



IBM Software Group

# Monitoring IMS and CICS Using OMEGAMON and Tivoli Enterprise Portal

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**Tivoli** software

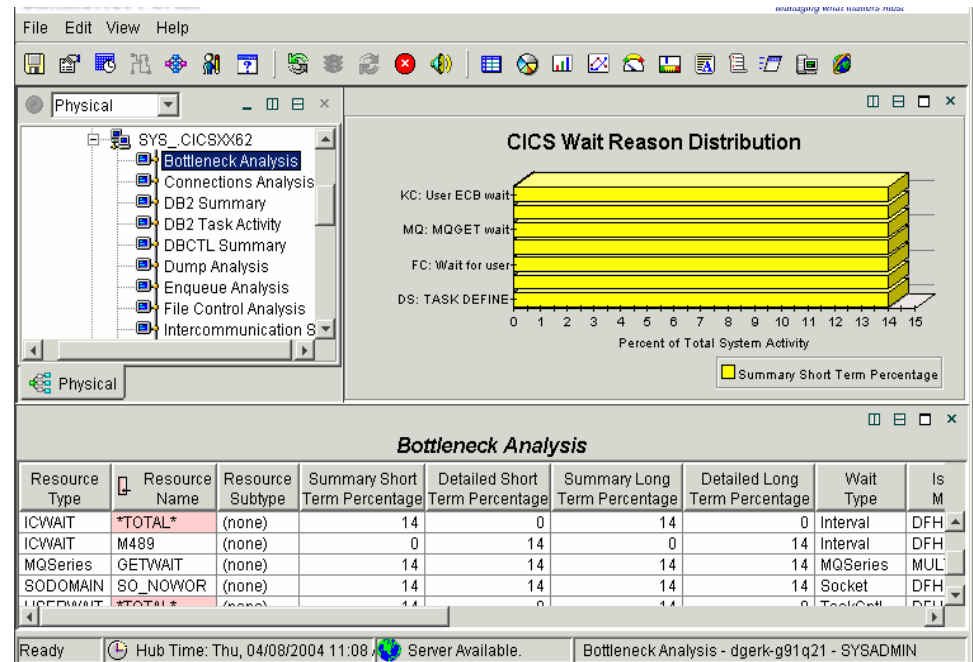




# OMEGAMON XE for CICS V4.1

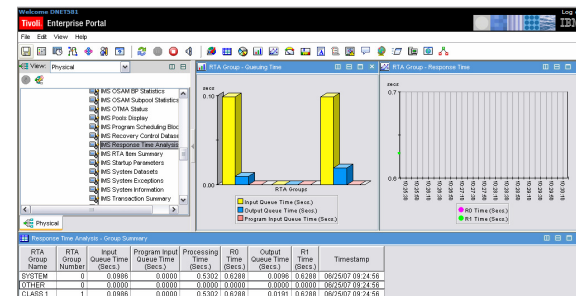
## Provides Alerts and Information in the Following Areas

- **Service Level Analysis**
- **Transaction Analysis**
- **Bottleneck Analysis**
- **Journal Analysis**
- **CICS System Initialization Table**
- **Storage Analysis**
- **UOW Analysis**
- **VSAM File and Lock Analysis**
- **Connections Analysis**
- **Logstream Analysis**
- **Temporary Storage Usage**
- **CICS Region Overview**
- **DB2 Summary and Task data**



# OMEGAMON XE For IMS on z/OS V4.1 Components And Facilities – Real Time And Historical

- **Real Time Monitor**
  - ▶ Subsystems, regions, resources, pools, DBs, Fast path
  - ▶ IMS Connect, OTMA
- **Response Time Analysis (RTA)**
  - ▶ Transaction Response time by user defined groups
- **Bottleneck Analysis**
  - ▶ Workload performance and task analysis
- **Operator Assist & Integrated Console Facility**
  - ▶ IMS resource commands
- **Online Transaction Reporting Facility (Online TRF)**
  - ▶ View TRF information in the TEP
- **Trace Facilities**
  - ▶ Application Trace & TRF trace
- **Exceptions & Alerts**
  - ▶ Integrated alert/automation in the TEP
- **Plex level information**
  - ▶ N-way data sharing, MSC, shared queues (in the TEP)
- **EPILOG Historical**
  - ▶ Historical analysis of transaction response, bottlenecks and IMS resources
  - ▶ Stored in VSAM Epilog Data Store (EDS) by group and time interval
- **Transaction Reporting Facility (TRF)**
  - ▶ Detailed transaction & database data – individual transactions
  - ▶ Suitable for performance analysis & chargeback
  - ▶ Data retrieved from IMS log
- **XE Snapshot Historical**
  - ▶ Snapshot historical stored in the Tivoli Data Warehouse



# IBM And The Tivoli Enterprise Portal

## End to End Performance And Availability Management

Business Service Management

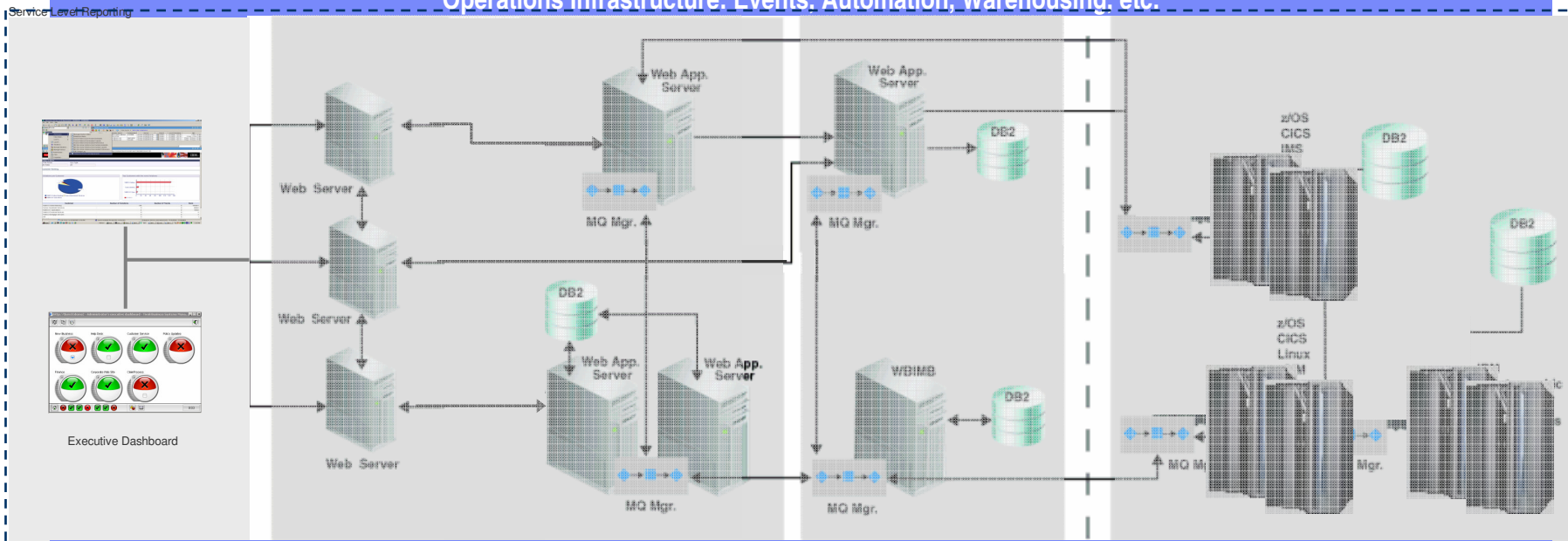
SOA Management

Composite Application Management

Network Management

Systems Management

Operations Infrastructure: Events, Automation, Warehousing, etc.



Operations Infrastructure: Events, Automation, Warehousing, etc.

Asset Management

Storage Management

Workload Management

Security Management

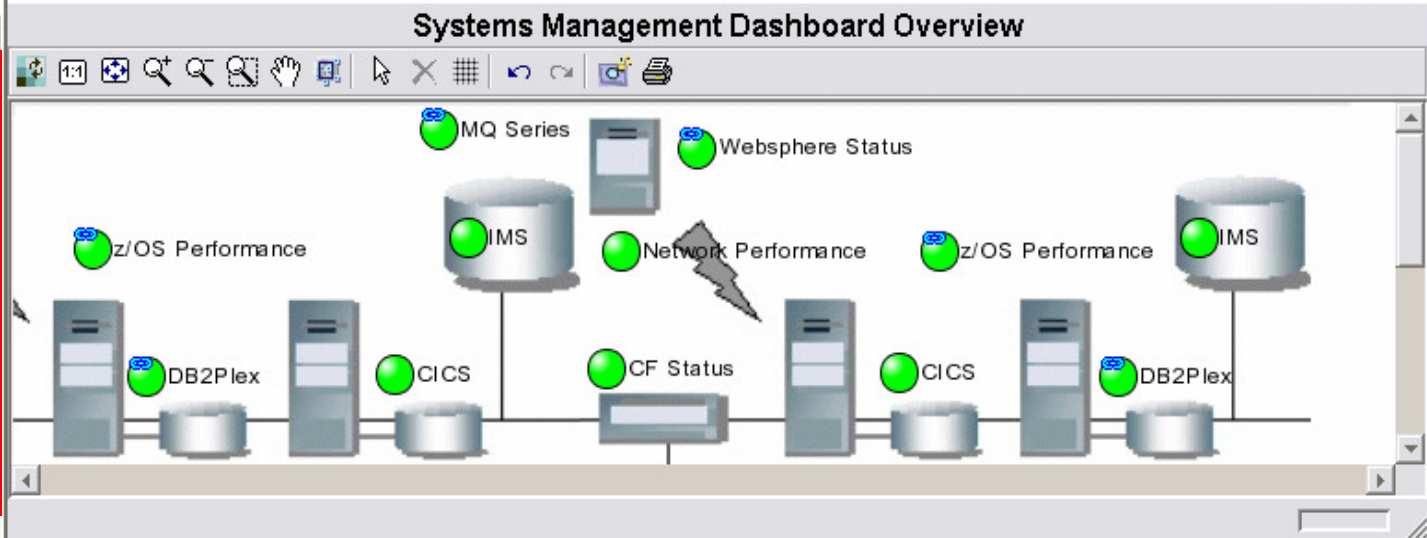
Usage & Accounting Management

# Use TEP To Build A Consolidated Management View Consistent Methodology And Interface

## IMS & CICS as part of bigger picture

A dashboard allows for key technology elements to be combined into a single view.

Integrate information from a variety of components and subsystems.



z/OS Performance				
Service Class	Period	Goal Type	G	Perc
BATCH	1	Velocio		
BATCH		io		
BATHI		io		

**z/OS**  
Service class details

CICS Region Overview				
System ID	CICS Region Name	CICS Version	R	S
SP12	CCCD818	6.2.0	N/	
SP12	CCCD819	6.2.0	N/	
SP12	CCCD820	6.2.0	N/	

**CICS**  
See multiple regions

IMS Address Spaces		
Originating System Identifier	MVS System	IM
XEIMS:SP12:MVS	SP12	I71
XEIMS:SP12:MVS	SP12	I71

**IMS**  
Manage key regions

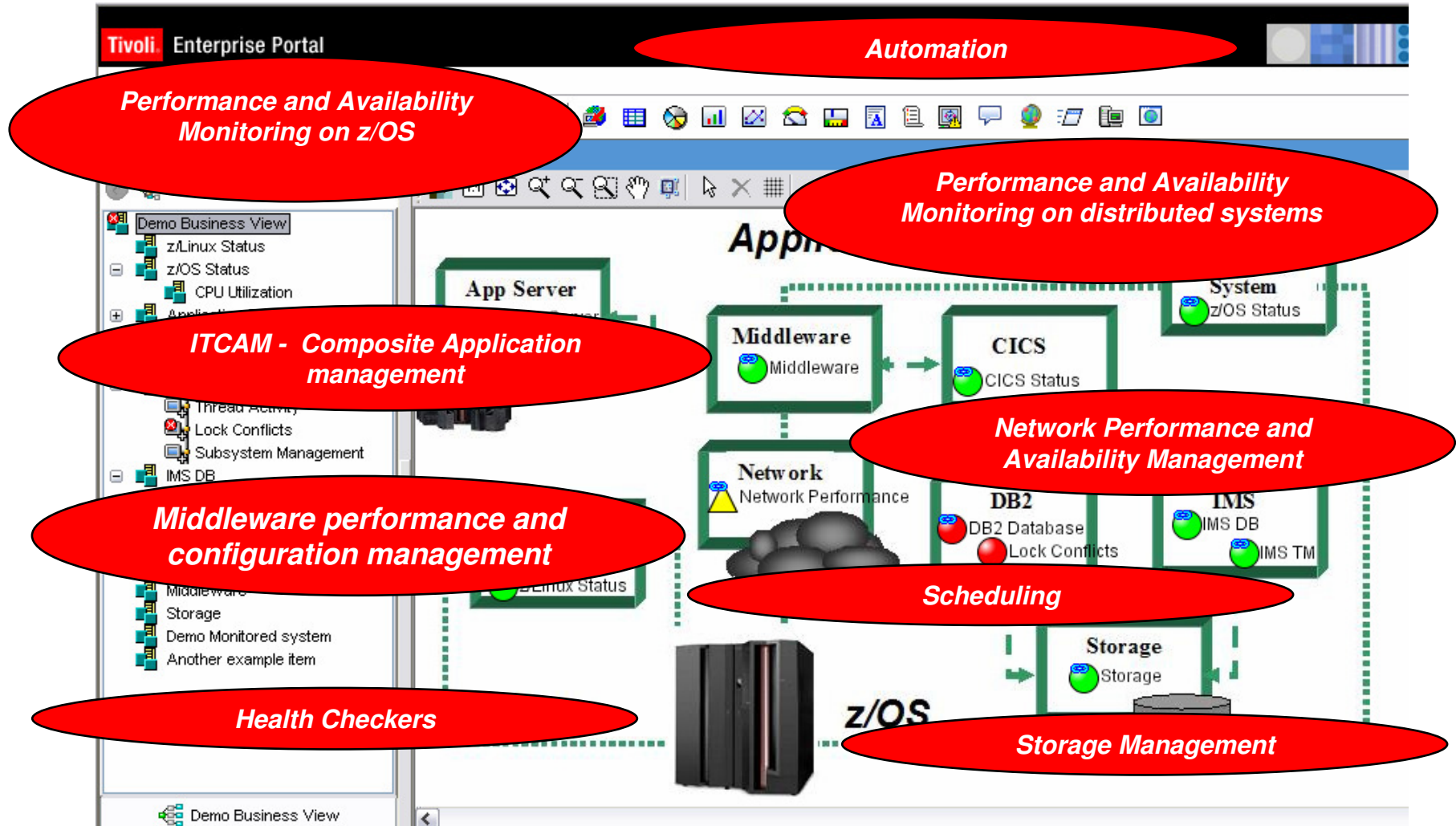
DB2 Threads	
Originnode	
D71G:SP12:DB2	02/08

**DB2**  
Track key threads

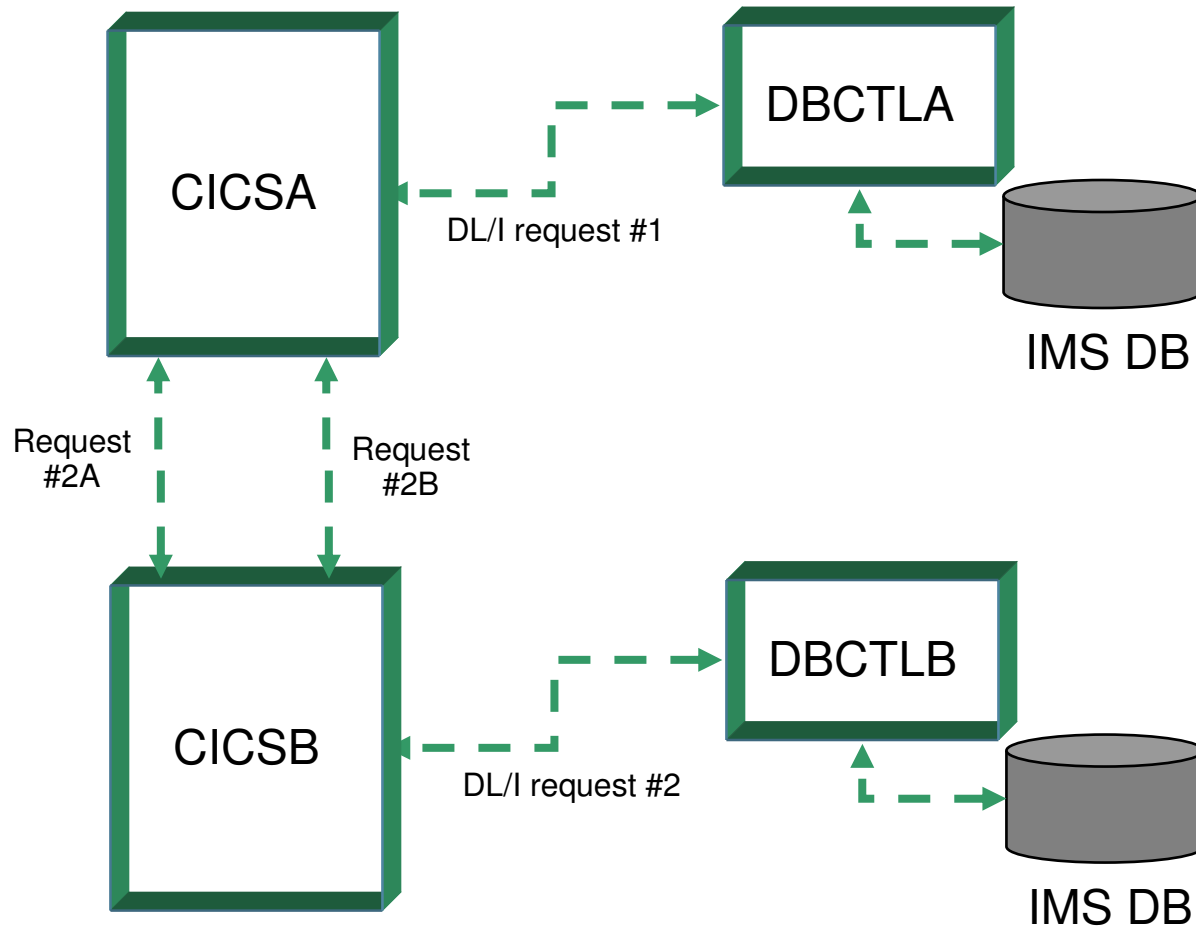
MQ Series	
Origin Node	P
MQ12:SP12:MQESA	04
MQ12:SP12:MQESA	03

**MQ**  
Queues and channels

# The TEP Is The Focus Of An Integrated Performance, Availability And Systems Management Approach



# DL/I Request Handling With CICS And IMS DBCTL

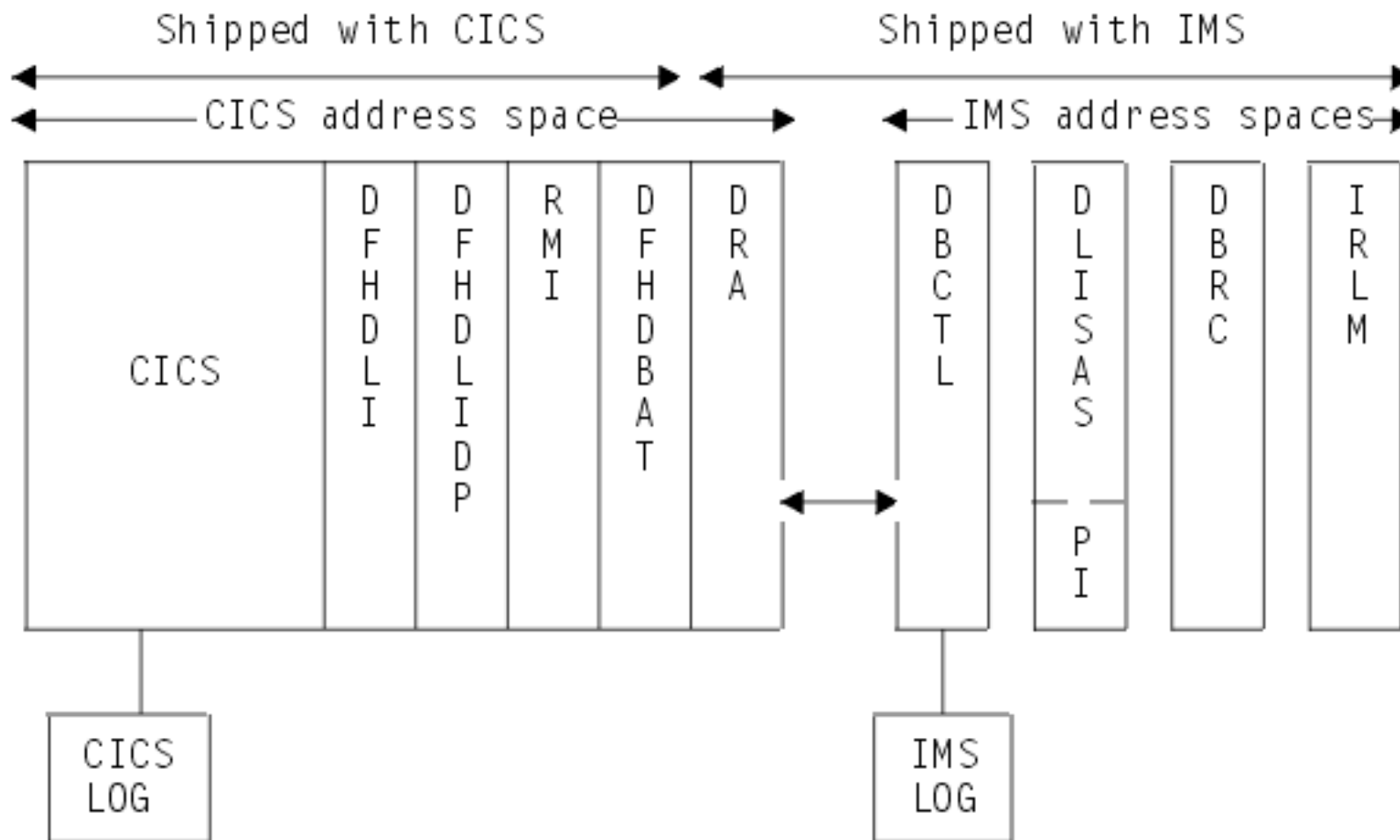


CICSA may access IMS data via a request to DBCTLA  
 CICSA may access data via function shipping to CICSB and CICSB accesses DBCTLB

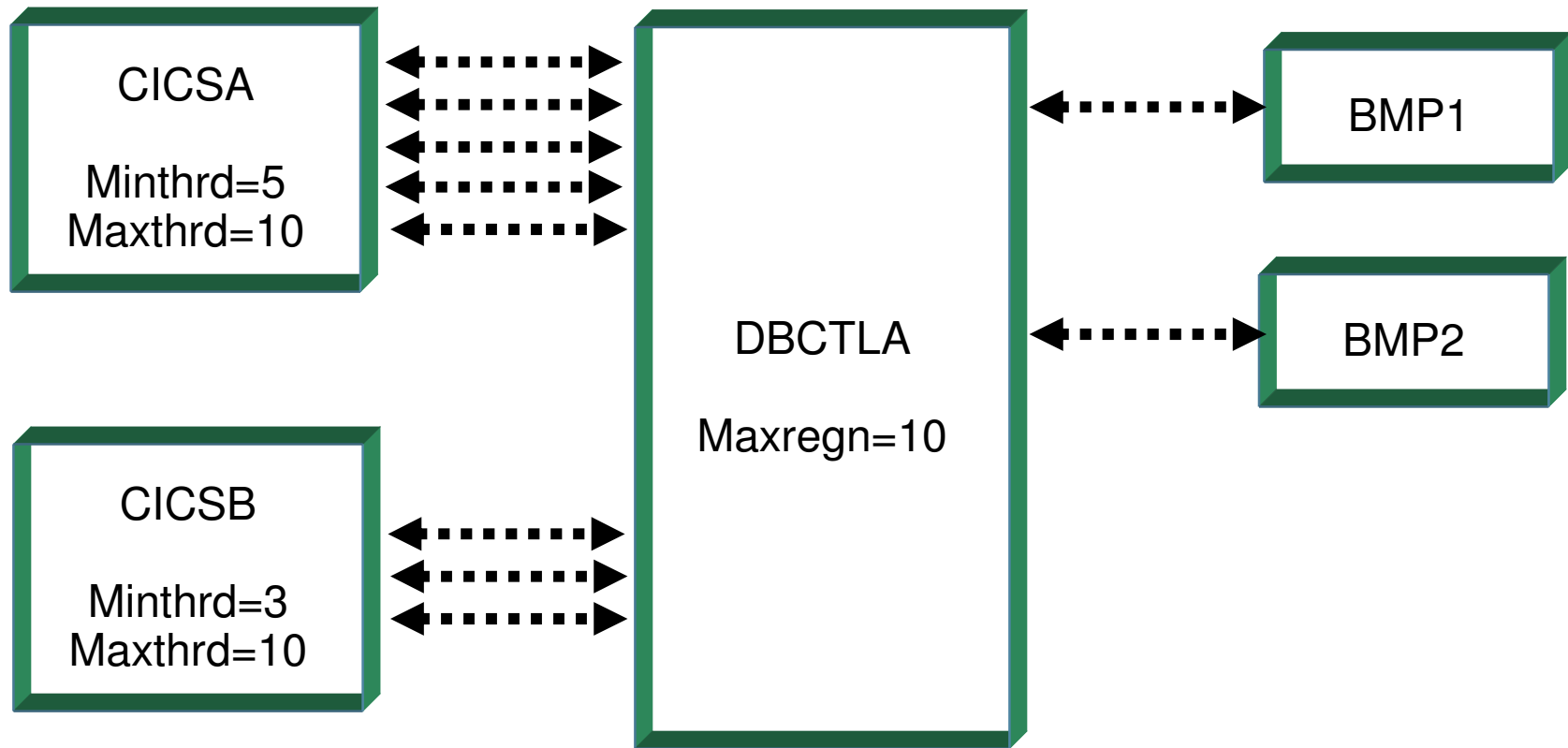




# CICS And IMS DBCTL Subsystems And Address Spaces



## Threads, Address Spaces And Subsystems



- Number of threads specified will impact performance
- Maximum number of threads in DBCTL is 255
- One thread equates to one TCB

# Typical Performance, Availability And Resource Challenges

- Performance

- ▶ Transaction rate, transaction response time, CICS and IMS internal processing bottlenecks

- Resource

- ▶ CICS – CPU, storage, tasks, critical file I/O
- ▶ IMS – CPU, storage, threads, IMS pools, IMS databases, PSBs, IMS database buffer pools, logging, IMS database locking

- Availability

- ▶ IMS and CICS subsystem availability
- ▶ IMS to CICS connection availability
- ▶ IMS database status and availability



## Components Of An Integrated Solution

- What OMEGAMON XE For CICS provides
  - ▶ In depth real time and historical analysis of CICS performance including CICS response time and CICS region resource usage
  - ▶ Both 3270 and Tivoli Enterprise Portal interfaces
- What OMEGAMON XE For IMS provides
  - ▶ In depth real time and historical analysis of IMS and IMS/DBCTL performance including IMS database and DL/I call level detail
  - ▶ Both 3270 and Tivoli Enterprise Portal interfaces
- OMEGAMON Dashboard Edition
  - ▶ Required to create integrated multi-component views in the Tivoli Enterprise Portal
- Additional useful information
  - ▶ Add OMEGAMON XE For z/OS to monitor the operating system
  - ▶ Add OMEGAMON XE For Mainframe Networks to add network performance information



# OMEGAMON XE For CICS V4.1 CICS Region Overview Workspace

**Navigator**

- View: Physical
- MVS TCB Summary
- Pagepool Summary
- Recovery Manager Analysis
- Region Overview
- Response Time Analysis
- Service Level Analysis
- Service Task Details

**Transaction Rate**

Rate per Minute

Time

**Maximum Tasks Percent**

Maximum Tasks Percent

3

**CICS CPU Utilization**

CICS CPU Utilization

16.9

**CICS Region Overview**

Origin Node	System	CICS Region Name	CICS Version	Region Status	CICS SYSIDNT	VTAM Applid	VTAM Generic Applid	VTAM ACB Open	SOS	Maximum Tasks Percent	Transaction Rate	I/O Rate	Page Rate
MVSA.CICSAOR1	MVA	CICSAOR1	6.4.0	N/S	C22A	CICSACB1	CICSACB1	Yes	No	3	0	242.4	0.0

**Drill down for storage usage detail**

**The Region overview workspace provides a summary view of transaction rate, CPU usage, I/O and other performance information**

# Performance Monitoring CICS Transaction Response Time

Tivoli Enterprise Portal Welcome DNET581 Log out IBM

File Edit View Help

Navigator View: Physical

- JVM Analysis
- Log Stream Analysis
- LSR Pool Status
- Message Queuing Analysis
- MVS TCB Summary
- Pagepool Summary
- Recovery Manager Analysis
- Region Overview
- Response Time Analysis**
- Service Level Analysis
- Service Task Details
- Storage Analysis
- System Details

Physical

Current Response Profile

Group Number

Seconds

Response Time Analysis

System ID	CICS Region Name	Group Number	Group Type	Group Name	Exceeds RTA Threshold	Response Time	Response Time 1 Minute Ago	Response Time 2 Minutes Ago
MVSA	CICSAOR1	3	Transaction	TRAN GRP C*	No	00:00:00	00:00:00.01	

Response Time Elements

Bottleneck Analysis

Link Wizard...

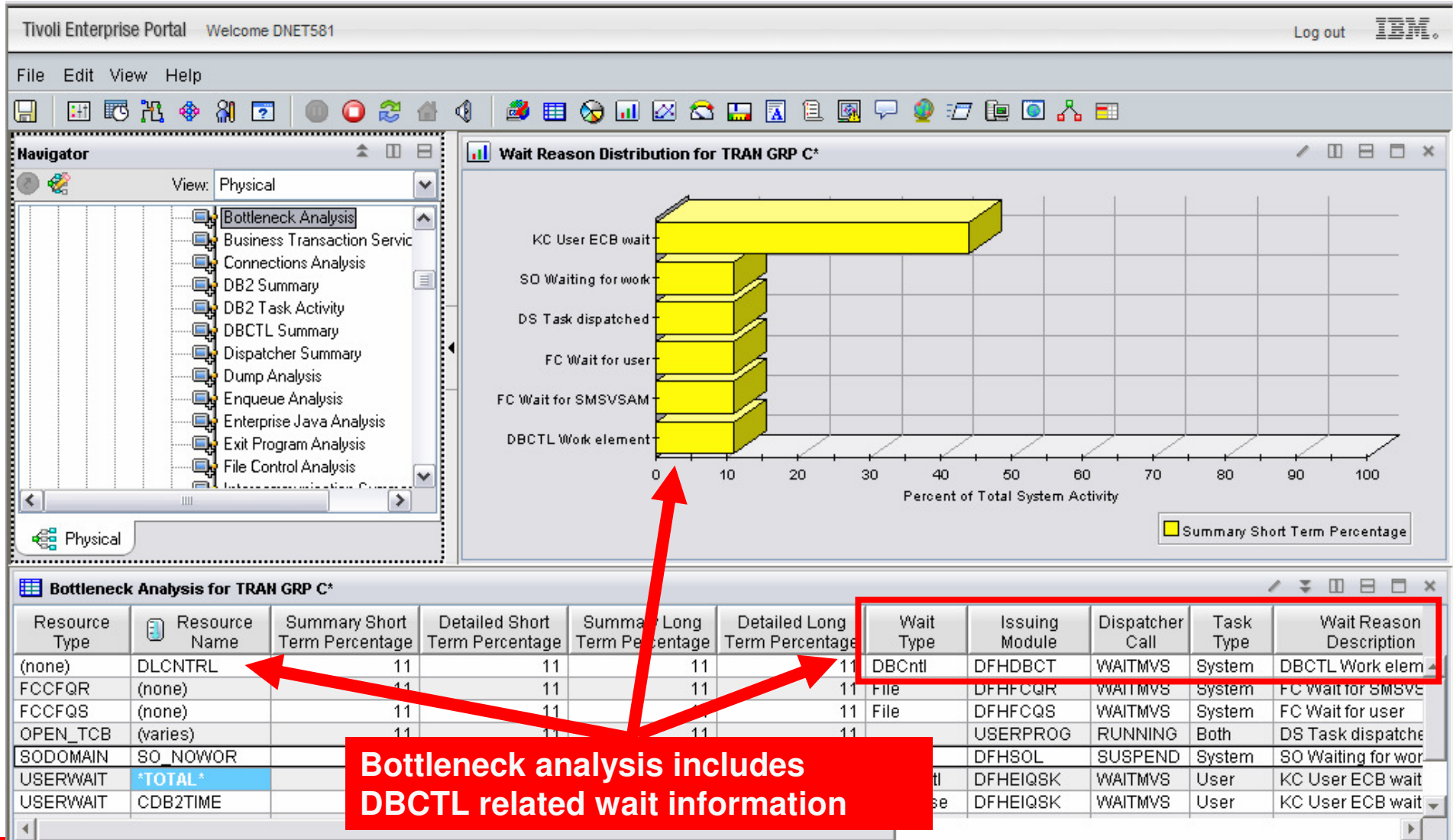
Link Anchor...

OMEGAMON XE For CICS monitors transaction response time (RTA)

Recommendation - customize RTA transaction groups for critical transaction

To see bottleneck data for the RTA group

# CICS Bottleneck Analysis Is The Issue In CICS Or IMS?



**Bottleneck analysis includes DBCTL related wait information**

# Transaction Response Time Situation Alert

**Formula** | **Distribution** | **Expert Advice** | **Action** | **Until**

**Description**

**Formula**

Group Name	Response Time
1 == DEMO	> 00:00:00.1
2 == DBCTL	> 00:00:00.2
3	

**Response Time** is the average group response time for the current one-minute interval. Values are expressed in the format hh:mm:ss.th

where:

**Select condition**

Condition Type

Attribute Comparison

Situation Comparison

**Attribute Group**

- CICSplex File Control Analysis
- CICSplex Intercommunication Summary
- CICSplex Internet Status
- CICSplex JVM Classcache Details
- CICSplex JVMPPOOL Statistics
- CICSplex MQ Connection Details
- CICSplex MVS TCB GLOBAL details
- CICSplex Pagepool Summary
- CICSplex Program Details
- CICSplex Recovery Manager Details
- CICSplex Region Overview
- CICSplex Response Time Analysis

**Attribute Item**

- CICS Region Name
- Exceeds RTA Threshold
- Group Name
- Group Number
- Group Type
- Origin Node
- Response Time
- Response Time 1 Minute Ago
- Response Time 2 Minutes Ago
- Response Time 3 Minutes Ago
- Response Time 4 Minutes Ago
- Response Time 5 Minutes Ago

**Sampling**

0

ddd

Hub Time: Mon, 08/11/2008 09:28 A

90 100

me	Response Time	Resp
go	4 Minutes Ago	5 Mir
:00	00:00:00	

pm - DNET581

**For proactive response time alerts create RTA situations based upon RTA groups**

**Add additional attributes to make situations more robust and meaningful**

**Add actions to automate corrections**



# Monitor CICS And IMS DBCTL Availability

The screenshot displays the IBM Tivoli Monitoring console interface. The main window is titled "DBCTL Summary - IBM-1E47754C52F - SYSADMIN". It features a menu bar (File, Edit, View, Help) and a toolbar with various icons. The left pane shows a tree view of monitoring objects under "SYSL.CICSL153", with "DBCTL Summary" selected. The right pane is split into two sections:

- Database Control for IMS:** A table showing the status of DBCTL subsystems.
 

System ID	CICS Region Name	DBCTL Active	DBCTL Subsystem Name
SYSL	CICSL153	Yes	I91F
- Situations for - DBCTL Summary:** A configuration window for a situation named "DBCTL\_Avail\_Alert". It includes a "Description" field and a "Formula" section with a table:
 

	DBCTL Active
1	== No
2	
3	

Two red callout boxes with arrows provide instructions:

- Monitor DBCTL status:** Points to the "DBCTL Active" column in the table.
- Use a situation for an availability alert:** Points to the "DBCTL\_Avail\_Alert" situation in the configuration window.

# OMEGAMON XE For IMS V4.1 DBCTL Monitoring With Drill Down For Detail

IMS DBCTL Thread Summaries - IBM-93CF507EC63 - SYSADMIN \*ADMIN MODE\*

File Edit View Help

View: Physical

Thread Counts

Thread ID	CICS Jobname	Active Threads	Available Threads	Unavailable Threads	Indoubt Threads
CICSMOCK	N/A	0	0	0	3
CICS22RS	CICS22RS	1	1	1	2
CICSSTR	CICS22IP	1	1	1	2

DBCTL Thread Summary

Thread ID	CICS Jobname	Active Threads	Available Threads	Unavailable Threads	Indoubt Threads	Active Threads Percent	IMS ID	MVS System	Sysplex Name	Timestamp
CICSMOCK	N/A	0	0	0	3	0.00	I91P	SP22	LPAR400J	05/24/06 14:32:32
CICS22RS	CICS22RS	1	1	1	2	33.33	I91P	SP22	LPAR400J	05/24/06 14:32:32
CICSSTR	CICS22IP	1	1	1	2	33.33	I91P	SP22	LPAR400J	05/24/06 14:32:32

- Detailed Thread Activity (Active)
- Detailed Thread Activity (Available)
- Detailed Thread Activity (Unavailable)
- Detailed Thread Activity (Indoubt)

# DBCTL Thread Detail

DBCTL Detailed Thread Activity (Active) - IBM-1E47754C52F - SYSADMIN

File Edit View Help

View: Physical

- 191F:SYSL:IMS
  - IMS Address Spaces
  - IMS Coupling Facility Data Sh
  - IMS DASD Logging
  - IMS DBCTL Thread Summary
  - IMS Dependent Regions
  - IMS Device Activity
  - IMS Extended Recovery Fac
  - IMS External Subsystems
  - IMS Fast Path Balancing Gro
  - IMS Fast Path DEDB Activity
  - IMS Fast Path MSDB Informa
  - IMS Fast Path Regions
  - IMS Fast Path System
  - IMS Fast Path VSO Data Spa

Physical Integrated Overview

Elapsed Times

Enqueues and Dequeues

DBCTL Detailed Thread Activity (Active)

Thread ID	Region ID	PSB Name	Thread State	Thread Status	CICS Jobname	CICS Transaction ID	CICS Task Number	CICS Terminal ID	Database I/O Count	DLI Call Count	Elapsed Thread Time	Recovery Token	Elapsed Wait Time Poolspace	Elas
CICSL153	6	DEHSAM05	Active	Wait-IRLM	CICSL153	WD80	00149	M440	0	1	2180	BF70852892CA7D30	0.000000	0.00

Display Active Thread Call Statistics  
 Display CICS Transaction Information

# Thread DBCTL Thread With Call Level Detail

The screenshot displays the 'DBCTL Thread Call Statistics' application interface. It includes a tree view on the left, a 3D bar chart titled 'DLI Counts' in the top right, and two data tables at the bottom. Red arrows highlight key components: 'PSB information' points to the PSB Name in the first table; 'Call counts' points to the call count columns; 'Thread status' points to the Thread State; and 'Call detail' points to the second table.

**DLI Counts Chart Data:**

Region Identifier	GU Call Count	GHU Call Count	GN Call Count	GHN Call Count	GNP Call Count	GHNP Call Count	DLET Call Count	ISRT Call Count
6	0	1	0	0	0	0	0	0

**DBCTL Thread Call Statistics Table:**

Thread ID	Region ID	PSB Name	Thread State	Thread Status	CICS Jobname	CICS Transaction ID	CICS Task Number	CICS Terminal ID	Database I/O Count	GU Call Count	GHU Call Count	GN Call Count	GHN Call Count	GNP Call Count	GHNP Call Count	DLET Call Count	ISRT Call Count	REPL Call Count
CICSL153	6	DFHSAM05	Active	Wait-IRLM	CICSL153	WD80	00149	M440	0	0	1	0	0	0	0	0	0	0

**DBCTL Thread Call Detail Table:**

Thread ID	Region ID	PSB Name	Call Function	Call PCB Database Name	Call PCB Segment Level	Call PCB Status Code	Call PCB PROCOPT	Call PCB Segment Name	Call PCB Sensitive Segments	Call SSA	Call SSA Hex
CICSL153	6	DFHSAM05	GHU	DI21PART	00	G	HISAM	5	PARTROOT*-----	40D7C1D9E3D9D6D6E35C6060	

# Understanding IMS Database Locking Who Are The Owners And Waiters?

The screenshot displays the 'Global Lock Conflicts Table View' interface. It includes a navigation tree on the left, two bar charts at the top, and a detailed table at the bottom. A red arrow labeled 'Lock owner/waiters' points from the table to the charts. Another red arrow labeled 'Drill into thread detail' points to the table's action menu.

**Global Lock Conflicts Chart Data (Approximate):**

Token	Lock Elapsed Time (Secs.)	Elapsed Time Syncpoint (Secs.)
AF2392E7	~1800	~1800
E3EB36C3	~1800	~1800
AF2392E7	~1800	~1800
AF2392E7	~1800	~1800
E3EB36C3	~1800	~1800

**Global Lock Rates Chart Data (Approximate):**

Token	Locks Held	Database Updates
AF2392E7	~285	~285
AF2392E7	~285	~285
AF2392E7	~285	~285
E3EB36C3	~91	~91

**Global Lock Conflicts Table Data:**

Lock Status	Token	DB/Area Name	IMS ID	MVS ID	Jobname	PSBNAME	Transaction Name	Region Type	Region Status	Lock Elapsed Time	DCB Number	Lock Intent	Elapsed Time Syncpoint	Locks Held	Database Updates
LockOwner	E3EB36C3	DI21PART	I91F	SYSL	IMSLK9F	CAND019		BMP	EX DRGN	00:30:02	01	Update	00:28:39	91	285
LockOwner	AF2392E7	DI21PART	I91F	SYSL	IMSLK9F	CAND019		BMP	EX DRGN	00:30:02	01	Update	00:28:39	91	285
LockWaiter	AF2392E7	DI21PART	I91F	SYSL	IMSLK9F2	CAND019		BMP	WT IRLM	00:29:32	01	Update	00:28:10	1	0
LockWaiter	E3EB36C3	DI21PART	I91F	SYSL	IMS9FMS1	DFSSAM02	PART	MPP	WT IRLM	00:02:18	01	Share	00:02:12	1	0
LockWaiter	AF2392E7	DI21PART	I91F	SYSL	CICSL153	DFHSAM05	WD80	DBC	WT IRLM	00:26:59	01	Share	00:25:45	1	0

**Action Menu:**

- Display IMS DBCTL Thread Detail
- Display CICS Transaction Information

# Monitor IMS Database And PSB Status

**IMS Program Scheduling Blocks - IBM-1E47754C52F - SYSADMIN**

View: Physical

**PSB information**

PSB Name	Active Count	Arrival Count	Processed Count	DL1-SAS Storage
PSBLDLK2	0	0	0	NotInMemory
PSBLDLK3	0	0	0	NotInMemory
PSBLDLK4	0	0	0	NotInMemory
PSBLDLK5	0	0	0	NotInMemory
PSBLDLK6	0	0	0	NotInMemory
PSBLDLK7	0	0	0	NotInMemory
PSBLDLK8	0	0	0	NotInMemory
PSBLDLK9	0	0	0	NotInMemory
PSBUPLK1	0	0	0	NotInMemory

**IMS HALDB Summary - IBM-1E47754C52F - SYSADMIN**

View: Physical

**Database information (including HALDB and Fastpath support)**

Database Name	Database Version Number	Database Organization	Database Access Method	Partition Selection Method	Partition Count	Partition Stopped Count	Partition OLR Active Count	Partition Selection Exit	Longest Key String	Timestamp
IVPDBB	3	PHDAM	VSAM	Key	3	0	0			
IVPDBC	3	PHIDAM	VSAM	Key	3	0	0			
IVPDBD	3	PHDAM	OSAM	Key	3	0	0			
IVPDBEI	3	PSINDEX	VSAM	Key	3	0	0			
IVPDB1	3	PHIDAM	OSAM	Key	3	0	0			

# Monitor Critical IMS Pools

**OSAM and VSAM DB pool performance details**

Subpool Number	Subpool Identifier	Number of Buffers	Buffer Size	Locate Calls	Locates Found in Pool	Subpool Hit Ratio	Elapsed Time
1		5	1024	7	5	71.42	00:00:05
2		5	2048	0	0	0.00	00:00:05
3		5	4096	0	0	0.00	00:00:05
4		5	8192	0	0	0.00	00:00:05

**IMS Pools Display**

Pool Name	Pool Type	Pool Size	Current Storage Used	Utilization Percentage	Free Space	Free Blocks	Largest Free Block	Pool Group
Communications I/O Pool	CIOP	17976	528	2.93	17392	0	0	Communications
High I/O Pool	HIOP	184672	6160	3.33	178288	0	0	Communications
LU 6.2 Manager Private Area Pool	LUMP	399224	22576	5.65	376648	0	0	Communications
MFBP	MFBP	49152	0	0.00	49152	0	0	Communications
Expedited Message Handler Buffer	EMHB	33592	3096	9.22	30496	0	0	Communications
PSB Pool in Common Storage	DLMP	12288	4456	36.30	7832	0	0	Communications
Extended PCB Pool	EPCB	12288	2008	16.35	10280	0	0	Communications
Fast Path Work Pool	FPWP	0	0	0.00	0	0	0	Communications
Auto Operator Interface Pool	AOIP	82768	144	0.17	82624	0	0	Communications

**IMS subsystem pools including PSB pools**

# OMEGAMON IMS Bottleneck Analysis Information May Be Integrated Into The TEP

Analyze where IMS workload is spending its time. Provide analysis of where to tune.

The screenshot shows the Tivoli Enterprise Portal interface. On the left, the Navigator pane displays a tree view of system components, with 'IMS Address Spaces' selected. The main window displays a table of wait reasons for IMS Address Spaces. A red box highlights the 'Database I/O Waits' section of this table. Below the table, another red box contains a recommendation for DBCTL workload.

Wait Reason	Short Term %	Long Term %
Database I/O Waits	.3:>	.2:>
HISTDB	20.0:----->	:20.0:----->
D1B80002	:.30:----->	:.30
MVS Waits:	3.2:>	:2.0:
CPU Wait (DEP)	3.20:>	:2.00:----->
Program Fetch I/O	0:	:0:
Commit (Phase 2)	2.80:>	:2.30:>
Prepare to Commit	4.70:>	:5.60:>
User Sign on DB2	:.10:>	:.30:>
Terminate Thread	0:	:0:
SQL Call	:58.80:-->	:15.30:-->

IMS ID	Job Name	Type	Swapped Out	CPU Time	CPU Percentage	TCB CPU Time	TCB CPU Percentage	SRB CPU Time	SRB CPU Percentage	Task Elapsed Time	Common Page-Ins	Common Page-In Rate	Private Page-Ins	Pr Pa R
IMSA	IMSAMAST	Control	No	41.43	0.00	34.00	0.00	0.50	0.00	4 Days	4	0.0	0	0
IMSA	IMSADLI	DL/I SAS	No	0.08										
IMSA	IMSADBRC	DBRC	No	0.08										
IMSA	IMSAIRLM	IRLM	No	42.80										
IMSA	CICSAOR1	DBCTL	No	34,603.80										

DEXAN data based on groups defined in KOIGBLxx macro  
 Recommendation - For DBCTL workload create program based groups in KOIGBLxx



# Situation Example – Monitor Thread Usage

**This product provided situation may be customized to monitor thread usage and to monitor it by CICS jobname**

The screenshot shows the following configuration details:

- Description:** IMS Threads Active High
- Formula:**

	Active Threads
1	> 127
2	
3	
- Select condition dialog:**
  - Condition Type:  Attribute Comparison
  - Attribute Group: DBCTL Thread Summaries
  - Attribute Item: Active Threads

## The Value Of Using The Tivoli Enterprise Portal To Manage This Environment

- Provides an integrated overview of CICS and IMS processing and activity
  - ▶ See the 'BIG PICTURE' from a single screen
    - Integrated graphical overview with alerts
    - Integrated technical view with detailed information
  - ▶ Speed problem notification
  - ▶ Improve problem isolation
    - Is the problem in CICS or IMS or somewhere else?
  - ▶ Automate notification and problem correction
- Dynamic navigation and ease of use
- Historical and real time analysis

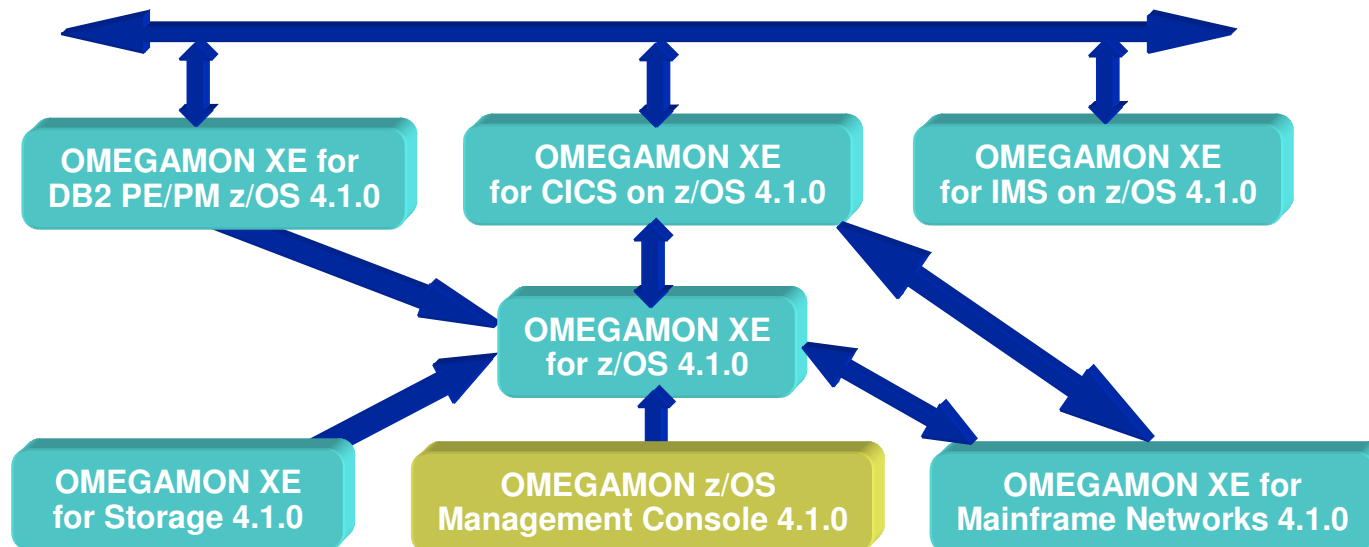


## V4.1 Added Dynamic Workspace Linking Functionality To The z/OS Monitoring Solutions

**Problem:** How do I quickly find a potential problem that requires multiple monitoring products?

**Scenario:** Dynamically link **IN CONTEXT** between various monitoring technologies

**Solution:** Dynamic Workspace Linking  
Product provided links & user customized links



## Examples

### Product Provided Dynamic Workspace Links With V4.1

- OMEGAMON XE On z/OS
  - ▶ TN3270 Server Sessions, Applications, TCP Listeners, TCP Listeners, Applications
- OMEGAMON XE For CICS
  - ▶ Temporary Storage Queues, Log Stream Analysis, Transaction Analysis, Transaction Analysis, DB2 Summary, DBCTL Summary, TCPIP Statistics, Message Queuing Analysis
- OMEGAMON XE For IMS
  - ▶ IMS Dependent Regions, IMS Dependent Regions, IMS DBCTL Thread Details, Global Lock Conflicts
- OMEGAMON XE For DB2 PM/PE
  - ▶ Enclave Thread Summary, Thread Enclave, IMS Thread Summary, Thread Detail, Detailed Thread Exception, CICS Thread Summary, Thread Detail, Detailed Thread Exception
- OMEGAMON XE For z/VM and Linux
  - ▶ Linux Workload and ApplData



# Dynamic Workspace Links Between IMS And CICS

**OMEGAMON XE For IMS DBCTL thread detail**

Thread ID	Region ID	PSB Name	Thread State	Thread Status	CICS Jobname	CICS Transaction ID	CICS Task Number	CICS Terminal ID	Database I/O Count	DLI Call Count	Elapsed Thread Time	Recovery Token	Elapsed Wait Time Poolspace	Elas Y T In
CICSL153	6	DFHSAM05	Active	Wait-IRLM	CICSL153	WD80	00149	M440	0	1	2180	BF70852892CA7D30	0.000000	0.00

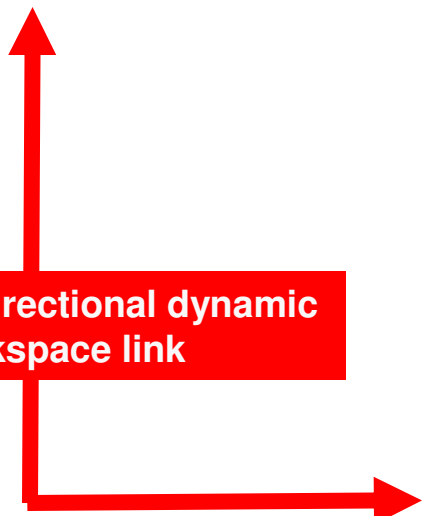
- Display Active Thread Call Statistics
- Display CICS Transaction Information

**OMEGAMON XE For CICS CICS transaction detail**

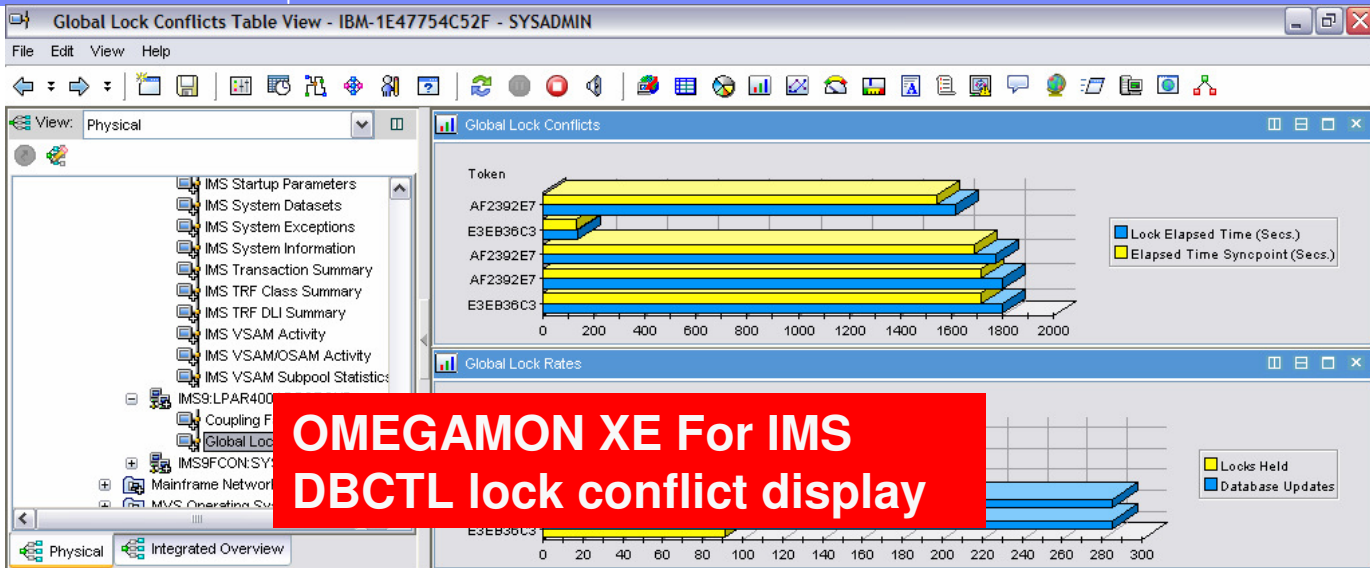
- Units of Work
- Online Data Viewing
- Transaction Details
- Storage Use
- Timings
- Statistics
- Transaction and Program Definition
- Transaction T8Queue Details
- Transaction File Details
- Umbrella Information
- Remote Information
- DBCTL Detailed Thread Execution
- IMS: DBCTL Thread Detail (CICS)
- Link Wizard...
- Link Anchor...

User ID	Terminal ID	Task Number	Resource Type	Resource Name	Task State	Elapsed Time	CPU Time	Program ID	Exceeds MAXR Threshold	D				
SYSL	CICSL153	L153	WD80	CICSUSER	M440	00149	DBCTL	DLSUSPND	Suspend	00:25:...	00:00:00	WKDL8D10	No	n/

**Bi-directional dynamic workspace link**



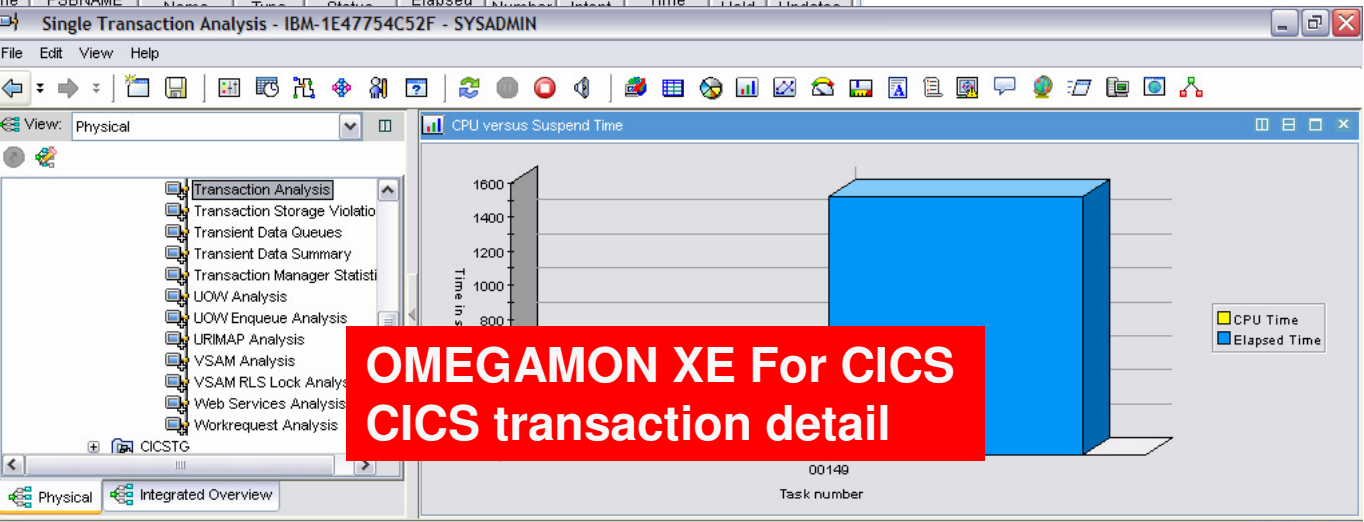
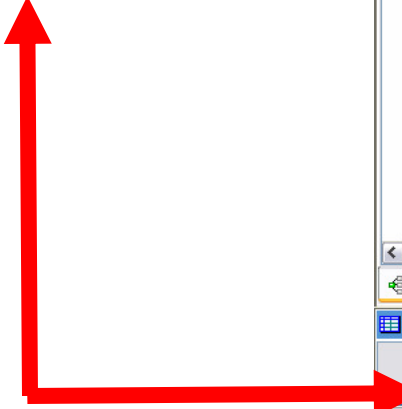
# Dynamic Workspace Link From IMS Lock Conflict To CICS Transaction Detail



**OMEGAMON XE For IMS  
DBCTL lock conflict display**

Lock Status	Token	DB/Area Name	IMS ID	MVS ID	Jobname	PSBNAME	Transaction	Region	Region	Lock Elapsed	DCB	Lock	Elapsed Time	Locks	Database
LockOwner	E3EB36C3	DI21PART	I91F	SYSL	IMSLK										
LockOwner	AF2392E7	DI21PART	I91F	SYSL	IMSLK										
LockWaiter	AF2392E7	DI21PART	I91F	SYSL	IMSLK										
LockWaiter	E3EB36C3	DI21PART	I91F	SYSL	IMS9FM										

- Display IMS DBCTL Thread Detail
- Display CICS Transaction Information



**OMEGAMON XE For CICS  
CICS transaction detail**

System ID	CICS Region Name	CICS SYSIDNT	Transaction ID	User ID	Terminal ID	Task Number	Resource Type	Resource Name	Task State	Elapsed Time	CPU Time	Program ID	Exceeds MAXR Threshold	D
SYSL	CICSL153	L153	WD80	CICUSER	M440	00149	DBCTL	DLSUSPND	Suspend	00:25...	00:00:00	WKDL8D10	No	n/

# Create An Integrated Graphic Overview Of CICS And IMS Activity

**Note – Creating a custom graphic overview requires that OMEGAMON DE be enabled in the TEP**

**Custom navigation tree**

**Custom graphic overview with icons for alerts**

**CICS RTA**

**IMS Threads**

CICS Region Name	Group Name	Response Time	Response Time 1 Minute Ago	Re 2
CICSL153	TRAN		00:00:00	
CICSL153	TRAN		00:00:00	
CICSL153	TRAN		00:00:00	
CICSL153	TRAN		00:00:00	

Thread ID	CICS Jobname	Active Thread	Available	Unavailable	Indoubt
CICSL153	CICSL153				

# Create An Integrated Technical CICS And IMS Workspace

The screenshot displays the 'Response Time Analysis - IBM-1E47754C52F - SYSADMIN' interface. It features several data tables and a navigation tree on the left.

**IMS Regions Table:**

IMS ID	Region Name	Type	Transaction Name	PSB Name	Database Calls	Message Inserts	Region Occupancy Percentage	Locks Held Count	BMP Checkpoint Count	Wait Time
I91F	IMS9FFP1	FastPath	--None--	DFSIVP4	0	0	0.00	0	0	02:18
I91F	IMS9FFP3	FastPath	--None--						0	02:18
I91F	IMS9FFP2	FastPath	--None--						0	02:18
I91F	IMSLK9F	BMP	--None--						0	00:34
I91F	IMS9FMS1	Message	PART	DFSSAMU2	1	0	23.47	1	0	00:08
I91F	IMSLK9F2	BMP	--None--	CAND019	1	0	100.00	1	0	00:34

**IMS DBs Table:**

IMS ID	Database Name	DDNAME	CA Splits	CI Splits	Extents
I91F	IVPDBB1	IVPDBB1A	0	0	1
I91F	IVPDBB1	IVPDBB1L	0	0	1
I91F	IVPDBB2	IVPDBB2M	0	0	1
I91F					1
I91F					0
I91F					1
I91F					1
I91F	IVPDBCT	IVPDBCTL	0	0	1

**IMS Lock Conflicts Table:**

IMS ID	Token	MVS ID	Jobname	PSBNAME	Sub
I91F	E3EB36C3	SYSL	IMSLK9F	CAND019	
I91F	AF239...				
I91F	AF239...				
I91F	E3EB3...				
I91F	AF2392E7	SYSL	CICSL153	DFHSAM05	

**CICS Transactions Table:**

System ID	CICS Region Name	CICS SYSIDNT	Transaction ID	...
SYSL	CICSL153	L153	CIRP	CICE
SYSL	CICSL153	L153	CIRR	CICE
SYSL	CICSL153	L153	CECI	CICE
SYSL	CICSL153	L153	CEDF	CICE
SYSL	CICSL153	L153	DSDB	CICE
SYSL	CICSL153	L153	OSDB	CICE
SYSL	CICSL153	L153	OSRV	CICE
SYSL	CICSL153	L153	OSNF	n/a

**DBCTL Threads Table:**

Thread ID	Region ID	PSB Name	Thread State	Thread Status
CICSL153	6	DFHSAM05	Active	Wait-IRLM

**CICS Response Time Table:**

System ID	CICS Region Name	Group Name	Response Time
SYSL	CICSL153	TRAN GRP C*	00:00:00
SYSL	CICSL153	TRAN GRP D*	00:00:00
SYSL	CICSL153	TRAN GRP E*	00:00:00
SYSL	CICSL153	TRAN GRP J*	00:00:00
SYSL	CICSL153	TRAN GRP M*	00:00:00

Navigation tree on the left includes: Subpool Details, System Initialization Table, Task Class Analysis, TCP/IP Statistics, Temporary Storage Queues, Temporary Storage Summary, Terminal Storage Violations, Transaction Analysis, Transaction Storage Violations, Transient Data Queues, Transient Data Summary, Transaction Manager Statistics, UOW Analysis, UOW Enqueue Analysis, URIMAP Analysis, VSAM Analysis, VSAM RLS Lock Analysis, and Web Services Analysis.



# Use The Portal To See IMS Historical Performance Data

**Click to select desired time intervals**

Select the Time Span

Real time

Last  Hours

Last parameters

Use detailed data

Time Column: Recording Time

Use summarized data

Shift: All shifts

Days: All days

Custom

Custom parameters

Use detailed data

Time Column: Recording Time

Use summarized data

Interval: Hours

Shift: All shifts

Days: All days

Start Time: 10/27/2006 10:53 AM

End Time: 10/27/2006 10:53 AM

Apply to all views associated with this view

**History data showing recording time. Data is viewable and sortable.**

File Edit View Help

View: Physical

IVP1:SYS1:IMS

- IMS Address Spaces
- IMS Connect CPU Usage
- IMS Coupling Facility Data Sh
- IMS DASD Logging
- IMS Dependent Regions
- IMS Delete Activity
- IMS Extended Recovery Faci
- IMS External Subsystems
- IMS Fast Path Balancing Gro
- IMS Fast Path DEDB Activity
- IMS Fast Path MSDB Informa
- IMS Fast Path Regions

IMS ID	Job Name	Type	Swapped Out	CPU Time	CPU Percentage	TCB CPU Time	TCB CPU Percentage
IVP1	IMS91CR1	Control	No	323.77	0.18	244.84	0.14
IVP1	IMS91DL1	DLI_SAS	No	0.66	0.00	0.51	0.00
IVP1	IMS91DL1	DBRC	No	1.08	0.00	0.99	0.00
IVP1	IMS			0.73	0.34	0.28	0.00
IVP1	IMS			0.24	0.00	0.20	0.00

Welcome SYSADMIN

Tivoli Enterprise Portal

File Edit View Help

IMS Address Spaces

Recording Time	IMS ID	Job Name	Type	Swapped Out	CPU Time	CPU Percentage	TCB CPU Time	TCB CPU Percentage	SRB CPU Time	SRB CPU Percentage
10/27/06 08:15:00	IVP1	IMS91CR1	Control	No	312.88	0.18	236.61	0.14	76.27	0.04
10/27/06 08:00:00	IVP1	IMS91CR1	Control	No	311.18	0.18	235.32	0.14	75.86	0.04
10/27/06 07:45:00	IVP1	IMS91CR1	Control	No	309.48	0.19	234.04	0.15	75.44	0.04
10/27/06 07:30:00	IVP1	IMS91CR1	Control	No	307.76	0.18	232.74	0.14	75.02	0.04
10/27/06 07:15:00	IVP1	IMS91CR1	Control	No	306.05	0.18	231.45	0.14	74.60	0.04
10/27/06 07:00:00	IVP1	IMS91CR1	Control	No	304.35	0.18	230.16	0.14	74.19	0.04
10/27/06 06:45:00	IVP1	IMS91CR1	Control	No	302.65	0.19	228.88	0.15	73.77	0.04
10/27/06 06:30:00	IVP1	IMS91CR1	Control	No	300.99	0.18	227.62	0.14	73.37	0.04
10/27/06 07:30:00	IVP1	IMS91DL1	DLI_SAS	No	0.66	0.00	0.51	0.00	0.15	0.00
10/27/06 06:45:00	IVP1	IMS91DL1	DLI_SAS	No	0.66	0.00	0.51	0.00	0.15	0.00



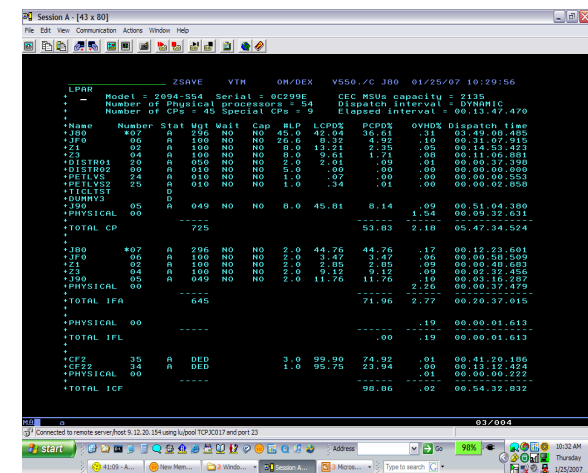
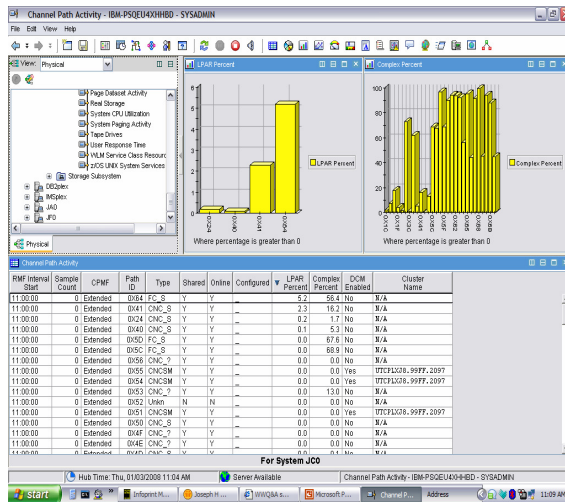
# What's Coming – OMEGAMON V4.2.0 Launch in Context

Coming in 4.2.0

OM XE for z/OS, CICS, IMS, DB2

From Tivoli Enterprise Portal

To 3270



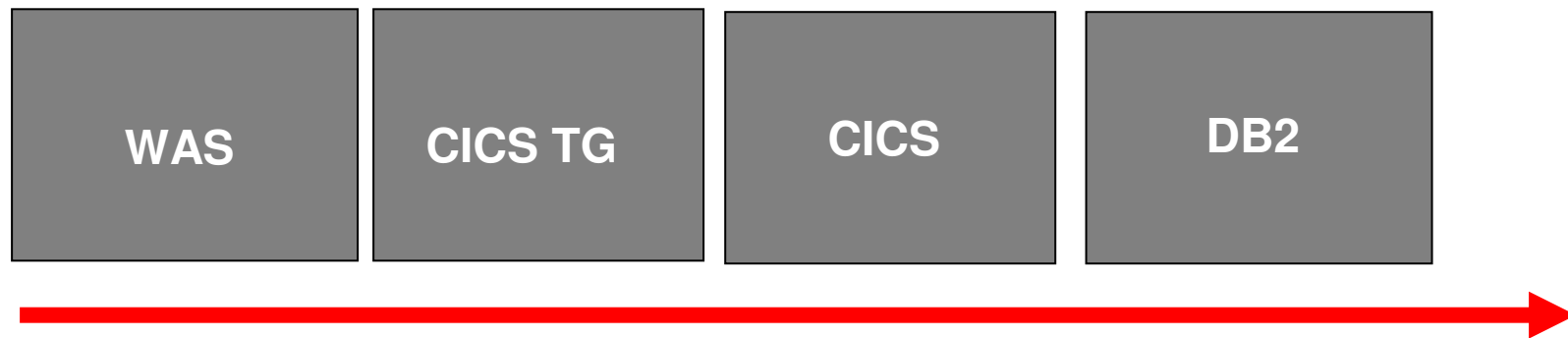
## OMEGAMON XE for CICS on z/OS V4.1.0 Interim Features And V4.2.0

- **V4.1.0 Interim Features**
  - ▶ **08 Summer**
    - **Enhancements to OMEGAMON XE for CICS on z/OS v4.1.0**
      - **TEP reports to take advantage of TEP “1 minute history”**
      - **Dynamic Workspace Links from TEP reports to 3270**
      - **Initially TRANSACTION ANALYSIS and ONDV**
  - ▶ **08 Year end**
    - **Integration of OMEGAMONs using ITCAM for Transactions**
- **V4.2.0**
  - ▶ **Historical linking between products**
  - ▶ **Restructuring of product workspaces**
  - ▶ **Active Transactions SNAPSHOT capability**
  - ▶ **Service Level Analysis enhancements**
  - ▶ **Resource Limiting enhancements**
  - ▶ **New CICS TS release support**



## ITCAM For Transactions

An 'integrated' view of an application – transaction tracking



**Using the ITCAM for Transaction Trace we start to build a picture of the application's 'flow'.**

**Using ITCAM as a starting point gives us WAS, J2EE etc.**

# OMEGAMON XE for IMS on z/OS V4.2.0

- **Product Simplification**
  - ▶ **Enable Classic/CUA only data within XE TEP**
- **Transaction History**
  - ▶ **Improve collection performance and collect additional application information**
- **Integrated zApplication Trace with ITCAM for IMS key technology**
- **Improved performance by streamlining data collection**
- **Improved ICAT configuration**
- **Bottleneck Analysis in Tivoli Enterprise Portal**
  - ▶ **Competing, Non-Competing, Executing (default)**
  - ▶ **Display short and long term collection buckets**
- **Full RTA Support in Tivoli Enterprise Portal**
  - ▶ **Response Time Monitor**
  - ▶ **Display 10 worst performing transactions**
  - ▶ **Interval Response Time**



## Summary

- OMEGAMON And The Tivoli Enterprise Portal (the TEP) provide an integrated management capability
- When defining a performance and availability management strategy consider an integrated approach
- OMEGAMON and the TEP continue to be enhanced and expanded



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