



# IBM System z Software Premier Executive Briefing Event

Presenter – Guy Shevik

CICS - Minimize costs and maximize your  
CICS investments to your Advantage.

Date: 4Q 2012



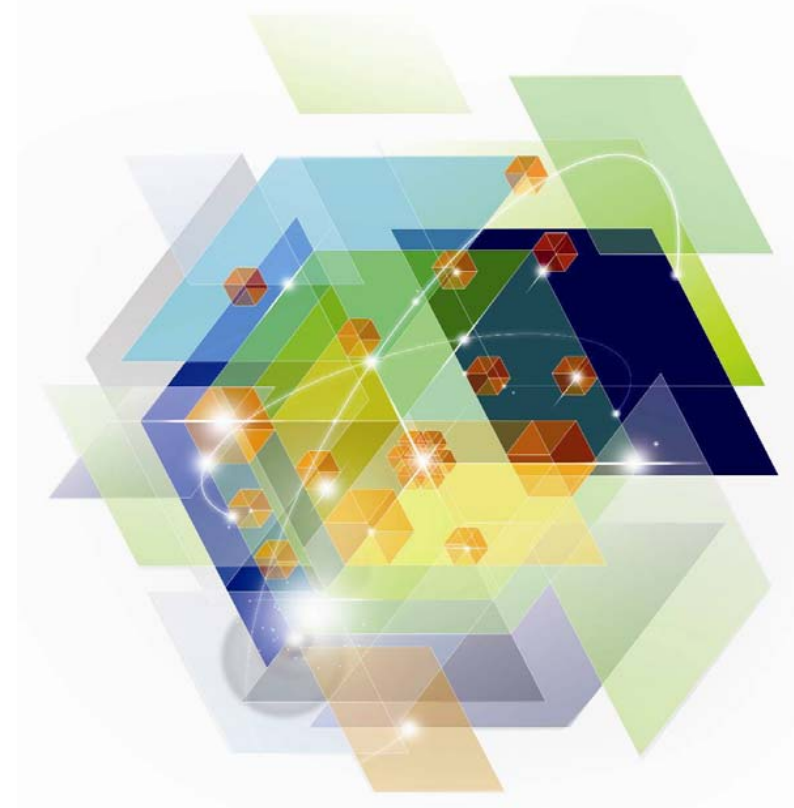
# Agenda

- Issues facing CICS operational staff
- Extract Information – predict problems
- Operational Health
- Integration
- Summary
- References

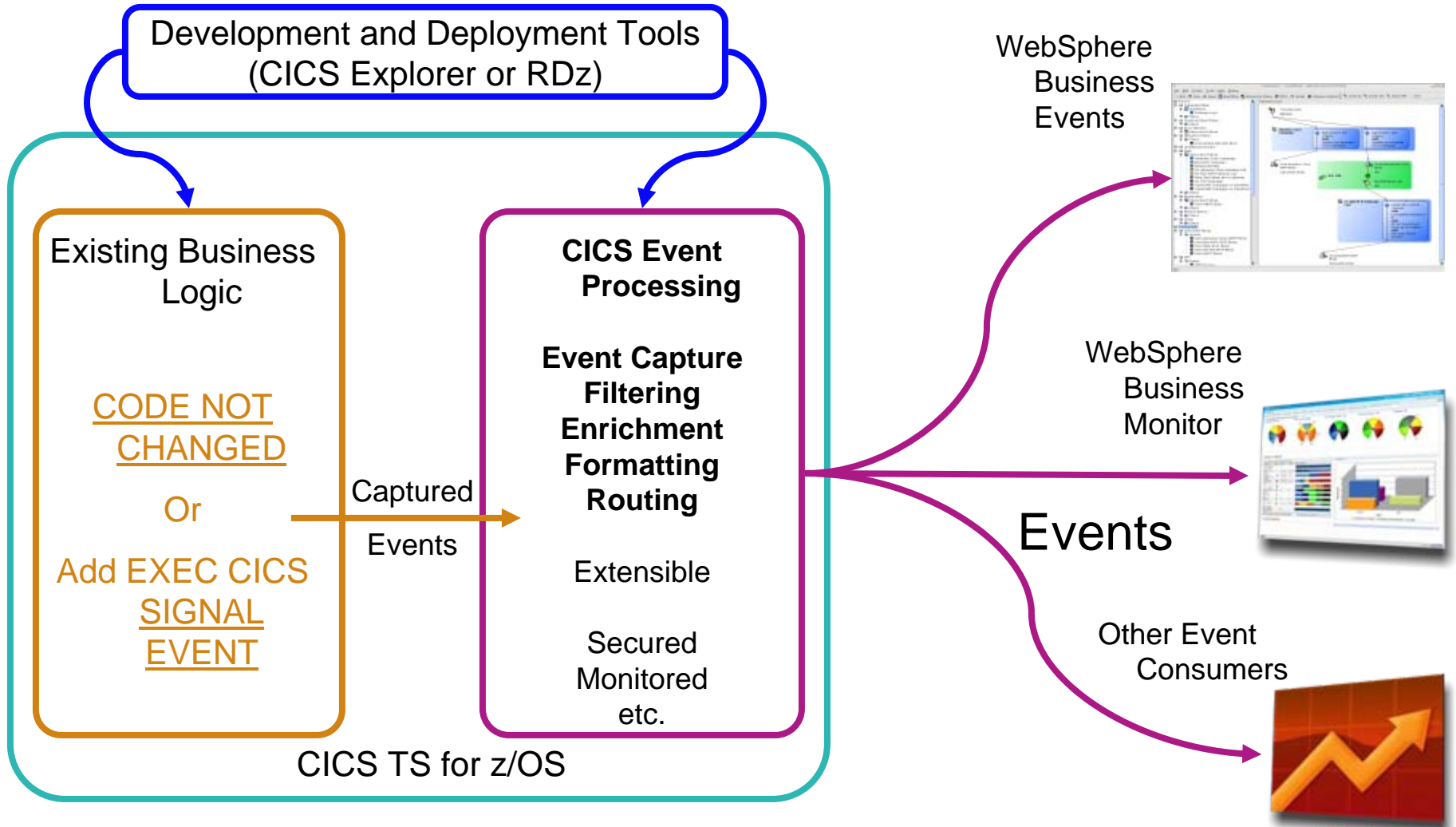
## Issues facing CICS operational staff

- Extract information across systems
- Predict problems
- Operational health
- Integration (Monitoring / Config)
- Best Practices

# Extract Information from CICS



# Event Processing...



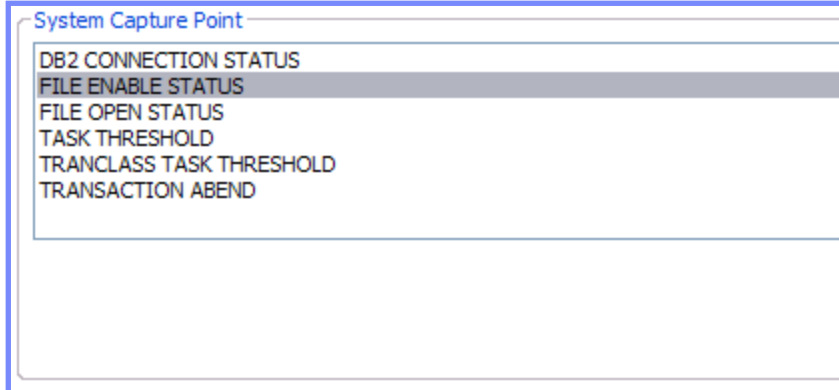
# CICS TS V4.2 Event Processing Enhancements

- **System events**

- 8 new system event capture points

- **Capture events when:**

- DB2 connection status changes
- FILE enable status changes
- FILE open status changes
- Unhandled transaction abends
- Current active tasks for a TRANCLASS goes above or below a certain percentage of MAXACTIVE.
- Current active task in a region goes above or below a certain percentage of MAXTASKs.
- WRITE OPERATOR (CICS TS V5.1)
- MESSAGE (CICS TS V5.1)



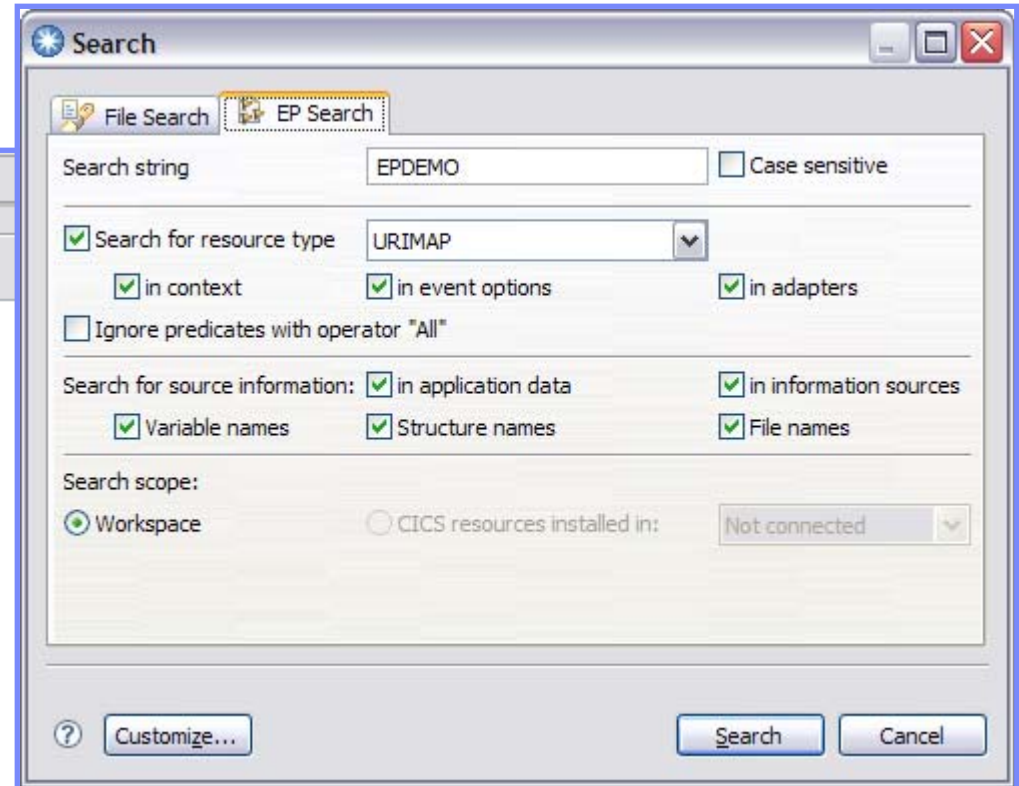
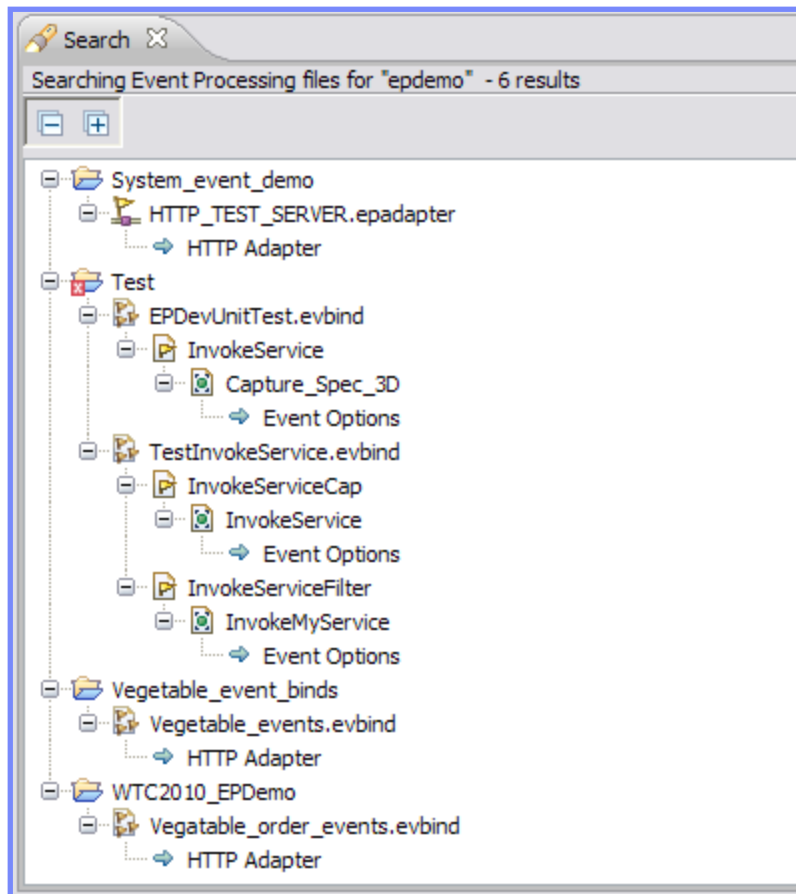
System Capture Point
DB2 CONNECTION STATUS
<b>FILE ENABLE STATUS</b>
FILE OPEN STATUS
TASK THRESHOLD
TRANCLASS TASK THRESHOLD
TRANSACTION ABEND

# CICS TS V4.2 Event Search Capability

- Available in the CICS Explorer
  - Enter the name of the “thing” you have changed and EP search will tell you which event bindings may be affected
  
- ‘Things’ include:
  - CICS resource names
  - Language Structure names
  - Language Structure field names
  
- Searches event bindings in the CICS Explorer workspace and those installed in CICS regions that Explorer is connected to

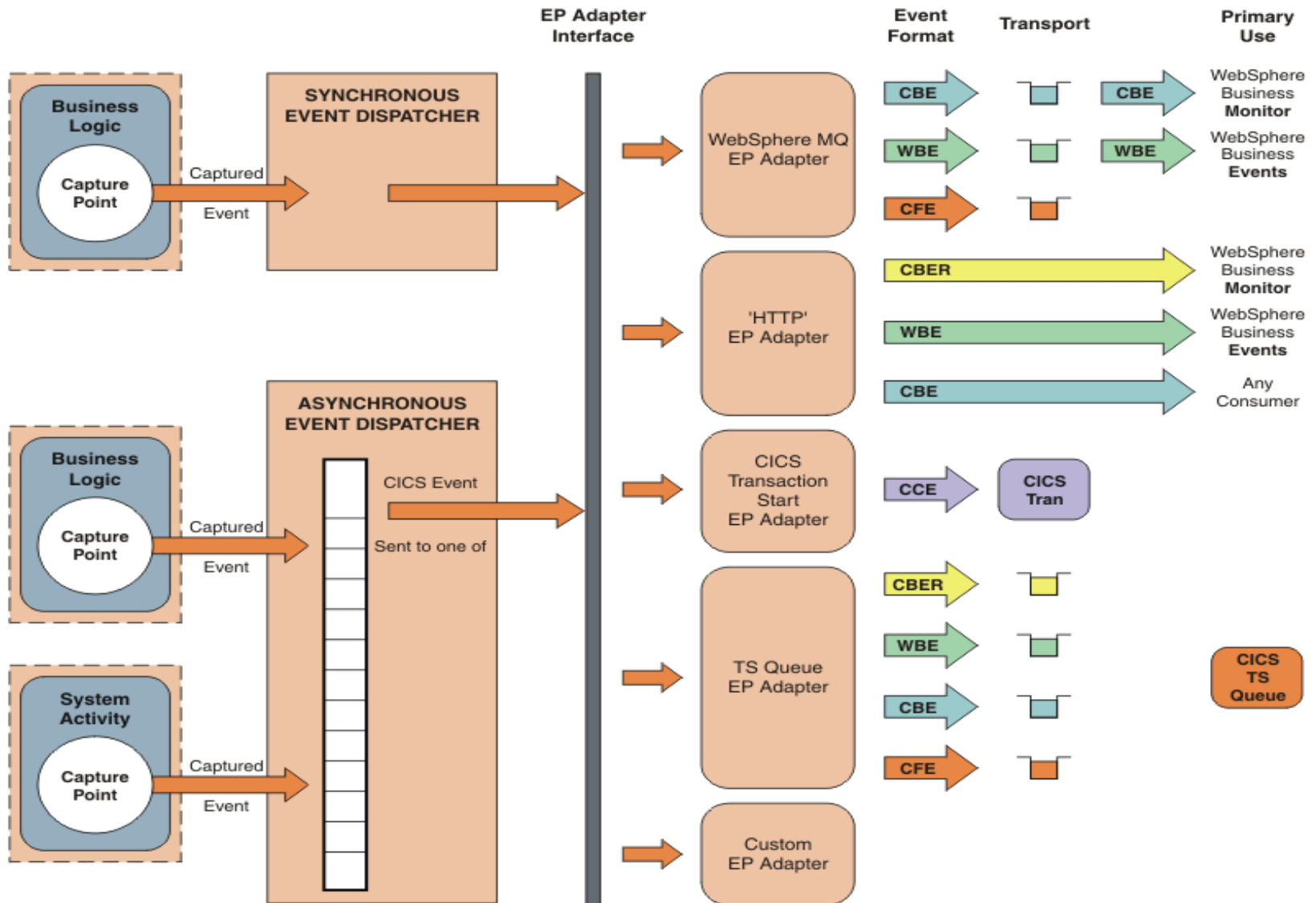
# CICS TS V4.2 Event Search Capability

## EP Search Interface





# CICS TS V4.2 Event Deployment Options

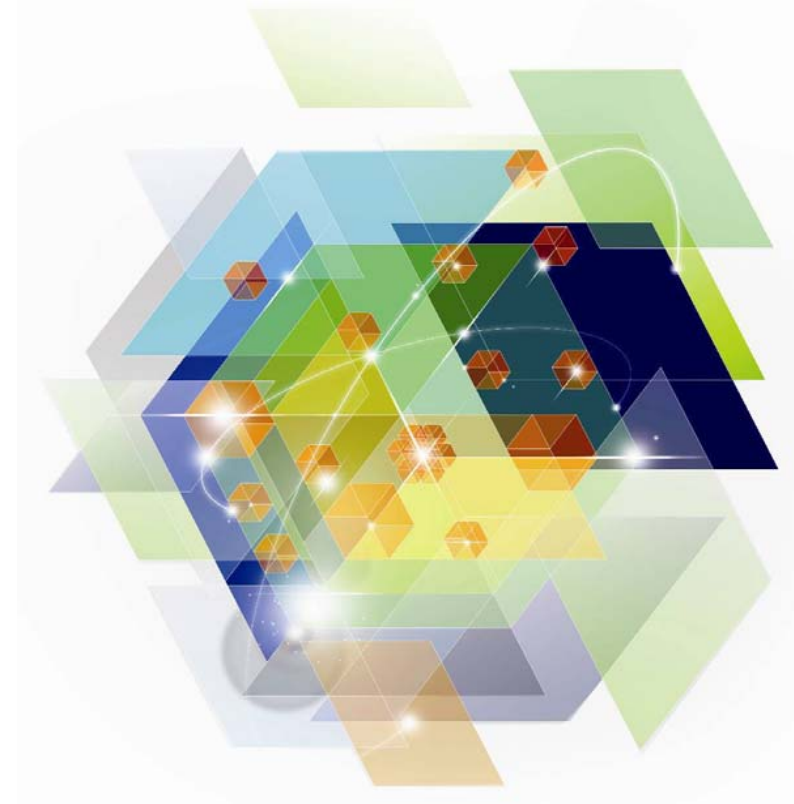




# Operational Health

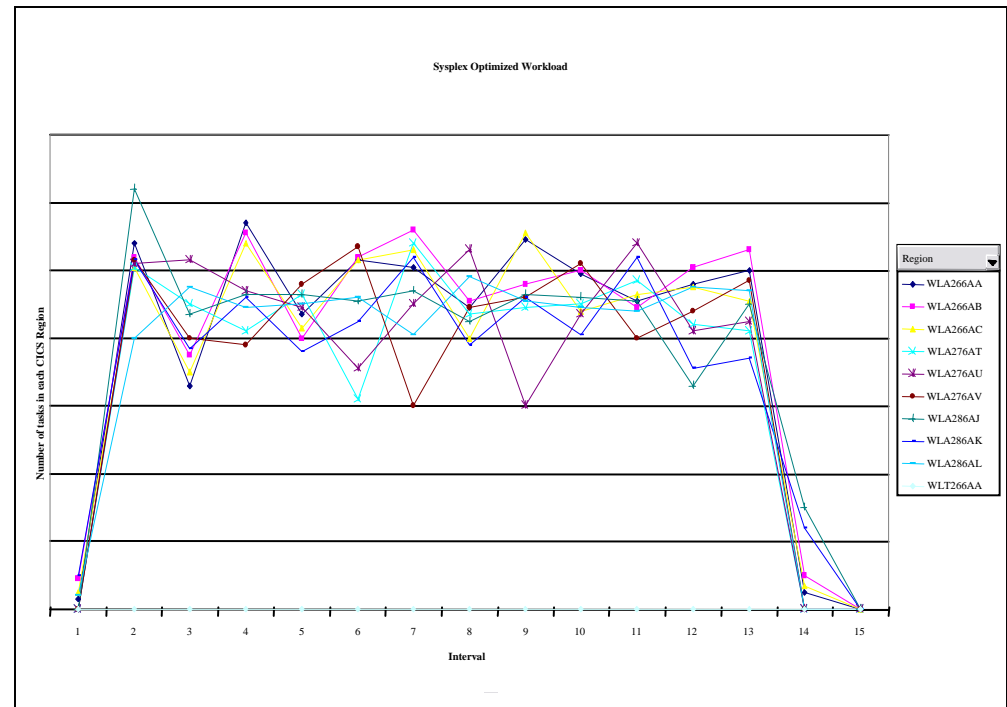


Performance  
Threadsafe  
WLM  
64 bit  
Function Shipping  
Transaction Tracking



# CICS V4.1 Performance

- **Traditional workloads**
  - Changes to TIMEUSED – up to 5% improvement in some workloads vs 3.2
- **IPIC**
  - Up to 10% improvement
- **WLM**
  - Sysplex Optimised routing
- **Web Services**
  - Up to 33% improvement
- **Threadsafty**
  - More API made threadSAFE



# CICS V4.2 Performance

- **Traditional workloads**
  - Parity with V4.1
- **WLM**
  - Link Neutral algorithms
  - Unit of Work affinity prevents dead locks
- **Threadsafty**
  - Concurrency 'Required' to get started on an Open TCB
  - More API made threadsafe
  - IMS DBCTL adapter made threadsafe
  - IPIC mirror made threadsafe
- **Virtual Storage relief**
  - Trace, Temporary Storage JVM all 64 bit

# CICS V4.2 Performance

- **Pooled HTTP connections**
  - CPU savings for outbound connections
  - WEB Services and WEB API
- **More LSR Pools**
  - Better opportunity for tuning VSAM files
- **Java**
  - Increased throughput with 64 bit JVM server
  - Further improvements in CICS TS V5.1 with Java 7 and Liberty web container
- **CLDM transaction**
  - Create Module maps to support HIS

# CICS TS V4.2 CICS and 64-bit

- *CICS Transaction Server for z/OS V4.2 contains significant changes to the CICS domain architecture that exploits the underlying z/Architecture for 64-bit addressing and provides the infrastructure for CICS domains to utilize and exploit 64-bit addressing mode.*
- *Enables CICS to remove some of the limitations that affected scalability and availability by delivering large address spaces*
- *CICS can now make use of 64-bit virtual storage to increase capacity by supporting a larger number of concurrent users and transactions, as well as keeping up with virtual storage demands*

# CICS TS V4.2 64-bit enablers

## – CICS Trace Domain

- Internal Trace Tables above the bar
  - Internal Trace Table in 64-bit storage only ...
    - > if CICS Transaction Isolation inactive (TRANISO=NO) **or**
    - > if CICS running on z/OS 1.12 with APAR OA34311 applied
- Transaction Dump Trace Table in 64-bit storage
- Trace control blocks in 64-bit storage
  - Auxiliary and GTF Buffers moved from 24-bit to 31-bit storage
- 64-bit GTF Trace (OA32611 required for z/OS 1.11 & 1.12)

## – CICS Message Domain

- CICS Message tables are above the bar (subject to TRANISO restriction)



# CICS TS V4.2 64-bit enablers

- CICS Dump Domain
  - 64-bit storage SDUMP support
    - Requires z/OS APAR OA32271 (z/OS 1.11 and 1.12)
    - Use is now made of z/OS IARV64 DUMPRIORITY option
- CICS Monitoring Domain
  - Association Data control blocks are above the bar (subject to TRANISO restriction)
- CICS Java
  - Updated to 64-bit JVM (Java 6.0.1) for Pooled and JVMServer – Java 7 for CICS TS V5.1
    - 31-bit Java not supported

# CICS TS V4.2 64-bit enablers

## – CICS Temporary Storage Domain

- MAIN TS above the bar (subject to TRANISO restriction)
  - Limiting MAIN Temporary Storage use
    - > SIT parameter: TSMMAINLIMIT={64M|amount}
    - Maximum is 32G, not greater than 25% of z/OS MEMLIMIT
- Many Temporary Storage control blocks above the bar
- Automatic TS Cleanup
  - EXPIRYINT can be specified on a TSMODEL definition
  - Applies to MAIN TS Queues and non-recoverable AUX TS Queues
  - Does NOT apply to:
    - > Remote TS Queues, Recoverable AUX TS Queues
    - > Shared TS Queues, CICS internal TS Queues
    - > TS Queues that don't match a TSMODEL

# CICS TS V4.2 Threadsafe Enhancements

- **Commands now made threadsafe**
  - EXEC CICS SYNCPOINT
  - EXEC CICS SYNCPOINT ROLLBACK
  - EXEC CICS RESYNC
  - JCICS
    - COMMIT and ROLLBACK methods
- **Non-threadsafe Recovery Manager clients will force a switch to the QR TCB**
  - Switch to QR made by the Recovery Manager
  - Examples:
    - MRO, Transient Data, etc
- **Recovery Manager clients may force an internal switch to the QR TCB**
  - Switch to QR made by the client
  - Examples:
    - File control for BDAM files
    - RMI for a quasi-reentrant TRUE
- **DFHMIRS is now Threadsafe**
  - Supplied definition now specifies CONCURRENCY(THREADSAFE)

## CICS TS V4.2 Scalability Enhancements...

- **IPIC transformers are now threadsafe**
  - Non IPIC code remains non threadsafe
  
- **Only requests function shipped over IPIC will run on an Open TCB**
  - File Control
  - Temporary Storage
  - Distributed Program Link
    - If the target program is defined as threadsafe and the mirror already on an open TCB
  
- **A comparison of CICS QR and OTE Performance paper**
  - [CICS Website](#)

# CICS TS V4.2 Threadsafe Enhancement

- **CICS-DBCTL interface will use OTE when connected to IMS 12**
  - At connect time CICS & IMS determine if each other can support OTE
  - With IMS 10 & 11
    - CICS-DBCTL TRUE enabled as QUASIRENT
    - Toleration APAR PM31730 (IMS 10), PM31729 (IMS 11)
  - With IMS 12
    - CICS-DBCTL TRUE enabled as OPENAPI
    - Exploitation APAR PM31420 is required
  
- **In CICS TS V5.1 CICS MQ DPL Bridge container**
  - >32K data transfer

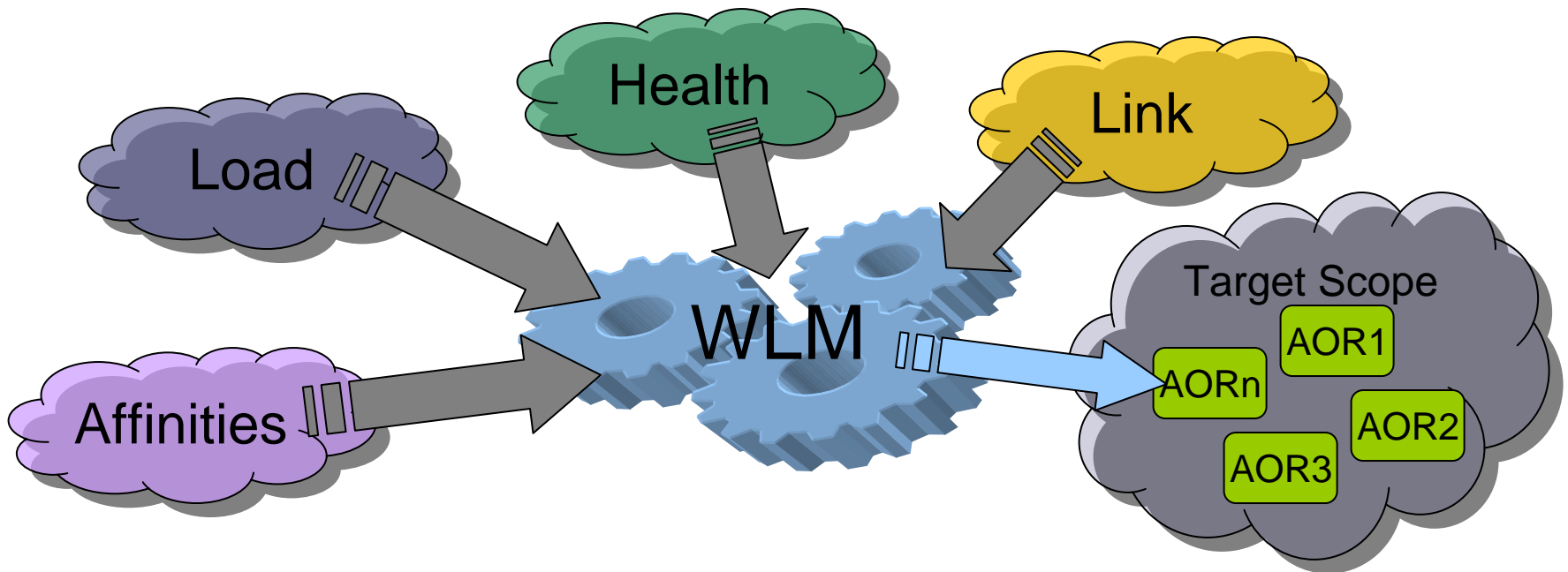
# CICS TS V4.2 Performance Enhancements...

- **CICS historically has allowed use of 8 LSR pools**
  - In the days of local DLI, DLI used the other 8
  - When local DLI was removed, CICS File Control was not changed
- **Since z/OS 1.4, DFSMS have allowed up to 256 lsr pools per address space.**
- **In CICS TS V4.2 we allow use of 255 LSR POOLs ( 1-255)**
  - Will not use pool 0
- **Potential performance optimization where greater subdivision of files across LSR POOLs is required**
  - e.g. Place highly-used files in their own LSRPOOL

# CICS TS V4.2 Management Enhancement

- Workload Management is about providing CICS with the **'best'** target region at the moment the request is made from all of the possible region candidates.

*It's NOT about evenly distributing work!*



# CICS TS V4.2 Management Enhancements...

- **New WLM routing algorithms**
- **Exclude LINK weighting in target region selection**

## –LNQUEUE

- Route the transaction to the target region with best combination of:
  - Health (MaxTask, Short-on-storage, Dumping, Stalled)
  - Task queue depth (or load)
  - Abend probability, when calculated
  - RTA event impact, when defined

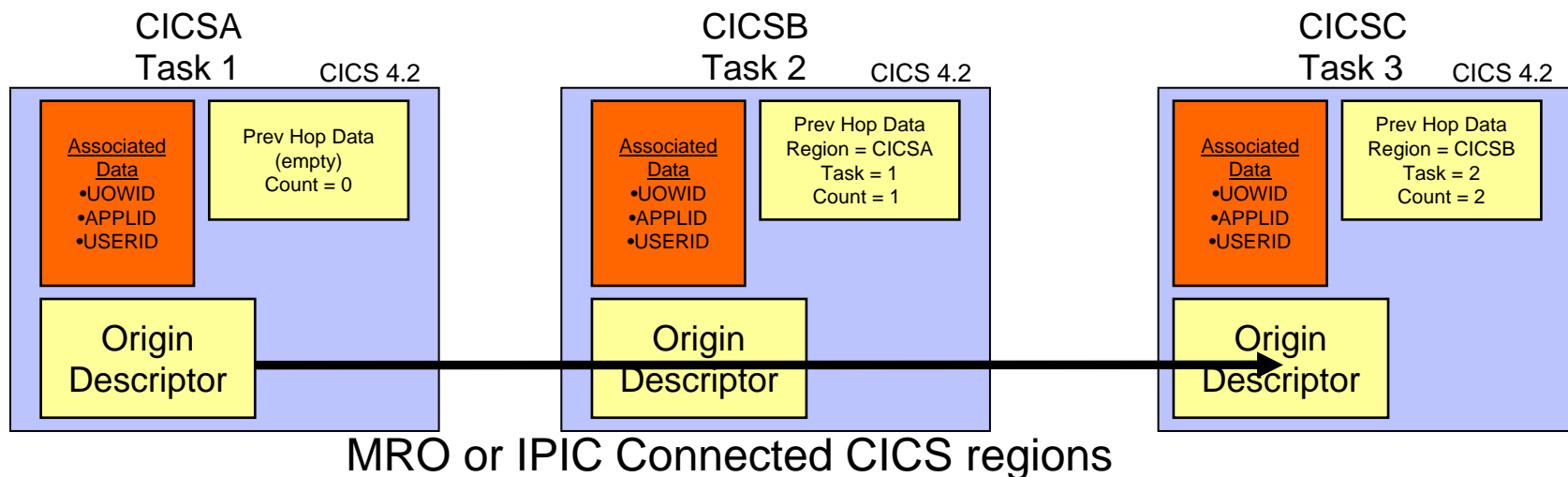
## –LNGOAL

- Route the transaction to the target region that:
  - Is the most likely to allow the transaction to meet its response time goal



# Transaction Tracking

- Follows the path of a transaction through the system
- Provides means to track and correlate the progress of
  - Simple linearly routed tasks, asynchronous tasks, spawned CICS tasks
    - Across distributed CICS systems including over CICS managed TCP/IP
- Extends and uses Association data
  - Previous hop association data & origin data for both MRO and IPIC connections
- Helps to answer questions like
  - Why is this transaction suspended?
  - Where was this transaction routed to?
  - What was the point of origin for this transaction?



# Transaction Tracking

**Identify A Task to Analyze**

IBM CICS Explorer

Explorer Edit Project Operations Definitions Search

Tasks Task Associations Transactions Programs Files TCP/IP Services IS Queues JMS Connections

CNX02111 Context: CICSPLX1. Resource: TASKASSC. 61 records collected at Sep 5, 2011 5:28:27 PM

Region	Task ID	Start Time	Origin Transaction ID	Origin Ap...	Origin Us...	Origin Task	Origin Fac...	Origin Fac...	Origin IP ...
CICSAOR1	0000029	2011-09-05T18:36:28.286612+00:00	CONL	CICSACB1	SYSSTC	0000029	NONE		0.0.0.0
CICSAOR1	0000048	2011-09-05T18:36:30.186619+00:00	CKAM	CICSACB1	SYSSTC	0000048	START		0.0.0.0
CICSAOR1	0000050	2011-09-05T18:36:30.186631+00:00	CSKL	CICSACB1	SYSSTC	0000050	START		0.0.0.0
CICSAOR1	0000056	2011-09-05T18:36:30.720844+00:00	CONL	CICSACB1	SYSSTC	0000029	NONE		0.0.0.0
CICSAOR1	0000060	2011-09-05T18:36:33.070592+00:00	CONL	CICSACB1	SYSSTC	0000029	NONE		0.0.0.0
CICSAOR1	0000062	2011-09-05T18:36:34.905368+00:00	OMEG	CICSACB1	SYSSTC	0000062	START		0.0.0.0
CICSAOR1	0000063	2011-09-05T18:36:34.905631+00:00	OMEG	CICSACB1	SYSSTC	0000062	START		0.0.0.0
CICSAOR1	0000134	2011-09-05T21:06:19.125174+00:00	ABRW	CICSACB1	DDS0363	0000134	TERMINAL	0050	9.49.146...
CICSAOR2	0000027	2011-09-04T20:09:41.693224+00:00	CONL	CICSACB2	SYSSTC	0000027	NONE		0.0.0.0
CICSAOR2	0000044	2011-09-04T20:09:43.250145+00:00	CKAM	CICSACB2	SYSSTC	0000044	START		0.0.0.0
CICSAOR2	0000045	2011-09-04T20:09:43.250151+00:00	CKTI	CICSACB2	SYSSTC	0000045	START		0.0.0.0
CICSAOR2	0000052	2011-09-04T20:09:44.006149+00:00	CONL	CICSACB2	SYSSTC	0000027	NONE		0.0.0.0

Regions Properties Internal Web Browser RTA Events Search Error Log

No search results available. Start a search from the [search dialog...](#)

DemoMVS - CICSplex SM

# Transaction Tracking

**Right Click and Search Associated Tasks**

Region	Task ID	Start Time	Origin Transaction ID	Origin Ap...	Origin Us...	Origin Task	Origin Fac...	Origin Fac...	Origin IP ...
CICSAOR1	0000029	2011-09-05T18:36:28.286612+00:00	CONL	CICSACB1	SYSSTC	0000029	NONE		0.0.0.0
CICSAOR1	0000048	2011-09-05T18:36:30.186619+00:00	CKAM	CICSACB1	SYSSTC	0000048	START		0.0.0.0
CICSAOR1	0000050	2011-09-05T18:36:30.186631+00:00	CSKL	CICSACB1	SYSSTC	0000050	START		0.0.0.0
CICSAOR1	0000056	2011-09-05T18:36:30.720844+00:00	CONL	CICSACB1	SYSSTC	0000029	NONE		0.0.0.0
CICSAOR1	0000060	2011-09-05T18:36:33.070592+00:00	CONL	CICSACB1	SYSSTC	0000029	NONE		0.0.0.0
CICSAOR1	0000062	2011-09-05T18:36:34.905368+00:00	OMEG	CICSACB1	SYSSTC	0000062	START		0.0.0.0
CICSAOR1	0000063	2011-09-05T18:36:34.905631+00:00	OMEG	CICSACB1	SYSSTC	0000062	START		0.0.0.0
CICSAOR1	0000134	2011-09-05T18:36:34.905631+00:00	ABRY	CICSACB1	DDS0363	0000134	TERMINAL	0050	9.49.146...
CICSAOR2	0000027	2011-09-04T20:09:44.0061	CONL	CICSACB2	SYSSTC	0000027	NONE		0.0.0.0
CICSAOR2	0000044	2011-09-04T20:09:44.0061	CONL	CICSACB2	SYSSTC	0000044	START		0.0.0.0
CICSAOR2	0000045	2011-09-04T20:09:44.0061	CONL	CICSACB2	SYSSTC	0000045	START		0.0.0.0
CICSAOR2	0000052	2011-09-04T20:09:44.0061	CONL	CICSACB2	SYSSTC	0000027	NONE		0.0.0.0

Context Menu Options:

- Open
- Search
  - Associated Tasks
  - Tasks from Origin IP address

Search Results:

No search results available. Start a search from the [search dialog...](#)

# Transaction Tracking

**A Search Analysis is run**

IBM CICS Explorer

Explorer Edit Project Operations Definitions Search

Tasks Task Associations Transactions Programs Files TCP/IP Services IS Queues IS Connections

CNX0211I Context: CICSPLX1. Resource: TASKASSC. 61 records collected at Sep 5, 2011 5:25:27 PM

Region	Task ID	Start Time	Origin Transaction ID	Origin Ap...	Origin Us...	Origin Task	Origin Fac...	Origin Fac...	Origin IP ...
CICSAOR1	0000029	2011-09-05T18:36:28.286612+00:00	CONL	CICSACB1	SYSSTC	0000029	NONE		0.0.0.0
CICSAOR1	0000048	2011-09-05T18:36:30.186619+00:00	CKAM	CICSACB1	SYSSTC	0000048	START		0.0.0.0
CICSAOR1	0000050	2011-09-05T18:36:30.186631+00:00	CSKL	CICSACB1	SYSSTC	0000050	START		0.0.0.0
CICSAOR1	0000056	2011-09-05T18:36:30.720844+00:00	CONL	CICSACB1	SYSSTC	0000029	NONE		0.0.0.0
CICSAOR1	0000060	2011-09-05T18:36:30.720844+00:00	CONL	CICSACB1	SYSSTC	0000029	NONE		0.0.0.0
CICSAOR1	0000062	2011-09-05T18:36:30.720844+00:00	CONL	CICSACB1	SYSSTC	0000029	START		0.0.0.0
CICSAOR1	0000063	2011-09-05T18:36:30.720844+00:00	CONL	CICSACB1	SYSSTC	0000029	START		0.0.0.0
CICSAOR1	0000134	2011-09-05T18:36:30.720844+00:00	CONL	CICSACB1	SYSSTC	0000029	TERMINAL	0050	9.49.146...
CICSAOR2	0000027	2011-09-05T18:36:30.720844+00:00	CONL	CICSACB1	SYSSTC	0000029	NONE		0.0.0.0
CICSAOR2	0000044	2011-09-05T18:36:30.720844+00:00	CONL	CICSACB1	SYSSTC	0000029	START		0.0.0.0
CICSAOR2	0000045	2011-09-05T18:36:30.720844+00:00	CONL	CICSACB1	SYSSTC	0000029	START		0.0.0.0
CICSAOR2	0000052	2011-09-05T18:36:30.720844+00:00	CONL	CICSACB1	SYSSTC	0000029	NONE		0.0.0.0

Tasks associated with task "0000134" in region "CICSAOR1"

Tasks associated with task "0000134" in region "CICSAOR1"

Tasks associated with task "0000134" in region "CICSAOR1"

Run in Background Cancel << Details

Regions Properties Intern

No search results available. Start a search

DemoMVS - CICSplex SM

# Transaction Tracking

**Results show up in the Search View**

IBM CICS Explorer

Explorer Edit Project Operations Definitions Search

Tasks Task Associations Transactions Programs Files TCP/IP Services ISPF Queues ISPF/PMO Connections

CNX0211I Context: CICSPLX1. Resource: TASK. 61 records collected at Sep 5, 2011 5:06:40 PM

Region	Task ID	Transaction ID	Run Status	User ID	Principal Facility	Priority	Class Name	Suspend Time	Dispatcher TCB HWM	Dispatcher TCB ...
CICSAOR1	0000029	CONL	▶ RUNNING	SYSTC		255	DFHTCL00	0:00:00	0	0000:00:00.000...
CICSAOR1	0000048	CKAM	▢ SUSPENDED	SYSTC		255	DFHTCL00	2:29:53	0	0000:00:00.000...
CICSAOR1	0000050	CSKL	▢ SUSPENDED	SYSTC		255	DFHTCL00	0:00:24	0	0000:00:00.000...
CICSAOR1	0000056	COIO	▢ SUSPENDED	SYSTC		255	DFHTCL00	0:00:00	0	0000:00:00.000...
CICSAOR1	0000060	COIE	▢ SUSPENDED	SYSTC		255	DFHTCL00	0:00:06	0	0000:00:00.000...
CICSAOR1	0000062	OMEG	▢ SUSPENDED	SYSTC		255	DFHTCL00	0:05:54	0	0000:00:00.000...
CICSAOR1	0000063	OMEG	▢ SUSPENDED	SYSTC		255	DFHTCL00	0:05:54	0	0000:00:00.000...
CICSAOR1	0000134	ABRW	▢ SUSPENDED	DDS0363	0050	1	DFHTCL00	0:00:05	0	0000:00:00.000...
CICSAOR2	0000027	CONL	▶ RUNNING	SYSTC		255	DFHTCL00	0:00:00	0	0000:00:00.000...
CICSAOR2	0000044	CKAM	▢ SUSPENDED	SYSTC		255	DFHTCL00	4:56:41	0	0000:00:00.000...
CICSAOR2	0000045	CKTI	▢ SUSPENDED	SYSTC		1	DFHTCL00	4:56:41	1	0000:00:00.000...

Regions Properties Internal Web Browser RTA Events Search Error Log

Tasks associated with task "0000134" in region "CICSAOR1" - 4 results - 5:08:59 PM

Tasks	Region	Trans ID	Run Status	Suspend Time	Suspend Reason	Program	Current Program	Origin User ID	CPU Time	Pr
0000134	CICSAOR1	ABRW	SUSPENDED	0:02:38	IRLINK	DFH\$ABRW		DDS0363	0000:00:00.000316	0
0000916	CICSAOR6	ABRW	SUSPENDED	0:02:24	IRLINK			DDS0363	0000:00:00.000910	1
0000127	CICSAOR4	ABRW	SUSPENDED	0:02:24	IRLINK	DFH\$ABRW	DFH\$ABRW	DDS0363	0000:00:00.000368	2
0000610	CICSAOR7	CSMI	SUSPENDED	0:02:24	EDF	DFHMIRS	DFHEDFX	DDS0363	0000:00:00.000231	3

DemoMVS - CICSplex SM

# Transaction Tracking

**Results show up in the Search View**

IBM CICS Explorer

Explorer Edit Project Operations Definitions Search

Tasks Task Associations Transactions Programs Files PCP/PS Services IS TS Queues IS PF/PMO Connections

CNX0211I Context: CICSPLX1. Resource: TASK. 61 records collected at Sep 5, 2011 5:06:40 PM

Region	Task ID	Transaction ID	Run Status	User ID	Principal Facility	Priority	Class Name	Suspend Time	Dispatcher TCB HWM	Dispatcher TCB ...
CICSAOR1	0000029	CONL	▶ RUNNING	SYSSTC		255	DFHTCL00	0:00:00	0	0000:00:00.000...
CICSAOR1	0000048	CKAM	▢ SUSPENDED	SYSSTC		255	DFHTCL00	2:29:53	0	0000:00:00.000...
CICSAOR1	0000050	CSKL	▢ SUSPENDED	SYSSTC		255	DFHTCL00	0:00:24	0	0000:00:00.000...
CICSAOR1	0000056	COIO	▢ SUSPENDED	SYSSTC		255	DFHTCL00	0:00:00	0	0000:00:00.000...
CICSAOR1	0000060	COIE	▢ SUSPENDED	SYSSTC		255	DFHTCL00	0:00:06	0	0000:00:00.000...
CICSAOR1	0000062	OMEG	▢ SUSPENDED	SYSSTC		255	DFHTCL00	0:05:54	0	0000:00:00.000...
CICSAOR1	0000063	OMEG	▢ SUSPENDED	SYSSTC		255	DFHTCL00	0:05:54	0	0000:00:00.000...
CICSAOR1	0000134	ABRW	▢ SUSPENDED	DDS0363	0050	255	DFHTCL00	0:00:05	0	0000:00:00.000...
CICSAOR2	0000027	CONL	▶ RUNNING	SYSSTC		255	DFHTCL00	0:00:00	0	0000:00:00.000...
CICSAOR2	0000044	CKAM	▢ SUSPENDED	SYSSTC		255	DFHTCL00	0:00:00	0	0000:00:00.000...
CICSAOR2	0000045	CKTI	▢ SUSPENDED	SYSSTC		255	DFHTCL00	4:56:41	1	0000:00:00.000...

Regions Properties Internal Web Browser RTA Events Search Error Log

Tasks associated with task "0000134" in region "CICSAOR1" - 4 results - 5:08:59 PM

Tasks	Region	Trans ID	Run Status	Suspend Time	Suspend
0000134	CICSAOR1	ABRW	SUSPENDED	0:02:38	IRLINK
0000916	CICSAOR6	ABRW	SUSPENDED	0:02:24	IRLINK
0000127	CICSAOR4	ABRW	SUSPENDED	0:02:24	IRLINK
0000610	CICSAOR7	CSMI	SUSPENDED	0:02:24	EDF

Reason Program Current Program Origin User ID CPU Time Pr

DFH\$ABRW	DFH\$ABRW	DDS0363	0000:00:00.000910	1
DFH\$ABRW	DFH\$ABRW	DDS0363	0000:00:00.000368	2
			0000:00:00.000231	3

DemoMVS - CICSplex SM

- 1) Tran ABRW Started in CICSAOR1
- 2) Dynamic Transaction Routed to CICSAOR6
- 3) Static Transaction Routed to CICSAOR4
- 4) Function Shipped to CICSAOR7

# Transaction Tracking

**Can PURGE the Offending Task from the Search View**

The screenshot displays the IBM CICS Explorer interface. The top window shows a list of tasks with columns: Region, Task ID, Transaction ID, Run Status, User ID, Principal Facility, Priority, Class Name, Suspend Time, Dispatcher TCB HWM, and Dispatcher TCB ... The task with ID 0000134 is highlighted. Below this, a search view shows tasks associated with '0000140' in region 'CICSAOR1'. A context menu is open over the task with ID 0000629, showing options: Task (Open), Task Association (Search, Purge), and Kill. The 'Purge' option is highlighted.

Region	Task ID	Transaction ID	Run Status	User ID	Principal Facility	Priority	Class Name	Suspend Time	Dispatcher TCB HWM	Dispatcher TCB ...
CICSAOR1	0000029	CONL	▶▶▶ RUNNING	SYSSTC		255	DFHTCL00	0:00:00	0	0000:00:00.000...
CICSAOR1	0000048	CKAM	▶▶ SUSPENDED	SYSSTC		255	DFHTCL00	2:29:53	0	0000:00:00.000...
CICSAOR1	0000050	CSKL	▶▶ SUSPENDED	SYSSTC		255	DFHTCL00	0:00:24	0	0000:00:00.000...
CICSAOR1	0000056	COIO	▶▶ SUSPENDED	SYSSTC		255	DFHTCL00	0:00:00	0	0000:00:00.000...
CICSAOR1	0000060	COIE	▶▶ SUSPENDED	SYSSTC		255	DFHTCL00	0:00:06	0	0000:00:00.000...
CICSAOR1	0000062	OMEG	▶▶ SUSPENDED	SYSSTC		255	DFHTCL00	0:05:54	0	0000:00:00.000...
CICSAOR1	0000063	OMEG	▶▶ SUSPENDED	SYSSTC		255	DFHTCL00	0:05:54	0	0000:00:00.000...
CICSAOR1	0000134	ABRW	▶▶ SUSPENDED	DDS0363	0050	1	DFHTCL00	0:00:05	0	0000:00:00.000...
CICSAOR2	0000027	CONL	▶▶▶ RUNNING	SYSSTC		255	DFHTCL00	0:00:00	0	0000:00:00.000...
CICSAOR2	0000044	CKAM	▶▶ SUSPENDED	SYSSTC		255	DFHTCL00	4:56:41	0	0000:00:00.000...
CICSAOR2	0000045	CKTI	▶▶ SUSPENDED	SYSSTC		1	DFHTCL00	4:56:41	1	0000:00:00.000...

Tasks	Region	Trans ID	Run Status	Suspend Time	Suspend Reason	Program	Current Program	Origin User ID	CPU Time	Pr
0000140	CICSAOR1	ABRW	SUSPENDED	0:02:24	IRLINK	DFH\$ABRW		DDS0363	0000:00:00.000300	0
0000927	CICSAOR6	ABRW	SUSPENDED	0:02:24	IRLINK			DDS0363	0000:00:00.001044	1
0000132	CICSAOR4	ABRW	SUSPENDED	0:02:24	IRLINK	DFH\$ABRW	DFH\$ABRW	DDS0363	0000:00:00.000372	2
0000629	CICSAOR7	CSMI	SUSPENDED	0:02:24	IRLINK	DFH\$MIRS	DFH\$HEDFX	DDS0363	0000:00:00.000243	3

# CPU Speciality Engines

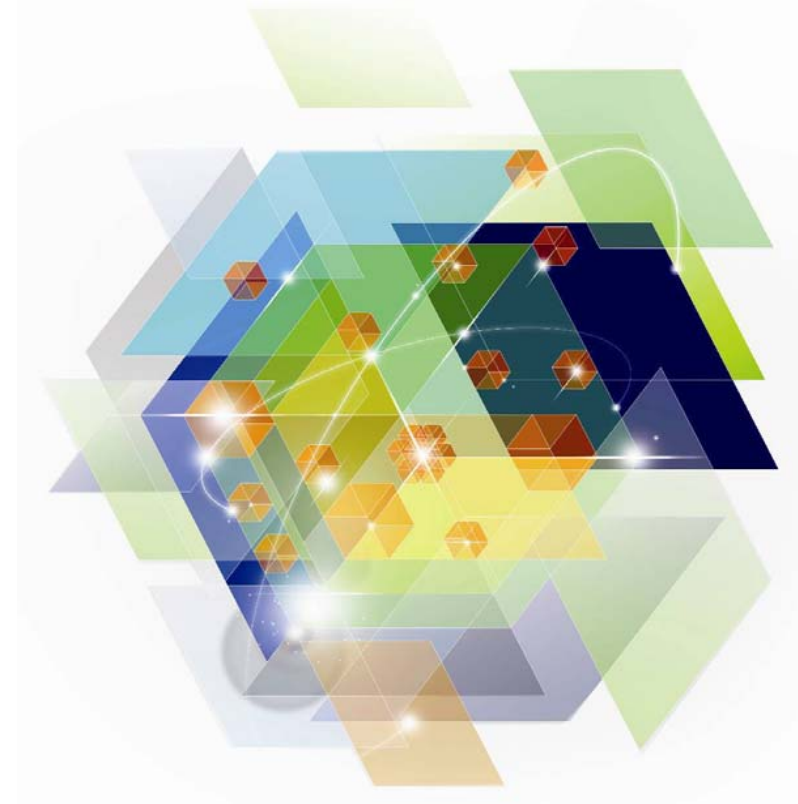
CICS workload can be placed on speciality engines for

Reduced costs, where appropriate

- Java
- Axis2
- WODM
- XML Parsing
  - XMLSS Web Services XML parsing
  - XML, RDz, Enterprise COBOL
- Monitor actual and potential speciality engine usage in CICS TS V5.1



# Integration



# IBM CICS Explorer - The New Face of CICS

```

Session A - [24 x 80]
I TASK
STATUS: - RESULTS - OVERTYPE TO MODIFY
Tas (0000021) Tra (CONL) Sus Tas Pri ( 255 )
Sta (U ) Use (CICSUSER) Uow (C1A8B0BE02B3376D)
Tas (0000024) Tra (COIO) Sus Tas Pri ( 255 )
Sta (U ) Use (CICSUSER) Uow (C1A8B0BF4B1970A0) Hty (USERWAIT)
Tas (0000025) Tra (COIE) Sus Tas Pri ( 255 )
Sta (U ) Use (CICSUSER) Uow (C1A8B0C200655F00) Hty (USERWAIT)
Tas (0049669) Tra (CEMT) Fac (TC25) Run Ter Pri ( 255 )
Sta (T0) Use (CICSUSER) Uow (C1FFA393FCCAB21)

SYSID=C131 APPLID=IYCYZC20
TIME: 16.27.43 DATE: 02.24.08
RESPONSE: NORMAL
PF 1 HELP 3 END 5 VAR 7 SBH 8 SFH 9 MSG 10 SB 11 SF
01/010
    
```

3270



Web



CICSplex SM Web User Interface - IYCYZ23 - WEBSTERW - Windows Internet Explorer

Active task

EYUVC12801 17 records collected at 02/24/08 16:30:16

Context: TOOLPLX1  
Scope: TOOLPLX1  
Task ID: [dropdown]  
Transaction ID: [dropdown] Au  
Dispatch status: [dropdown]

Automatic refresh:  60 seconds

Record	CICS system name	Task ID	Transaction ID	Dispatch status	User ID	Principal facility	VTAM LU	Task priority	Transaction class	Time task has been suspended
1	CICSC131	0000021	CONL	Running	CICSUSER			255	DEHTCLO0	0:00:00
2	CICSC131	0000024	COIO	Suspended	CICSUSER			255	DEHTCLO0	0:00:00
3	CICSC131	0000025	COIE	Suspended	CICSUSER			255	DEHTCLO0	0:00:12
4	CICSC131	0049669	CEMT	Suspended	CICSUSER	IC25	IYXTC25	255	DEHTCLO0	0:02:41
5	CICSC231	0000021	CONL	Running	CICSUSER			255	DEHTCLO0	0:00:00
6	CICSC231	0000023	COIO	Suspended	CICSUSER			255	DEHTCLO0	0:00:00
7	CICSC231	0000024	COIE	Suspended	CICSUSER			255	DEHTCLO0	0:00:07
8	CICSC331	0000022	CONL	Running	CICSUSER			255	DEHTCLO0	0:00:00
9	CICSC331	0000024	COIO	Suspended	CICSUSER			255	DEHTCLO0	0:00:00
	CSC331	0000025	COIE	Suspended	CICSUSER			255	DEHTCLO0	0:00:11
	DSWS31	0000022	CONL	Running	CICSUSER			255	DEHTCLO0	0:00:00
	DSWS31	0000024	COIO	Suspended	CICSUSER			255	DEHTCLO0	0:00:00
	DSWS31	0000025	COIE	Suspended	CICSUSER			255	DEHTCLO0	0:00:12
	DSWS31	0000032	COVG	Suspended	CICSUSER			255	DEHTCLO0	0:00:14
	DSWS31	0066987	COVA	Suspended	CICSUSER			150	DEHTCLO0	0:00:11
	DSWS31	0067054	COVA	Dispatchable	CICSUSER			150	DEHTCLO0	0:00:00
	DSWS31	0087121	COVP	Suspended	CICSUSER			75	DEHTCLO0	0:00:00

IBM CICS Explorer

Explorer Edit Operations Administration RTA WLM Window Help

Regions Tasks ISC/MRO Connections Terminals Files Transactions

Transaction ID: [input]

CNK02111 Scope: SAMEDAY, Resource: TASK, 211 records collected at 20-Apr-2009 14:35:10

Region	Task ID	Transaction ID	Run Status	User ID	Terminal ID	LU Name	Priority	Class Name	Suspend Time
CICSRF1	0000024	CONL	RUNNING	CICSUSER			255	DFHTCLO0	0:00:00
CICSRF1	0000054	CKAM	SUSPENDED	CICSUSER			255	DFHTCLO0	3:33:21
CICSRF1	0000055	CKT1	SUSPENDED	CICSUSER			1	DFHTCLO0	3:33:20
CICSRF1	0000060	COIO	SUSPENDED	CICSUSER			255	DFHTCLO0	0:00:00
CICSRF1	0000061	COIE	SUSPENDED	CICSUSER			255	DFHTCLO0	0:00:11
YCDFC1	0000022	CONL	RUNNING	MQTEST			255	DFHTCLO0	0:00:00
YCDFC1	0000033	COIO	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:00
YCDFC1	0000034	COIE	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:01
YCDFD1	0000022	CONL	RUNNING	MQTEST			255	DFHTCLO0	0:00:00
YCDFD1	0000036	COIO	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:00
YCDFD1	0000037	COIE	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:10
YCDFE1	0000022	CONL	RUNNING	MQTEST			255	DFHTCLO0	0:00:00
YCDFE1	0000038	COIO	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:00
YCDFE1	0000039	COIE	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:09
YCDFFF1	0000027	CONL	RUNNING	MQTEST			255	DFHTCLO0	0:00:00
YCDFFF1	0000045	COIO	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:00
YCDFFF1	0000046	COIE	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:05
YCDFFF2	0000027	CONL	RUNNING	MQTEST			255	DFHTCLO0	0:00:00
YCDFFF2	0000045	COIO	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:00
YCDFFF2	0000046	COIE	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:07
YCDFFWM	0000028	CONL	RUNNING	MQTEST			255	DFHTCLO0	0:00:00
YCDFFWM	0000030	COIO	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:00
YCDFFWM	0000031	COIE	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:14
YCDFFWM	0000044	COVG	SUSPENDED	MQTEST			255	DFHTCLO0	0:00:04
YCWJDM2	0000027	CONL	RUNNING	CICSUSER			255	DFHTCLO0	0:00:00
YCWJDM2	0000045	COIO	SUSPENDED	CICSUSER			255	DFHTCLO0	0:00:00
YCWJDM2	0000047	COIE	SUSPENDED	CICSUSER			255	DFHTCLO0	0:00:00

Events Properties Error Log

CNK02111 Scope: SAMEDAY, Resource: EVENT, 1 records collected at 20-Apr-2009 14:35:02

Name	Target	Severity	Priority	Event Type	Detail	View	Resource ...	Resource ...	Description
!!SAMOPS	JTEST	VHS	255	SAM	NO				Currently U...

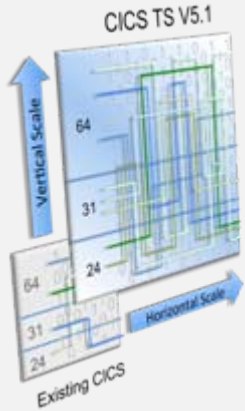
Eclipse



# CICS TS V5.1 : Driving Operational Efficiency



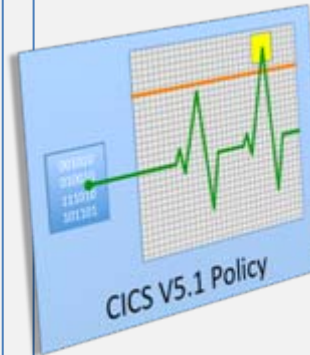
## Greater Capacity



*Achieve cost savings through consolidation*



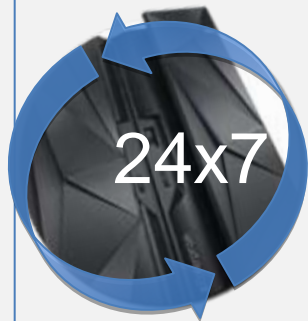
## Managed Operations



*Reduce cost and risk through automation*



## Increased Availability



*Reduce the need for planned downtime*



## Deeper Insight

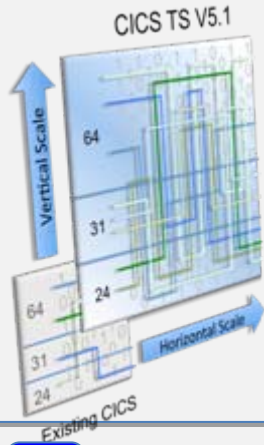


*Improve decision making and audit readiness*

# CICS TS V5.1 : Driving Operational Efficiency



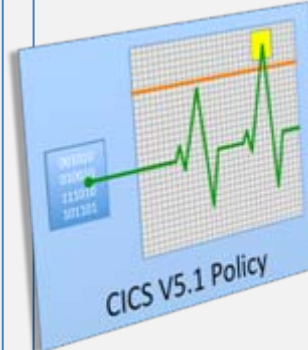
## Greater Capacity



- Doubling the MAXTASK limit to 2,000
- Increased 64-bit and reduced 24-bit storage usage
- Greater parallelism from threadsafe API and SPI
- Greater system parallelism through optimized TCB usage
- Performance improvements from 64-bit Java 7
- Greater access to 64-bit storage from Assembler programs



## Managed Operations



- Automated control over critical system resources
- Set data access thresholds on SQL or file access
- Set program loop thresholds on EXEC LINK
- Set storage request thresholds
- Set CPU time thresholds
- Policies can issue messages, abending tasks, or create events



## Increased Availability



- Upgrade CICS versions and releases without requiring a z/OS restart
- Refresh Secure Sockets Layer (SSL) certificates
- Keep IPIC connections up and running
- Support more IBM GDPS/AA solutions
- Dynamically specify cross-system coupling facility groups
- Better reflect current best practices with updated and simplified defaults



## Deeper Insight



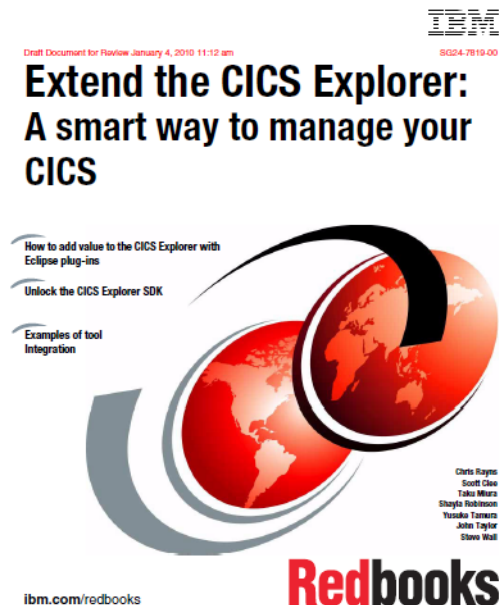
- Auditing of SPI commands that alter the system
- Improved auditing of user IDs that make requests over IP
- Extended identity propagation to include started tasks
- Cipher suites used for SSL connections to be stored in the performance records
- Calculation of the actual and potential use of specialty processors
- Regular status updates provided while lost locks recovery is taking place

# CICS Explorer Redbooks

- This Redbook® focuses on the new CICS Explorer
- The first part of the Redbook overviews the CICS Explorer, along with all the CICS Tools plug-ins
- The second part of the Redbook focuses on different scenarios in which the CICS Explorer can be used, along with the CICS Tools plug-ins to resolve different problems
- <http://www.redbooks.ibm.com/redpieces/abstracts/sq247819.html>

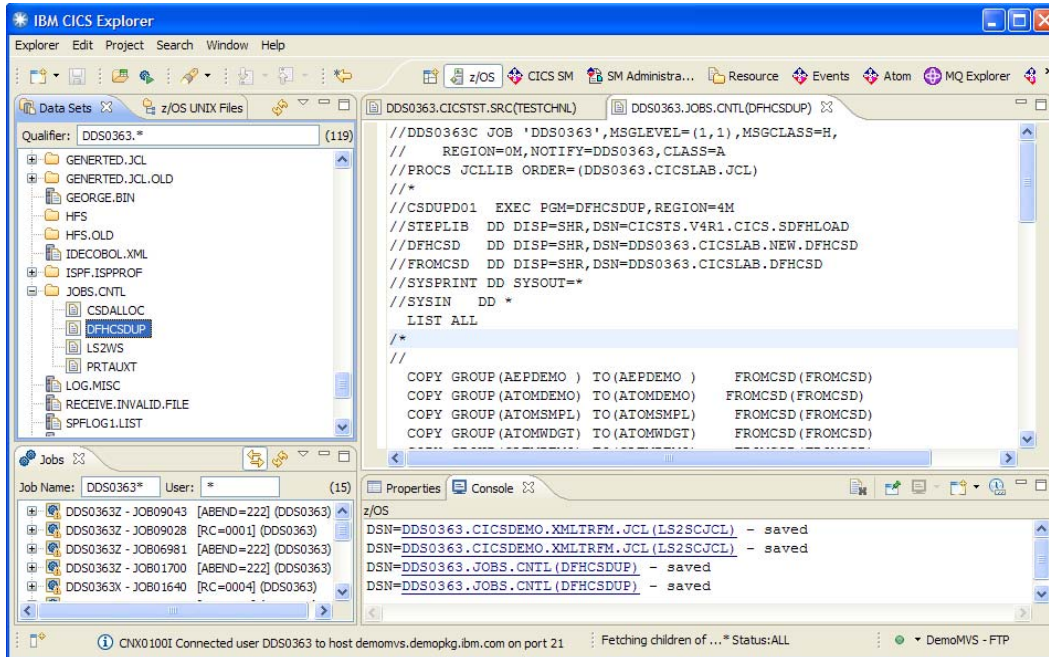


- This Redbook® focuses on the new CICS Explorer SDK
- The first part of the Redbook gives an overview of the CICS Explorer, along with an overview of PlugIns and Eclipse
- The second part of the Redbook focuses on the SDK and how to write a PlugIn and how to Extend the Explorer via PlugIns
- Two Demos are included
- <http://www.redbooks.ibm.com/redpieces/abstracts/sq247819.html>



# CICS Tools

## z/OS Perspective

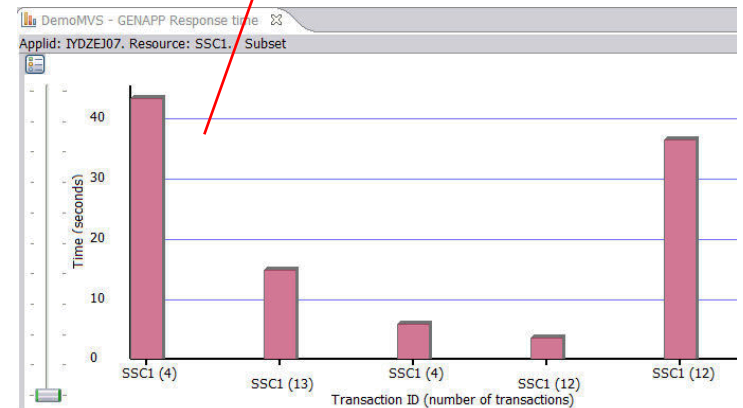


Respond to user  
feedback to help desk  
*CICS PA data*

High response  
time  
SLA says  $\leq 1$   
sec

CNX0211I Context: REDDVA42. Resource: LOCTRAN. 92 records collected at Nov 18, 2011 4:23:20

Region	Name	Status	Use Count	Program	Priority
REDDVA42	SE65	ENABLED	0	SE650001	1
REDDVA42	SE66	ENABLED	0	SE660001	1
REDDVA42	SSC1	ENABLED	0	LGTESTC1	1
REDDVA42	SSP1	ENABLED	0	LGTESTP1	1
REDDVA42	SSP2	ENABLED	0	LGTESTP2	1
REDDVA42	SSP3	ENABLED	0	LGTESTP3	1
REDDVA42	SSP4	ENABLED	0	LGTESTP4	1
REDDVA42	SS05	ENABLED	0	SS050001	1
REDDVA42	SS06	ENABLED	0	SS060001	1
REDDVA42	SS07	ENABLED	0	SS070001	1
REDDVA42	SS08	ENABLED	0	SS080001	1
REDDVA42	SS09	ENABLED	0	SS090001	1
REDDVA42	SS10	ENABLED	0	SS100001	1
REDDVA42	SS11	ENABLED	0	SS110001	1
REDDVA42	SS12	ENABLED	0	SS120001	1
REDDVA42	SS13	ENABLED	0	SS130001	1



## Summary

- **CICS has been made easier to manage, configure and administer – CICS Explorer**
- **Non-intrusive tooling to easily take advantage of new technology introduced in to CICS – Events, Transaction Tracking**
- **High performance sustained**
- **More threadsafe options for more savings**
- **Even more value when combined with the tooling (stick around for the next session)**

# Reference materials





## Google us or check us out at:

 [ibm/developerworks/cicsdev](http://ibm/developerworks/cicsdev)

 [facebook.com/IBMCICS](https://facebook.com/IBMCICS)


 [twitter.com/IBM\\_CICS](https://twitter.com/IBM_CICS)

 [youtube.com/cicsfluff](https://youtube.com/cicsfluff)

 [youtube.com/cicsexplorer](https://youtube.com/cicsexplorer)

 [twitter.com/IBM\\_System\\_z](https://twitter.com/IBM_System_z)

 CICS Explorer Forum  
[ibm.com/developerworks/forums/forum.jspa?forumID=1475&start=0](http://ibm.com/developerworks/forums/forum.jspa?forumID=1475&start=0)

 CICS-L list Forum  
[listserv.uga.edu/archives/cics-l.html](http://listserv.uga.edu/archives/cics-l.html)




# Key documents

## ▪ Analyst papers

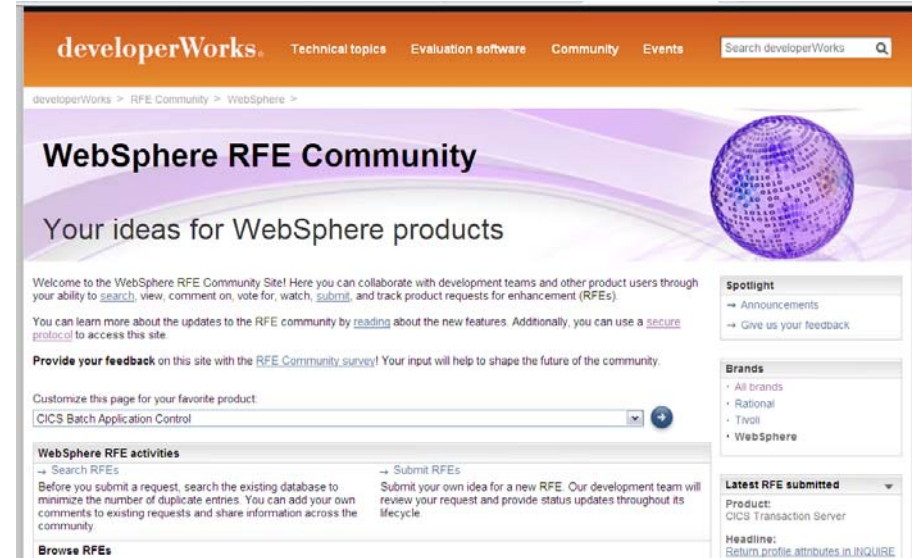
- Lustratus Research - New project platform section for CICS Users  
[ftp://public.dhe.ibm.com/software/htp/cics/pdf/Lustratus\\_Research\\_Paper\\_New\\_project\\_platform\\_selection\\_for\\_CICS\\_users.pdf](ftp://public.dhe.ibm.com/software/htp/cics/pdf/Lustratus_Research_Paper_New_project_platform_selection_for_CICS_users.pdf)
- Branham Group: IBM CICS Tools: Unrealized Productivity Gains and True Cost Savings  
[ftp://public.dhe.ibm.com/software/htp/cics/tools/IBM\\_CICS\\_Tools\\_Whitepaper\\_2009.pdf](ftp://public.dhe.ibm.com/software/htp/cics/tools/IBM_CICS_Tools_Whitepaper_2009.pdf)
- Software Strategies: IBM z/OS Problem Determination Tool Suite Leads Again  
[https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?lang=en\\_US&source=swg-rszswg](https://www14.software.ibm.com/webapp/iwm/web/preLogin.do?lang=en_US&source=swg-rszswg)

## ▪ IBM Redbooks

- [CICS Transaction Server from Start to Finish](#), SG24-7952-00
- [Smarter Banking with CICS Transaction Server](#), SG24-7815-00
- [Implementing Event Processing with CICS](#), SG24-7792
- [CICS and SOA: Architecture and Integration](#), SG24-5466-06
- [Implementation of Popular Business Solutions with CICS Tools](#), REDP-4824-00
- [Threadsafe considerations for CICS](#), SG24-6351-04
- [Architects guide to CICS on System z](#), SG24-8067-00 
- [CICS Transaction Server Application Architecture](#), Redbooks solution guide

# Raising new requirements with RFE

- You can now raise and track requirements using the new IBM RFE system for
  - CICS Transaction Server
  - CICS Explorer
  - TXSeries
  - WXTR
  - IBM CICS Tools
  - CICS Transaction Gateway
  - PD Tools - coming soon (target end Jan 2012)



- Existing FITS requirements are currently being processed, and will either be transferred to RFE or closed and returned.
- All brands <https://www.ibm.com/developerworks/rfe/> - select Brand: WebSphere
- WebSphere only [https://www.ibm.com/developerworks/rfe/?BRAND\\_ID=181](https://www.ibm.com/developerworks/rfe/?BRAND_ID=181)
- Select Product Family: Transaction Processing - for CICS Transaction Server, TXSeries, and WXTR
- Select Product Family: Enterprise Tooling - for the CICS Tools, CICS Transaction Gateway, and PD Tools
- Raise CICS Explorer base requirements against the Explorer component of CICS TS.
- Raise plug-in requirements against the Explorer component of related product.