXCI pipes to all CICS regions per each CTG or WAS address space
 - Requirement was for better availability, predictable usage, high performance, and better diagnostics
- **CTG Feature 14500 – EXCI Pipes**
 - Improve error diagnostics as limit is approached - to provide better warnings
 - Provide new option for *one pipe per thread*
 - Existing allocated pipes are de-allocated if the thread needs to allocate to a new region
 - Ensures max number of pipes is equal to max number of threads
- **CICS APAR PQ92943**
 - New user modifiable LOGONLIM in SYS.PARMLIB for each MVS image
 - Default will be 100, maximum will be 250 pipes per EXCI address space
 - Improved performance of EXCI pipe de-allocate in CICS TS v2.3 (~20%)
- **CICS TS v2.3**
 - Improved performance of EXCI pipe de-allocate in CICS TS v2.3 (~20%)

Systems Management: F14829 – Basic system control

- Aim:
 - Allow Gateway daemon to be shutdown in a controlled manner
 - Provide operator interface for basic administration
 - Integrate support with dynamic trace support
 - Align support with standard operating system facilities

- Function
 - Shutdown of Gateway daemon on all platforms
 - Immediate and quiesce shutdown supported
 - SDSF operator interface for MVS
 - Command line interface on UNIX/Windows
 - No impact on local mode for WAS

Systems management function - distributed



- Quiesce support
 - Normal and immediate shutdown options
 - Normal shutdown allows running transactions to terminate
- Improved administration tool
 - Integrated with dynamic trace and shutdown functions
 - New ctgadmin command line interface
- Ability to run as a Windows service or UNIX daemon
 - Standard UNIX script provided (ctgd)
- Improved file handler for Gateway daemon log
 - Manages wrapping and max file size
- APPC support on zLinux
 - Improved connectivity for CTG on Linux on zSeries

System management function – z/OS



- SDSF administration interface
 - New z/OS console administration interface
 - Shutdown and trace admin functions available from z/OS console
- Logging to JES
 - New CTGBATCH shell launcher supports logging to JES (SYSOUT=*) or other DDs.
 - No longer required to run with non-shared address spaces
 - Improved diagnostics when running CTGBATCH
- Improved support for multiple Gateway regions
 - ctgenvar configuration file does not need to be shared amongst all regions
 - ctgenvar can be migrated to STDENV DD member

Security - JSSE



- Aim:

- Consolidate all SSL function onto JSSE

- Support JSSE implementation as provided by IBM SDK 1.4.2 (no JSSE or JCE shipped)

- Remove SSLight and SystemSSL handlers (as per CICS TG v5.1 announce letter)

- Provide equivalent function in JSSE as SystemSSL and SSLight

- Harden SSL support

- Build on z/OS qualities of service

Security



- Function

RACF keyrings - store SSL certificates in RACF

Utilize zSeries hardware crypto support for JSSE SSL handshakes

Provide Ciphersuite select option to enforce security level

Improve diagnostics

Ease of use



- Eclipse infocenter
 - Re-designed searchable on-line documentation
 - Install on workstation or view on ibm.com

- Simplified installation and migration
 - SMP/E standard install on z/OS
 - ISMP standard install on Unix/Windows platforms

- Miscellaneous
 - Lower case configuration files
 - Precompiled EAR samples for WebSphere

Beyond v6 - Future strategy:

1. Interoperation and standards

- Maintain position as de-facto connector for CICS
 - Aim: “Connectivity from any WebSphere to any CICS”
- Support IBM and industry wide standards
- Enhance JCA qualities of service

2. Customer value

- Build on our customer value (performance, security and scalability)
- Deliver key requirements

CICS TG – Future development items

Interoperation/Standards:

- 64 bit WAS z/OS
- IP v6 - IP v6 into CTG from WAS
- eWLM – IBM SWG strategy
- Enterprise Extender - migration for TCP62 customers
- TCP/IP hardening – improved timeouts and usability

Architectural limits

- JCA XAResource (2PC) for CTG z/OS
 - Two phase commit support from Any WAS to a remote CTG on z/OS
 - High priority and long standing requirement from marketing

Customer value

- Monitoring function for Gateway daemon – phase 2 of System Control
 - Provision of access to system metrics
 - Ability to query current state of transactions within the CICS TG
- Log and trace
 - Improved Gateway trace usability and performance
 - Integrated local mode messages with WebSphere message logging