



CICS Transaction Gateway Update

SHARE session 13165

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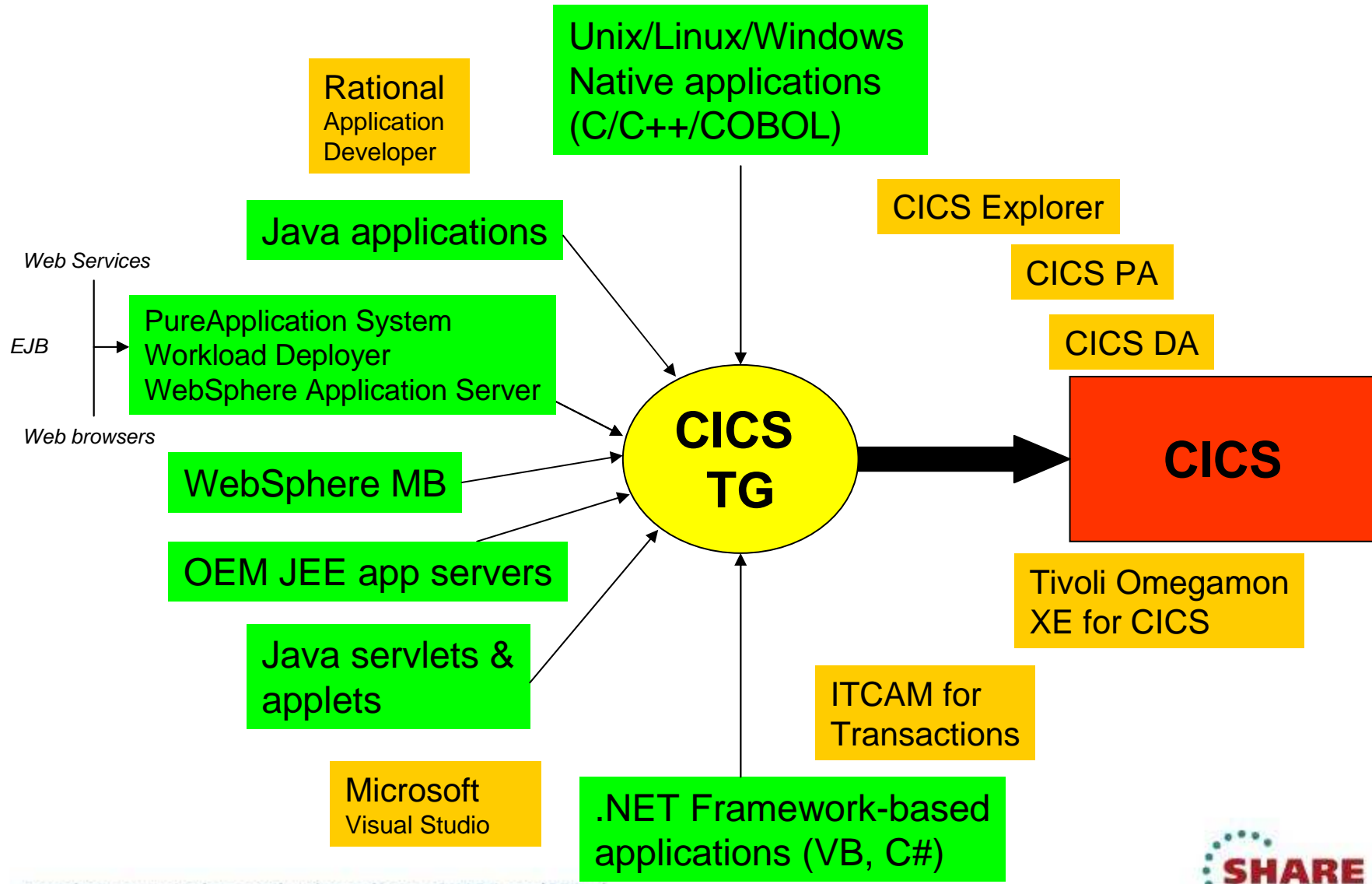
Agenda

- Introducing CICS TG
- What's new in CICS TG?
- Reference resources

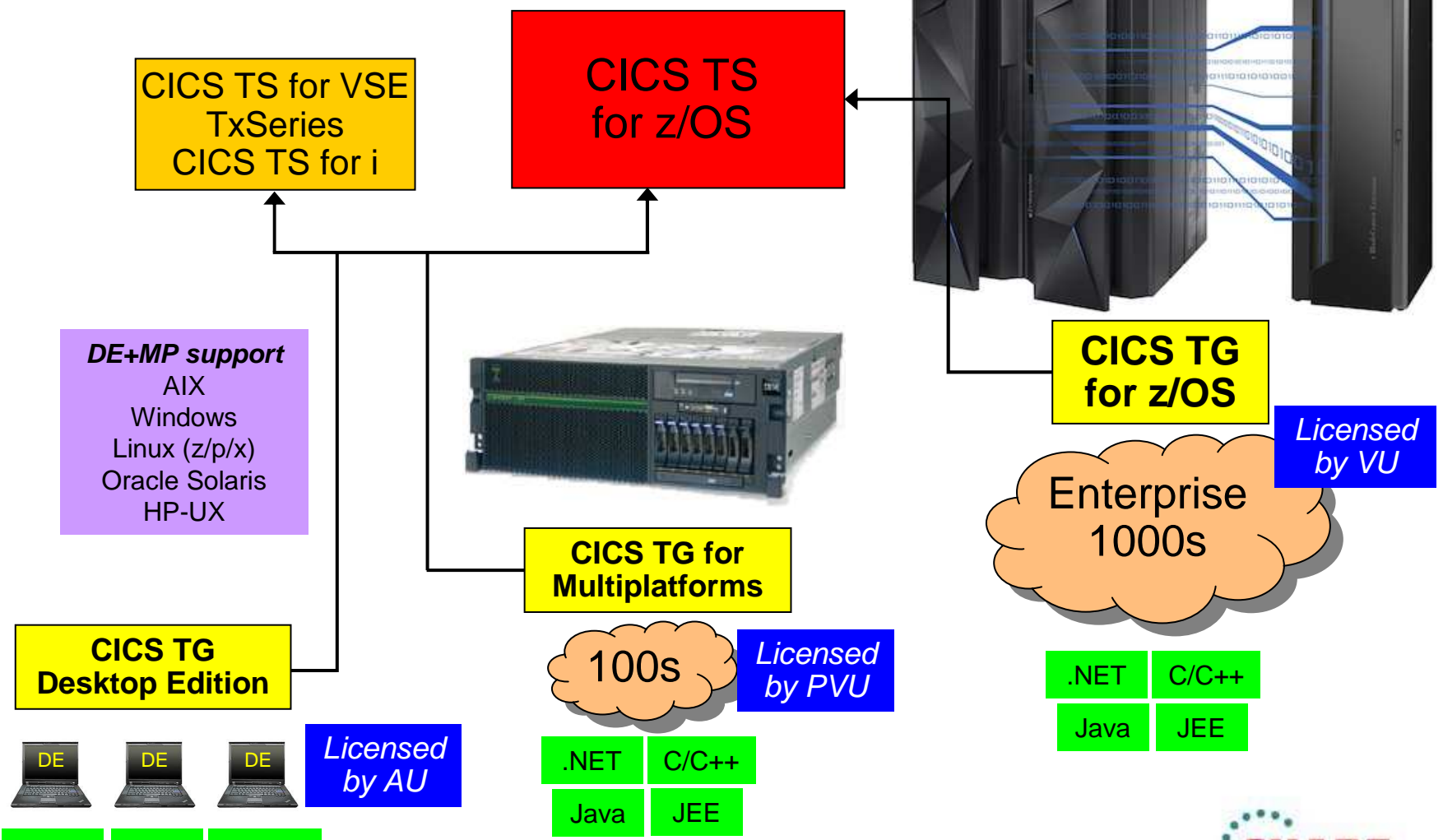
Why CICS Transaction Gateway?

- **CICS connectivity to suit your needs**
- **Proven CICS connectivity for many types of application**
- **Flexible options to match**
 - the scale of your project from single Desktops to System Z
 - your application programmer skills
 - your choice of hardware and operating systems
 - your choice of application platform and technology
- **Longevity of investment**
 - CICS TG has a long history of forward compatibility
 - Solutions can be virtualized, scaled and moved across platforms
 - A IBM Web Application pattern with IBM PureApplication System
- **Non-invasive to existing CICS resources**
 - Low risk with a quick return on investment

What is the CICS Transaction Gateway?



Product positioning



CICS Transaction Gateway – The smart choice

‘CICS Transaction Gateway delivers smart connectivity for your enterprise’



INTERCONNECTED

Optimized for WebSphere Application Server but **open to all**. CICS TG delivers connectivity for other JEE applications servers, in addition to Unix/Linux and Microsoft® .NET environments



INSTRUMENTED

Systems monitoring delivers improved visibility of workload for greater management of resources, including tooling support from CICS Explorer, CICS Performance Analyzer, CICS Deployment Assistant and Tivoli Omegamon XE



INTELLIGENT

High availability provides scalability and fail-over support across the IBM System Z Parallel Sysplex. Support for virtualized platforms includes integration with IBM PureApplication System and IBM Workload Deployer

CICS Transaction Gateway V9.0

Extended scalability, application interoperability, and flexible secure topologies



Announce October 3rd 2012, GA December 14th 2012

**Increased capacity
Reduced complexity**

64-bit z/OS Gateway

Richer dynamic routing & filtering

IPIC connection level timeout

IPIC capacity for 2-tier

Flexible deployment

Asynchronous ECI V2

64-bit C/C++ applications

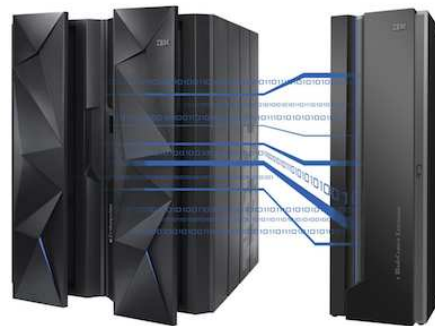
PureApplication System

Java 7
JEE 6
WAS V8.5

RHEL (Intel) compatible

.NET 4

CICS TS V5.1



CICS PA V5.1
CICS DA V5.1
CICS Explorer

More security options

3-tier secure connectivity

Improved identity assertion

Security standards compliance

Secure IPIC with DSS

Deeper insight

Enhanced request monitoring

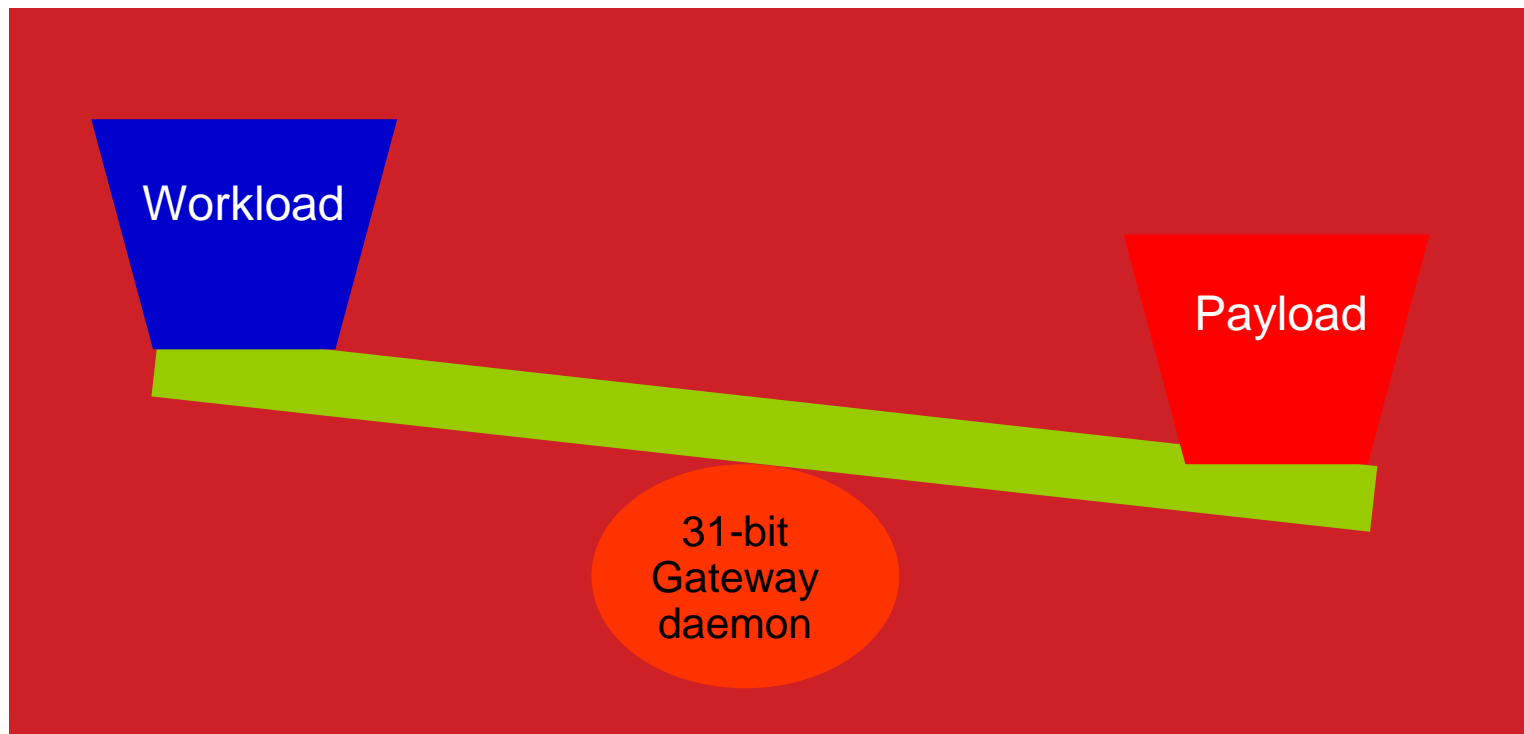
WAS-CICS Transaction tracking

Historical statistics on all platforms

Scalability

Limitations of 31-bit Gateway daemon

- IPIC allows payloads larger than 32KB, and uses more Java heap
- Higher payloads must be traded for fewer concurrent requests



Scalability

64-bit Gateway daemon for z/OS

Increased capacity

- No longer constrained by 31-bit address space limits
- More threads
- Larger payloads
- More threads **AND** larger payloads!
- With CICS TS V5.1 MAXTASK is increased to 2000
 - Vertically grow Gateway daemon capacity

Consolidation opportunity

- Migration to 64-bit can reduce number of address spaces
- Fully exploit IPIC and Dynamic Server Selection after migrating from the constraint of 250 EXCI pipes
- Reduce management and monitoring overheads

Scalability

Limitations of 31-bit Gateway daemon

31-bit Gateway daemon, 375MB heap, REGION 0M (1632MB)

1350 Connection Mangers
999 Worker threads
1 IPIC connection with 999 sessions
32KB payload

Achievable using 31-bit Gateway daemon, 375MB heap, REGION 0M (1632MB)

This configuration is finely balanced in terms of storage

- Larger payloads will lead to excessive Garbage Collection (GC)
- To avoid excessive GC, increase the Java heap size
- Increasing the Java heap requires
 - More REGION storage if it is available
 - Fewer threads if REGION is already at the maximum

Scalability

Examples of 64-bit Gateway daemon storage

Connection managers	Workers	IPIC sessions	Heap max	Heap occupied	64-bit HWM	MEMLIMIT	REGION
1	1	100	128M	23M	253M	n/a	250M
100	100	100	128M	23M	838M	1G	250M
500	500	500	256M	134M	3650M	4G	275M
2000	999	999	512M	286M	9706M	10G	350M

- “Heap occupied” and “64-bit HWM” are taken after IPIC connection is acquired (i.e. session resources allocated), but without workload
- For best performance, use compressed references (`-j-Xcompressedrefs`)

Rule of thumb for Gateway MEMLIMIT

- MEMLIMIT should be *at least*
 - 128MB (core) + Heap size + (#CM+WT threads) * 3MB

High Availability CICS Request Exit enhancements

Routing or filtering by client IP address

- CICS Request Exit now provides the TCP/IP address of the application originating the request
 - **InetAddress** map object “**ClientLocation**”
- Allows routing decisions based upon client location (e.g. subnet)
- Allows rejection of requests from unauthorised locations

Full request details for XA transactions

- CICS Request Exit allows custom Dynamic Server Selection
- CICS TG V8 has limited request meta-data for XA transactions
- CICS TG V9.0 provides all available request meta-data for both XA and non-XA ECI requests
- Allows customized routing logic for High Availability solutions with full distributed two-phase commit

Monitoring Transaction tracking.. Why?

Distributed platform applications

- Middleware integrates business logic for enterprise applications
- Middleware component often provide diagnostics in isolation
- Difficult to gain a high level perspective
 - Product-specific formats, output types and tools
 - Different diagnostic indicators, different tooling

Problem: Users report degraded response time

- Where to start?
- Often requires broad sweep of diagnostics
- Difficult to follow the flow of control through components
- Labour intensive, time consuming and error prone

Monitoring

Introducing Cross Component Trace

Cross component trace (XCT) contexts

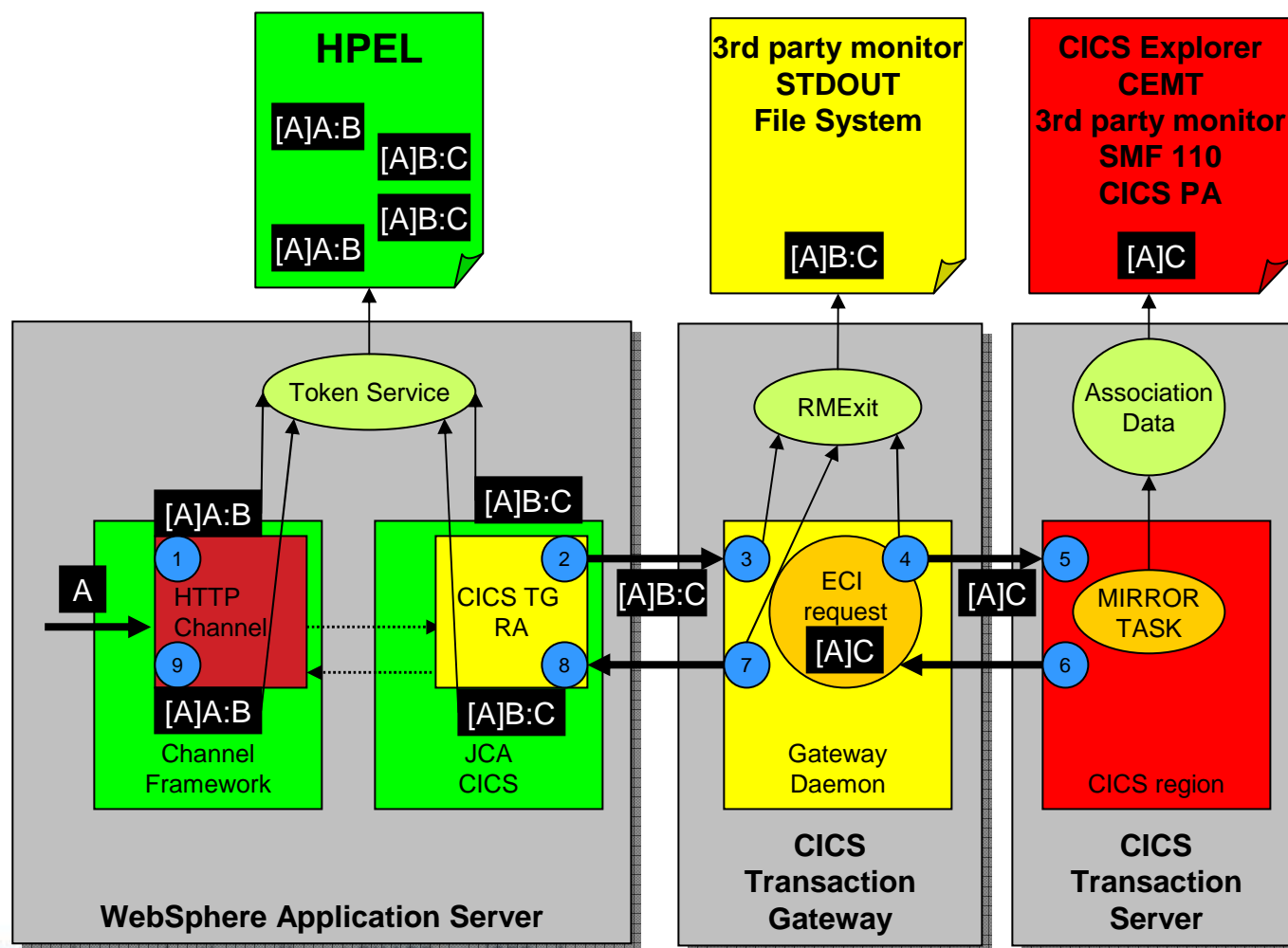
- Available on requests originating from WebSphere Application Server V8.5, with XCT support enabled
- Enabled/disabled
 - Dynamically through the WAS admin console run time options
 - Statically through the WAS admin console configuration
- Uses High Performance Extensible Logging (HPEL)

XCT contexts

- XCT context **Begin** and **End** demarcate component boundaries
 - Contexts are hierarchical
- A thread of execution can have upto 3 XCT contexts at any one time:
 - Root – initial context (**Request ID**) of the component at the point of entry
 - Parent – context of the calling component
 - Current – context of the current component

Monitoring

Cross Component Trace (XCT) Overview



XCT token visibility

WebSphere Application Server HPEL Export

```
[9/3/12 12:45:10:016 GMT] 00000046 I UOW=
source=com.ibm.websphere.XCT
class= method= org=null prod=null component=null
requestID=[BKwWqX+HPuK-AAAAAAAAAAG]
BEGIN BKwWqz2kOGV-AAAAAAAAAAE
BKwWqz2kOGV-AAAAAAAAAAD
ECIRA(Server(24TGNSIP) Program(EC01))
source=com.ibm.websphere.XCT
class= method= org=null prod=null component=null
thread=[WebSphere WLM Dispatch Thread t=007c40b8]
requestID=[ BKwWqX+HPuK-AAAAAAAAAAG ]
END BKwWqz2kOGV-AAAAAAAAAAE BKwWqz2kOGV-AAAAAAAAAAD
ECIRA(Server(24TGNSIP) Program(EC01) RC(ECI_NO_ERROR))
```

CICS TG
annotation

XCT token visibility

CICS TG Request Monitoring Exit

```
com.ibm.ctg.samples.requestexit.BasicMonitor:eventFired called with event = RequestDetails  
FlowType = EciSynconreturn
```

```
XctRoot = BKwWqX+HPuK-AAAAAAAAAAAG  
XctParent = BKwWqz2kOGV-AAAAAAAAAAD  
XctCurrent = BKwWqz2kOGV-AAAAAAAAAAE
```

```
Server = 24TGNSIP  
Location = /0.00.100.70  
ClientLoca
```

```
Payload =  
  First 3  
  Last 32
```

```
WireSize =  
CicsReturn  
CicsServer  
RetryCount  
CicsCorrelator =  
  User Correlator = 'XCT.....  
  BKwWqX+HPuK-AAAAAAAAAAAG  
  BKwWqz2kOGV-AAAAAAAAAAE'
```

```
XctRoot = BKwWqX+HPuK-AAAAAAAAAAAG  
XctParent = BKwWqz2kOGV-AAAAAAAAAAD  
XctCurrent = BKwWqz2kOGV-AAAAAAAAAAE
```

XCT token visibility

CICS TS CEMT INQUIRE ASSOCIATION(<task ID>)

```

INQ ASSOC(364)
STATUS:  COMMAND EXECUTION COMPLETE                NAME=
EXEC CICS  INQUIRE ASSOCIATION( +0000364 )
  < LIST LISTSize() < SET() > < DNAMELen() > < REALMLen() > >
  < DNAME( '.....' ..... ) >
  < REALM( '.....' ..... ) >
  < USERCorrdata( 'XCT      BKwWqX+HPuK-AAAAAAAAAAG BKwWqz2kOGV-AAAAA' ..... ) >
  
```

CICS Explorer Task Associations view

Region	Task ID	Start Time	Trans ID	User Correlation Data
IY24TGNS	0000364	12:45:10.2667	CSMI	XCT BKwWqX+HPuK-AAAAAAAAAAG BKwWqz2kOGV-AAAAA
IY24TGNS	0000370	12:45:14.4023	CWWU	

CICS SMF monitoring data

- SMF type 110, sub-type 01 Monitoring records, performance class
- Enabled via SIT MN=ON, MNPER=ON

End to end transaction tracking



WAS
XCT via HPEL

```
requestID=[BKwWqX+HPuK-AAAAAAAAAAAG]
BEGIN BKwWqz2kOGV-AAAAAAAAAAAE
BKwWqz2kOGV-AAAAAAAAAAD
ECIRA(Server(24TGNSIP) Program(EC01))
```

CICS TG
Request
Monitoring

```
XctRoot = BKwWqX+HPuK-AAAAAAAAAAAG
XctParent = BKwWqz2kOGV-AAAAAAAAAAD
XctCurrent = BKwWqz2kOGV-AAAAAAAAAAAE
```

User Correlator = "XCT.....
BKwWqX+HPuK-AAAAAAAAAAAG BKwWqz2kOGV-AAAAAAAAAAAE"

CICS TS: CEMT and CICS Explorer

USERCorrdata('XCT BKwWqX+HPuK-AAAAAAAAAAAG BKwWqz2kOGV-AAAAA' ...)

Region	Task ID	Start Time	Trans ID	User Correlation Data
IY24TGNS	0000364	12:45:10.2667	CSMI	XCT <u>BKwWqX+HPuK-AAAAAAAAAAAG</u> BKwWqz2kOGV-AAAAAAAAAAAE
IY24TGNS	0000370	12:45:14.4023	CWWUJ	

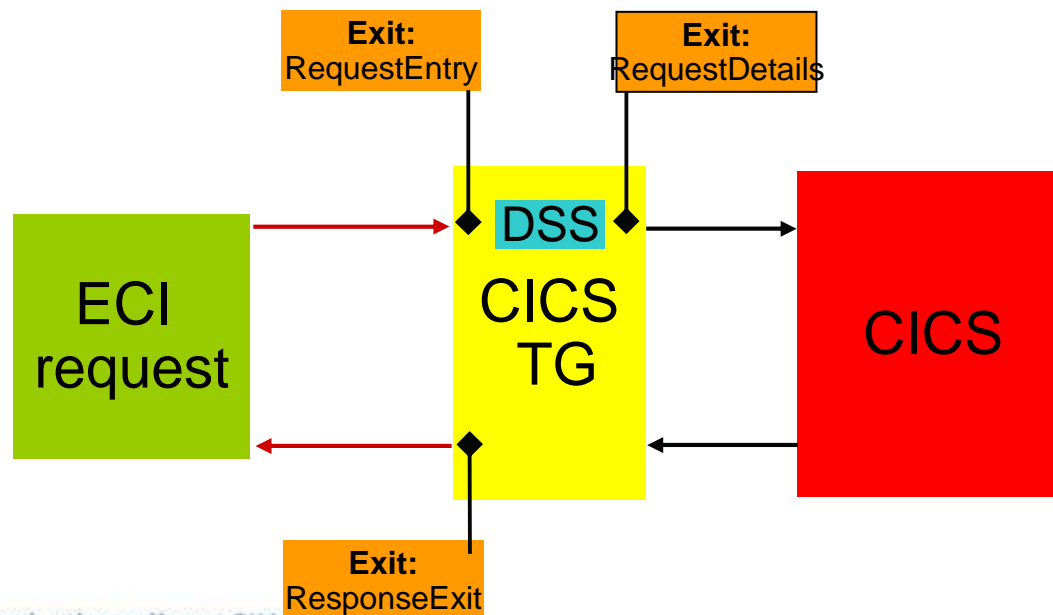


Monitoring

Request Monitoring enhancements

New Request Monitoring exit point “RequestDetails”

- Invoked just before calling CICS, **after** Dynamic Server Selection
- Allows clear visibility of target CICS server for HA solutions
- Very useful for time outs, or hung request scenarios



Monitoring

Request Monitoring enhancements

Channel payload details

- The **RequestData** map passed to the Request Monitoring Exit now includes detail on Channel payloads
- A “**ChannelInfo**” object is provided for ECI requests which contain a Channel payload
- Details include Channel name, container names, container types, and container payload size
- The exit does not provide access to the channel data itself

Sample Request Monitoring output

Channel = SAMPLECHANNEL

CICSDATETIME(CHAR) = 19 characters

INPUTDATA(CHAR) = 3 characters

OUTPUTMESSAGE(CHAR) = 200 characters

INPUTDATALENGTH(BIT) = 4 bytes

Monitoring

Statistics recording on Multiplatforms

Historical statistics recording

- Available in CICS TG for Multiplatforms and CICS TG Desktop Edition
- Provides historical snap shots of CICS TG statistics
- Equivalent to CICS TG for z/OS SMF type 111 records
- Activated by Gateway daemon configuration
- Controlled by statistics interval and logical end-of-day

XML format

- Designed to be extensible and flexible
- XML file are written to the local file system

Automatic file management

- Optional automatic file names (per Gateway daemon instance)
 - Allows easy archiving or pruning

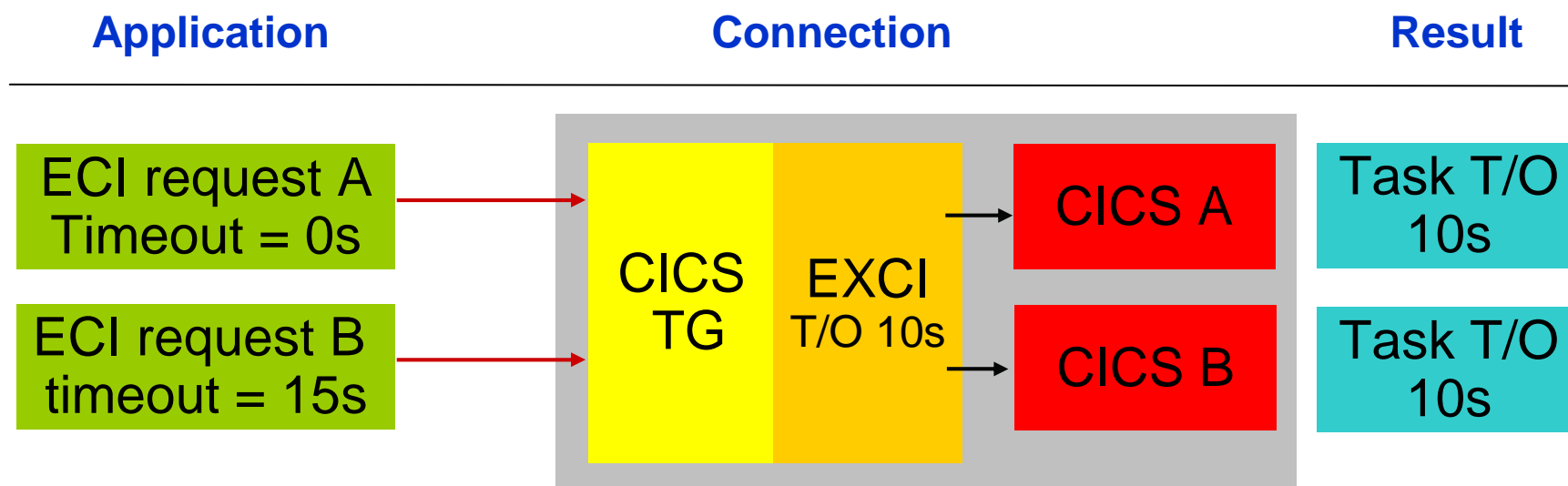
Monitoring Statistics recording on Multiplatforms

Sample output

```
<?xml version="1.0" encoding="UTF-8" ?>
- <ctgStatistics xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="ctgstatslog.xsd">
- <statRecord type="interval" length="60" time="2012-09-10T12:39:00">
- <resourceGroup name="CS">
- <statistic type="Lifetime">
  <name>LCOUNT</name>
  <value type="Integer">0</value>
</statistic>
- <statistic type="Lifetime">
  <name>LLIST</name>
  <value type="String" />
</statistic>
- <statistic type="Startup">
  <name>SCOUNT</name>
  <value type="Integer">2</value>
</statistic>
```


Enhancements to IPIC connectivity

Connection level time out

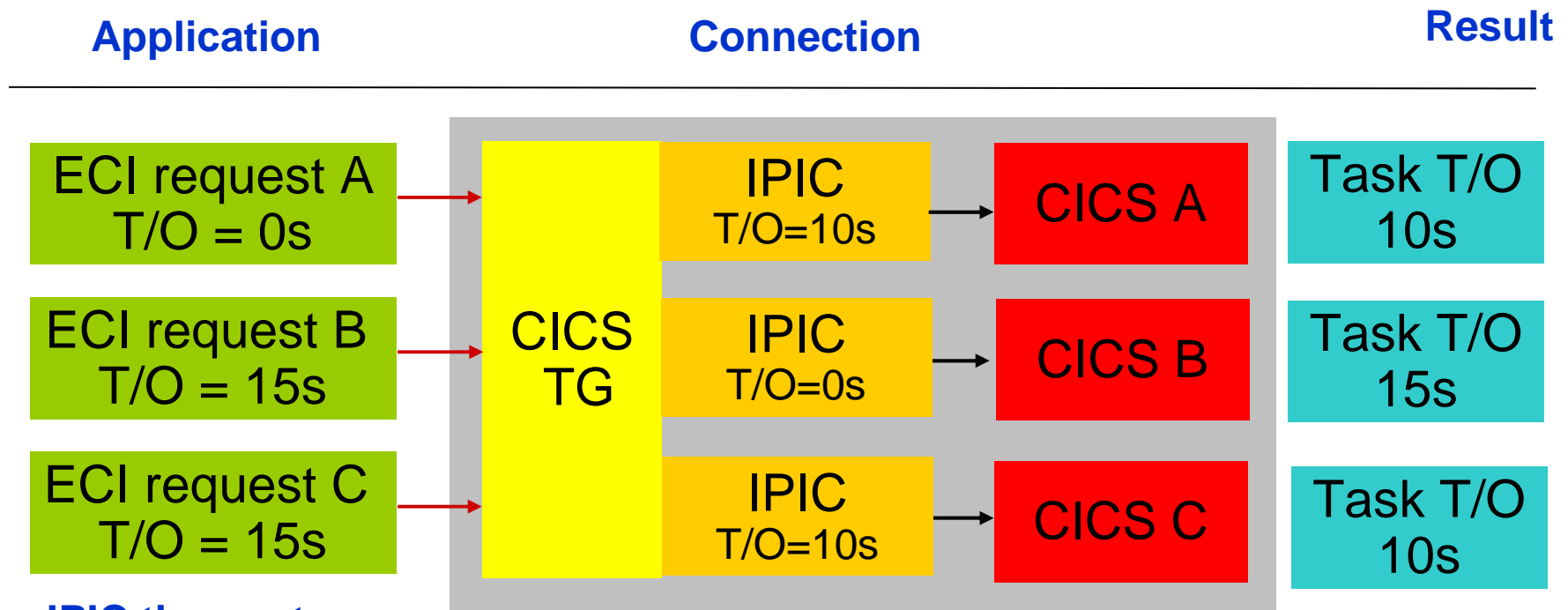


EXCI time out

- Specified at the Gateway daemon level
- Overrides application request ECI time out
- Widely adopted
 - *Protects against “rogue” applications specifying indefinite time out*

Enhancements to IPIC connectivity

Connection level time out



IPIC time out

- Specified at the CICS connection level
- Optionally overrides application request ECI time out
- Aids migration from EXCI to IPIC
 - *Provides equivalence to EXCI where required*

Enhancements to IPIC connectivity

Local mode IPIC session limit

- Pre V9.0, local mode connections were restricted to 100 sessions
- Number of IPIC sessions is negotiated with CICS (like APPC CNOS)
- Local mode applications must consider increased heap requirements

JCA connection factory

- New Custom property “**ipicSendSessions**” (default 100 sessions)

<u>ipicSendSessions</u>	100	For local mode, the number of simultaneous transactions or CICS tasks that are allowed over the connection when using an IPIC connection
-------------------------	-----	--

Local mode Java applications

- Override the default of 100 sessions via new JavaGateway property:
CTG_IPIC_SENDSSESSIONS

Application run time support

64-bit support

64-bit application support

- Modern C/C++ applications are using 64-bit compilers
- Solutions increasingly require exclusively 64-bit libraries rather than a mixed-mode approach

64-bit ECI Version 2 / ESI Version 2

- CICS TG V9.0 adds 64-bit compiler and run time support to APIs
 - ECI Version 2
 - ESI Version 2
- Supported on Windows, Linux, AIX, HP-UX and Solaris
- Well written 32-bit applications can simply be re-compiled

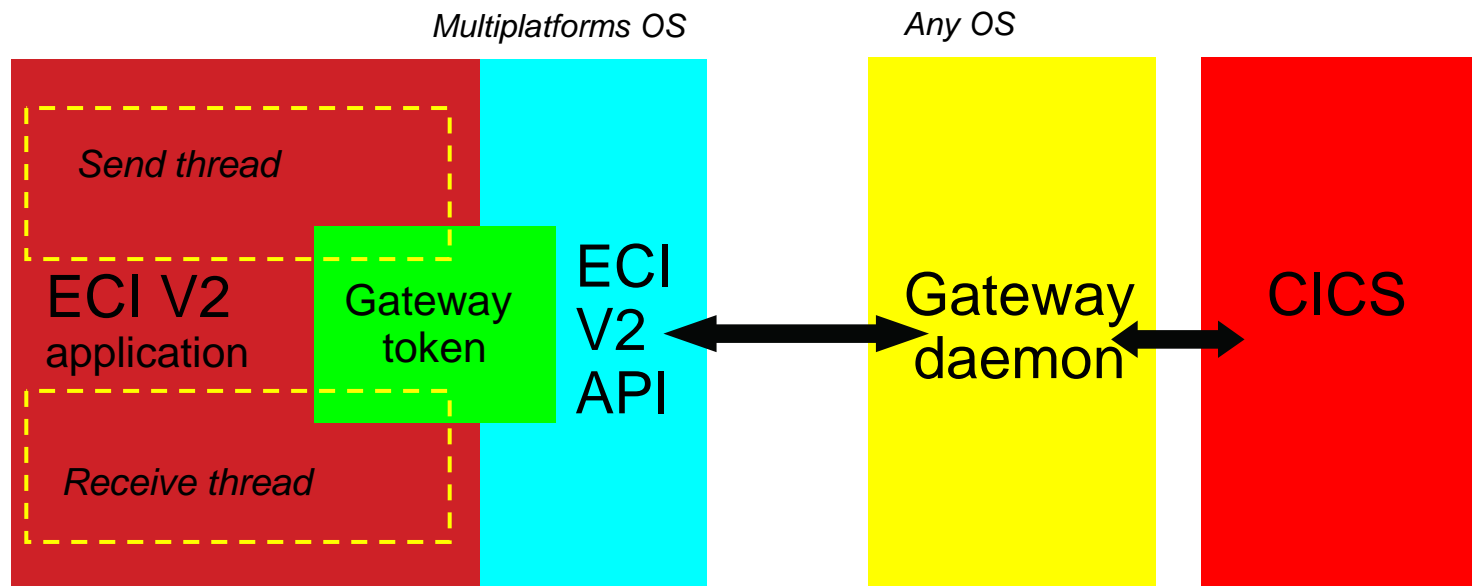
Java, JEE and .NET APIs already have 64-bit interoperability

Application programming

ECI Version 2 enhancements

ECI Version 2 asynchronous call support

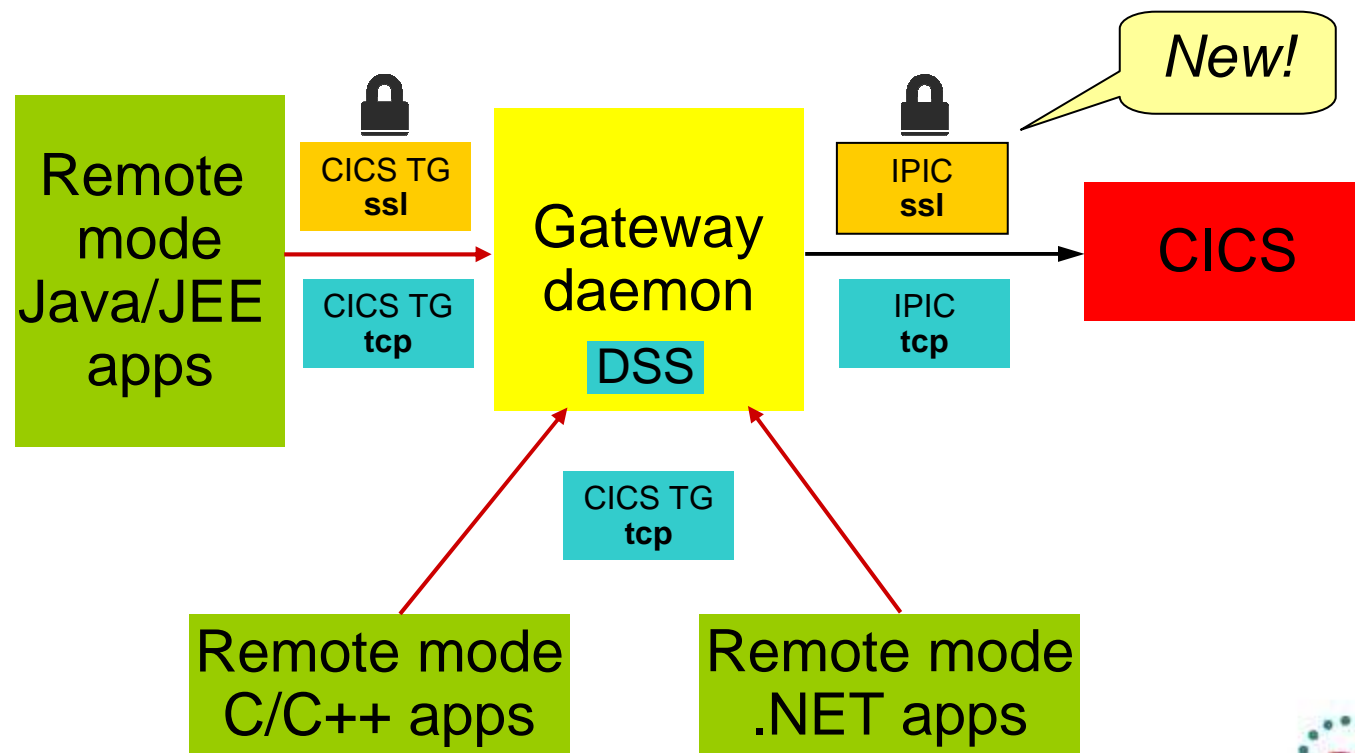
- Multithreaded C applications often isolate request and response logic
- Creating a threading model around a synchronous API is problematic
- ECI V2 API has been extended to provide asynchronous calls
- Supports both COMMAREA and Channel program ECI calls



Security

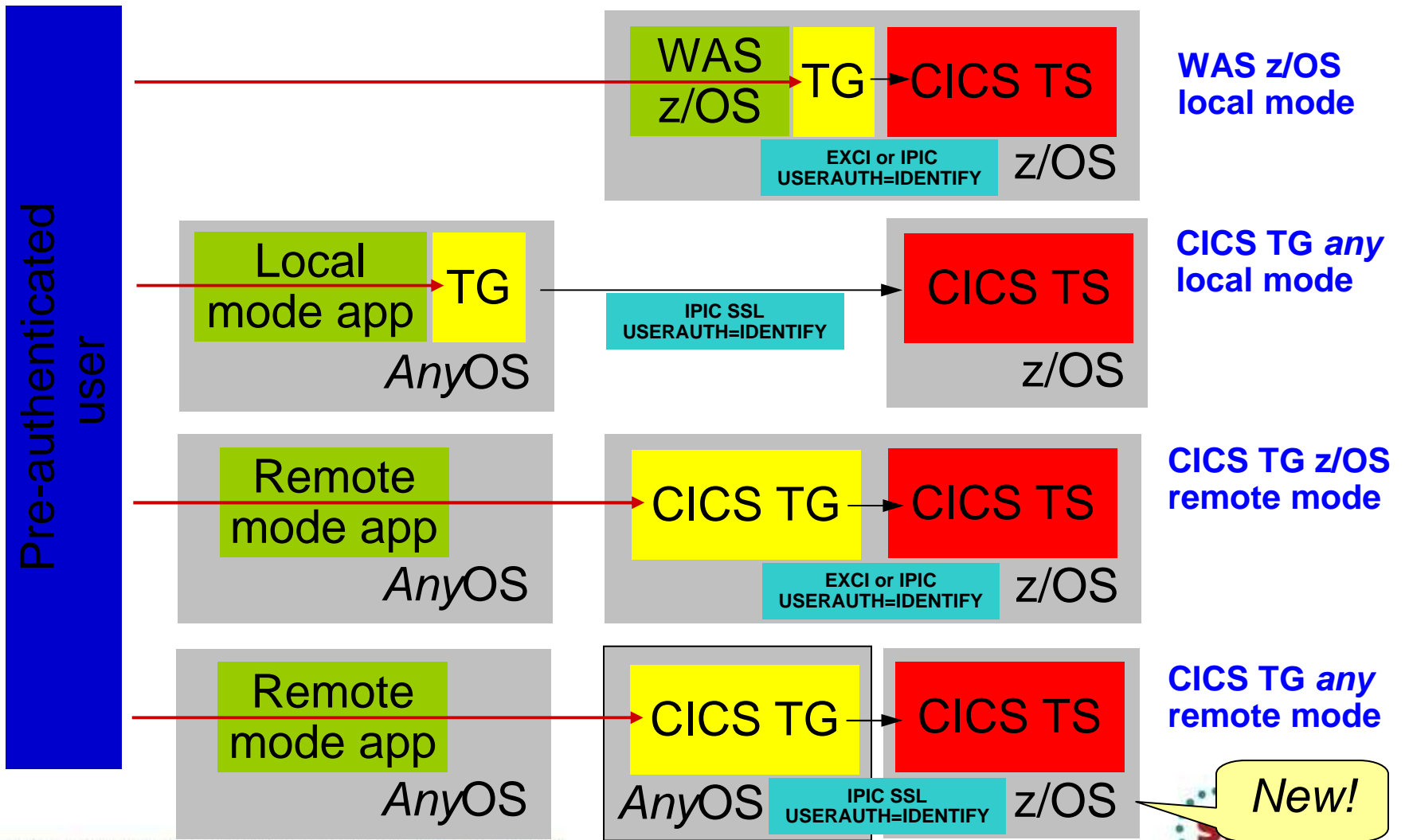
Secure connectivity for 3-tier solutions

- Allows secure connectivity with all of the features offered by the Gateway daemon e.g. Dynamic Server Selection
 - Allows identity assertion (+ID Propagation) with 3-tier Multiplatforms



Security

Trusted connections allow ECI identity assertion



Security

Remote mode IPIC SSL: Greater flexibility



Identity assertion

- Allows a CICS transaction to run against pre-authenticated user ID using IPIC connections. Pre-V9.0, this was only possible with:
 - CICS TG for z/OS: *local mode from WAS z/OS or, remote mode with the Gateway daemon and CICS server within the same z/OS Sysplex*
 - CICS TG for Multiplatforms/Desktop Edition: *local mode SSL IPIC*

Identity Propagation

- Identity Propagation from WebSphere Application Server to CICS TS for z/OS requires IPIC connections with USERAUTH(IDENTIFY)
- V9.0 allows **CICS TG for Multiplatforms** (with WAS) to exploit Identity Propagation in **remote mode**, as well as local mode configurations

Security: Password phrases

Password phrases supported extended on z/OS

- CICS TG Version 8.1 introduced password phrase support for IPIC connections with CICS TS V4.2
 - When the target CICS server is connected using IPIC, authentication is delegated to CICS
- CICS TG for z/OS Version 9.0 supports password phrase support for EXCI connections
 - When the target CICS server is connected using EXCI, authentication is completed by the Gateway daemon

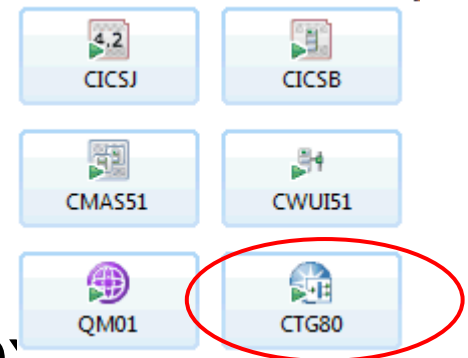
CICS Tools Enhancements

CICS Performance Analyzer V5.1

- Adds pre-canned reports for CICS Transaction Gateway for z/OS
 - Configuration summary
 - Activity summary

CICS Deployment Assistant V5.1

- Gateway daemons included in CICSplex discovery and visualization





<http://ibm.biz/Bdxiga>

<http://tinyurl.com/RFE-CICSTG>

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Summary of RFEs completed for V9.0



Brand:*

Product family:*

Product:*

RFE	Title
17173	Asynchronous call support for ECI Version 2 applications
21081	Transaction tracking from WAS into CICS through CICS TG
21082	Support for Gateway daemon running in a 64-bit JVM
21085	Additional exit point for Request Monitoring
21642	Remote Mode SSL for IPIC Connections
21828	Bi-directional language support
21871	Make program and transaction available to the CICS Request Exit for XA transactions
21872	ECI_TIMEOUT default value for IPIC connections
21875	64-bit C module compilation support for ECIv2 on AIX (IBM POWER) and Red Hat (x86)
22036	CICS Request Exit to provide client IP address
22049	Assembler DSECTs for mapping the SMF 111 records
22081	Sample SMF formatter CTGSMFRD support for mixed-release installations
22088	Information about channels in request monitoring exits
22108	Asserted identity support for Multiplatforms C applications making ECI requests

Statement of direction

From CICS TG V9.0 Announcement Letter ENUS212-323

IBM intends for future maintenance roll-ups of IBM CICS Transaction Gateway for Multiplatforms V9.0 and IBM CICS Transaction Gateway Desktop Edition V9.0 to provide support for Oracle Solaris 11, Microsoft Windows 8, and Microsoft Windows Server 2012.

IBM intends in the future to deliver a SupportPac to provide Secure Sockets Layer (SSL) connectivity for Microsoft .NET Framework-based applications in a three-tier (remote mode) topology, for use with IBM CICS Transaction Gateway V9.0.

IBM intends for future maintenance roll-ups of IBM 31-bit and 64-bit SDK7 for z/OS Java Technology Edition, Version 7, to provide exploitation of new IBM zEnterprise EC12 features. This includes IBM z/OS V1.13, Flash Express for paging and pageable large pages, Transactional-Execution facility, miscellaneous-instruction-extension facility, and support for up to 2 GB-sized pages, leading to potential improvements in performance for solutions utilizing the Gateway daemon component of IBM CICS Transaction Gateway.

Resources & Support CICS TG V9.0

CICS TG Version 9.0 Announcement letter ENUS212-323

<http://tinyurl.com/cicstg90announce>

CICS TG Version 9.0 Datasheet GI13-0598

<http://tinyurl.com/cicstg90datasheet>

CICS TG on-line information centres *(live December 14nd, 2012)*

- **z/OS:** <http://publib.boulder.ibm.com/infocenter/cicstgzo/v9r0/index.jsp>
- **MP:** <http://publib.boulder.ibm.com/infocenter/cicstgmp/v9r0/index.jsp>

Scenario sections provide useful example topologies with config details

Resources & Support

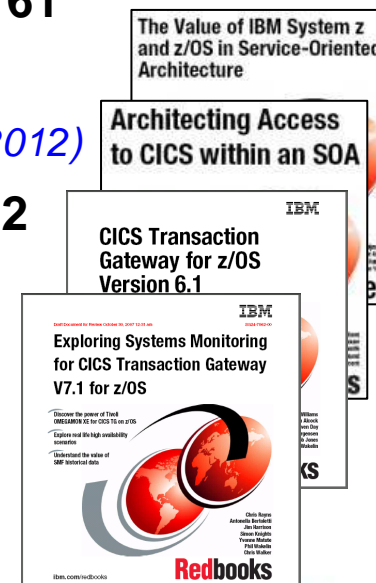
ITSO Redbooks / Red Papers

CICS TG

- Using CICS Transaction Gateway with High Availability and the CICS Explorer, **REDP4782**
- Developer Connector Applications for CICS, **SG24-7714**
- CICS TG V7.1 Systems Monitoring, **SG24-7562**
- CICS TG for z/OS V6.1 (XA, WAS z/OS, security), **SG24-7161**

CICS TS and z/OS

- CICS on System z for Architects, **SG24-8067** *(New for October 2012)*
- The Value of IBM System z and z/OS in an SOA, **REDP4152**
- z/OS Identity Propagation, **SG24-7850**
- Architecting Access to CICS within an SOA, **SG24-5466**
- J2C Security on z/OS, **REDP4202**



Resources & Support

CICS TG articles

DeveloperWorks

“CICS Transaction Gateway and AIX workload partitions”

http://www.ibm.com/developerworks/websphere/library/techarticles/1111_mawer/1111_mawer.html

“Accessing CICS from Microsoft .NET applications using CICS Transaction Gateway”

http://www.ibm.com/developerworks/websphere/library/techarticles/1012_crockett/1012_crockett.html

“Exploiting the J2EE Connector Architecture: Integrating CICS and WebSphere Application Server using XA global transactions”

http://www.ibm.com/developerworks/websphere/techjournal/0607_wakelin/0607_wakelin.html

“Connecting from Groovy to CICS using the CICS Transaction Gateway”

http://www.ibm.com/developerworks/websphere/library/techarticles/1010_knights/1010_knights.html

Resources & Support

CICS TG articles

Whitepapers

“IBM CICS IP interconnectivity: New features in Version 4.2”

ftp://public.dhe.ibm.com/software/http/cics/pdf/CICS_TS_V4.2_Connectivity_paper_final.pdf

“Delivering quick access to CICS systems using strategic integration options”

<http://publib.boulder.ibm.com/infocenter/ieduasst/stgv1r0/topic/com.ibm.iea.cicsts/cicsts/3.1z/Resources/G224-7557-00.pdf>

“Integrating WebSphere Application Server and CICS using the JCA”

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

“Transactional integration of WebSphere Application Server and CICS with the JCA”

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

Resources & Support

CICS TG articles

Enterprise Tech Journal (formerly zJournal)

“High Availability Using CICS Transaction Gateway and CICS Transaction Server”

<http://enterprisesystemsmedia.com/article/high-availability-using-cics-transaction-gateway-and-cics-transaction-serve>

“CICS and Identity Propagation: Solving the End-to-End Security Challenge”

<http://enterprisesystemsmedia.com/article/cics-and-identity-propagation-solving-the-end-to-end-security-challeng>

“Peering Into the IBM CICS Transaction Gateway Black Box”

<http://enterprisesystemsmedia.com/article/peering-into-the-ibm-cics-transaction-gateway-black-box>

Resources & Support

www.ibm.com/cics/ctg

IBM Software > Host Transaction Processing > CICS family >

CICS Transaction Gateway

CICS Transaction Gateway Desktop Edition Now Available

Overview

CICS Transaction Gateway is IBM's market-leading connector, production proven in over a thousand customers for enterprise modernization of CICS assets

What we offer

Connectors

CICS Transaction Gateway for z/OS

Provides highly-scalable, multi-user access to CICS TS for z/OS, and is the recommended deployment platform for the highest qualities of service.

CICS TG Desktop Edition

Provides low-cost, single-user access to CICS, including all the function of CICS Universal Client V7.1 with the addition of the latest operating system and compiler support.

CICS Transaction Gateway for Multiplatforms

Delivers scalable, multi-user access to CICS TS for z/OS, CICS TS for VSE, TXSeries, and CICS TS for I, and is an ideal deployment option for less-demanding environments...

Products

Product comparison

Compare CICS Transaction Gateway products

Find out which CICS Transaction Gateway product is the correct solution for you, comparing them all.

Website is the best place for up to date information:

- ▶ Announcement Letters
- ▶ Datasheets/Brochures
- ▶ Redbooks
- ▶ Whitepapers
- ▶ Presentations
- ▶ Technical Library
- ▶ APAR RSS feed
- ▶ And more....

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[View existing requirements](#)

<http://tinyurl.com/CICSTG-RFE>

CICS TG V9.0 Supported hardware

- IBM System z® machine supported by z/OS or Linux®
- 64-bit IBM System p® supported by IBM AIX® or Linux
- 32-bit or 64-bit Sun SPARC system supported by Oracle Solaris Operating Environment
- 64-bit HP Itanium® system supported by HP-UX
- Intel® Pentium®, AMD Opteron or Intel EM64T system supported by Windows operating system or Linux

CICS TG V9.0

Supported operating systems

- z/OS V1.12 or later
- AIX V6.1, AIX V7.1 (64-bit kernel)
- Linux on System z: RHEL 5, SLES 10, SLES 11 (64-bit kernel)
- Linux on Intel: RHEL 5, RHEL 6, SLES 10, SLES 11 (32-/64-bit kernel)
- Linux on POWER® RHEL 5, RHEL 6, SLES 10, or SLES 11 (64-bit kernel)
- Oracle Solaris V10 (32-/64-bit kernel)
- HP-UX11i V2 or V3 (32-/64-bit kernel)
- Windows Vista (32-/64-bit kernel) including Business, Enterprise and Ultimate editions
- Windows 7 (32-/64-bit kernel) including Business, Professional, Enterprise and Ultimate editions
- Windows 2008, and Windows 2008 R2 (32-/64-bit kernel) including Standard, Enterprise and Datacenter editions

Note: Standard edition includes Windows Small Business Server

CICS TG V9.0

CICS server support

- CICS Transaction Server for z/OS V3.1, or later
- CICS Transaction Server for z/OS V4.1, or later
- CICS Transaction Server for z/OS V5.1, or later
- CICS Transaction Server for VSE V1.1.1
- TXSeries for Multiplatforms V6.2
- TXSeries for Multiplatforms V7.1
- CICS Transaction Server V5.4 for i5/OS, or later
- CICS Transaction Server V6.1 for iSeries, or later
- CICS Transaction Server V7.1 for i, or later

CICS TG V9.0 JEE Application Server support

- IBM WebSphere Application Server V7.0
- IBM WebSphere Application Server V8.0
- IBM WebSphere Application Server V8.5
- IBM WebSphere Community Edition
- Other JEE application servers. Use the Installation Verification Test (IVT) provided with CICS Transaction Gateway V9.0 to check whether a specific JEE application server can be used. Examples:
 - Oracle Glassfish Server
 - Oracle WebLogic Server
 - JBOSS Application Server (*Red Hat*)
 - Apache Geronimo (*unbadged WAS CE*)

CICS Transaction Gateway Desktop Edition does not include JEE support

Feature comparison



CICS Transaction Gateway V9.0				
Features		Desktop Edition	Multiplatforms	z/OS
Number of users		Single-user	100's to 1000's	1000s +
Programming interfaces		ECI, EPI, ESI	ECI, EPI, ESI	ECI, ESI
Programming languages		Java, .NET, C/C++, COBOL	Java, .NET, C/C++, COBOL	Java, .NET, C/C++, COBOL
Networking options		TCP/IP, IPIC, SNA	TCP/IP, IPIC, SNA	EXCI, IPIC
Request monitoring and statistics functions		Y	Y	Y (Additional support with CICS PA and/or OMEGAMON XE)
Application Servers		n/a	.NET, JEE	.NET, JEE
CICS Explorer		Y	Y	Y
Application style		Desktop	Desktop Application server	Desktop Application server
Operating systems	Client	Windows, Linux, UNIX	Windows, Linux, UNIX	Windows, Linux, UNIX, z/OS
	Gateway	Windows, Linux, UNIX	Windows, Linux, UNIX	z/OS
2-phase commit		N	JCA (XA)	JCA (XA)
High Availability		Dynamic server selection (User exit) Windows workload manager	Dynamic server selection (User exit) Windows workload manager	Dynamic server selection (Out of the box)

Acknowledgements

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