



SHARE
Technology - Connections - Results

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

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Session 8854



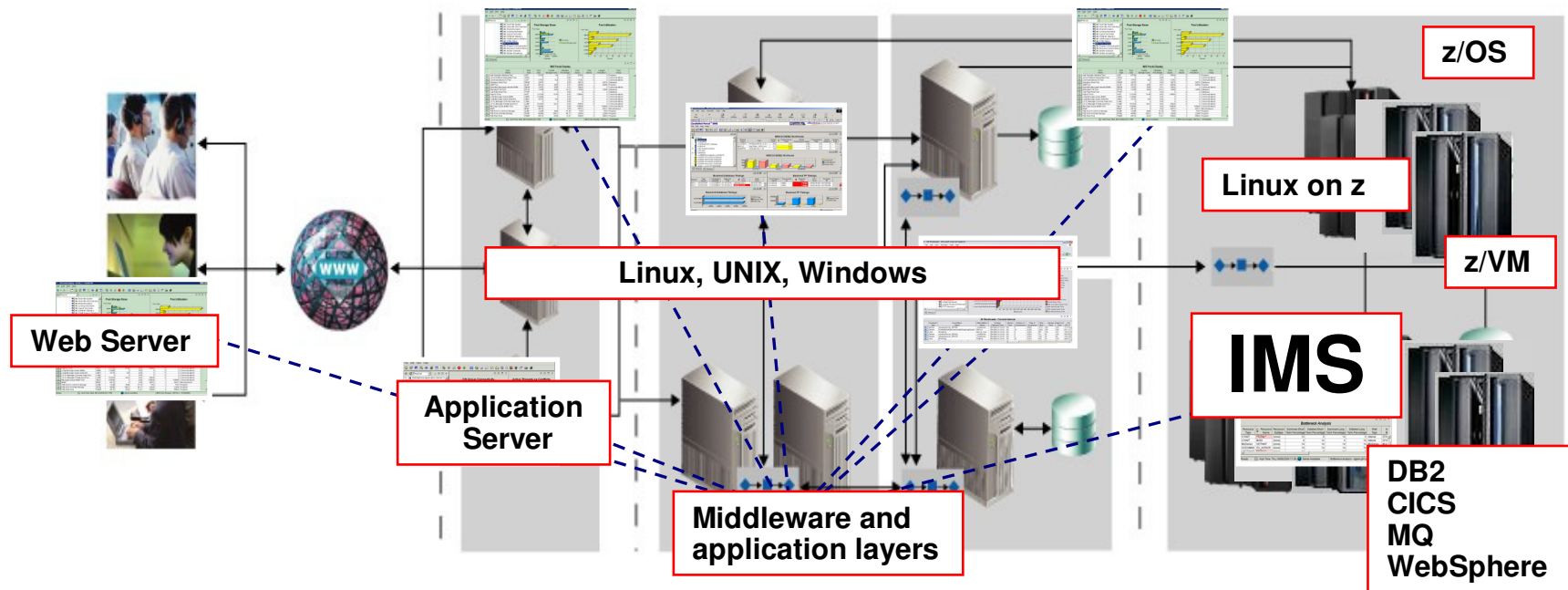


Agenda

- Understanding the workload
 - IMS as part of a bigger picture
- Real Time IMS monitoring using the Tivoli Enterprise Portal
- Historical data collection options
- Alerting and corrective actions
- Integrated monitoring and management



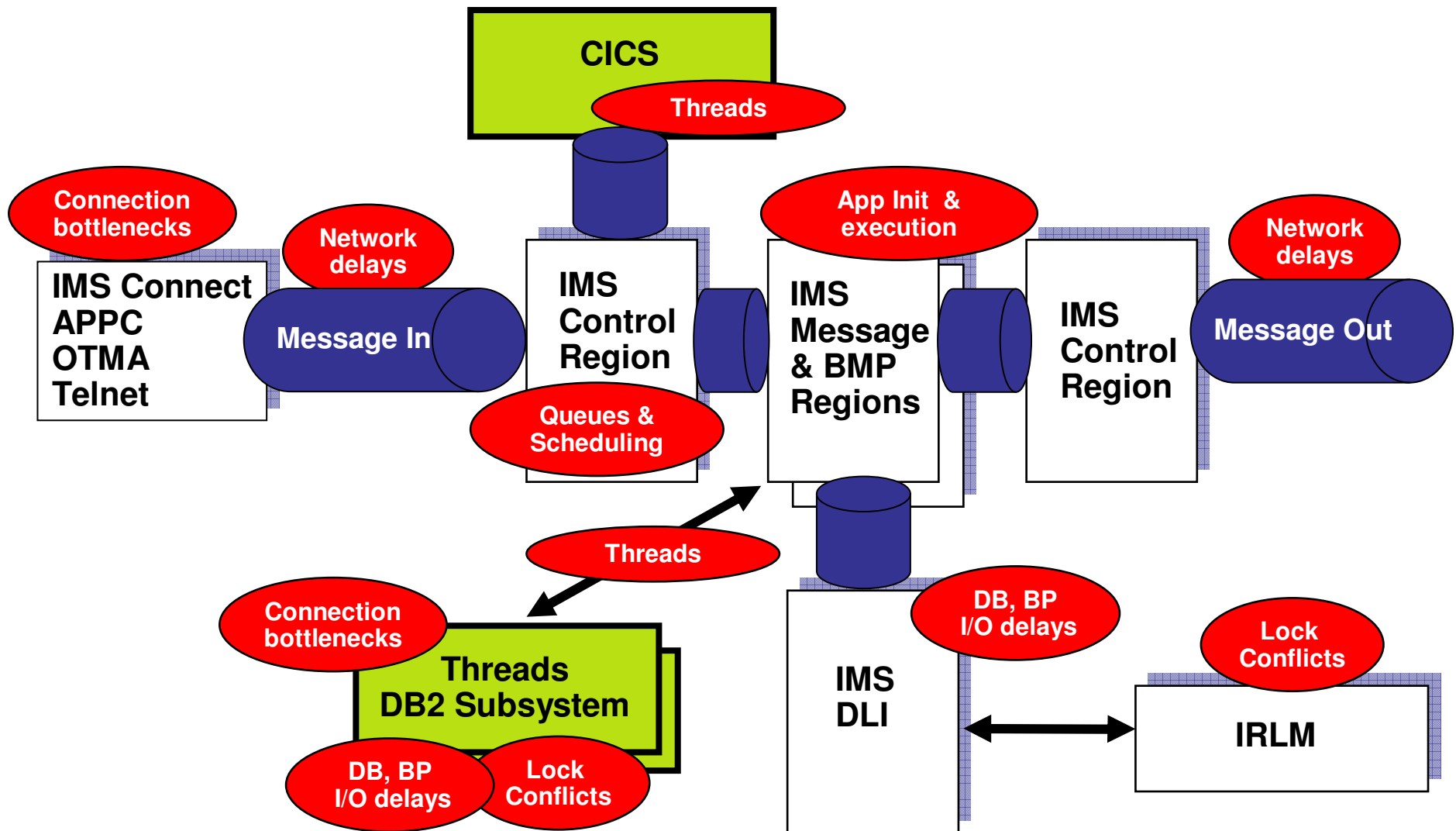
IMS Is Part Of A Much Bigger Picture



- **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?





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
 - Bottleneck analysis (wait states for the system and by workload group)
 - 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
 - Enqueue/dequeue rate at the OTMA level
 - Enqueue/dequeue rate at the Fast Path level
 - 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)



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)



Examples Of Typical IMS Performance And Availability Challenges

- IMS response time, queuing and bottlenecks
 - IMS transactions queued
 - IMS scheduling delays
 - IMS application performance 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
 - DB2 SQL delays
 - DB2 database I/O delays and BP performance
 - DB2 lock conflicts



OMEGAMON XE For IMS on z/OS V4.20

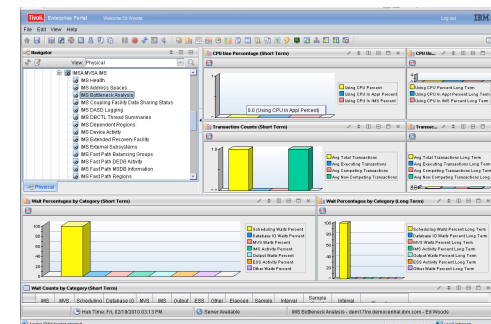
Components And Facilities

Real Time

- **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
- **Near Term History**
 - View recent transaction activity
- **Application Trace Facility**
 - Detailed Application Trace function
- **Multiple System and Plex level information**
 - N-way data sharing, Global Locking, Multiple Systems Coupling, shared queues
- **Exceptions, Alerts, Integration**
 - Integrated alert/automation and analysis

Historical

- **EPILOG Historical**
 - Historical analysis of transaction response, bottlenecks and IMS resources by group & interval
 - Stored in Epilog Data Store (EDS)
- **Transaction Reporting Facility (TRF)**
 - Detailed transaction & database data – individual transactions
 - Data retrieved from IMS log
 - Integration with IBM IMS Performance Analyzer (IMS PA)
- **XE Snapshot Historical**
 - Snapshot historical stored in the Tivoli Data Warehouse
 - Reporting, trending, baselines





Response Time Analysis – RTA Monitors Workload On An Ongoing Basis

- 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
 - 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, R1, 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
-----
```



Monitor The Flow Of The Workload

Use Response Time Analysis To Identify Problems And Outliers

Message counts and rates

Use RTA to understand the flow of the workload

Response Time Analysis broken out by component

Input IMSID	RTA Group Name	RTA Group Number	Input Queue Time	Input Message Count	Input Message Rate	Program Input Queue Time	Program Input Message Count	Program Input Message Rate	Processing Time
IMSB	CLASS 1	1	0.000258	1	0.08	0.000000	0	0.00	0.000000
IMSB	CLASS 1	1	0.006950	13	0.46	0.000000	0	0.00	0.047284
IMSB	CLASS 1	1	0.006950	13	0.22	0.000000	0	0.00	0.047284

Monitor message counts and rates



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



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

```
420./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



For IMS Connect Transactions OMEGAMON Enables Detailed IMS Connect Transaction Level Monitoring

Response Time Detail for Transaction PART

Tran Code	Target Dastore	Client ID	Port Number	User ID	Collection Level	Message Received Time	Response Time	Input Pre-OTMA Time	Input Read Socket Time	Input Read Exit Time	Input Read Exit Name	Input SAF Time	Process OTMA Time	Output Confirm Time	Output Post-OTMA Time	XMIT Exit Time	X
PART	91Y	ICTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	0.000139	0.065653	0.000021	0.026154	HWSIMS00	0.000000	0.118476	0.000000	0.000629	0.000025	HW
PART	91Y	ICTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	0.000062	0.000110	0.000018	0.000039	HWSIMS00	0.000000	0.007838	0.000000	0.000342	0.000015	HW
PART	91Y	ICTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	0.000098	0.000089	0.000028	0.000013	HWSIMS00	0.000000	0.009208	0.000000	0.000587	0.000020	HW
PART	91Y	ICTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	0.000113	0.000124	0.000018	0.000016	HWSIMS00	0.000000	0.023006	0.000000	0.000614	0.000026	HW
PART	91Y	ICTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	0.000244	0.000117	0.000019	0.000016	HWSIMS00	0.000000	0.007549	0.000000	0.000588	0.000020	HW
PART	91Y	ICTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	0.000096	0.000123	0.000030	0.000016	HWSIMS00	0.000000	0.010288	0.000000	0.000622	0.000020	HW
PART	91Y	ICTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	0.000093	0.000124	0.000020	0.000018	HWSIMS00	0.000000	0.008585	0.000000	0.000601	0.000020	HW
PART	91Y	ICTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	0.000080	0.000108	0.000016	0.000016	HWSIMS00	0.000000	0.010068	0.000000	0.000550	0.000017	HW
PART	91Y	ICTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	0.000078	0.000115	0.000018	0.000014	HWSIMS00	0.000000	0.008033	0.000000	0.000620	0.000018	HW
PART	91Y	ICTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	0.000082	0.000105	0.000018	0.000014	HWSIMS00	0.000000	0.008343	0.000000	0.000542	0.000017	HW
PART	91Y	ICTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	0.000125	0.000124	0.000019	0.000018	HWSIMS00	0.000000	0.009186	0.000000	0.000647	0.000029	HW

Response Time Detail for Transaction PART

Tran Code	Target Dastore	Client ID	Port Number	User ID	Collection Level	Message Received Time	MIT Exit Name	Time Outs	Commit Mode	Synchronization Level	NAK Count	OTMA NAK Sense Code	Client IP Address	Client IP Port	Timestamp	Sysplex Name
PART	I91Y	CTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	/SIMS00	0	CM1	None	0	N/A	9.42.46.28	2999	01/14/09 12:13:04	LPAR400J
PART	I91Y	CTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	/SIMS00	0	CM1	None	0	N/A	9.42.46.28	3000	01/14/09 12:13:04	LPAR400J
PART	I91Y	CTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	/SIMS00	0	CM1	None	0	N/A	9.42.46.28	3001	01/14/09 12:13:04	LPAR400J
PART	I91Y	CTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	/SIMS00	0	CM1	None	0	N/A	9.42.46.28	3002	01/14/09 12:13:04	LPAR400J
PART	I91Y	CTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	/SIMS00	0	CM1	None	0	N/A	9.42.46.28	3003	01/14/09 12:13:04	LPAR400J
PART	I91Y	CTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	/SIMS00	0	CM1	None	0	N/A	9.42.46.28	3004	01/14/09 12:13:04	LPAR400J
PART	I91Y	CTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	/SIMS00	0	CM1	None	0	N/A	9.42.46.28	3005	01/14/09 12:13:04	LPAR400J
PART	I91Y	CTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	/SIMS00	0	CM1	None	0	N/A	9.42.46.28	3006	01/14/09 12:13:04	LPAR400J
PART	I91Y	CTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	/SIMS00	0	CM1	None	0	N/A	9.42.46.28	3007	01/14/09 12:13:04	LPAR400J
PART	I91Y	CTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	/SIMS00	0	CM1	None	0	N/A	9.42.46.28	3008	01/14/09 12:13:04	LPAR400J
PART	I91Y	CTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	/SIMS00	0	CM1	None	0	N/A	9.42.46.28	3009	01/14/09 12:13:04	LPAR400J
PART	I91Y	CTDRVR	4713	JMAHE	Maximum	01/14/09 12:08:06	/SIMS00	0	CM1	None	0	N/A	9.42.46.28	3010	01/14/09 12:13:04	LPAR400J

OMEGAMON XE For IMS provides support for IMS Connect monitoring. Provides detailed transaction level response time information.

Note – Detailed IMS Connect monitoring requires IMS Connect Extensions.



If RTA Indicates An Elongation Of Response Time Use The IMS Health Workspace To Track Rates And Queuing

IMS Health workspace focuses on many key rate metrics

Enqueue/dequeue rates

CPU rates

Real time indicators at the system level of transaction rates and queuing

Enqueue/Dequeue rates by category for the system

MS ID	FF ENQ Rate	BALG ENQ Rate	Total ENQ Rate	FF DEQ Rate	BALG DEQ Rate	Total DEQ Rate	Control CPU Percent	Dependent CPU Percent	Total CPU Percent	Control I/O Rate	Dependent I/O Rate	Total I/O Rate	Control Paging Rate	Dependent Paging Rate	Total Paging Rate	FF Transaction Queue	BALG Message Queue	Total Transaction Queue	FF Transaction Rate	BALG Message Rate
-------	-------------	---------------	----------------	-------------	---------------	----------------	---------------------	-----------------------	-------------------	------------------	--------------------	----------------	---------------------	-----------------------	-------------------	----------------------	--------------------	-------------------------	---------------------	-------------------



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      Samp
: Suppress states . . < 0 %      Samp
: Display COMPETING TRANSACTIONS + Samp
-----
:          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>

GoTo Options Help
-----
KI2PSDX2
-----
: Elapsed time . . .
: Suppress states . .
: Display COMPETING TH
-----
:          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:-----> . . . . .
: Program Fetch I/O          : 0: . . . . . : 0: . . . . .
: 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)
```

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

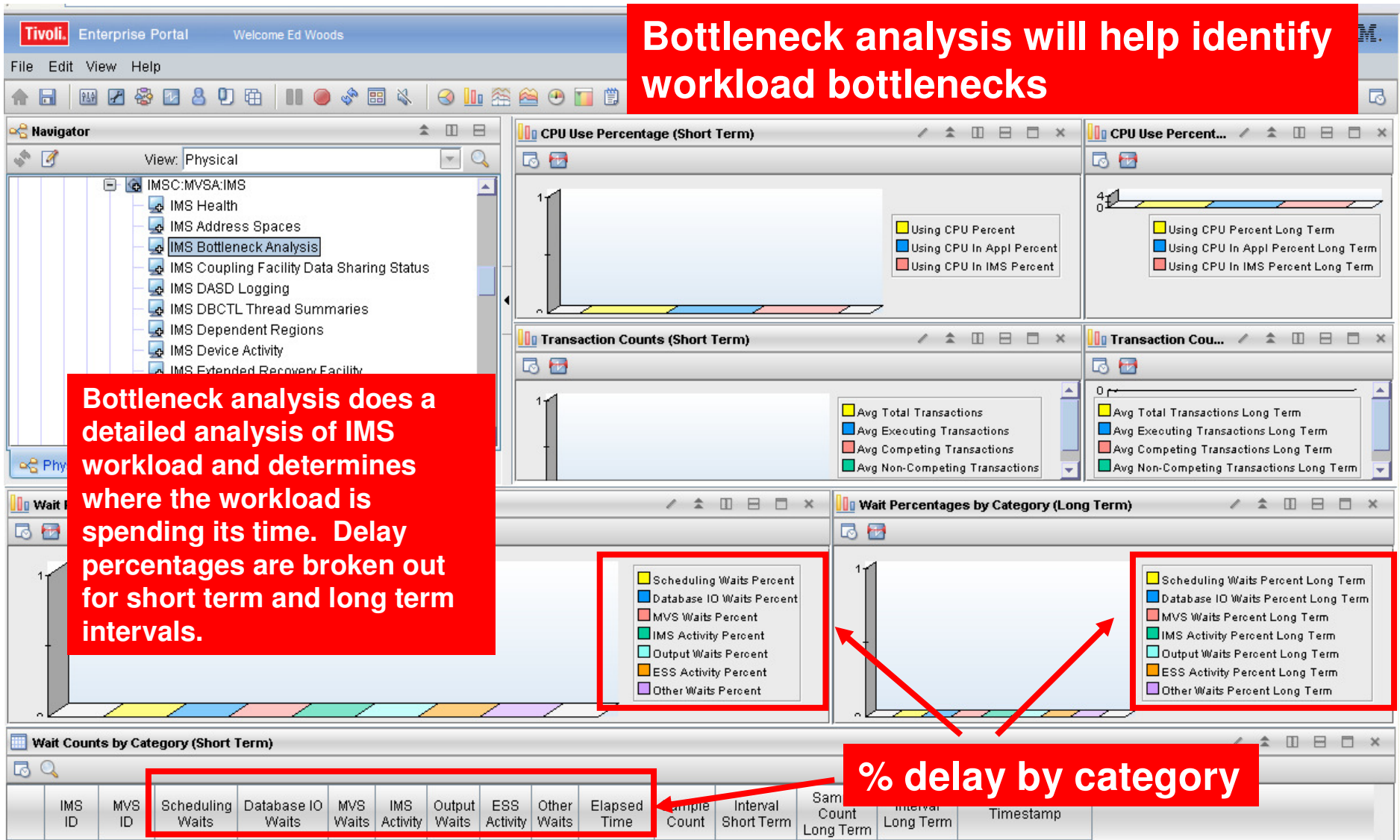


The Tivoli Enterprise Portal May Be Used To Understand And Analyze IMS Bottlenecks

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





IMS Dependent Region Display

Understanding Scheduling And Processing Delays

High region occupancy may be an indication of application delays. May result in higher response time, scheduling delays, and transaction queues.

View: Physical

IMS Dependent Regions

Dependent Region Counters

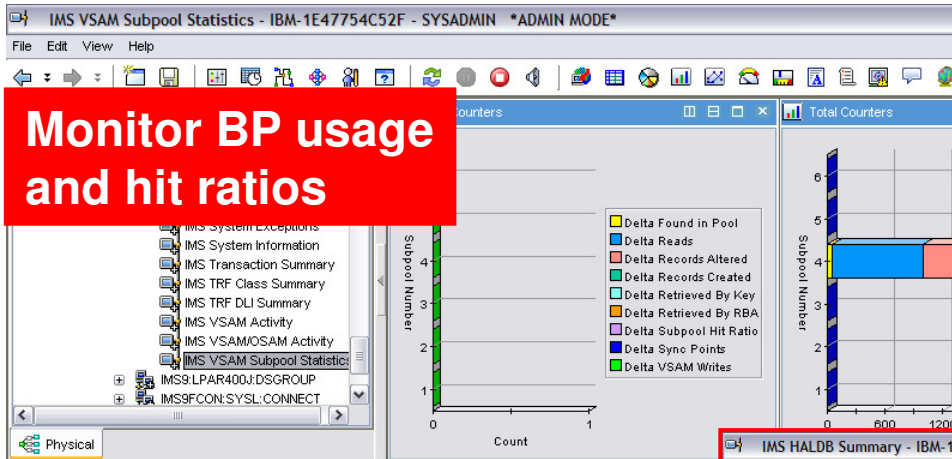
What transaction, PSB, and how many calls?

How busy is the region?

Region Name	Region Identifier	Type	Transaction Name	PSB Name	Database Calls	Message Inserts	Region Occupancy Percentage	Locks Held Count	BMP Checkpoint Count	Wait Time	Transaction Elapsed Time	Transaction Input Q Time	Syncpoint Interval	Logic Termination
IMS9FFP1	1	FastPath	--None--	DFSIVP4	0	0	0.00	0	0	02:18:40	00:00:00	00:00:00	00:00:00	--None
IMS9FFP3	2	FastPath	--None--	DBFSAMP3	0	0	0.00	0	0	02:18:40	00:00:00	00:00:00	00:00:00	--None
IMS9FFP2	3	FastPath	--None--	DFSIVP5	0	0	0.00	0	0	02:18:40	00:00:00	00:00:00	00:00:00	--None
IMSLK9F	4	BMP	--None--	CAND019	571	0	100.00	91	0	00:34:25	00:00:00	00:00:00	00:36:23	--None
IMS9FMS1	5	Message	PART	DFSSAM02	1	0	23.47	1	0	00:08:15	00:00:00	00:00:00	00:00:00	RSTIL
IMSLK9F2	7	BMP	--None--	CAND019	1	0	100.00	1	0	00:34:13	00:00:00	00:00:00	00:00:00	--None



IMS I/O Bottlenecks And Contention

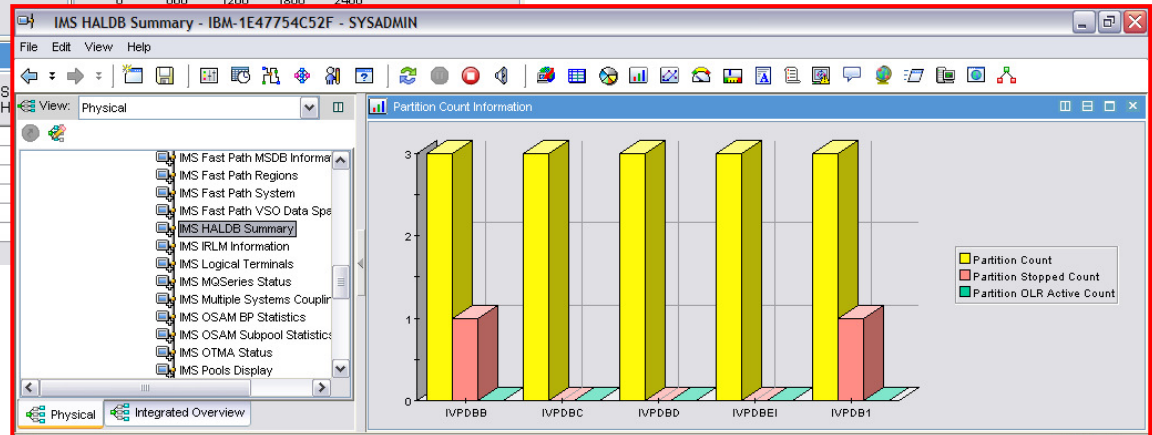


Monitor BP usage and hit ratios

Monitor I/O delays and bottlenecks
Database I/O
IMS dataset I/O
LGMSG SHMSG I/O

Bottleneck analysis shows I/O delays

Subpool Number	Pool Name	Pool Type	Buffers PageFixed	Blocks PageFixed	Using Hipspace	Number of Buffers	Buffer Size	VSAM Reads	Found in Pool	SH
1	XXXX	Data	Yes	Yes	No	5	512	0	0	
2	XXXX	Data	Yes	Yes	No	5	1024	0	0	
3	XXXX	Data	Yes	Yes	No	5	2048	1	2	
4	XXXX	Data	Yes	Yes	No	10	4096	47	953	
5	XXXX	Data	Yes	Yes	No	5	8192	0	0	
6	XXXX	Data	Yes	Yes	No	5	16384	0	0	



Database Name	Database Version Number	Database Organization	Database Access	Partition Selection	Partition	Partition Stopped	Partition OLR	Partition Selection	Longest Key	Timestamp
IVPDBB	3	PHDAM								
IVPDBC	3	PHDAM								
IVPDBD	3	PHDAM								
IVPDBE	3	PSINDEX								
IVPDB1	3	PHDAM								

Database information (including HALDB and Fastpath support)



IMS Lock Analysis Information In The Tivoli Portal

More detailed analysis of lock holders/waiters, and full support for both IRLM and PI locking in the TEP

Lock owner/waiters

Drill into application detail

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	DEHSAM05	WD80	DBC	WT IRLM	00:26:59	01	Share	00:25:45	1	0

Display IMS DBCTL Thread Detail
Display CICS Transaction Information



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



Epilog Shows Historical Bottleneck and RTA Information

```
EPILOG/IMS V560 09/29/06 7:13 Mode: PAGE D1 1 of 2 LAST FRAME
CMD==>
*****
+=====+
| Transaction Group = 1 Symbolic Name = GROUP 01 |
| Period: 05:59 to 06:14 on 09/28/06 Elap = 14:46 M IVP1 |
+-----+
| RESPONSE TIME DATA |
+-----+
|Response_Component Avg. Rsp. Time Trans. Count Rate (per min.) |
|Input Queue | 0.00 S | 0 | .00 |
|Pgm Input Queue | 0.05 S | 56 | 3.81 |
|Processing | 0.73 S | 55 | 3.74 |
|Response time 0 | 0.77 S | 55 | 3.74 |
|Output Queue | 0.00 S | 0 | .00 |
|Response time 1 | 0.00 S | 0 | .00 |
+-----+
| DEGRADATION DATA |
+-----+
|Competing_State Time % |0_1_2_3_4_5_6_7_8_9_0|
|MVS Waits 0.24 S 14.3 |----> . . . . . . . . . .|
| PGM Fetch I/O (0.24) S (14.3) |----> . . . . . . . . . .|
R|IMS Waits 0.49 S 28.6 |----->. . . . . . . . . .|
| switched to CTL (0.49) S (28.6) |----->. . . . . . . . . .|
```

R to zoom in for resource detail for the interval



Near Term History Of IMS Transactions

```
> Help PF1          KOINITH 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 Time    Minutes     Status     - - - - -
+ : MAHERJOX      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



Using The History Functions Of The Tivoli Enterprise Portal To Analyze IMS Processing And Bottlenecks

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

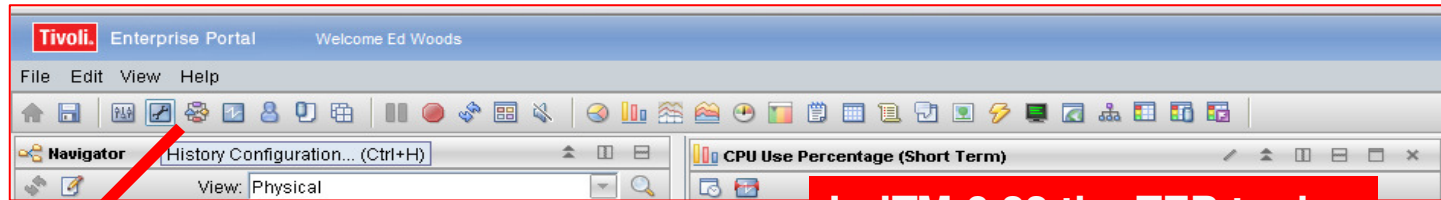
Count of Transactions
0
51
0
0
0
0
0
0
0
0
0
0
0
0
0

Total Transactions: 0 10 20 30 40 50 60

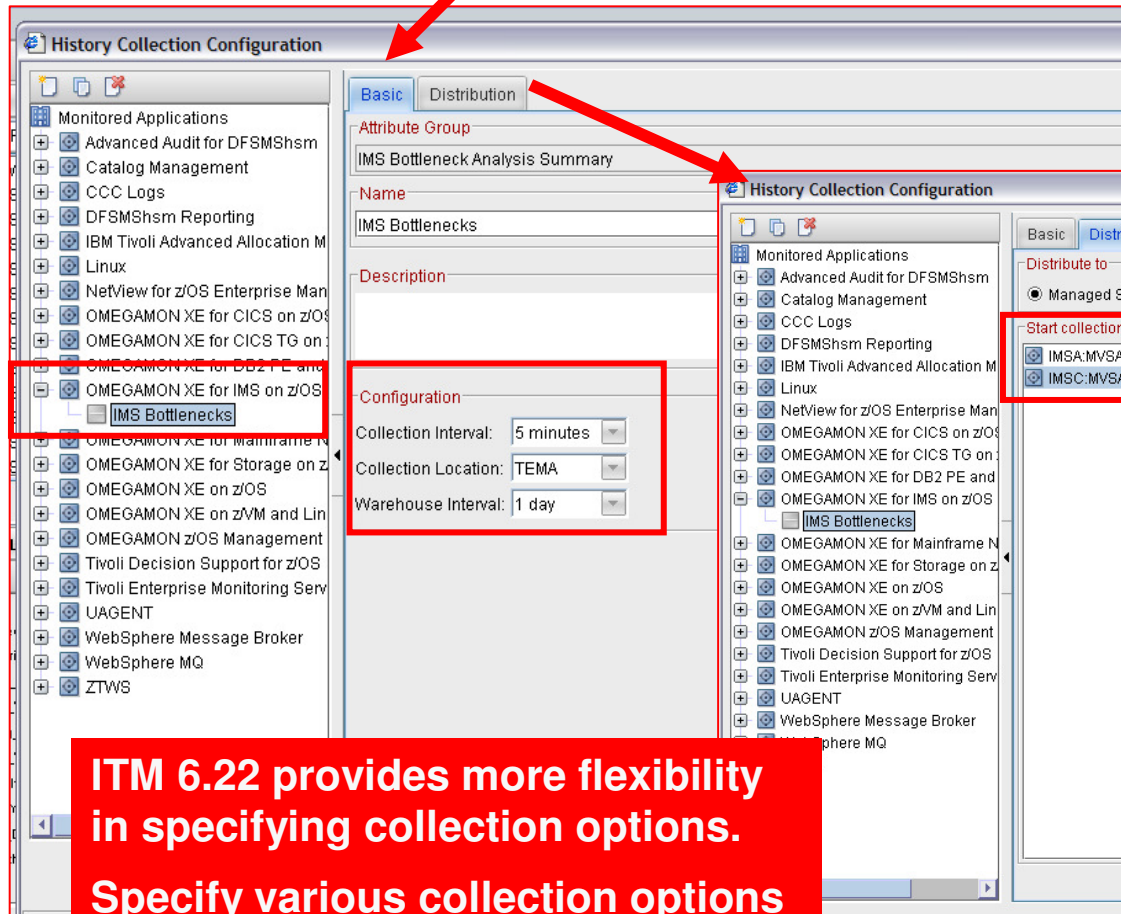
Hub Time: Tue, 03/09/2010 07:56 AM Server Available IMS Transaction Summary - dem17lnx.democentral.ibm.com - Ed Woods



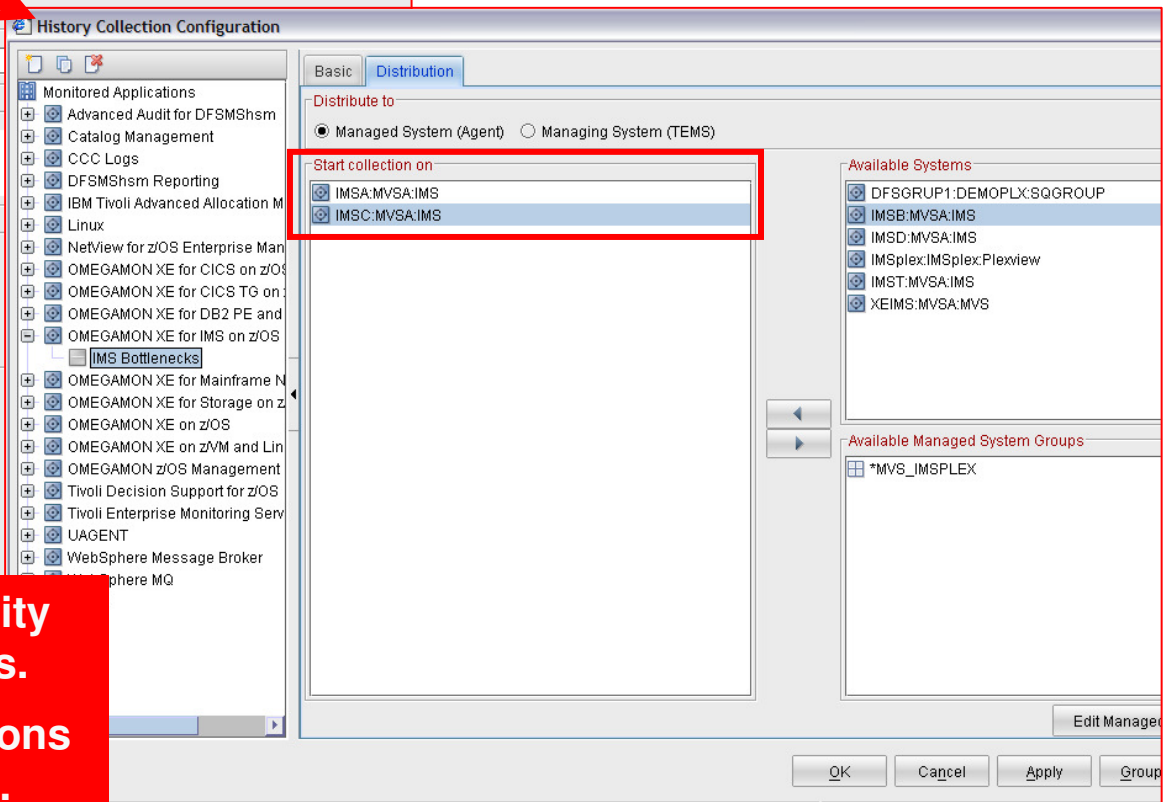
Historical Collection Options In The Tivoli Enterprise Portal



In ITM 6.22 the TEP tool bar is re-designed



ITM 6.22 provides more flexibility in specifying collection options. Specify various collection options for different managed systems.





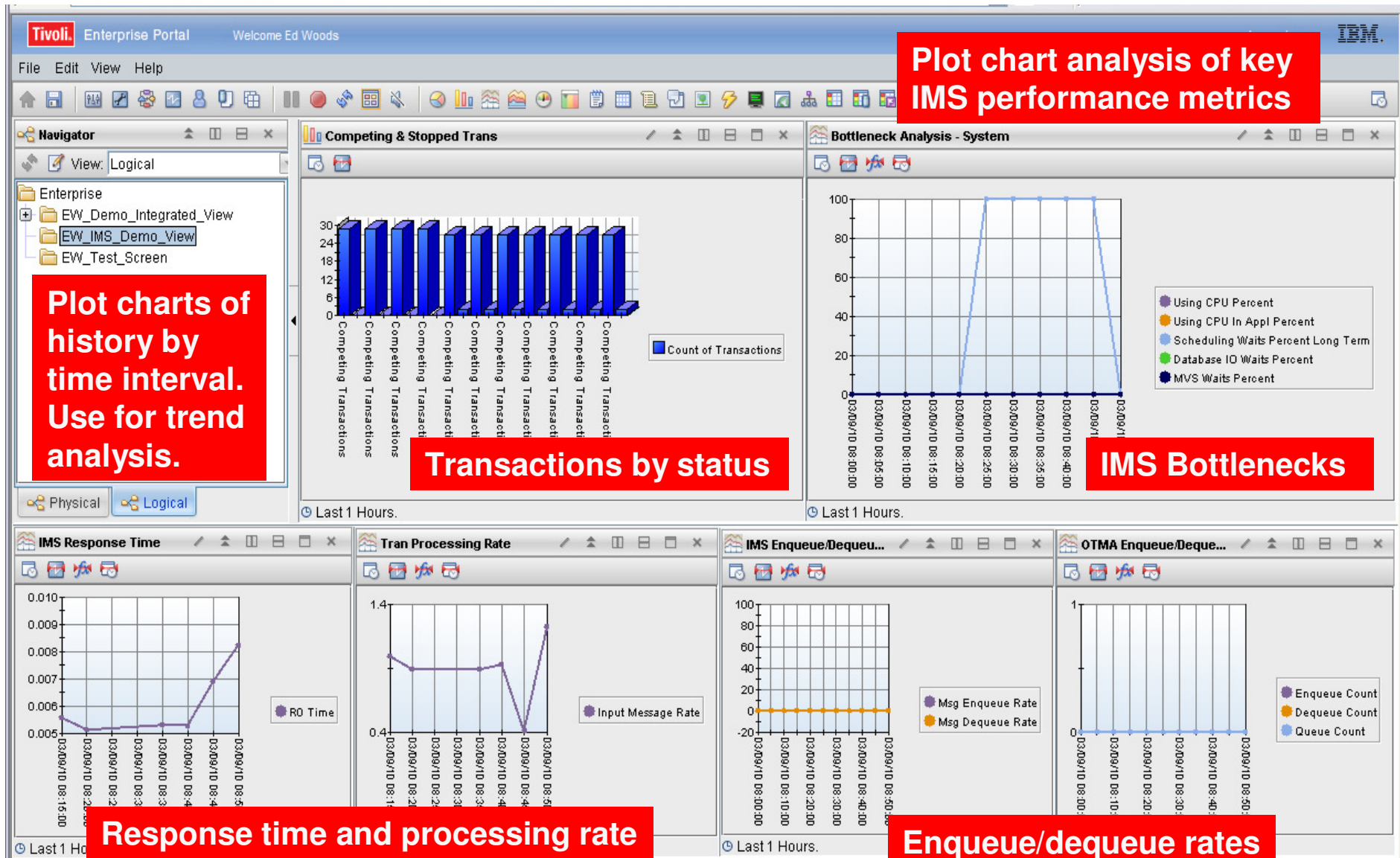
Analyze Historical Bottleneck Analysis Data In The TEP

The screenshot displays the Tivoli Enterprise Portal interface. On the left, the 'Navigator' pane shows a tree view with 'IMS Bottleneck Analysis' selected. Below it, a chart titled 'Wait Percentages by Category (Short Term)' is visible, showing a 3D bar chart with data points for various time intervals. A red box highlights a portion of this chart. On the right, a dialog box titled 'Select the Time Span' is open, showing configuration options for data retrieval. A red callout box with white text is overlaid on the dialog, stating: 'Trend and analyze Bottleneck Analysis data using the unique facilities of the Tivoli Portal'. The dialog includes options for 'Real time plus Last 2 Hours', 'Last' (with a dropdown for hours), and 'Custom' parameters. The 'Custom' section includes options for 'Use detailed data' or 'Use summarized data', 'Time Column' (set to 'Recording Time'), 'Interval' (set to 'Hours'), 'Shift' (set to 'All shifts'), 'Days' (set to 'All days'), 'Start Time' (03/08/2010 05:18 PM), and 'End Time' (03/08/2010 05:18 PM). There are also checkboxes for 'Apply to all views associated with this view's query', 'Lock time span for Historical Navigation', and 'Use Hub time'. Buttons for 'OK', 'Cancel', and 'Help' are at the bottom.

Trend and analyze Bottleneck Analysis data using the unique facilities of the Tivoli Portal



IMS Historical Performance Analysis Workspace





ITM Provides New Chart Functions And Statistical Analysis Features

The screenshot displays the Tivoli Enterprise Portal interface. At the top, it says 'Tivoli Enterprise Portal Welcome Ed Woods' and 'Log out IBM'. The main area is divided into several panes:

- Navigator:** Shows a tree view with 'Enterprise' containing 'EW_Demo_Integrated_View', 'EW_IMS_Demo_View', and 'EW_Test_Screen'.
- Competing & Stopped Trans:** A 3D bar chart showing transaction counts.
- Bottleneck Analysis - System:** A line graph showing system performance metrics.
- Area Chart:** A large area plot showing 'RO Time' and 'AVG' over time. A red callout box points to the 'AVG' line with the text 'Baseline analysis and arithmetic functions'. The chart shows a purple area for 'RO Time' and a horizontal line for 'AVG' at 0.008255.
- Input Message Rate:** A smaller area chart showing the rate over time.
- Msg Enqueue Rate / Dequeue Rate / Queue Count:** A line chart showing these metrics over time.

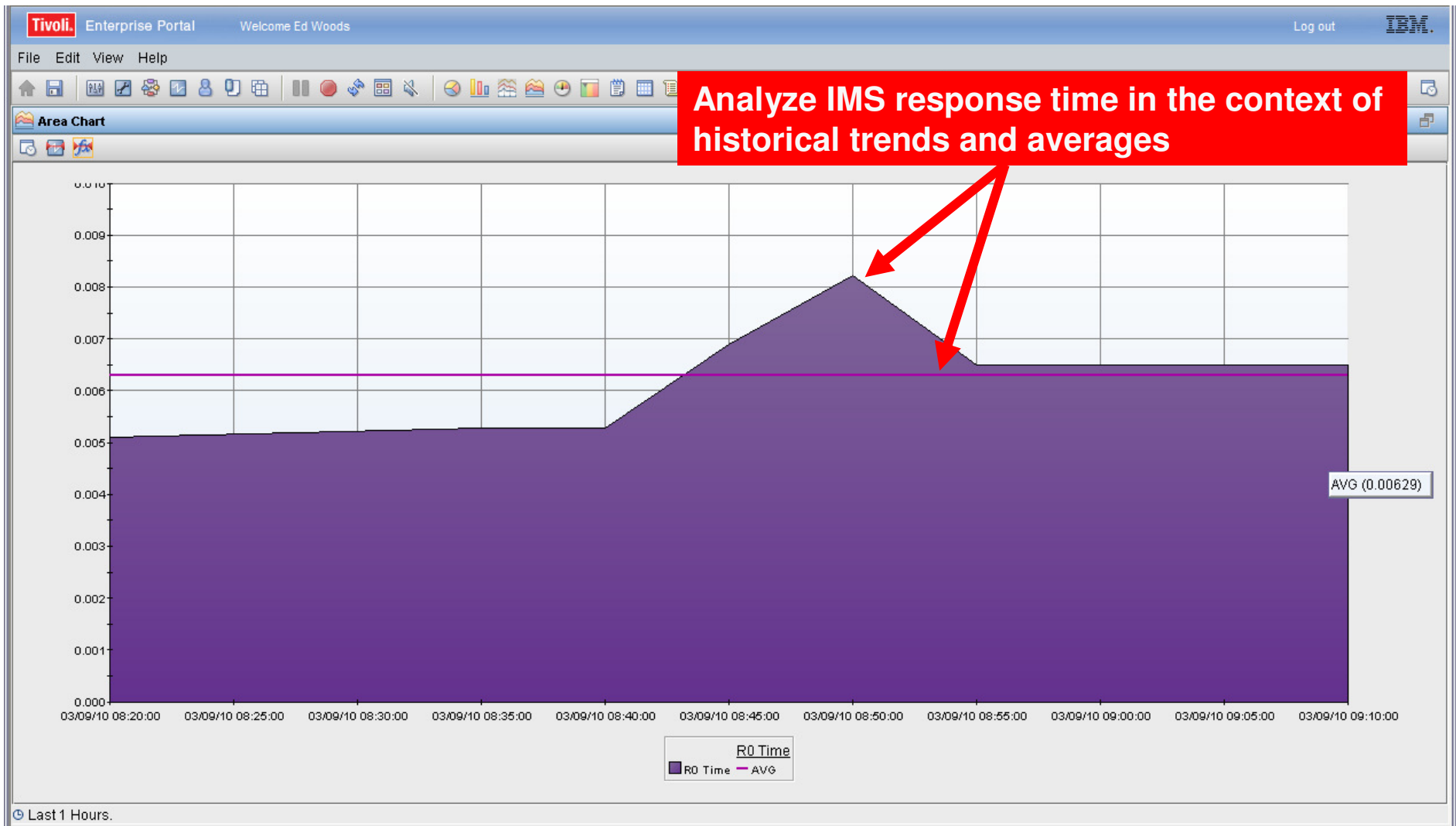
A dialog box titled 'Add Statistical Baseline' is overlaid on the charts. It contains a table with the following data:

Name	Argument	Result
<input type="checkbox"/> RANGE - MIN/MAX		
<input checked="" type="checkbox"/> AVG	+/- 0 standard deviation	
<input type="checkbox"/> MIN	+/- 0 percent	
<input type="checkbox"/> MAX	+/- 0 percent	
<input type="checkbox"/> PERCENTILE	50	
<input type="checkbox"/> MODE		

Below the table, there are fields for 'Attribute' (set to 'Input Message Rate') and 'Time Span' (set to 'Last 24 Hours'). Buttons for 'OK', 'Cancel', 'Apply', and 'Help' are at the bottom. A red callout box points to the 'AVG' row in the table with the text 'Area plot charts provide a different perspective of history'.



Example – Area Plot Chart Of IMS R0 Response Time With Statistical Baseline





Alerts - Use The Tivoli Enterprise Portal To Integrate Essential Performance Information And Manage Alerts

Tivoli Enterprise Portal (The TEP) enables integrated alert and automation capabilities

IMS is an essential component of many mission critical applications

Performance and availability management requires an integrated approach

IMS as part of the bigger picture

Icons indicate an alert

Hub Time: Mon, 06/19/2006 07:32 AM | Server Available | Demo Business View - 9.73.221.32 - SYSADMIN



Alert Management Using The Tivoli Enterprise Portal And OMEGAMON Situations

- Situations are the building blocks of systems management logic in the Tivoli Enterprise Portal
- Situations may be used to highlight performance problems within key IMS subsystem resources
- Situations may be used to identify IMS subsystem problems that impact IMS availability
 - Monitor application availability
 - Monitor IMS subsystem availability
 - Monitor critical resource availability



Situations – Usage And Benefits

Highlight Performance And Availability Issues

The screenshot displays the Tivoli Enterprise Portal interface. The main window is titled 'Situation Event Console' and shows a list of events. A red arrow points from the 'EW_RTA_TransAlert' entry in the list to a flyover pop-up window. The pop-up displays the following information:

CRITICAL
EW_RTA_TransAlert IMSA:MVSA:IMS 08/06/07 09:28:02

Below the pop-up, a red box contains the text: **Click to see alert detail**

Another red box on the right contains the text: **Flyover pop-up shows the name of the 'situation' alert**

The main console table shows the following data:

Severity	Status	Owner	Situation Name	Display Item	Source
Informational	Open	TESTPEEP	TESTPEEP		DSNB:MVSA:DB2
Informational	Open		Kah_Mtr_Health_Status_Info	DEMO_CPU	DEMOPLX:DEMOPLX:SA
Warning	Open		ZVM_Avail_Mean2G_Low		zdemoplxdemopkg.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_Ctr		VTAM:MVSA
				_CBJ	DEMOPLX:DEMOPLX:SA
				_CBJ	DEMOPLX:DEMOPLX:SA
					DEMOPLX:MVS:SYSPL
				MN2	DEMOPLX:DEMOPLX:SA
				MN2	DEMOPLX:DEMOPLX:SA

At the bottom of the screenshot, there is a 'Message Log' table:

Status	Name	Display Item	Origin Node	Global Timestamp
Open	Sysplex_Workloads_PerfIdx_Crit		DEMOPLX:MVS:SYSPLEX	08/06/07 09:28:02
Open	Kah_Mtr_Health_Status_Warn	DEMOMN2	DEMOPLX:DEMOPLX:SA	08/06/07 09:28:02
Open	EW_RTA_TransAlert		IMSA:MVSA:IMS	08/06/07 09:28:02
Open	Kah_Resource_Health_Warn	DEMOMN2	DEMOPLX:DEMOPLX:SA	08/06/07 09:23:02
Open	Kah_Mtr_Health_Status_Crit	DEMOMN2	DEMOPLX:DEMOPLX:SA	08/06/07 09:08:02
Open	USS Excess Process UNIX Run Time		DEMOPLX:MVSA:MVSSYS	08/06/07 08:13:02



Situations – Usage And Benefits

'Action' To Perform Commands And Corrections

Where command is executed

Action Selection
 System Command Universal Message

System Command
LOG 'OMEGAMON IMS DEMO MESSAGE &{Local_RTA_GNT.RTA_Group_Name} &{Local_RTA_GNT.R1_Time}'
[Attribute Substitution...](#)

If the condition is true for more than one monitored item:
 Only take action on first item
 Take action on each item

Where should the Action be executed (performed):
 Execute the Action at the Managed System (Agent)
 Execute the Action at the Managing System (TEMS)

If the condition stays true over multiple intervals:
 Don't take action twice in a row (wait until situation goes false then true again)
 Take action in each interval

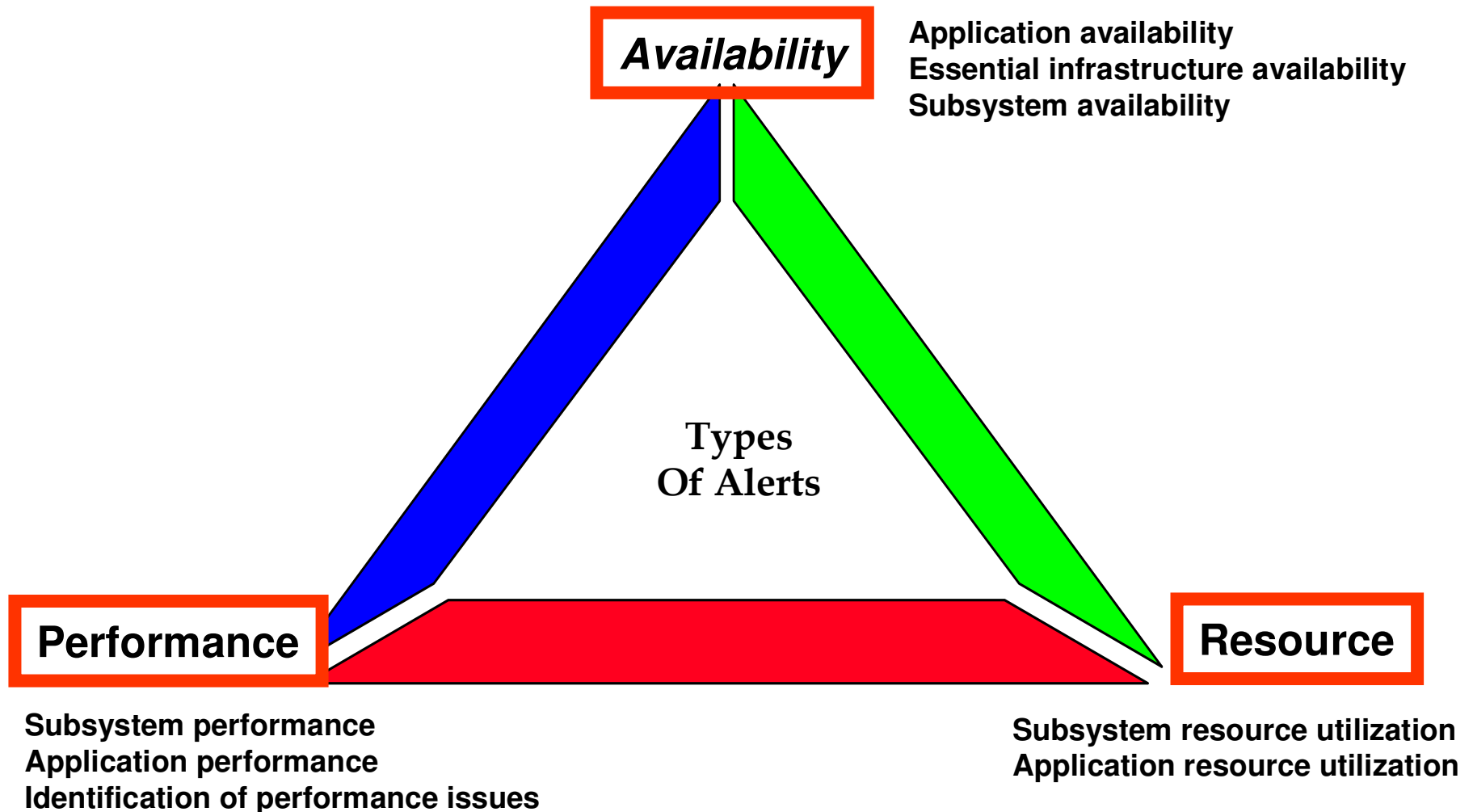
Attribute substitution in the command line

System command may be executed when the situation is true

Examples of actions include:
Issuing messages to the console
Any valid z/OS console command
Issue IMS commands



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 3rd 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 3rd party (non-IBM) tools



Application Performance Example

Situations To Monitor Response Time

Situations for - IMS Response Time Analysis (RTA)

Description

Formula

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

Select condition

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:

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



Application Performance Example

Monitoring Transaction Level Queuing

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

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

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

Sampling interval: / : :
ddd hh mm ss

Sound: Enable critical.wav Play Edit...

State: ⊗ Critical Run at startup

OK Cancel Apply Help



Application Performance Example

Monitoring Transaction Level Queuing

Monitor the transaction queue depth.

Tune out certain transactions that will typically queue by using 'not equal' logic.

Transaction Name TEST

	Messages Enqueued	Transaction Name	Transaction Name	Transaction Name	Transaction Name
1	> 10	!= 'PART'	!= DEMO	!= ADDPART	!= TEST
2					
3					

== Equal
!= Not equal
> Greater than
>= Greater than or equal
< Less than
<= Less than or equal

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

Situation Formula Capacity 20%

Sampling interval: 0 / 0 : 1 : 0

In some shops it may be normal and acceptable to have certain transactions queue.

OK Cancel Apply Help



Application Performance Example – Connect Monitor IMS Connect Transaction Performance

The screenshot displays the 'Situations for - IMS Transaction Summary' window. The left pane shows a tree view of various alert categories, with 'IMS_Connect_Response_Tin' selected. The main pane shows the configuration for a situation named 'IMS Connect Response Time High'. The 'Description' field contains the text 'IMS Connect Response Time High'. The 'Formula' section contains a table with the following data:

	Response Time
1	> 3.000
2	
3	

Below the main window, the 'Select condition' dialog is open, showing a list of 'Attribute Item's. The 'State' dropdown is set to 'Critical', and the 'Run at startup' checkbox is unchecked.

Product provided situation example

IMS Connect monitoring allows for transaction level response time alerts

Note – Connect monitoring requires IMS Connect Extensions along with OMEGAMON XE For IMS

Add additional logic to the situation including input and output time, etc.



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. Values include an integer, Init, and N/A.

Region Status Indicates the current status of the dependent region. Values include Wait-FPCR, Wait-IntCnf, Wait-PSR, Wait-DMR, Wait-HotRtn, Wait-Input, Wait-IRI M.

Situation Formula Capacity: 33%

Sampling interval
0 / 0 : 2 : 0
ddd hh mm ss Run at startup

Annotations:

- 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

Description
This situation tracks queue depth for the system

Formula
Transactions Queued >= 100

	Transactions Queued
1	>= 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%

Buttons: Add conditions..., Advanced...

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

Sound
 Enable critical.wav
Buttons: 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

The screenshot shows the Situation Editor window with a tree view on the left and a configuration panel on the right. The tree view shows a hierarchy of situations, with 'IMS' expanded to show various transaction-related alerts. The configuration panel is set to 'Formula' mode and shows a table of conditions for alerting on transactions.

Transaction Name	Status	Hours	Hours
1 == 'PART'	== Stopped	> 8	< 17
2 == 'PART'	▼ == PStopped	> 8	>= 17
3			

Alerts may be set at the transaction level for status.

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

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

Run at sta

Various transaction statuses that may be alerted on.



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

Select condition

Condition Type

Attribute Comparison
 Situation Comparison

Attribute Group

- Extended Recovery Facility
- External Subsystems
- Fast Path Regions
- Fast Path System
- HALDB Database Summary
- HALDB Partition Detail
- I/O Devices
- IMS All RTA Interval Summary
- IMS All RTA Slot Summary
- IMS Bottleneck Analysis Detail
- IMS Bottleneck Analysis Summary**

Attribute Item

- Avg Competing Transactions
- Avg Competing Transactions L
- Avg Executing Transactions
- Avg Executing Transactions Lo
- Avg Non-Competing Transactio
- Avg Non-Competing Transactio
- Avg Total Transactions
- Avg Total Transactions Long T
- Database IO Waits
- Database IO Waits Long Term
- Database IO Waits Percent

Select All

Description

Use the IMS Bottleneck Analysis Summary attributes to create table views, charts, and situations that monitor workloads, rather than on resources.

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%

Situations for - IMS Bottleneck Analysis

Formula

Name: EW_Wkld_Bottleneck

Description:

Formula

	Using CPU In Appl Percent	MVS Waits Percent
1	> 25.0	
2		> 30.0
3		

MVS Waits Percent The percentage of total samples where transactions were delayed due to MVS waits (short term). Valid format is an integer.

Situation Formula Capacity: 15%

Sampling interval: 0:0:4:0 (ddd hh mm ss)

Sound: Enable critical.wav

State: Critical

Run at startup:

OK Cancel Apply Group... Help



IBM's Integrated Service Management (ISM) framework can optimize costs and streamline operations

This session is focused on:

Integrated Service Management



VISIBILITY



See your business services

Understand health and performance of services across your enterprise infrastructure

CONTROL



Manage service risk and compliance

Govern and secure complex infrastructure and ensure regulatory compliance

AUTOMATION

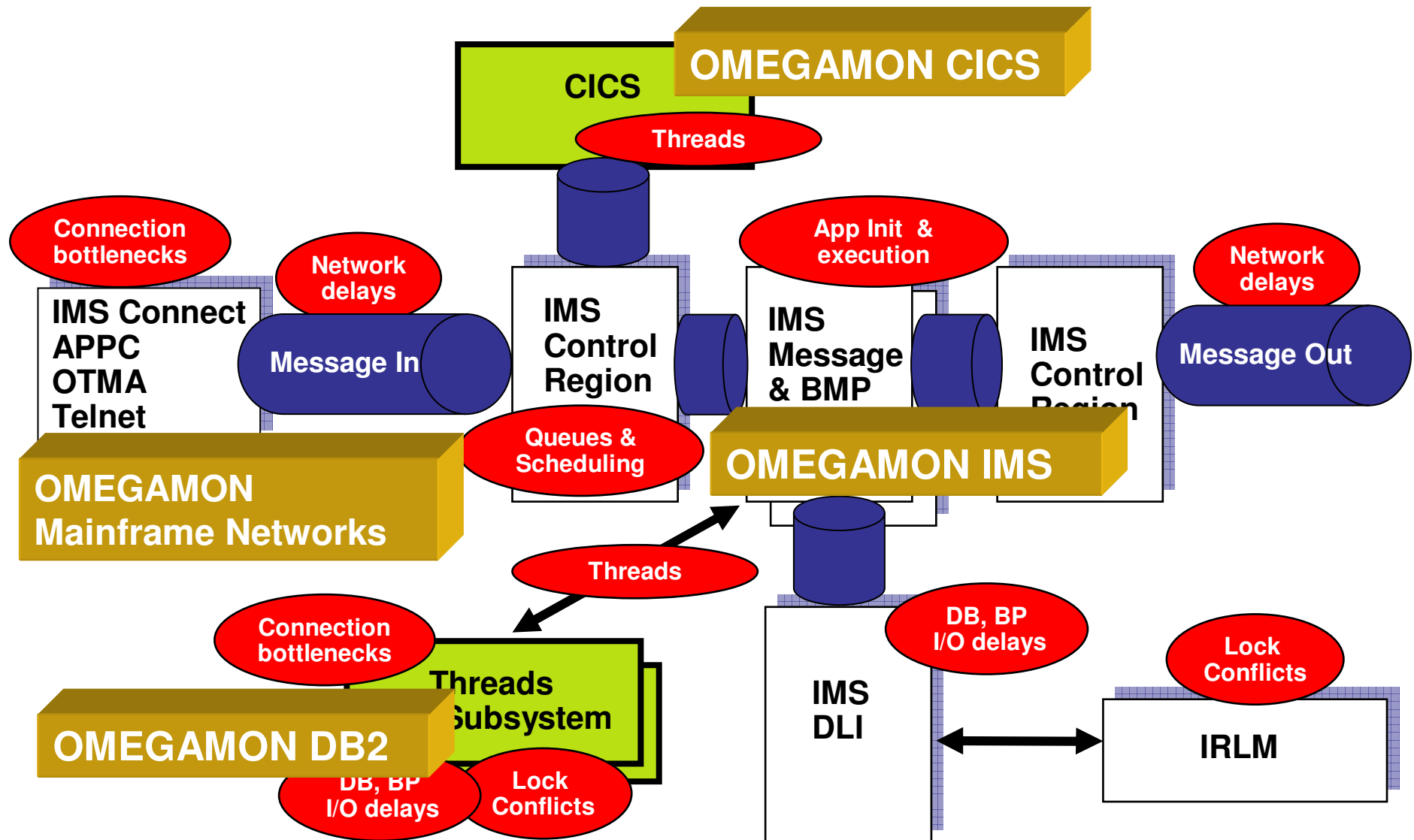


Optimize business service delivery

Drive down cost, minimize human error and increase productivity



Use OMEGAMON And The Tivoli Enterprise Portal To Consolidate Key Performance Analysis

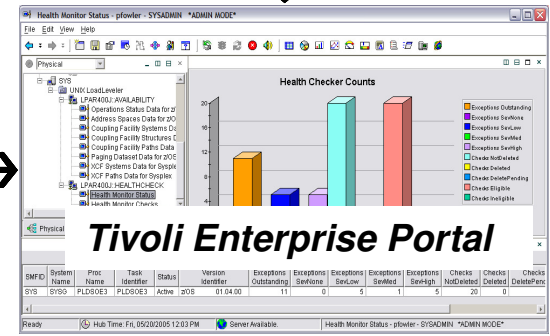




IBM solutions that integrate via the Tivoli Enterprise Portal

- z/OS Health check
- z/OS & USS
- NetView for z/OS
- Network
- DB2
- CICS
- IMS
- Storage
- WebSphere MQ
- WebSphere Appl Server
- z/VM & Linux on z
- Distributed Monitoring
- Automation
- DFSMS Audit
- Catalog Management
- SMF trend analysis Reports

- z/OS Management Console**
- OMEGAMON XE on z/OS**
- IBM Tivoli NetView for z/OS V5.3**
- OMEGAMON XE for Mainframe Networks**
- OMEGAMON XE for DB2 PE/PM**
- OMEGAMON XE for CICS**
- OMEGAMON XE for IMS**
- OMEGAMON XE for Storage**
- OMEGAMON XE for Messaging**
- ITCAM for WAS**
- OMEGAMON XE on z/VM and Linux**
- IBM Tivoli Monitoring (ITM) & ITCAM**
- SA for z/OS**
- Advanced Audit for DFSMSshm**
- Advanced Catalog Management for z/OS**
- Tivoli Decision Support for z/OS**





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

In the integrated performance view pull together detailed performance information for multiple components

Integrated graphic overview

OMEGAMON Mainframe Networks

OMEGAMON CICS

OMEGAMON IMS

OMEGAMON DB2

Application Name	Connection Count	Transmit Byte Rate	Receive Byte Rate
CICSL153	3	221	2
DB1LDIST	2	0	
IMS9FCON	3	0	

CICS Region Name	Group Name	Response Time
CICSL153	TRAN GRP C*	00:00:00 00:00:00 00:00:00

IMSID	Item Name	Item Type	Input Queue Time (Secs.)	Program Queue (Sec)
I91F	PARTL	PSB	0.0000	

Originnode	SQL Calls Sent	SQL Calls Received	Data Rows Sent
DB1L:SYSL:DP			

Byte Rate	Total Bytes Received	Total Bytes Sent (in GB)	Total Bytes Sent	1 E (i
2280	2508	0	93688	
20008	172010	n	17268	



OMEGAMON XE For Mainframe Networks And NetView Integration In The TEP

NetView Workspaces

- CXEGNA:MVSA:KNAAGENT
 - NetView/NetCool Web
 - CNM16
 - DVIPA Connections
 - DVIPA Definition and Status
 - DVIPA Distributor Targets
 - DVIPA Sysplex Distributors
 - NetView Audit Log
 - NetView Command Response
 - NetView Health
 - NetView Log
 - Session Data
 - Stack Configuration and Status
 - TCPIP Connection Data

Mainframe Networks Workspaces

- Mainframe Networks
 - VCN3H@L:SYSL:KN3AGENT
 - TCPIP
 - TCPIPL:SYSL
 - Address Space
 - Applications
 - Connections
 - Gateways and Devices
 - FTP
 - Interfaces
 - OSA
 - TCPIP Memory Statistics
 - TCPIP Stack Layers
 - TN3270

TCPIP Connection Data Summary

Resource Name	Connection ID	Total Bytes Received	Total Bytes Sent	Total Bytes	Bytes Received	Bytes Sent	Bytes Sent or Received	Byte Rate	Total Segments Retransmitted	Segments Retransmitted	Percent Segments Retransmitted	Tot Segm Rece
DSNBDIST	0X00046F56	105506500	34007793	139514293	380662	123044	503706	33580	2	0	0	15
DSNCDIST	0X000918D0	98894	27443	126337	98894	27443	126337	11485	0	0	0	
DSNCDIST	0X0008C1DC	9378865	3279963	12658828	360239	126968	487207	32480	0	0	0	1
IBMSM2	0X0009013F	24357	192029	216386	480	15279	15759	1050	0	0	0	

- NetView provides an agent capability to plug in to the TEP
 - Allows the addition of VIPA and TCPIP connection information into workspaces
- Dynamic workspace links
 - Integration between OMEGAMON XE For Mainframe Networks, NetView, and other OMEGAMONS



Leverage The Power Of The Portal

Create An Integrated View Of IMS Response Time With Network

Tivoli Enterprise Portal Welcome DNET581 Log out IBM

File Edit View Help

Navigator View: Physical

- IMS Response Time Analysis
 - IMS RTA Item Summary
 - IMS Startup Parameters
 - IMS System Datasets
 - IMS System Exceptions
 - IMS System Information

Create a custom workspace to pull together host and network response time

RTA Group - Queuing Time

secs

0.010

0.000

RTA Groups

- Input Queue Time (Secs.)
- Output Queue Time (Secs.)
- Program Input Queue Time (Secs.)

RTA Group - Response Time

secs

0.030

0.020

0.010

0.000

13:11:30 13:12:00 13:12:30 13:13:00 13:13:30 13:14:00 13:14:30 13:15:00 13:15:30 13:16:00 13:16:30 13:17:00 13:17:30

- R0 Time (Secs.)
- R1 Time (Secs.)

Response Time Analysis - Group Summary

RTA Group Name	RTA Group Number	Input Queue Time (Secs.)	Program Input Queue Time (Secs.)	Processing Time (Secs.)	R0 Time (Secs.)	Output Queue Time (Secs.)	R1 Time (Secs.)
SYSTEM	0	0.0049	0.0000	0.0228	0.0277	0.0040	0.0277
CLASS 1	1	0.0049	0.0000	0.0228	0.0277	0.0063	0.0277

IMS RTA host performance (OMEGAMON XE For IMS)

Network Response Time

Page: 1 of 8

Application Name	Foreign IP Address	Response Time	Response Time Variance	Telnet Appl Name	Telnet LU Name	Cor Nu
TN3270	9.76.7.96	0.96	0.02	IMSACB	TCP00012	0X0

IMS Network response time (OMEGAMON XE For Mainframe Networks)



IBM's Integrated Service Management approach is recognized as best in class

Integrated Service Management



IDC Market Share rankings:

- #1 Overall in Systems / Network Management
- #1 in Overall Performance and Availability Mgt.
- #1 Performance Management
- #1 Event Automation
- #1 Network Management
- #1 Output Management
- #1 Archiving
- #1 Identity and Access Management
- #1 Security and Vulnerability Management
- #1 Enterprise Asset Management

VISIBILITY



See your business services

CONTROL



Manage service risk and compliance

AUTOMATION



Optimize business service delivery

Learn more - <http://www.ibm.com/software/tivoli/features/zsmc/>



Thank You!!



Check Out My Blog

<http://tivoliwithaz.blogspot.com>

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