

# IMS Performance - Getting The Most Out Of Your Monitoring Technology: Isolating And Solving Common Issues

**Ed Woods**

**IBM Corporation**

**Session 9808**

**Tuesday, August 9<sup>th</sup>**

**9:30 – 10:30 AM**



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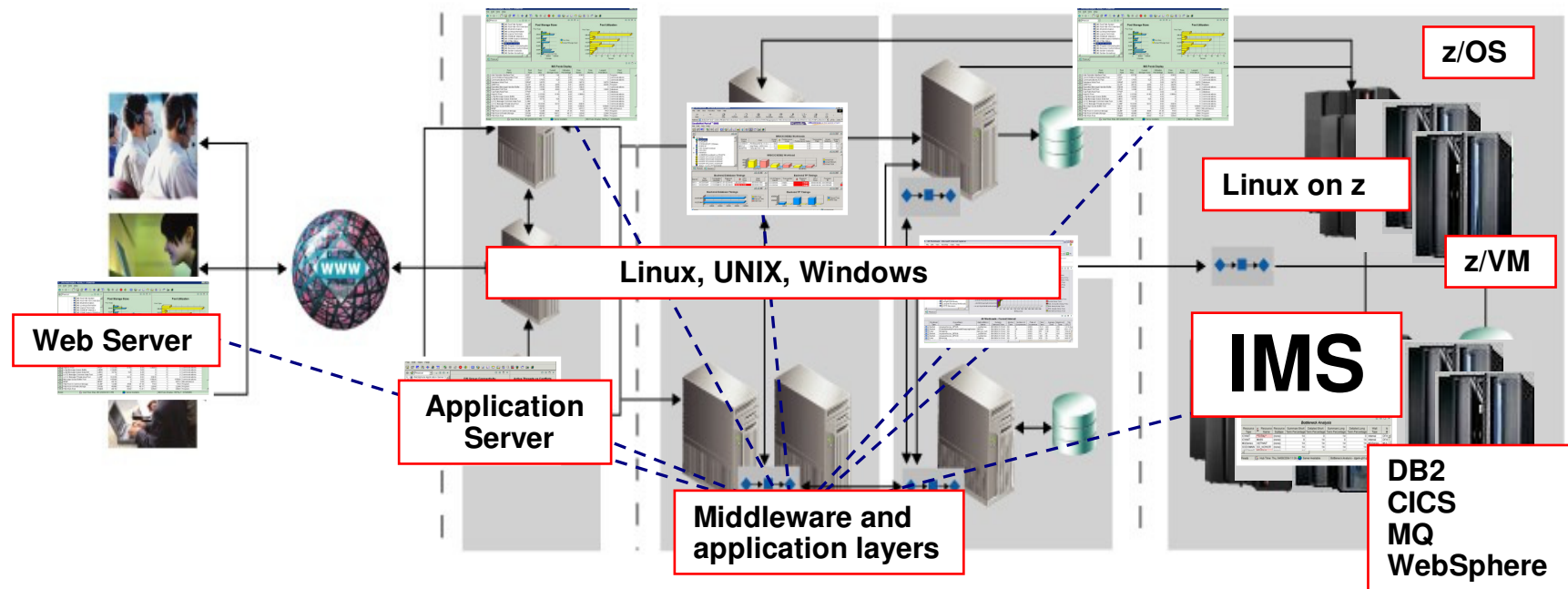
# Agenda

- Understanding the workload
  - IMS as part of a bigger picture
- Real Time IMS monitoring examples
  - Typical steps in problem analysis
- Historical data collection considerations
- Alerting and corrective actions
- Integrated monitoring and management





# IMS Is Part Of A Much Bigger Picture



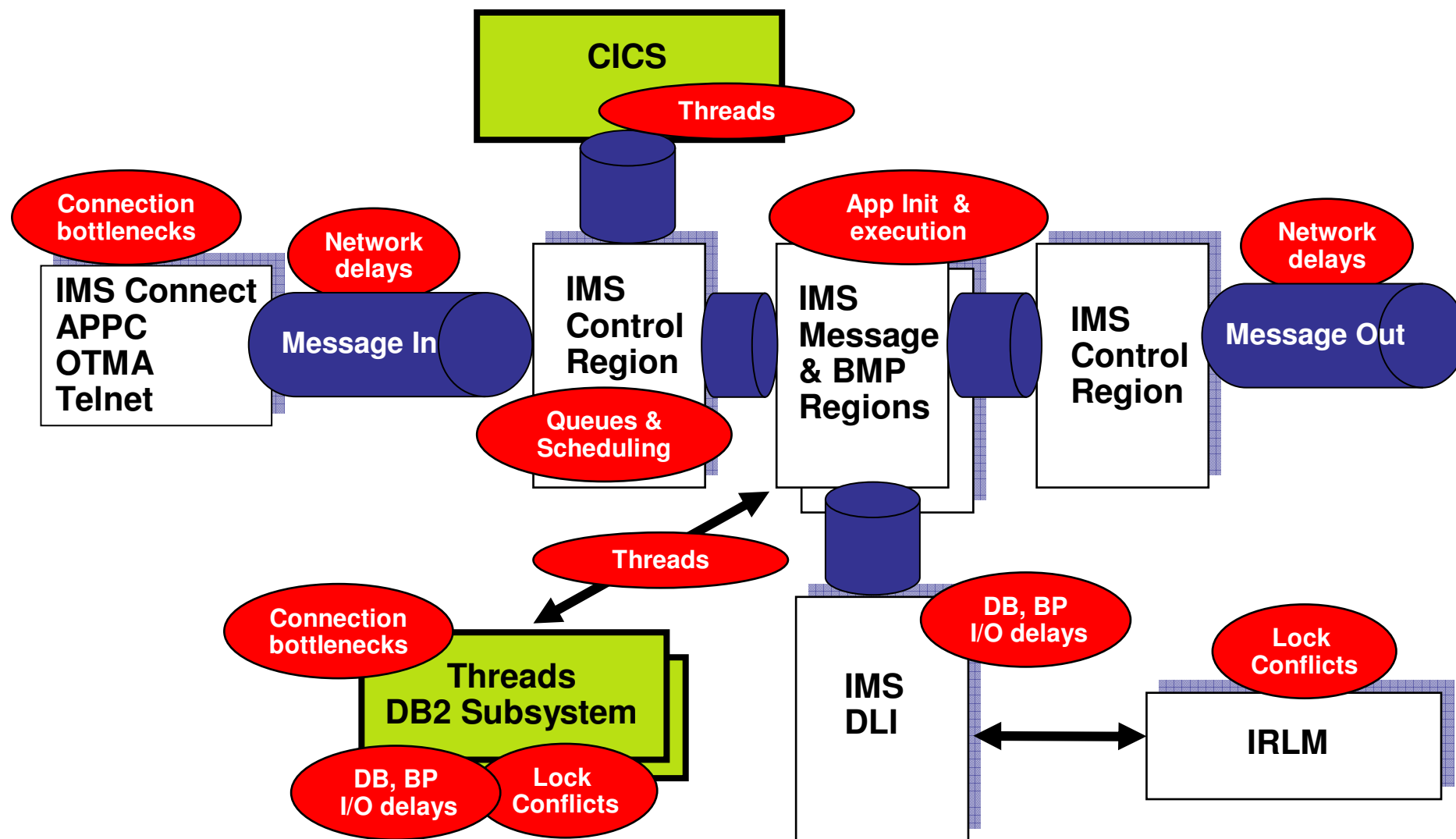
- IMS works as a central component of many critical applications
- Application connectivity and flow may take many forms
- Understanding the flow helps drive monitoring requirements





# Understanding The Flow Of IMS Processing

## What Are The Potential Bottlenecks?







## Monitoring Information

### Real Time *versus* Historical *versus* Alerts

- A complete monitoring approach will commonly require elements of each of the following:
  - Real time performance and availability
    - Current resource utilization, availability, and status
  - Historical performance and availability
    - Detailed historical performance and availability information
    - Interval historical information for trending and analysis
  - Alerts and Automation
    - Alert notification of critical performance and availability issues
    - Notification of alerts (visual or via other means)
    - Automated corrective action (where appropriate)





## Creating A Consolidated Monitoring Strategy To Analyze IMS Processing And Bottlenecks

- Managing and analyzing IMS performance depends upon an understanding of the flow of the workload
  - What is the workload?
  - What is the flow of the workload?
  - Where are the potential workload bottlenecks?
  - If the workload is bottlenecked, to what extent?
- Build a monitoring strategy to focus on key metrics
  - Transaction response time – with application grouping
  - Transaction rate information at various levels
    - IMS transaction response time correlated with transaction rate
    - Transaction enqueue/dequeue rate at various levels
      - Enqueue/dequeue rate at the system level, OTMA level, Fast Path level
  - Bottleneck analysis (wait states for the system and by workload group)
  - Transaction queue depth
    - Queuing at the system level and the transaction level
    - Queuing at other levels (FP BALG, MSC link, etc.)
  - Dependent region processing (region occupancy)





## Examples Of Typical IMS Performance And Availability Challenges

- Poor IMS response time, trans queuing and/or bottlenecked
  - IMS transactions queued
  - IMS scheduling delays
  - IMS application performance/system bottlenecks
- IMS connection bottlenecks
  - CICS/DBCTL connection bottlenecks
  - Network delays
  - Delays related to IMS Connect, OTMA, APPC, etc.
- IMS database and subsystem delays
  - IMS database delays
    - High I/O, poor BP performance and IMS lock conflicts
- External subsystem (DB2) delays – elongate IMS application time
  - DB2 thread connection issues
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## Understanding The Workload Response Time Analysis

- Response Time Analysis (RTA) provides critical information on workload flow, issues, and outliers
- RTA does several things
  - Captures detailed response time data from IMS and stores it in user-definable groups
    - Consider grouping related workload for analysis purposes
  - RTA measures queuing and service times within IMS
    - Input queue time, Processing time, Output queue time
  - Groups work in conjunction with Bottleneck Analysis
- RTA group considerations
  - Focus user-defined groups on key workload
    - Loved ones and problem children

```
KRIINT  VTM  01-II  V420./C IVP1 10/24/08 12:48:04  B
> Help PF1      Back PF3      Up PF7      Down PF8
-----
> Overview by Recent Time Intervals

> To display information about a specific group, type the group number
> directly after IRSP below and press ENTER.

> To display information about a specific response time component, type I, PI,
> P, O, RO, RI, or RL directly after TIME and press ENTER.

IRSP_
+   ID      (00:15) 00:01:06 (00:30) 00:16:06 (01:00) 00:16:06
+ time G=CLASS 1 0.000937 0.000909 0.000909
+ AVERAGES 0.000937 0.000909 0.000909
+ SYSTEM 0.000937 0.000909 0.000909
=====
```





## Use Response Time Analysis To Understand Transaction Performance And To Identify Potential Issues

```
KRIINT  VTM  OI-II  V420./C IVP1 10/24/08 12:48:04  B
> Help PF1      Back PF3      Up PF7      Down PF8
=====
>
> Overview
> To display information about a
> directly after IRSP below and press ENTER.
> To display information about a specific response time component, type I, PI,
> P, O, R0, R1, or AL directly after TIM and press ENTER.

IRSP_
time  ID (00:15) 00:01:06 (00:30) 00:16:06 (01:00) 00:16:06
+ G=CLASS 1 0.000937 0.000909 0.000909
+ AVERAGES 0.000937 0.000909 0.000909
+ SYSTEM 0.000937 0.000909 0.000909
=====
```

Analyze transaction response time over various time intervals

Input queue time  
Processing time  
Output queue time  
  
Where is the issue?

RTA will show transaction response time for workload groups, broken down by component, and various time intervals.

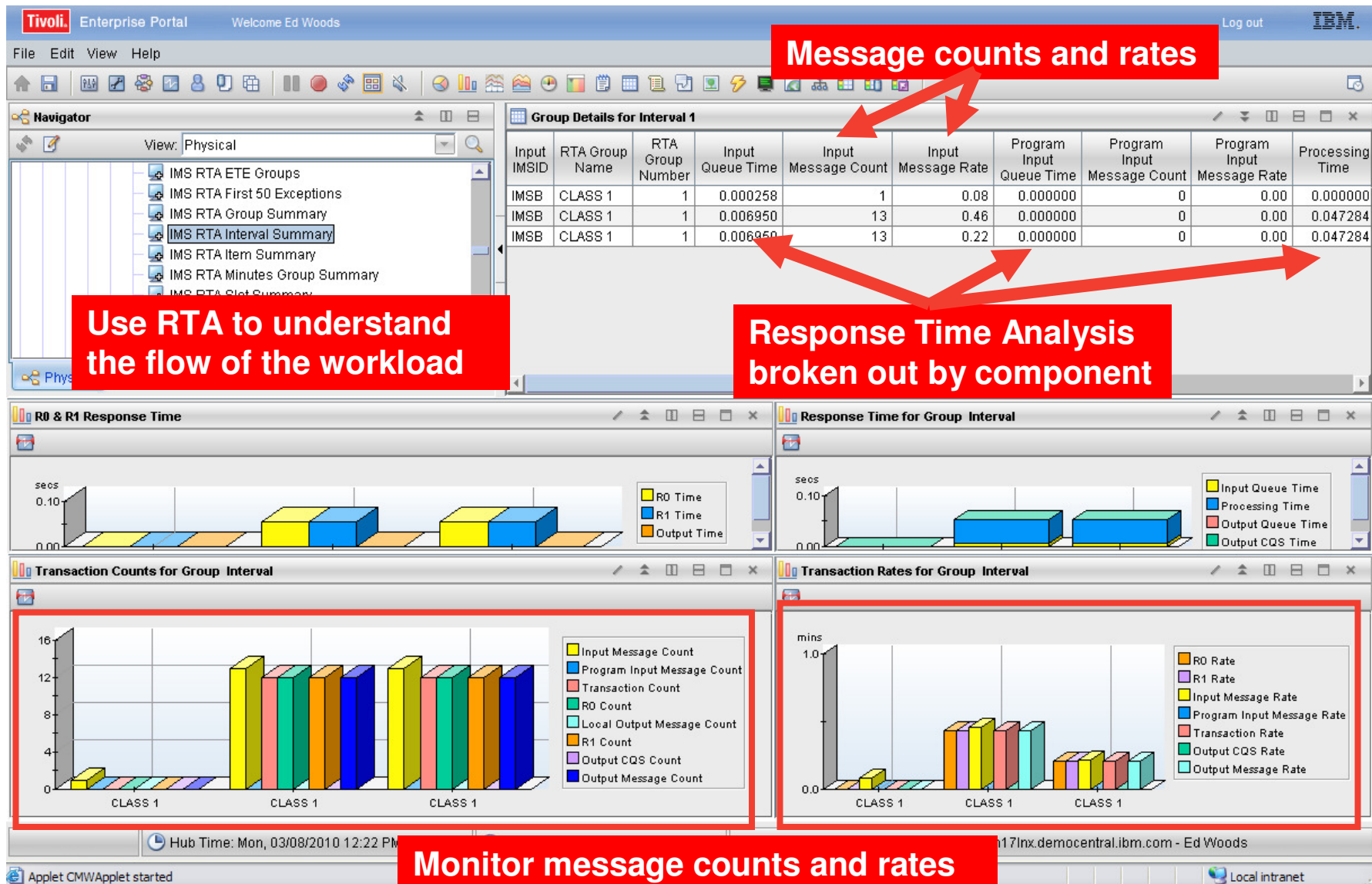
```
V420./C IVP1 10/24/08 12:47:11  B
> Help PF1      Back PF3      Up PF7      Down PF8
=====
> Transactions and LTERMs with the Longest Response Times
>RMON ON
>
> Transactions
XMON Transactions with longest R0 time (00:15) 00:13:57
+ ID I P R0 ID I P R0
+ IVP1 PART .000147 .000835 .000982
>
> Logical Terminals (LTERMs)
TMON Logical terminals with longest R
+ ID R1 ID R1
+ IVP1 IBMUSER .000982
=====
```

Identify tran with longest response times



# Monitor The Flow Of The Workload

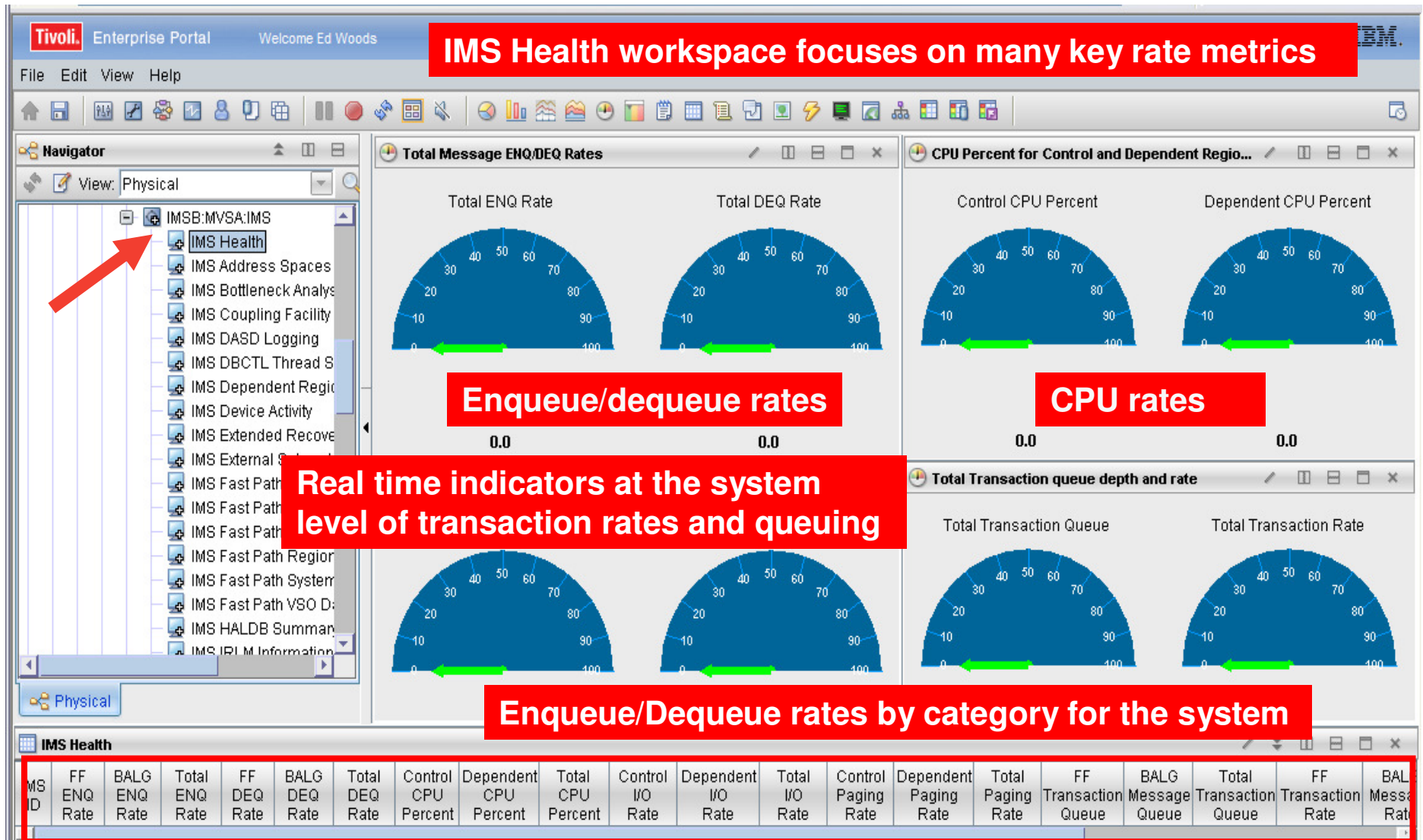
## Use Response Time Analysis To Identify Problems And Outliers







## If RTA Indicates An Elongation Of Response Time Look At Transaction Rates And Transaction Queuing







## Further Analysis – Are Transactions Queued? Drill Down For More Detail

**From the navigation tree go to Transaction Summary**

**Look at Transactions by state and click the link for drill down detail**

Description	Count of Transactions
Total_Transactions	23
Competing_Transactions	23
Non_Competing_Transactions	0
Transactions_With_Activity	2
Transactions_With_Queued_Data	0
Serial_Transactions	0
Synchronous_Transactions	23
Online_Transaction_Type	20
Batch_Transaction_Type	0
FastPath_Online_Transaction_Type	2
FastPath_Batch_Transaction_Type	0

Description	Count of Transactions
Transactions_In_Active_State	0
Transactions_In_Idle_State	23
Transactions_In_Locked_State	0
Transactions_In_Purged_State	0
Transactions_In_Queued_State	28
Transactions_In_PStopped_State	0
Transactions_In_Stopped_State	0
Transactions_In_Suspended_State	0
Transactions_In_UStopped_State	0
Transactions_In_Queueing_State	0
Transactions_In_No_Regions_State	0
Transactions_In_RCTE_Not_Active_State	0

**Transaction Counts**

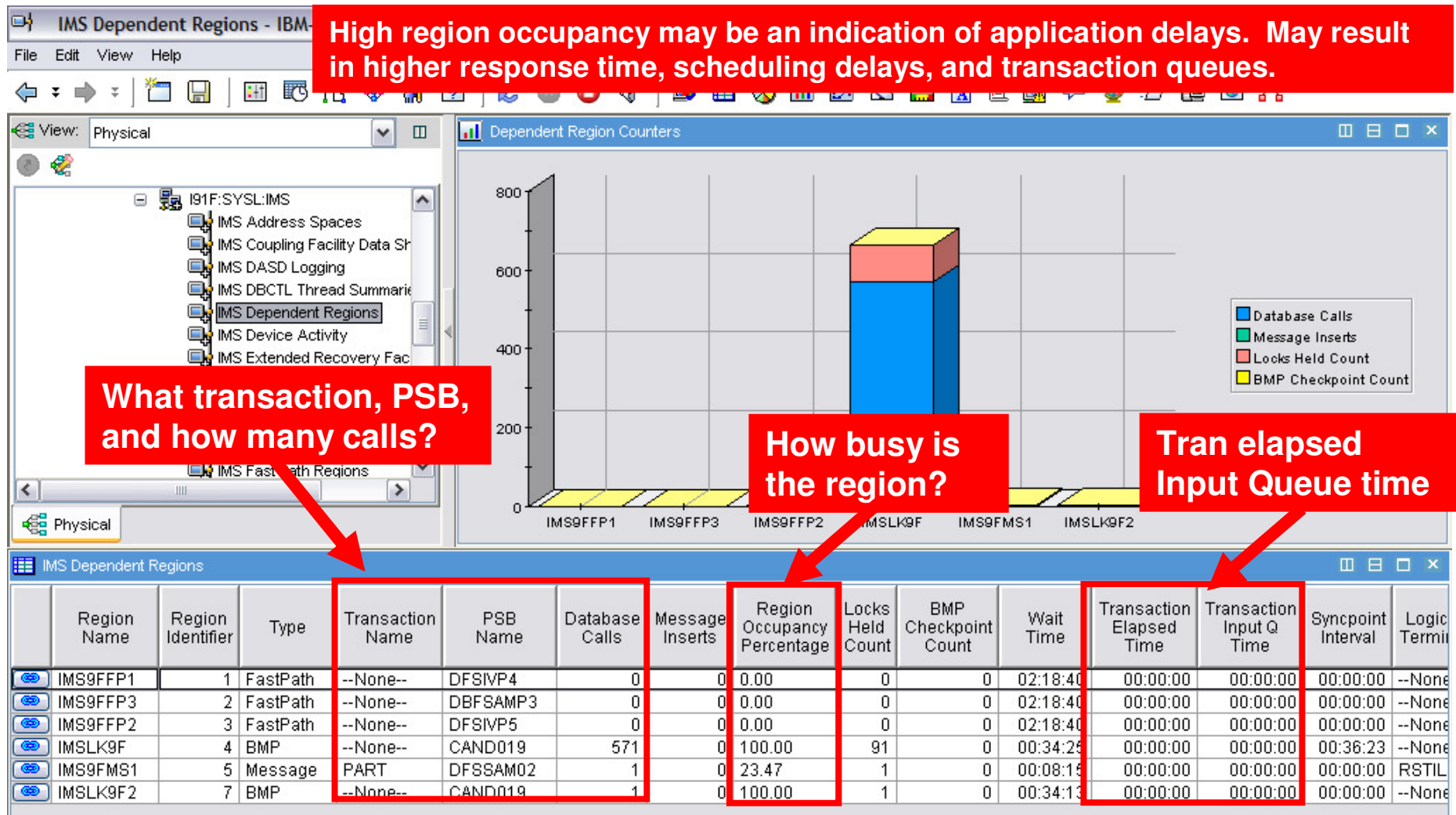
Transaction Type	Count
FastPath_Online_Transaction_Type	2
Online_Transaction_Type	20
Synchronous_Transactions	23





# IMS Dependent Region Display

## Understanding Scheduling And Processing Delays





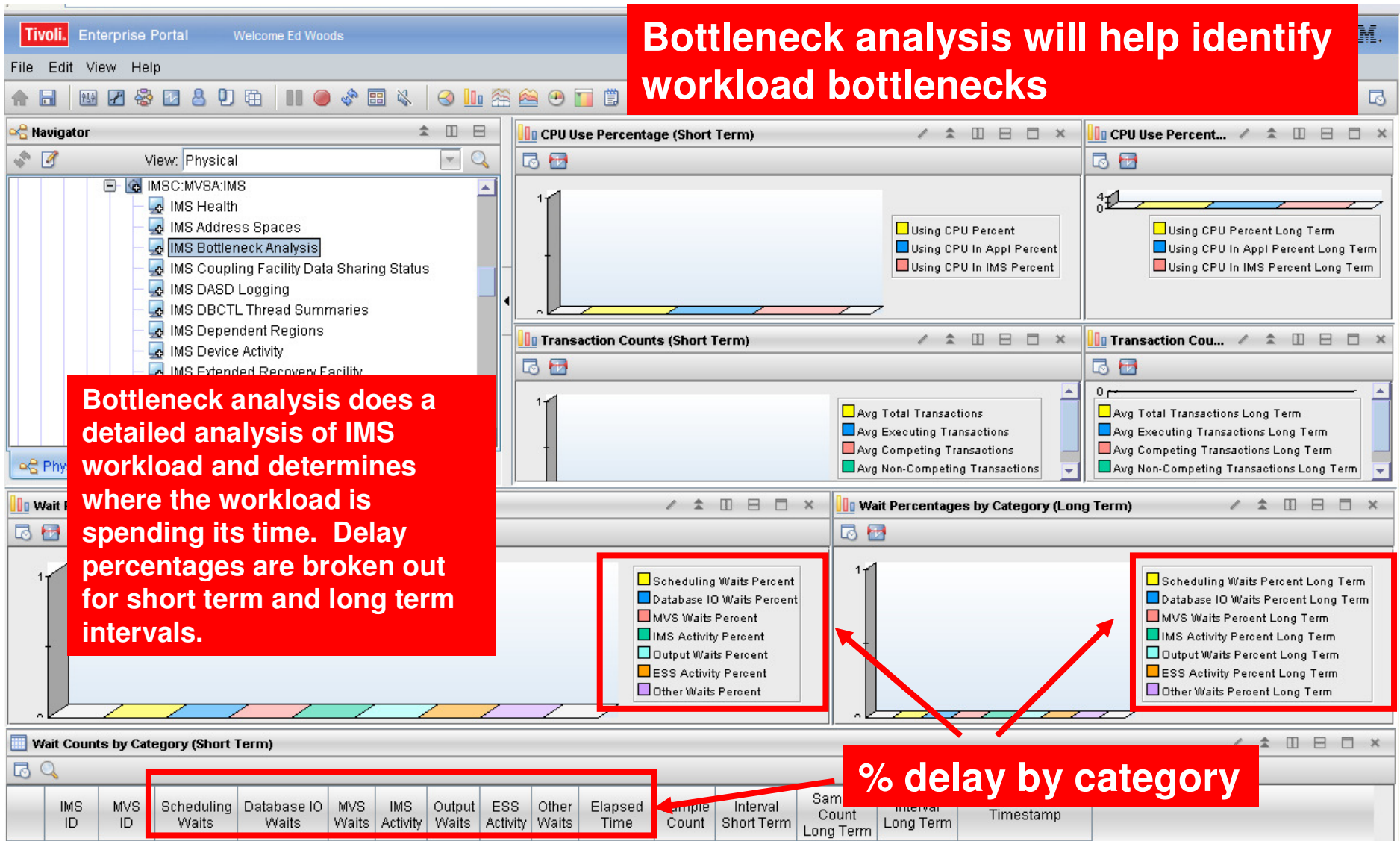


# Where Is The Bottleneck?

## Use Bottleneck Analysis To Identify Waits By Category

**Bottleneck analysis will help identify workload bottlenecks**

**Bottleneck analysis does a detailed analysis of IMS workload and determines where the workload is spending its time. Delay percentages are broken out for short term and long term intervals.**



**% delay by category**





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# Monitor IMS Connect Processing

## Track Transaction Level Response Time

IMS Connect monitoring provides detailed transaction level response time information.

Note – Detailed IMS Connect monitoring requires IMS Connect Extensions.





# Understanding The Impact Of The Network On IMS Response Time

OMEGAMON XE For Mainframe Networks

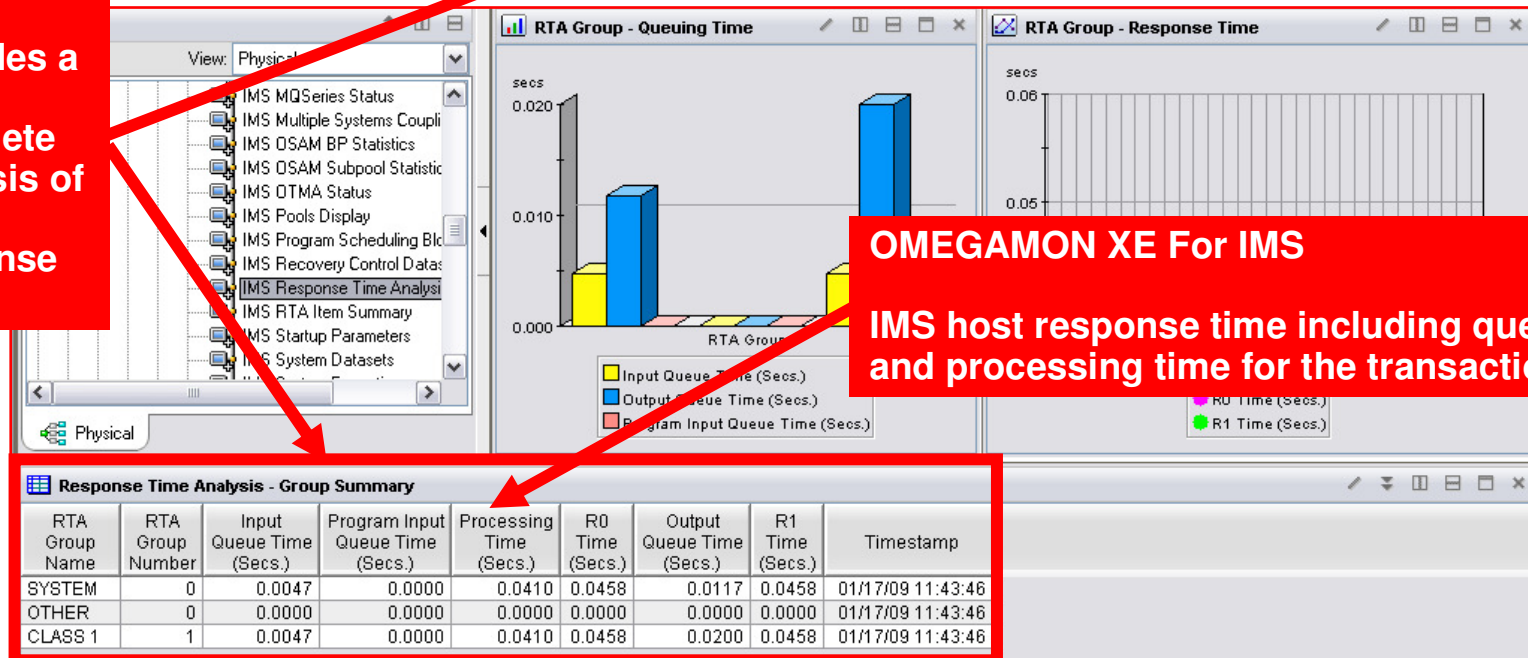
Network time for IMS transactions

Total Bytes Received	Total Bytes Sent (in GB)	Total Bytes Sent	Total Bytes (in GB)	Total Bytes	Bytes Received	Bytes Sent	Bytes Sent or Received	Time Since Last Activity	Byte Rate	Response Time	Response Time Variance	Telnet Appl Name	Telnet LU Name	Seg Retra
670	0	6906	0	7576	291	2402	2693	14.00	53	0.98	0.02	IMSACB	TCP00012	
		298402	0	306704	105	5123	5228	80.66	104	1.13	0.11	DDCTSO03	TCP00010	
		11737	0	815097	0	0	0	243,022.19	0	0.01	0.01			
		0	0	3	0	0	0	651,449.87	0	0.82	11.24			
		0	0	3	0	0	0	759,051.09	0	1.03	11.24			

Including network monitoring detail provides a more complete analysis of IMS response time

OMEGAMON XE For IMS

IMS host response time including queue and processing time for the transaction





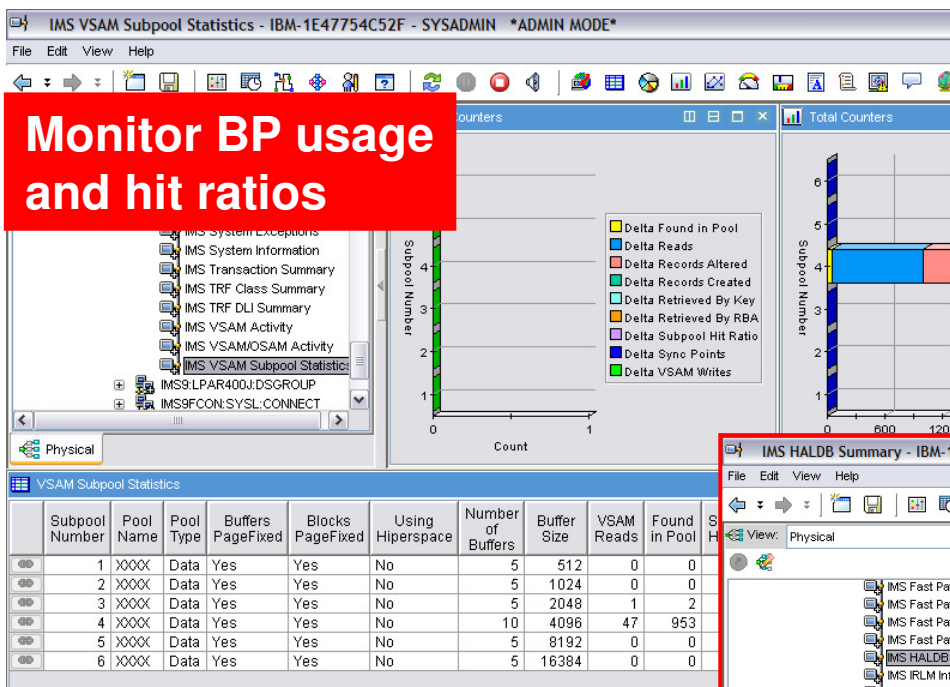


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# IMS I/O Bottlenecks And Contention



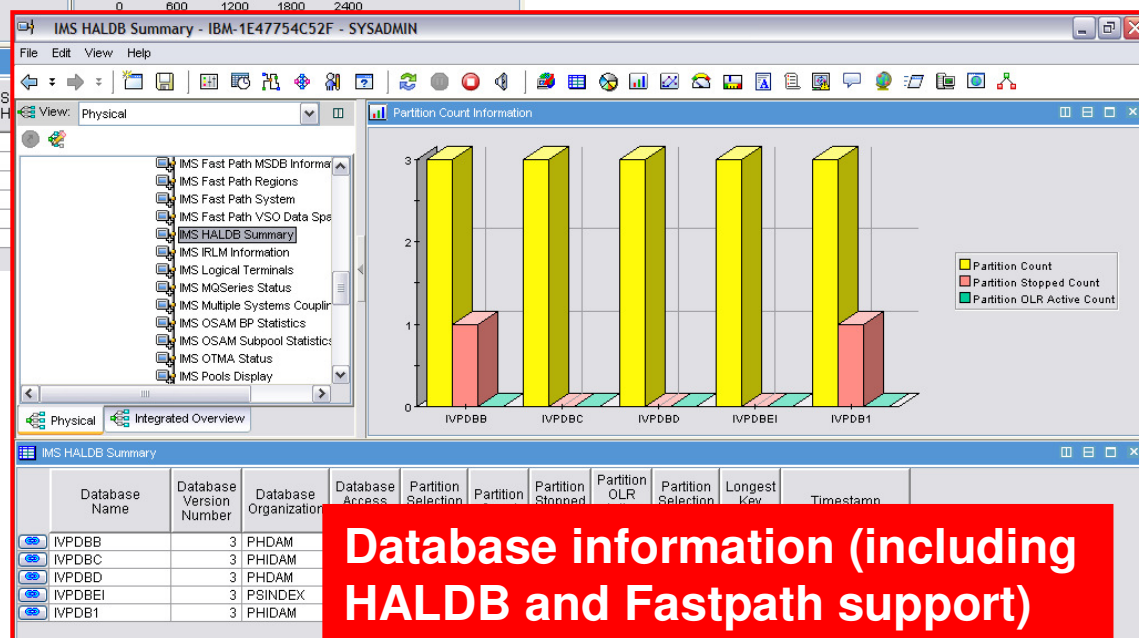
**Monitor I/O delays and bottlenecks**

**Database I/O**

**IMS dataset I/O**

**LGMSG SHMSG I/O**

**Bottleneck analysis shows I/O delays**

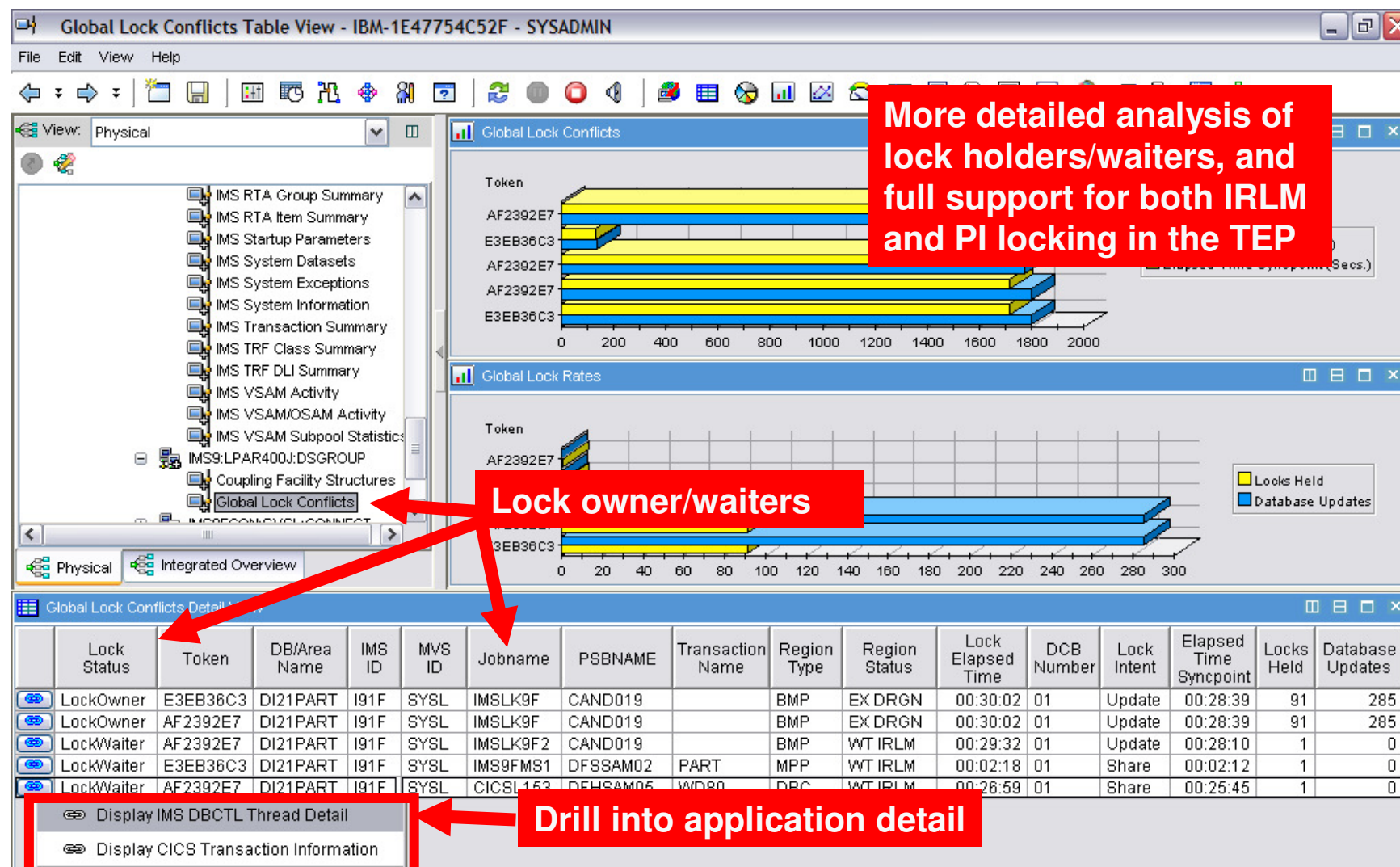


**Database information (including HALDB and Fastpath support)**





# IMS Lock Analysis Information In The Tivoli Portal







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## Use Bottleneck To Analyze Where The Workload May Be Bottlenecked

```

GoTo Options Help
----- 10/0
KI2PSDX2          Bottlenecks Analysis for Group ATM

: Elapsed time . . . : 17:24 MN      Samp1
: Suppress states . . < 0 %        Samp1
: Display COMPETING TRANSACTIONS +  Samp1

-----
:
: Wait Reason      :      Short Term
:      % 0----- 50--
:
: Using CPU:       : 15.0:--> . . .
: Using CPU in Appl: 10.70:--> . . .
: Using CPU in IMS : 4.20:> . . .
: Scheduling Waits: : 7.9:> . . .
: Wait for MPP     : 7.70:> . . .
: Intent Conflict  : .10:> . . .
: TM Schedule Latch: : 0: . . .
: IMS Activity:    : 10.0:--> . . .
: Other DL/I IWAIT : 5.60:> . . .
: IWAIT in IMS Disp: 1.20:> . . .
: IWAIT in Term    : 0: . . .
: LOGL Latch       : .50:> . . .
: DBBP Latch       : .10:> . . .
: ISWITCHed to CTL : 2.40:> . . .

-----
<Response Time>  <Response Time Components>

```

**Bottleneck Analysis breaks workload into components (for example):**

- Using CPU/Waiting for CPU
- Scheduling Waits
- IMS Iwaits
- Database Waits
- z/OS system waits
- Waits for DB2 or MQ

**Use Bottleneck Analysis to determine where to look next**

```

GoTo Options Help
-----
KI2PSDX2

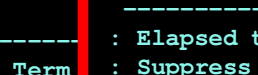
: Elapsed time . . .
: Suppress states . .
: Display COMPETING TI

-----
:
: Wait Reason
:
: DC Sys Ckpt Latch : 0: . . . : .20:> . . .
: Database I/O Waits: .3:> . . . : .2:> . . .
: DISS0005          : 0: . . . : 0: . . .
: DIB80002          : .30:> . . . : .20:> . . .
: MVS Waits:        : 33.2:-----> . . . : 32.0:-----> . . .
: CPU Wait (DEP)    : 33.20:-----> . . . : 32.00:-----> . . .

-----
ESS Waits:          : 26.5:-----> . . . : 23.8:-----> . . .
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            : 18.70:--> . . . : 15.30:--> . . .
Other Waits:        : : : :

-----
<Response Time>  <Response Time Components>  (Bottlenecks)

```



**External subsystem waits**





# IMS Historical Performance And Availability Analysis

## Categories Of History Data Collection

**Interval summary  
(with some detail)**

### → ***EPILOG Historical***

- Historical analysis of response, bottlenecks and IMS resources
- Stored in VSAM Epilog Data Store (EDS) by group and time interval

**Detail records**

### → ***TRF Historical***

- Detailed transaction & database data
  - individual transactions
- Detailed performance analysis & chargeback

**Recent detail**

### → ***Near Term Historical***

- Detail on recent transaction execution

**Interval snapshot  
trending**

### → ***Tivoli Enterprise Portal Historical***

- Tivoli Data Warehouse history
- Use for trending analysis





## Near Term History Of IMS Transactions

```
> Help PF1      KOINIVM  VIM      01-11      V420.7C 191A 12/01/08 18:43:02  B
> Back PF3      Up PF7      Down PF8      Zoom PF11
>
> (H.B.A) Manage Near Term History (Define/Start/Stop)
>
> * - Manage Trace      B - View Trace      C - Search and Filter Criteria
>
NTMN
+
+ Actions:  A=Add      D=Delete      M=Modify      I=Activate/Inactivate
+
+ V Trace ID      Start      Duration      Trace      Trace Selection Criteria
+ - - - - -      Date       Minutes      Status      - - - - -
+ MAHERJ0X      12/01 18:43      ***      Active      TRAN=PART*,USER=*,TERM=*,PSBN=*,
```

Manage near term history collection

```
> Help PF1      KOINIVS  VIM      01-11      V420.7C 191A 12/01/08 18:52:53  B
> Back PF3      Up PF7      Down PF8      Zoom PF11
>
> (H.B.B) View Near-Term History Summary
>
> A - Manage Trace      * - View Trace      C - Search and Filter Criteria
>
NTVS
+ Strt Date\Time  Trancode  PSB Name  RGN Name  LTERM      R1 Time  CPU Time  Abend
+ - - - - -
+ 12/01 18:43:27  PART      DFSSAM02  IMS9AMS1  USER0014  00.004384  00.000000
+ 12/01 18:43:27  PART      DFSSAM02  IMS9AMS1  USER0013  00.004491  00.000000
+ 12/01 18:43:28  PART      DFSSAM02  IMS9AMS1  USER0003  00.004200  00.000000
+ 12/01 18:43:28  PART      DFSSAM02  IMS9AMS1  USER0002  00.003657  00.000000
+ 12/01 18:43:28  PART      DFSSAM02  IMS9AMS1  USER0012  00.003862  00.000000
+ 12/01 18:43:28  PART      DFSSAM02  IMS9AMS1  USER0008  00.007028  00.000000
+ 12/01 18:43:28  PART      DFSSAM02  IMS9AMS1  USER0006  00.011250  00.000000
+ 12/01 18:43:28  PART      DFSSAM02  IMS9AMS1  USER0015  00.004179  00.000000
+ 12/01 18:43:28  PART      DFSSAM02  IMS9AMS1  USER0010  00.004455  00.000000
+ 12/01 18:43:28  PART      DFSSAM02  IMS9AMS1  USER0007  00.002929  00.000000
+ 12/01 18:43:28  PART      DFSSAM02  IMS9AMS1  USER0009  00.006432  00.000000
+ 12/01 18:43:28  PART      DFSSAM02  IMS9AMS1  USER0004  00.004002  00.000000
+ 12/01 18:43:29  PART      DFSSAM02  IMS9AMS1  USER0011  00.004123  00.000000
+ 12/01 18:43:29  PART      DFSSAM02  IMS9AMS1  USER0001  00.002896  00.000000
+ 12/01 18:43:29  PART      DFSSAM02  IMS9AMS1  USER0005  00.004620  00.000000
```

Near term history with drill down for more detail





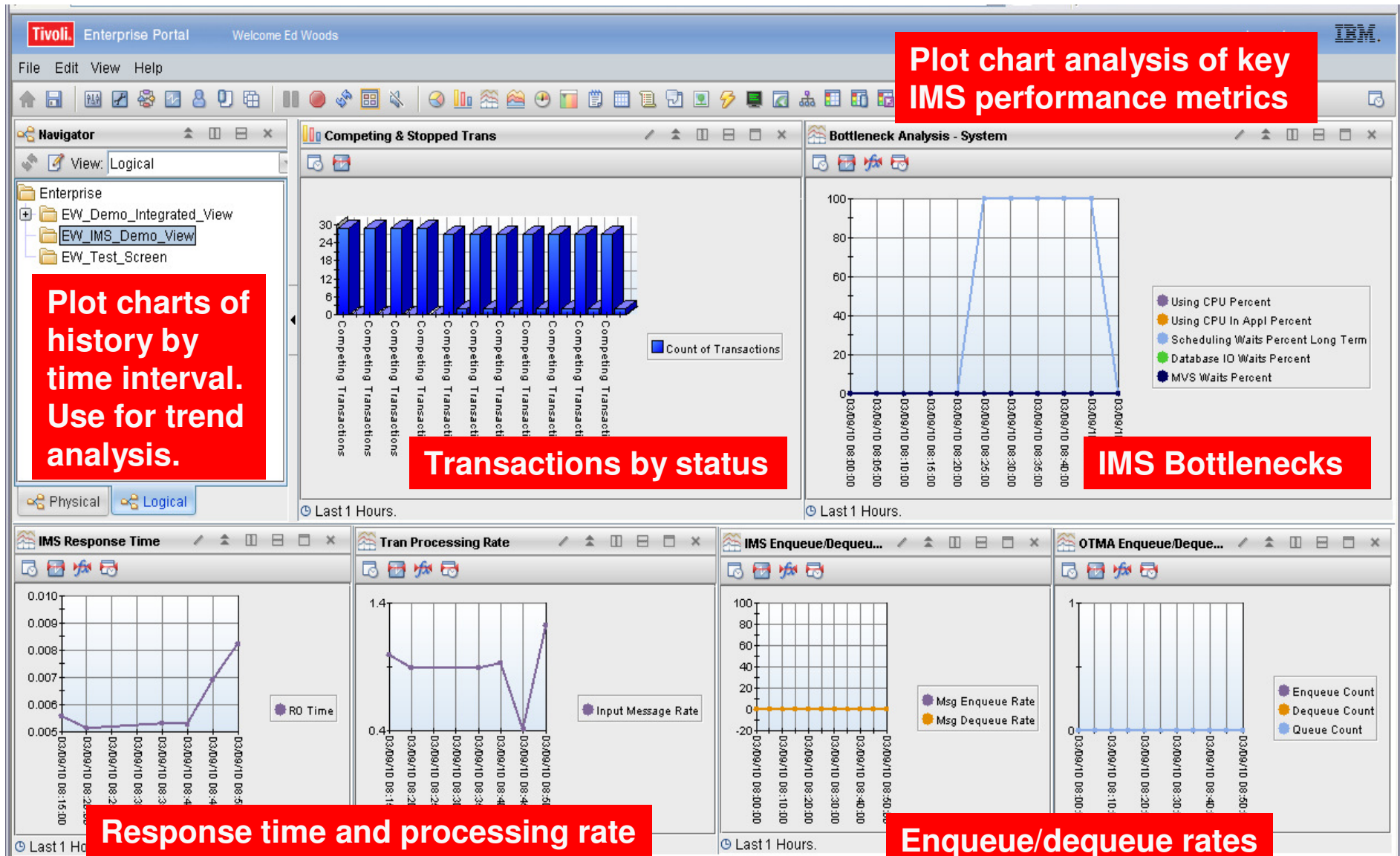
# Use History To Track And Trend Key IMS Performance Indicators

**Use the Tivoli Portal to collect performance history data for such things as IMS Bottlenecks, OTMA, Response time analysis, IMS system statistics, IMS transaction status**





# IMS Historical Performance Analysis Workspace

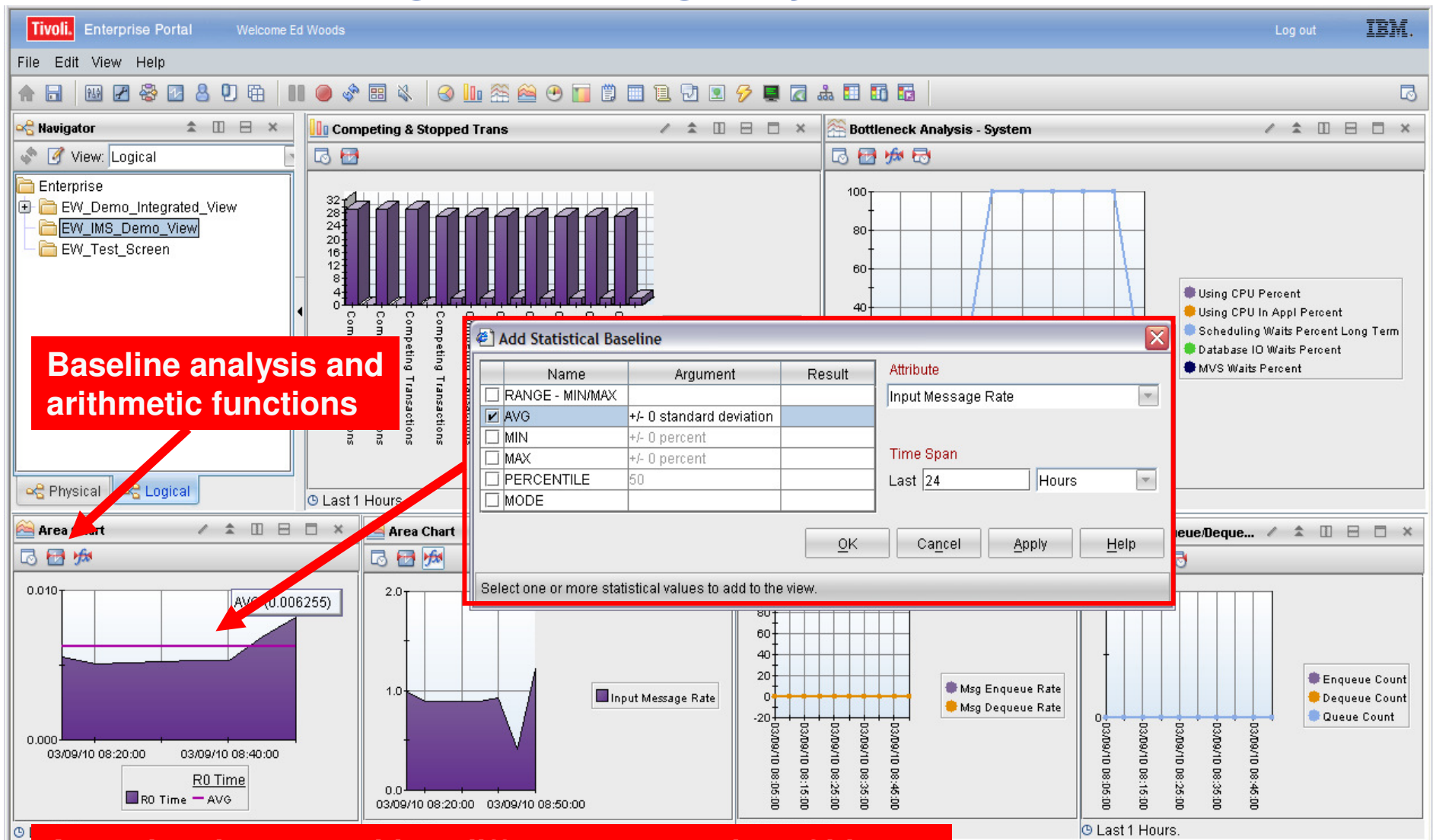






# Use Chart Functions For Statistical Analysis

## Are We Trending The Wrong Way?







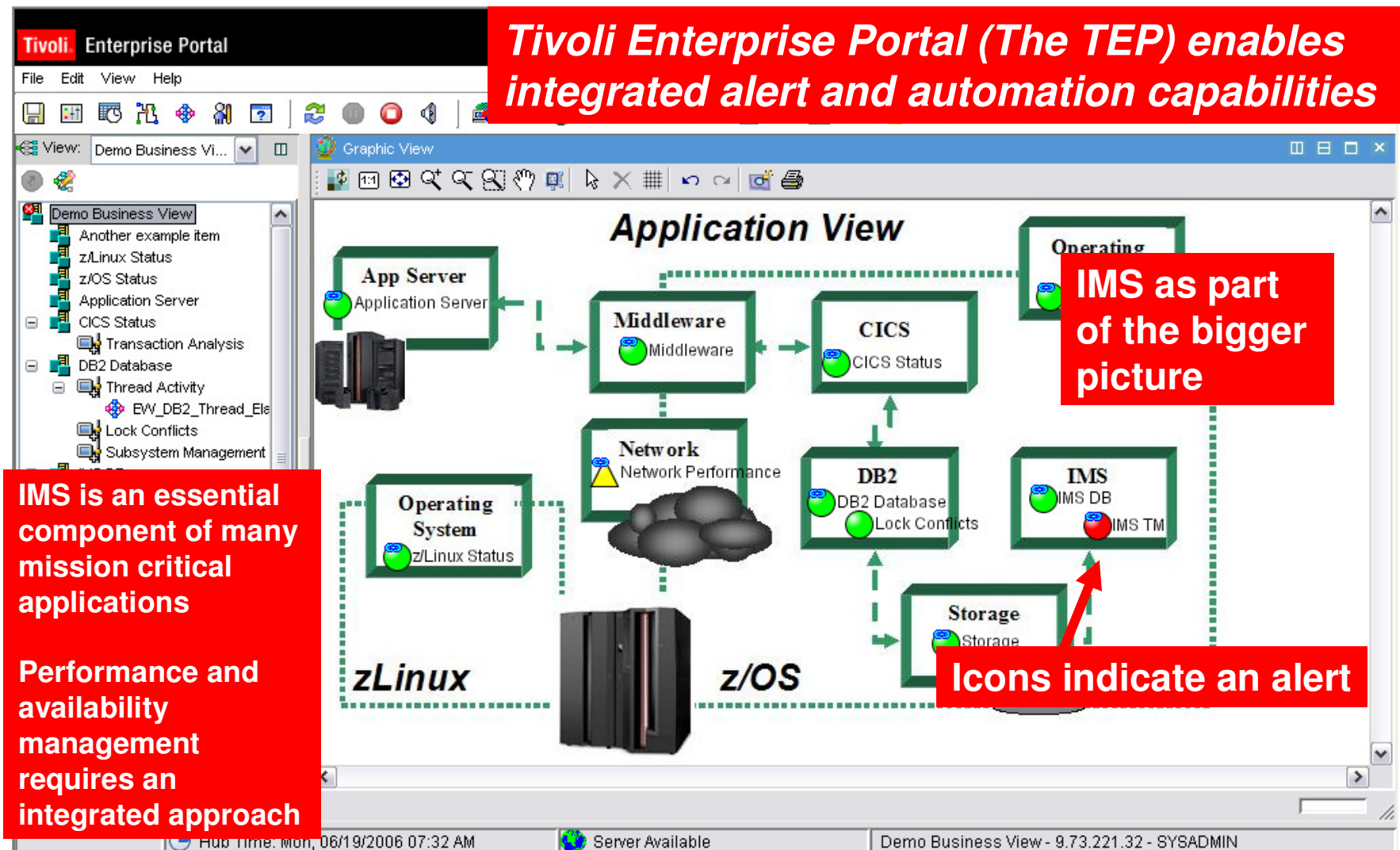
# Benefits Of An Integrated Alert Management Methodology

- **Improved ability to manage increasingly complex composite applications**
  - Enables an integrated approach to the management of subsystems, platforms, and application components
- **Reduce time to problem resolution**
  - Identify potential issues more rapidly
- **Improved event management and problem isolation**
  - More meaningful and useful problem alerts
- **Improved event correlation and management**
  - Eliminate the “noise” and focus on key issues
- **Superior performance analysis capabilities**
  - Monitor and manage based upon actual information, not anecdotal data





## Alert Example Using The Tivoli Enterprise Portal To Integrate Essential Performance Information And Manage Alerts







# Situations – Usage And Benefits

## Highlight Performance And Availability Issues

Welcome DNET581  
**Tivoli Enterprise Portal** Log out IBM

File Edit View Help

View: Physical

Situation Event Console  
Total Events: 40 Item Filter: Enterprise

Severity	Status	Owner	Situation Name	Display Item	Source
Information...	Open		TESTPEEP		DSNB:MVSA:DB2
Information...	Open		Kah_Mtr_Health_Status_Info	DEMO_CPU	DEMOPLX:DEMOPLX:...
Warning	Open		ZVM_Avail_Mean2G_Low		zdemolx.demopkg.ibm
Warning	Open		N3T_Appl_Datagram_Rate		TCP/IP:MVSA
Warning	Open		N3T_Conn_Rnd_Trip_Variance		TCP/IP:MVSA
Warning	Open		N3T_Ret_ECPA_Allocated_Sta		VTAM:MVSA
				_CBJ	DEMOPLX:DEMOPLX:...
				_CBJ	DEMOPLX:DEMOPLX:...
					DEMOPLX:MVS:SYSPL
				MN2	DEMOPLX:DEMOPLX:...
				MN2	DEMOPLX:DEMOPLX:...

**CRITICAL**  
EW\_RTA\_Trans\_Alert IMSA:MVSA:IMS 08/06/07 09:28:02

KFWMTM 011 Select workspace link button to view situation event results.

**Critical** Open DNET269\_CICS\_CONN\_Pro

Acknowledged Events  
Message Log

Status	Name	Display Item	Origin Node	Global Timestamp
Open	Sysplex_Workloads_PerfIdx_Crit		DEMOPLX:MVS:SYSPLEX	08/06/07 09:28
Open	Kah_Mtr_Health_Status_Warn	DEMOMN2	DEMOPLX:DEMOPLX:SA	08/06/07 09:28
Open	EW_RTA_Trans_Alert		IMSA:MVSA:IMS	08/06/07 09:28
Open	Kah_Resource_Health_Warn	DEMOMN2	DEMOPLX:DEMOPLX:SA	08/06/07 09:23
Open	Kah_Mtr_Health_Status_Crit	DEMOMN2	DEMOPLX:DEMOPLX:SA	08/06/07 09:08
Open	USS Excess Process UNIX Run Time		DEMOPLX:MVSA:MVSSYS	08/06/07 08:13

Sysplex\_Workloads\_PerfIdx\_Crit  
Kah\_Resource\_Health\_Warn  
Kah\_Mtr\_Health\_Status\_Crit  
Crypto\_Service\_Unavailable

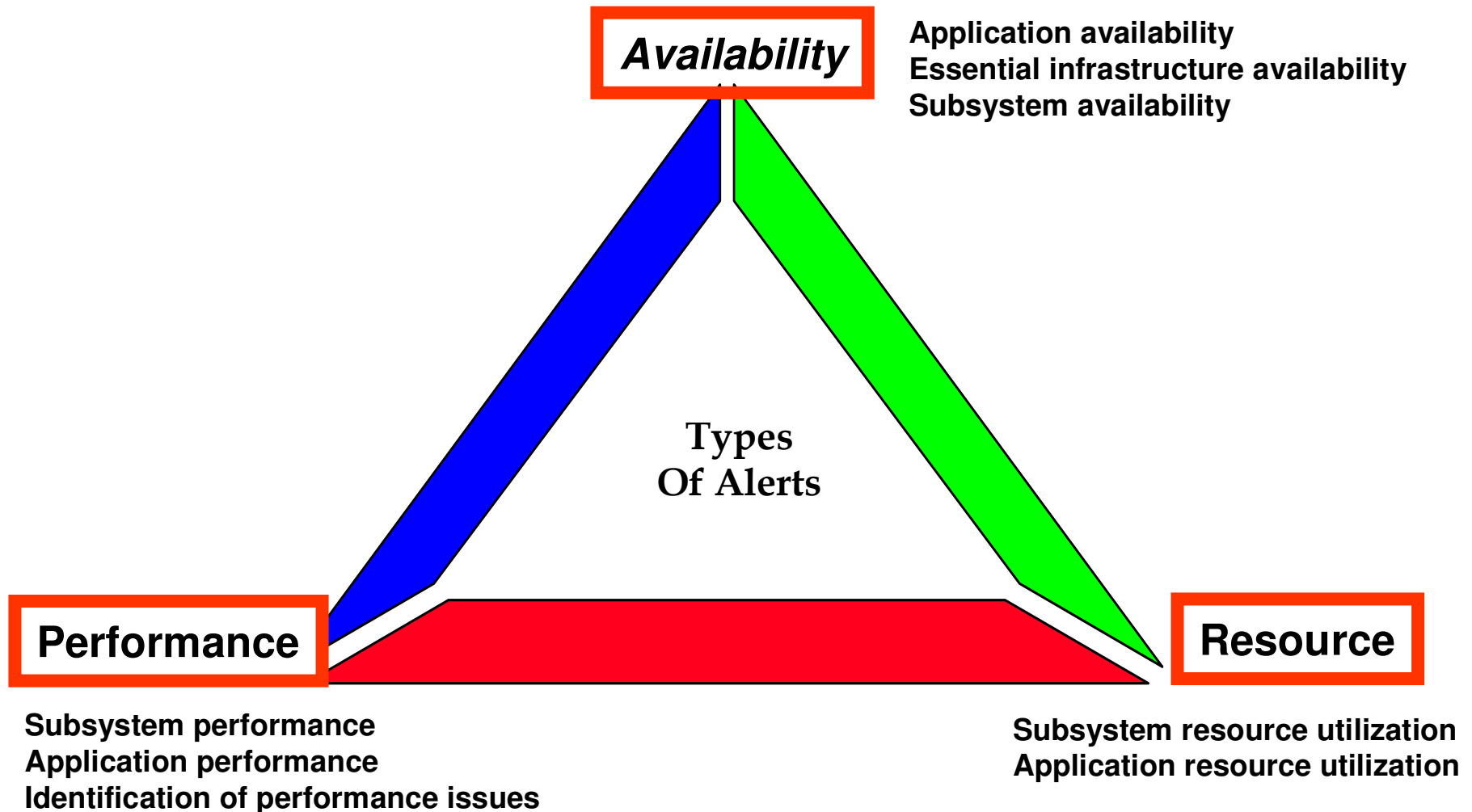
Count 7

**Click to see alert detail**

**Flyover pop-up shows the name of the 'situation' alert**



# Categories Of Typical Situation Alerts







## Alert Notification Types And Options

- Visual View – Custom Views – Enterprise View
  - Red/Yellow indicators and icons in Tivoli Enterprise Portal or TBSM displays
- Console messages
  - Example - Issuing messages and commands to the z/OS console
  - Use this as a mechanism to feed other automation
- Paging and emails
  - Issue commands to feed paging systems
  - Use 3<sup>rd</sup> party tools such as Postie to issue emails from the command prompt
  - Console messages may be used to feed email systems
- SNMP traps and alerts
  - Issue SNMP traps from the command prompt using situations or policies
- Netcool/OMNIbus events
  - OMNIbus acts as an event correlation engine
  - May receive events via traps or the EIF interface
- Alerts to 3<sup>rd</sup> party (non-IBM) tools





# Application Performance Example

## Situations To Monitor Response Time

**Using boolean logic allows the alert to be application sensitive.**

**A single situation can handle multiple application groups, if needed.**

**Note – this is the RTA group name**

**Consider alerting on R0 versus R1 response time. R0 only considers Input Queue and processing time, and excludes outqueue time.**

**Consider using the persistence option to filter out outliers**

	R1 Time (Secs.)	RTA Group Name
1	> 0.0200	== 'PART'
2	> 0.0300	== 'SYSTEM'
3		

Condition Type: Attribute Comparison

Attribute Item:

- IMSID
- Input Queue Time (Secs.)
- MVS System
- Originating System Identifier
- Output Queue Time (Secs.)
- Processing Time (Secs.)
- Program Input Queue Time (Secs.)
- R0 Time (Secs.)
- R1 Time (Secs.)
- RTA Group Name
- RTA Group Number
- SYSplex Identifier

State: Critical

Run at startup: ☐





# Application Performance Example

## Monitoring Transaction Level Queuing

**Situations for - IMS Transaction Summary**

**Formula** **Distribution** **Expert Advice**

**Description**

**Formula**

**Transaction Name** **P** **==** **PART**

	Status	Messages Enqueued	Transaction Name
1	== 'Queued'		== PART
2	== 'Queueing'		== PART
3		> 0	== 'PART'
4			

groups. See the Tivoli Enterprise Portal help for instructions on specifying timestamp attributes in situations and queries.

**Transaction Name** The name of the subject IMS transaction. Valid format is a text string of up to eight alphanumeric characters.

Situation Formula Capacity **30%** **Add conditions...** **Advanced...**

**Sampling interval** **0** / **0** : **1** : **0**  
ddd hh mm ss

**Sound** ☐ Enable critical.wav **Play** **Edit...**

**State** **Critical** ☐ Run at startup

**OK** **Cancel** **Apply** **Help**

**Monitor the queuing and status of the PART transaction.**  
**If PART is queued or the Queue depth is beyond a certain level generate an alert**





# Subsystem Performance Example

## Monitor Dependent Region Processing

**Situation Editor**

**Description**  
Region Occupancy for Dependent Region is High

**Formula**

	Region Occupancy Percentage	Region Name	Type
1	> 50.00	== DEMORGN	== Message
2	> 40.00	== DEMORGN2	== Message
3			

**Region Name** The job name of the subject IMS address space. Valid format is a text string of up to eight alphanumeric characters.

**Region Occupancy Percentage** The dependent region occupancy percentage. The dependent region occupancy percentage must include an integer, Init, and N/A.

**Region Status** Indicates the current status of the dependent region. Valid format is a text string of up to eight alphanumeric characters.

Situation Formula Capacity: 33%

**Sampling interval**  
0 / 0 : 2 : 0  
ddd hh mm ss

☐ Run at startup

**Region occupancy measures how busy the message region is.**

**Create situations to monitor region occupancy by region type and/or region name.**





# Subsystem Performance Example

## Monitoring Queuing At The Subsystem Level

Situations for - IMS System Information

IMS System Information  
EW\_IMS\_System\_Alert

Formula Distribution Expert Advice Action Until

**Description**  
This situation tracks queue depth for the system

**Formula**  
Transactions Queued  $\geq$  100

	Transactions Queued
1	$\geq$ 100
2	
3	

intended for logging and reporting data collection times rather than for creating situations. To specify a time of day for monitoring, use attributes from the Universal Time or Local Time groups. See the Tivoli Enterprise Portal help for instructions on specifying timestamp attributes in situations and queries.

**Transactions Queued** Current number of transactions queued. Valid format is an integer.

Situation Formula Capacity 0% Add conditions... Advanced...

**Sampling interval**  
0 : 0 : 4 : 0  
ddd hh mm ss

**Sound**  
☐ Enable critical.wav  
Play Edit...

**State**  
☒ Critical  
☒ Run at startup

This situation will alert on transaction queue depth for the subsystem.

Note – this is a subsystem level number. For more granular queue alerts you may use other situation examples.





# Application Availability Example

## Alert On Critical Transactions In A Stopped Status

**Situation Editor**

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

**Description**

**Formula**

Status ☐ PStopped

	Transaction Name	Status	Hours	Hours
1	== 'PART'	== Stopped	> 8	< 17
2	== 'PART'	<input checked="" type="checkbox"/> PStopped	> 8	>= 17
3				

**Status** Scheduling status of the subject IMS transaction. Valid values include Active, Idle, Locked, Purged, Queued, PStopped, Stopped, Suspended, UStopped, Queuing, NoRegions, and RCTESTopped.

**Suspend Count** Displays the suspend count for the subject IMS transaction. Valid format is an integer.

Situation Formula Capacity  29%

**Sampling interval**

0 / 0 : 1 : 0

ddd hh mm ss

☐ Run at sta

**Alerts may be set at the transaction level for status.**

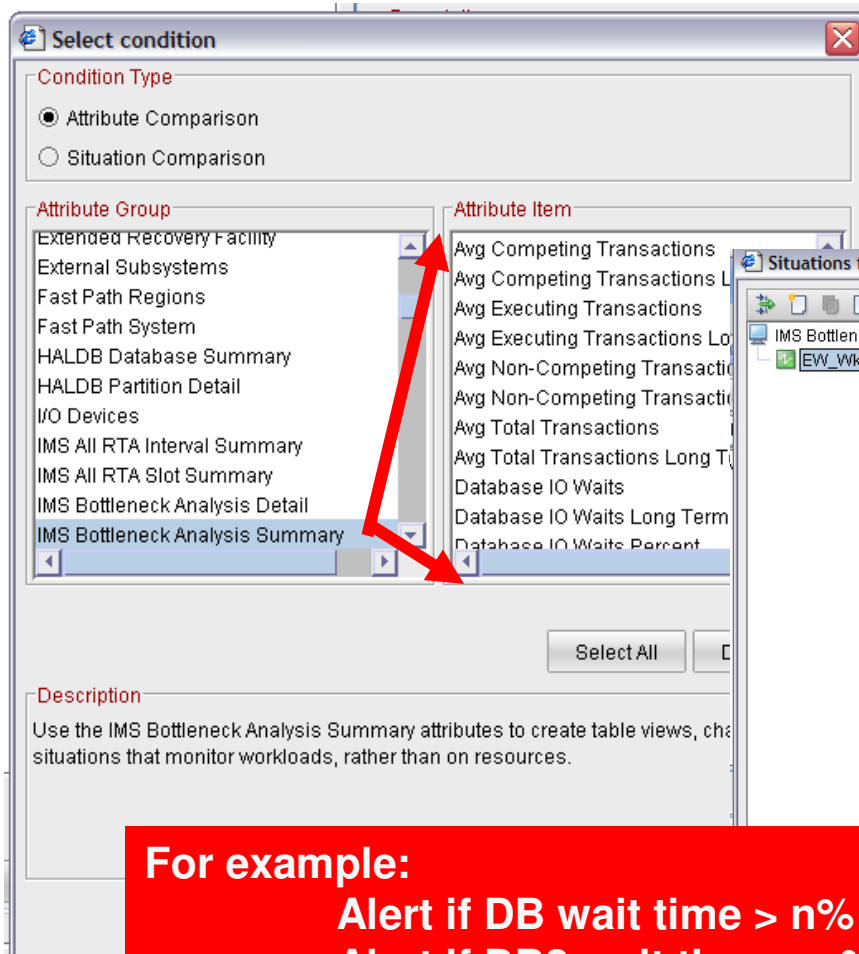
**Logic may be added for time of day and day of week.**

**Various transaction statuses that may be alerted on.**





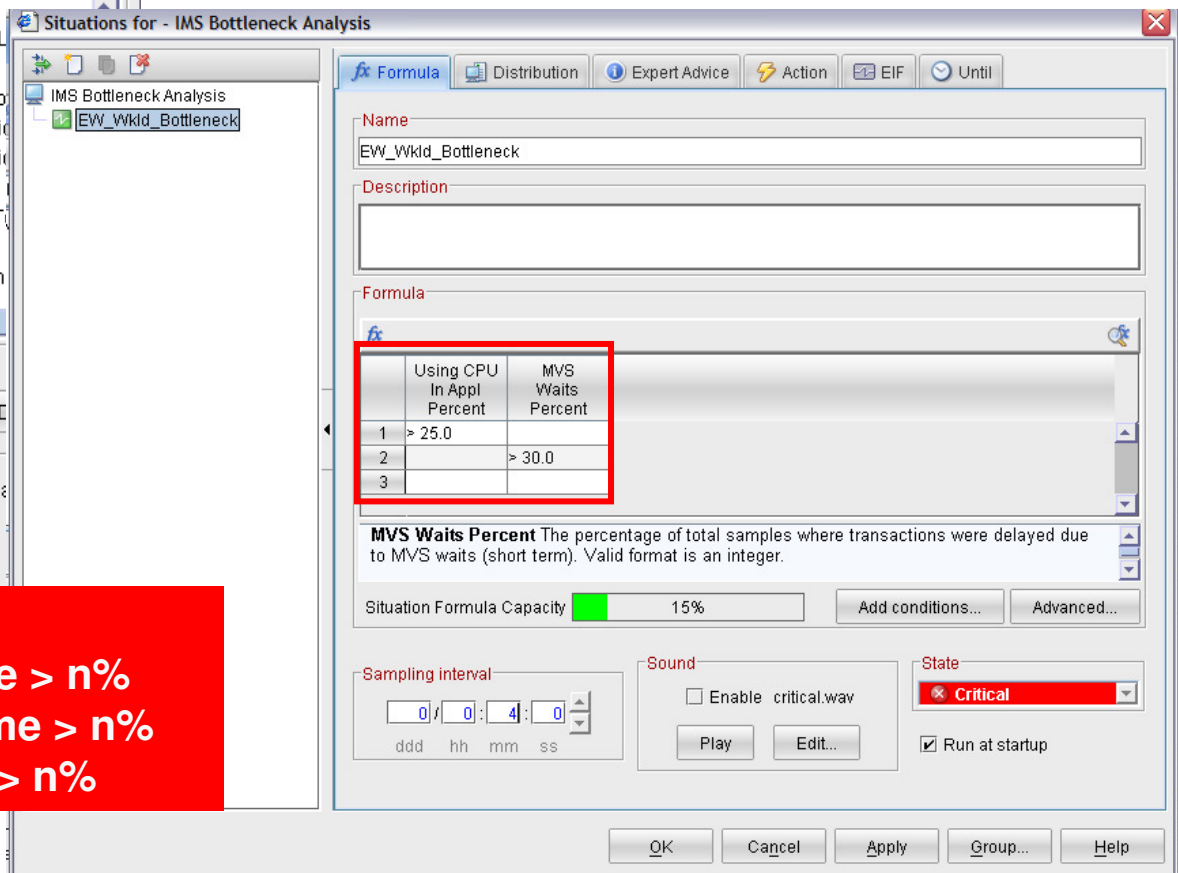
# Create Situation Alerts When Certain Bottleneck Analysis Wait Percentages Exceed A Threshold



You may create situation alerts incorporating IMS wait reasons and percentages as part of the situation logic

For example:

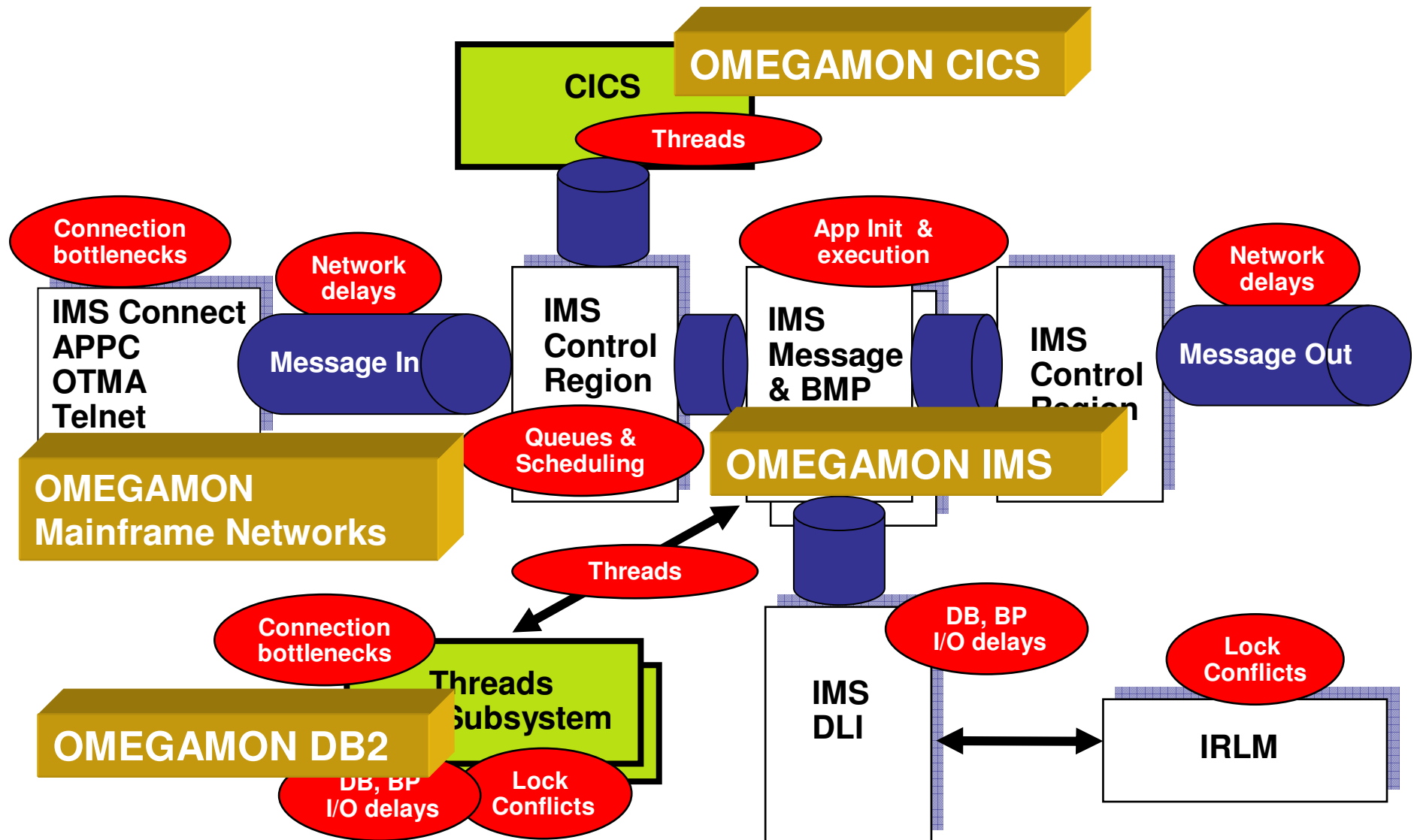
Alert if DB wait time > n%  
Alert if DB2 wait time > n%  
Alert if Sched wait > n%



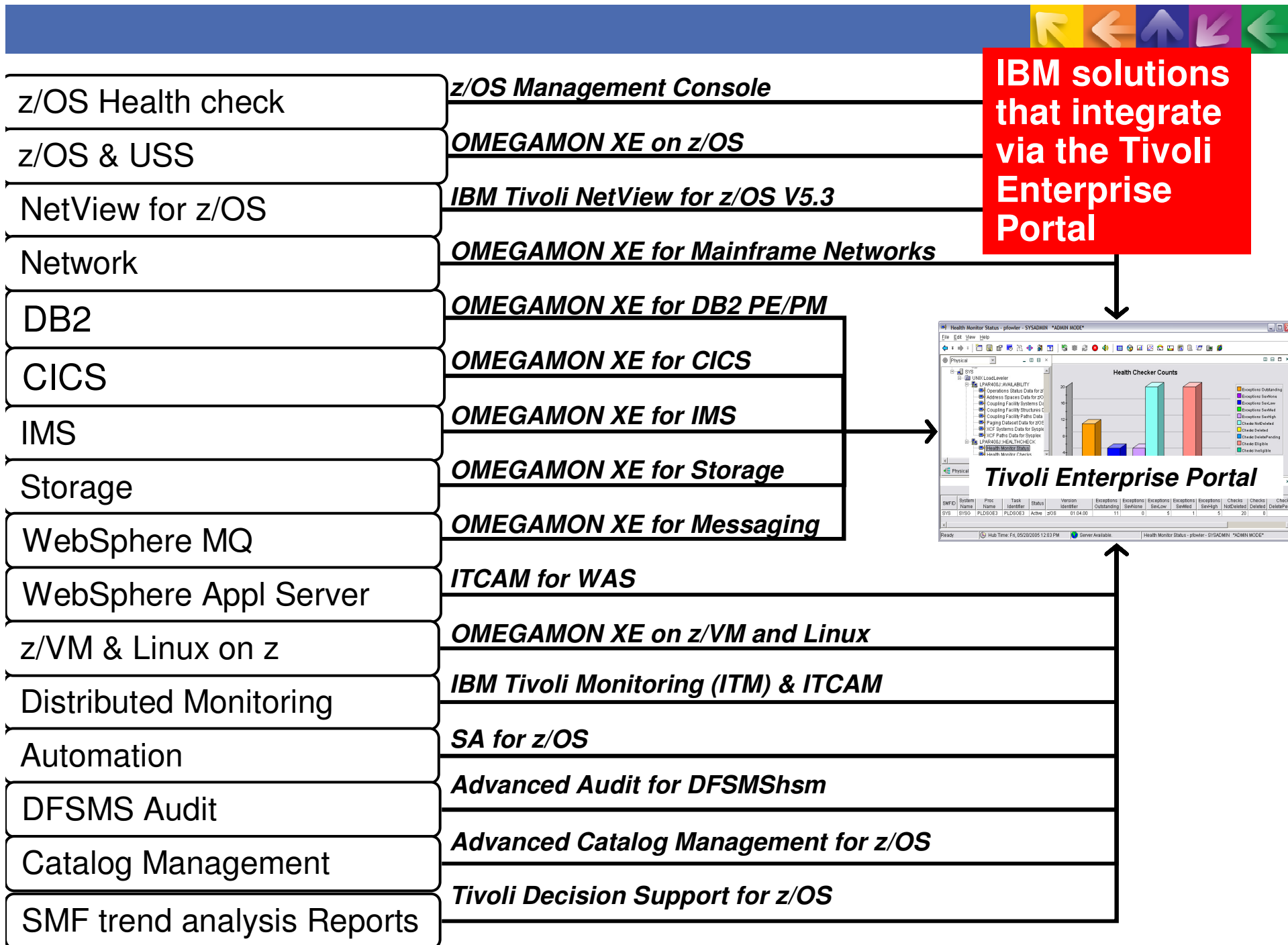




## Create An Integrated View Of The Enterprise Ease Problem Notification/Isolation



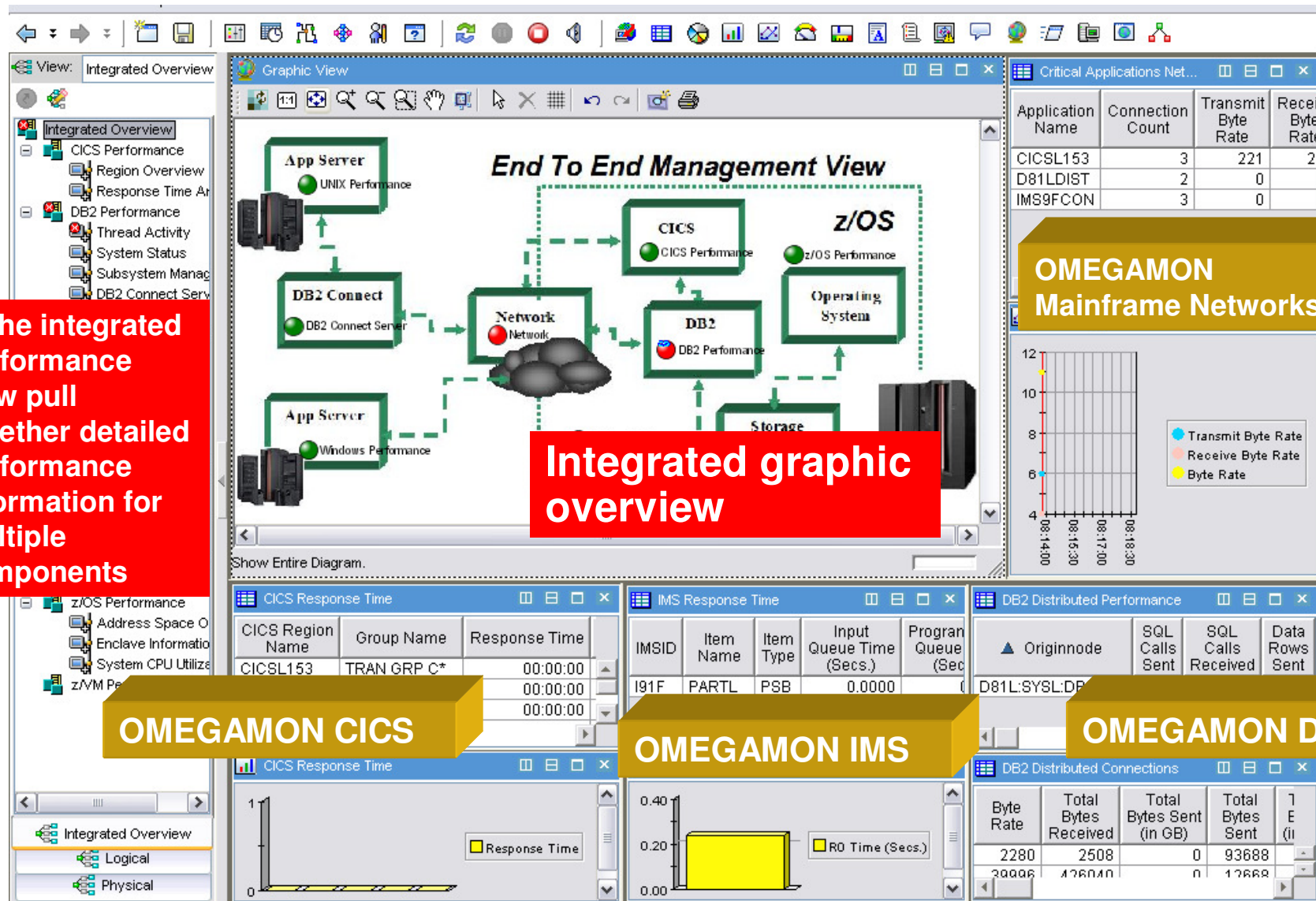








# Use OMEGAMON And The Tivoli Enterprise Portal To Consolidate Performance Analysis - Example







## Summary

- It's always important to begin with an understanding of the workload
- Have monitoring in place for key resources
- Consider History options along with real time
- Alerting can be important
- Integrated monitoring and management enables the 'Big Picture' view





# Check Out My Blog

## <http://tivoliwithaz.blogspot.com>

**Tivoli With A z**

This is a blog to discuss what is happening in the area of IBM z/Series, Tivoli, OMEGAMON monitoring, System Automation, and other relevant IBM Tivoli technology for z/OS performance and availability management.

Ed Woods  
IBM Corporation

Wednesday, March 10, 2010

### New article in IBM System z Advisor

I just published an article in the IBM System z Advisor on "Leveraging OMEGAMON XE and the Tivoli Enterprise Portal to create Management By Exception Views". This is a more detailed discussion of some of the posts I've made earlier in this blog on how to use the TEP to create what I call Management By Exception workspaces.

Here is a link to the article:

<http://www-01.ibm.com/software/tivoli/systemz-advisor/2010-03/leveraging-omegamon-xe.html>

Posted by Ed Woods at 8:59 AM 0 comments

### Upcoming OMEGAMON webcast

I will be doing a webcast on "What's new and exciting In OMEGAMON XE for IMS V" at 11 AM ET. I will be spending time on the new enhancements to the tool, and a capabilities you get with ITM 6.22, and how to exploit them in OMEGAMON.

It's a freebie, and here is the URL to sign up for the event:

<http://www-01.ibm.com/software/os/systemz/telecon/25mar/>

Posted by Ed Woods at 8:48 AM 0 comments

**ED WOODS**

I'm an IT Specialist with IBM Corporation supporting Tivoli Performance solutions on z/OS. Please note that comments made on this blog are my own, and do not necessarily reflect the position of IBM Corporation.

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[Management By Exception](#)

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**Visit my blog on IBM Tivoli performance and availability management of System z. Lots of information on OMEGAMON , Automation, and many things Tivoli...**





# Thank You!!