



IBM Software Group

Composite Application Management (CAM): Product Overview and Direction

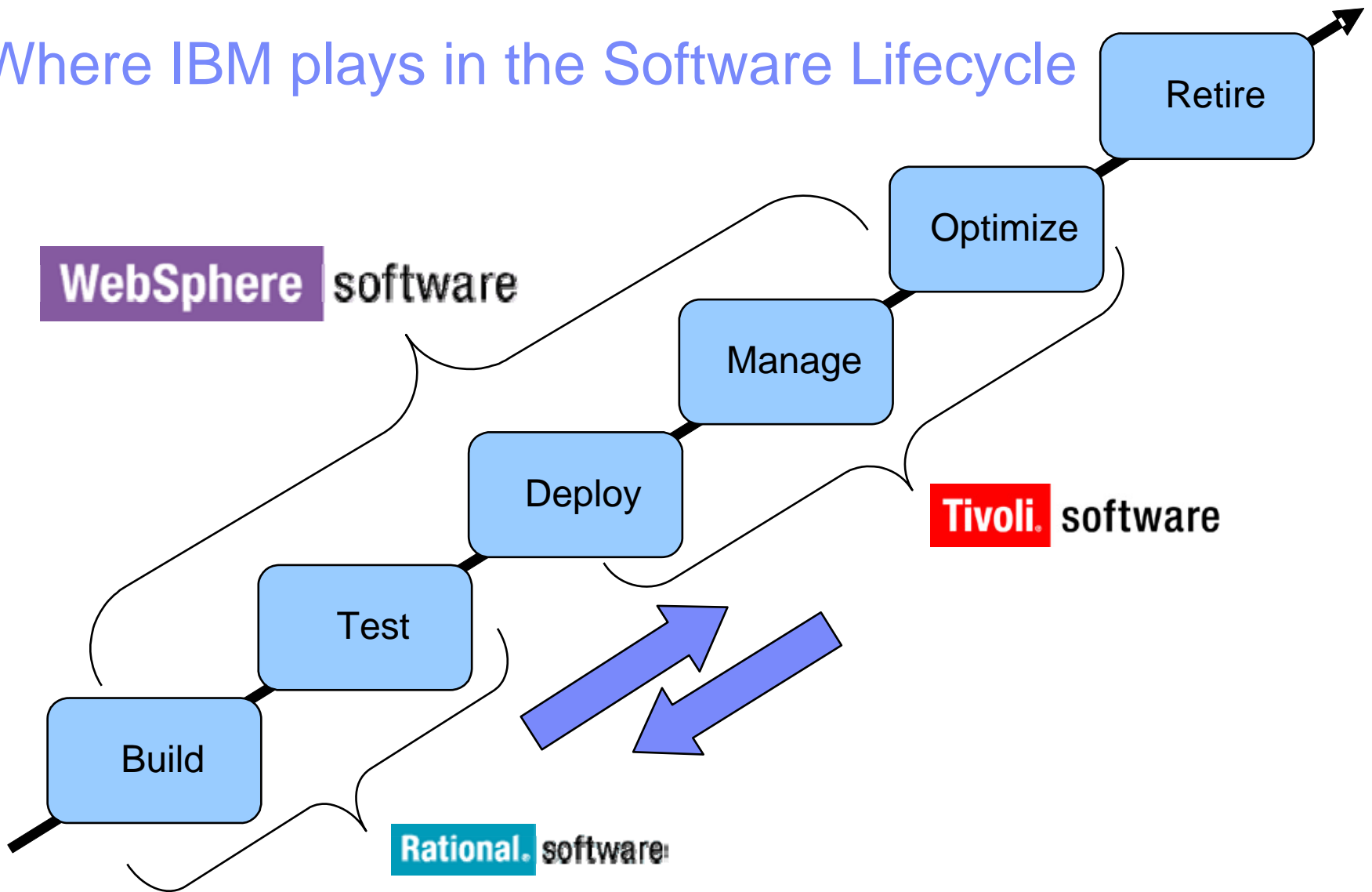
Tivoli. software

A decorative horizontal bar with a red background and various colorful patterns and icons, including a white asterisk, a woman's face, and a grid of circles.

Olivier Schraner
Senior IT Architect EMEA
Tivoli Application Management
IBM Software Group

ON DEMAND BUSINESS™

Where IBM plays in the Software Lifecycle



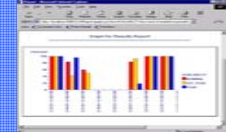
The Tivoli Automation Portfolio

Business Service Management

IBM Tivoli Business Systems Manager

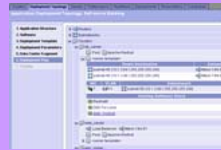


IBM Tivoli Service Level Advisor

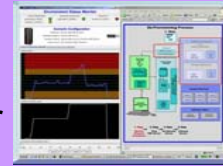


Orchestration And Provisioning

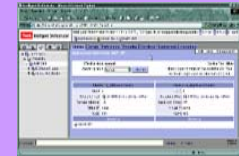
IBM Tivoli Provisioning Manager



IBM Tivoli Intelligent Orchestrator



IBM Tivoli System Automation



Event Correlation and Automation

IBM Tivoli System Automation Family



IBM Tivoli NetView Family



IBM Tivoli Enterprise Console



Composite Application Management

ITCAM for Transaction Tracking



ITCAM for J2EE



IBM Tivoli OMEGAMON XE for WBI



Distributed Systems

Resource Monitoring

IBM Tivoli Monitoring OMEGAMON XE

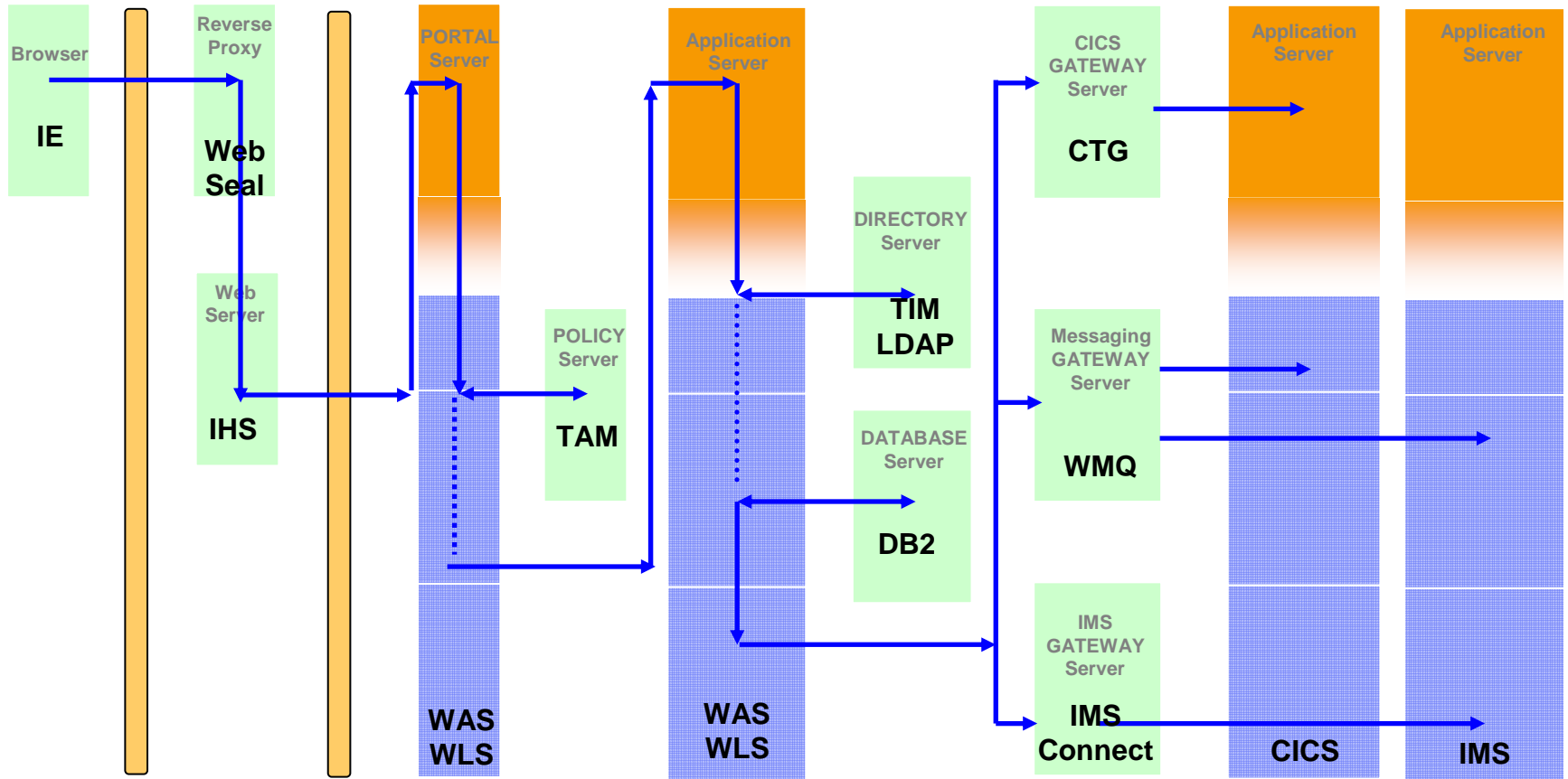


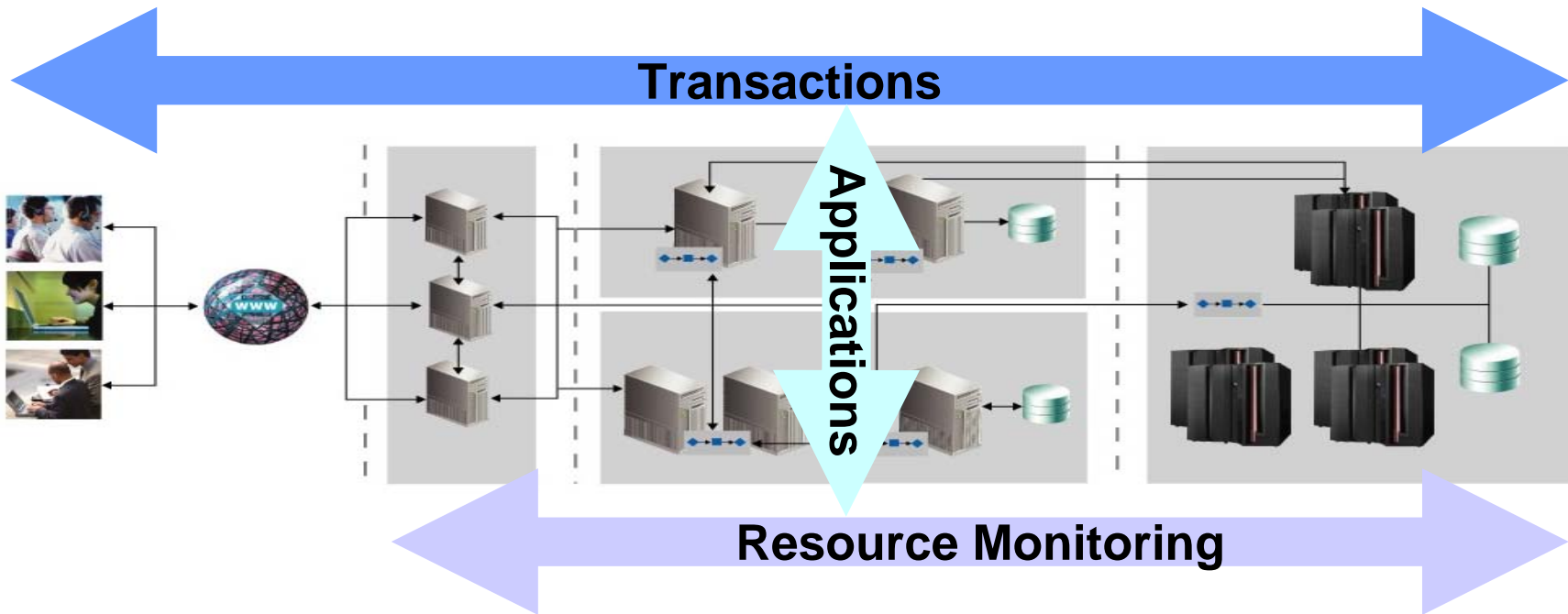
zSeries Systems

IBM Tivoli OMEGAMON Monitoring Family



The Composite in Application Management





Transactions
*Service Level Response Times
 Problem Isolation*

- End user service level monitoring
- Follow transaction flows
- Isolate problems by component

Applications
*Deep-Dive Diagnostics
 Correlate Across Subsystems*

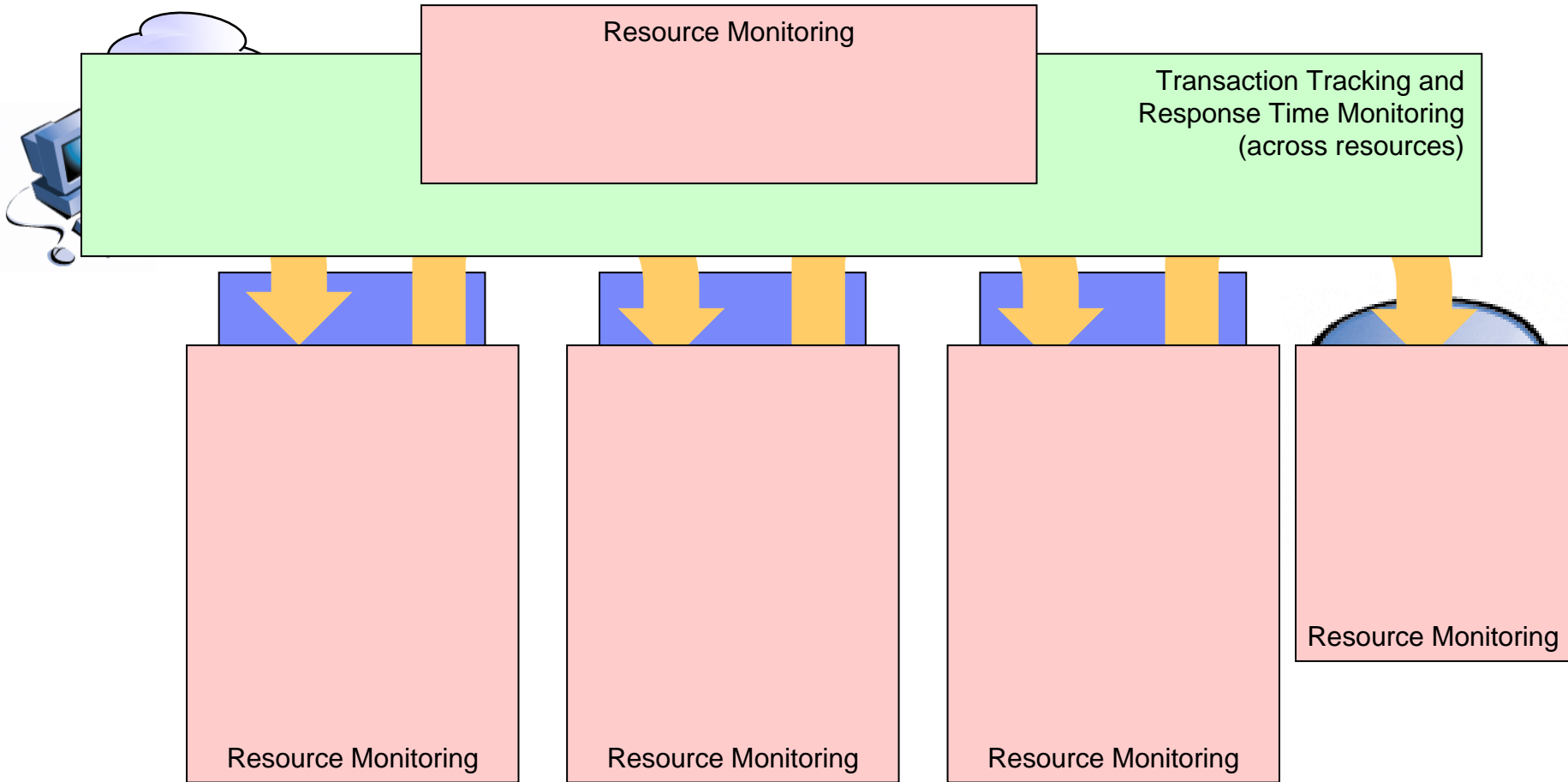
- Diagnostics at the application & middleware level
- Application performance analysis
- Drill down to code level detail

Resource Monitoring
*Application Server Monitoring
 Automation and Corrective Action*

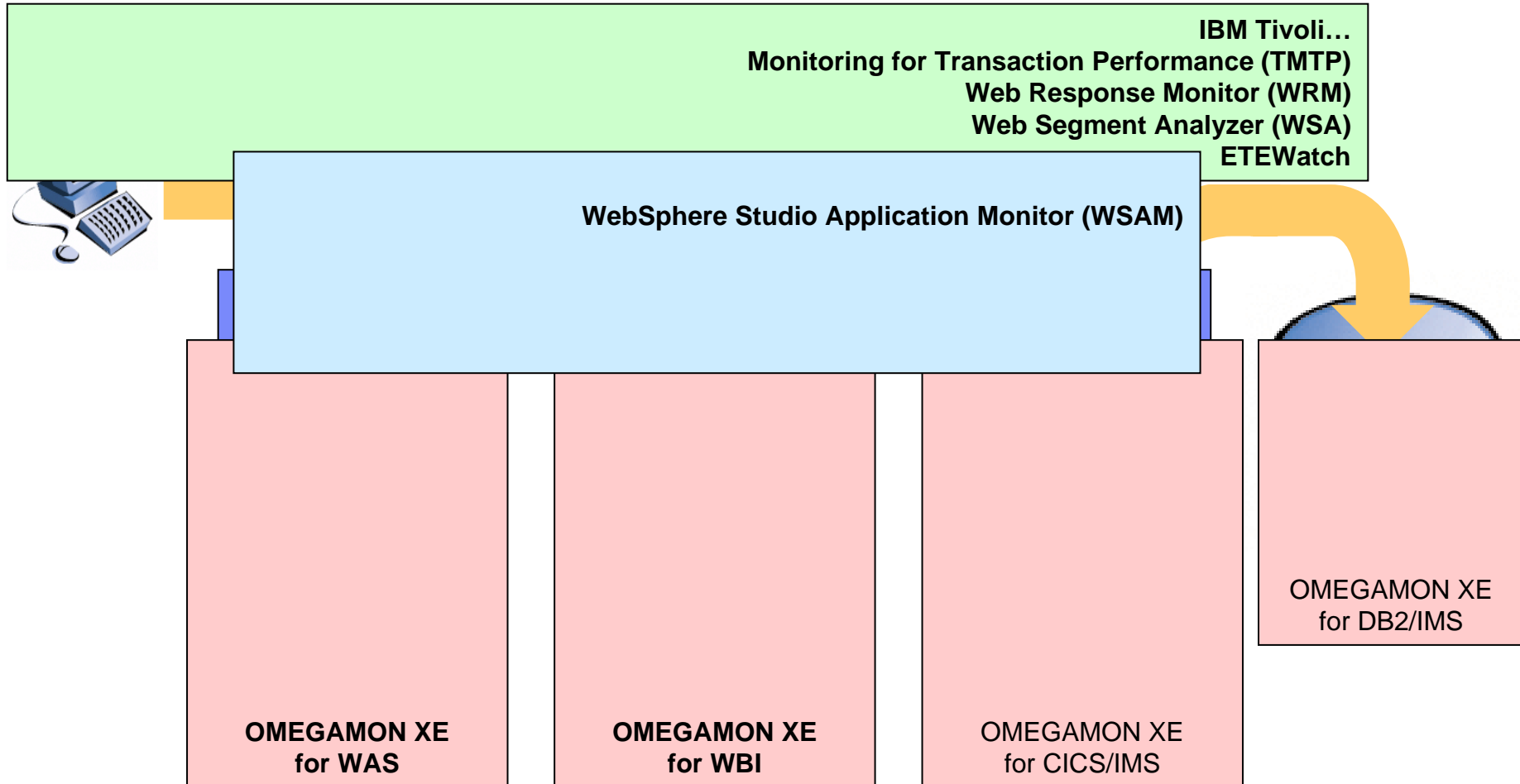
- Performance monitoring of J2EE, CICS, MQ, IMS
- Application resource consumption analysis
- Visualize workload trends and tune environment



Transaction vs. Resource Monitoring



Current Products: Positioning





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WebSphere Studio Application Monitor (WSAM)

Tivoli. software

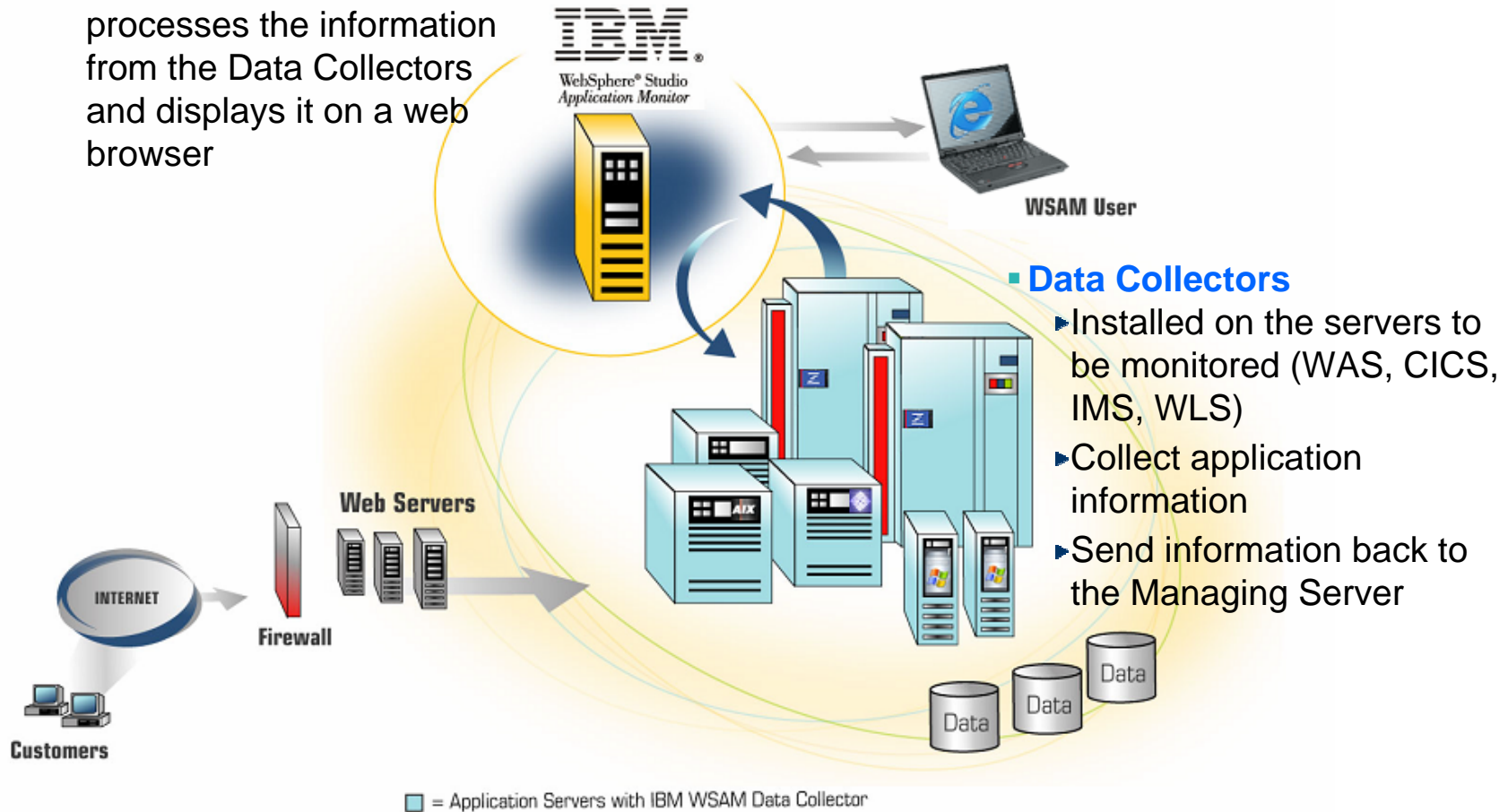


ON DEMAND BUSINESS™

WSAM – Conceptual Overview

Managing Server

- Collects, correlates and processes the information from the Data Collectors and displays it on a web browser

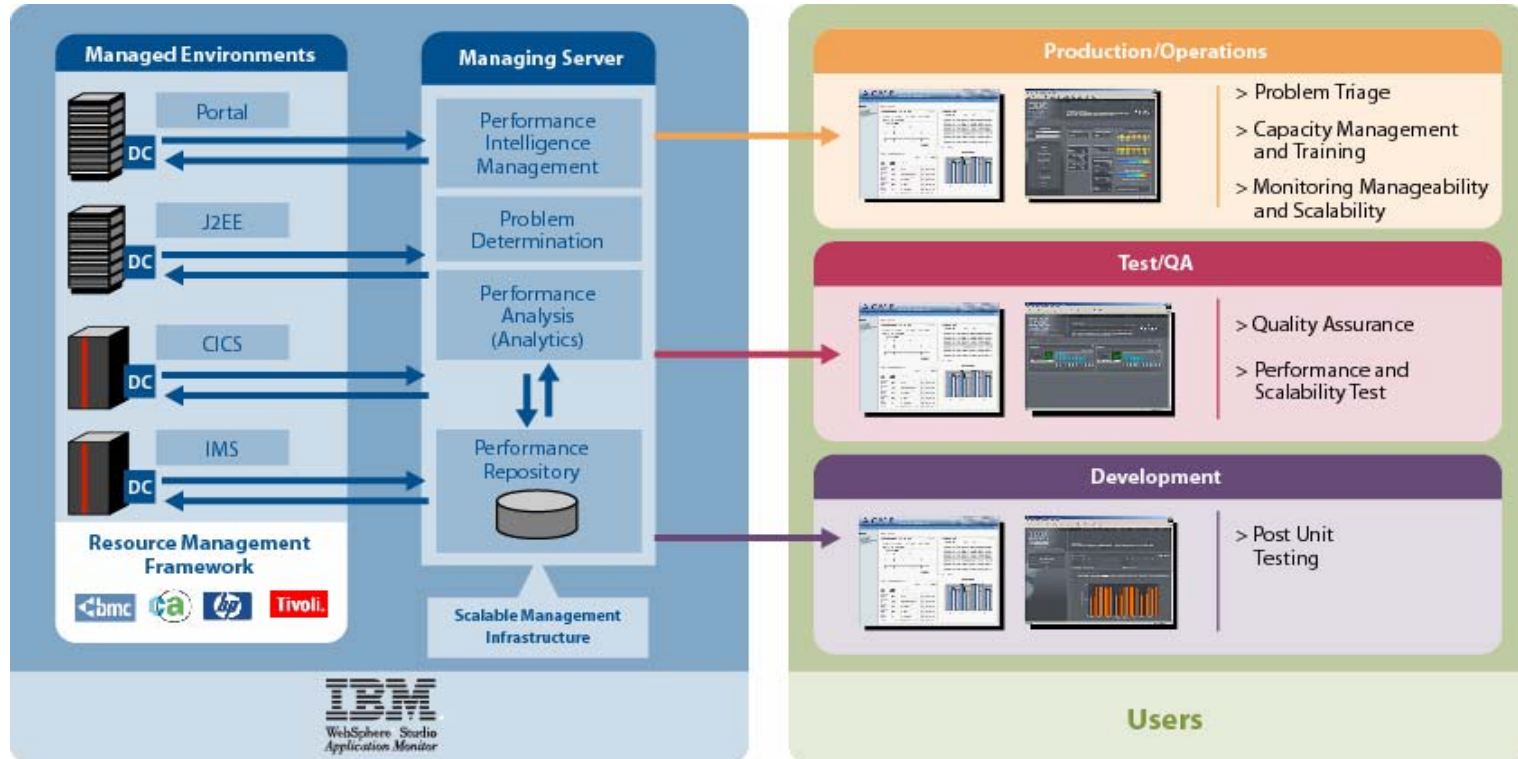


Data Collectors

- Installed on the servers to be monitored (WAS, CICS, IMS, WLS)
- Collect application information
- Send information back to the Managing Server

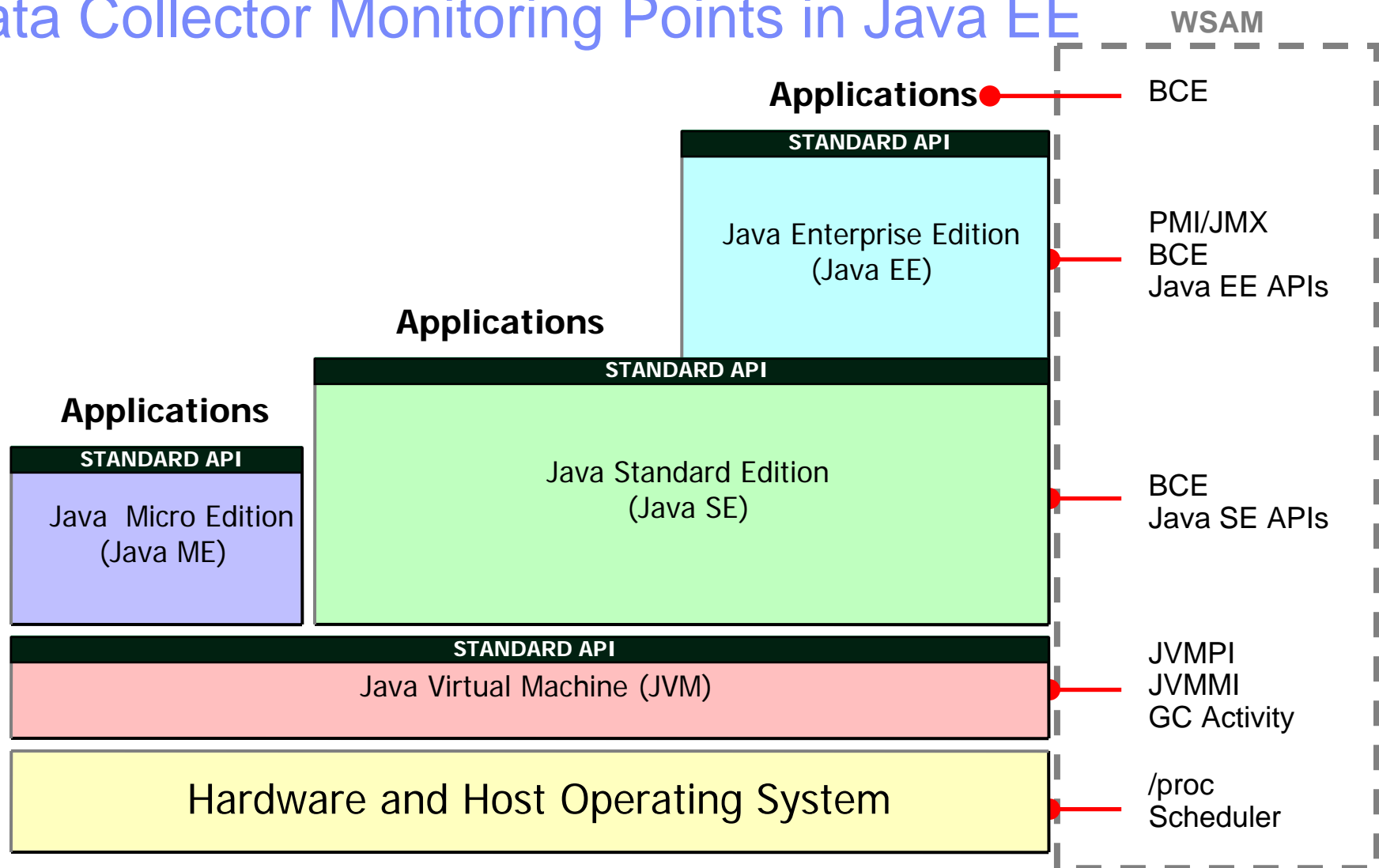
WebSphere Studio Application Monitor

Provides the “deep dive” application analysis for your critical business apps



- Non-intrusive deployment eliminates the requirement to instrument and reengineer your applications for monitoring
- Real-time problem determination with extensive drilldown capabilities
- Complete end-to-end view of your critical composite, mixed workload applications

Data Collector Monitoring Points in Java EE



ADMINISTRATION AVAILABILITY PROBLEM DETERMINATION PERFORMANCE ANALYSIS LOGOUT HELP

ENTERPRISE OVERVIEW

The Enterprise Overview displays the availability for all the applications running in the assigned server groups. Yellow indicates the threshold meets or exceeds the first alert level and red indicates the threshold meets or exceeds the second alert level.

Enterprise Group Server Portal Web Set as My Default Page

SERVER GROUPS 4 Per Page

1 - 4 of 14 Results 1 2 3 4 Next>

Name	Available Servers	Total Volume (Last Hour)	Throughput (Requests/5 min, Last Hour)	Response Time (ms, Last Hour)
AIX Cluster	100% (2/2)	102		
AIX s03	100% (1/1)	45		
CICS13M2L2	100% (3/3)	0		
CICS22M1L2	100% (1/1)	0		

1 - 4 of 14 Results 1 2 3 4 Next>

Done



System Resource Overview - Mozilla Firefox
- □ ×

File Edit View Go Bookmarks Tools Help

http://demo-lnx-s02.usca.ibm.com:9081/cyanea_one/sra/portal?rand=1108450238850
Go

ADMINISTRATION AVAILABILITY PROBLEM DETERMINATION PERFORMANCE ANALYSIS LOGOUT HELP

SYSTEM RESOURCE OVERVIEW

The System Resources Overview displays summary information for all the resources on the selected application server. The Application Monitor captures the data every 5 minutes.

[Set as My Default Page](#)

CHOOSE SERVER

Group: Demo Windows

Server: demo-win-s01.server2.7016 (L1)

MENU

- [Overview](#)
- [EJBs](#)
- [JCA Connection Pools](#)
- [JVM/System](#)
- [DB Connection Pools](#)
- [JTA Transactions](#)
- [ORB](#)
- [Session Manager](#)
- [Thread Pools](#)
- [Web Applications](#)
- [SQL](#)
- [JCA-CICS](#)
- [MQI](#)

APPLICATION SERVER NAME: demo-win-s01.server2.7016 (L1)

JVM CPU USAGE

0% OF 100%
IN USE
0%

JVM MEMORY USAGE

64MB OF 96MB
IN USE
66%

EJB ACTIVITY

DATABASE CONNECTION POOLS

jdbc/PlantsByWebSphereDataSource

0 OF 10
IN USE
0%

TRANSACTION FAILURE RATE

0 OF 3,033
FAILED
0%

SERVLET/JSP ACTIVITY

THREAD POOLS

SoapConnectorThreadPool

0 OF 5
MAX
0%

Servlet.Engine.Transports

9 OF 50
MAX
18%

ORB.thread.pool

1 OF 50
MAX
2%

MessageListenerThreadPool

0 OF 50
MAX
0%

EJB COVERAGE

(MOUSEOVER BAR FOR DETAIL)

SERVLET/JSP COVERAGE

(MOUSEOVER BAR FOR DETAIL)

JNDI

Lookups per minute: 0

Average Response Time (ms): 0.0

13

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ADMINISTRATION AVAILABILITY PROBLEM DETERMINATION PERFORMANCE ANALYSIS LOGOUT HELP

MEMORY ANALYSIS REPORT

The Memory Analysis Report displays your report based on your metric selection. Use the Memory Analysis Options drop-down menus to change your criteria. The page will default to either the last 48 hours or the last 60 minutes, depending on how much data is available.

MEMORY ANALYSIS OPTIONS

Group:

Server:

Metric 1:

Metric 2:

Time:

PRIMARY METRIC: JVM HEAP SIZE

Click a bar in the graph or a link in the results table for further data on the minutes in the hour.

SECONDARY METRIC: # OF REQUESTS

RECENT ACTIVITY RESULTS TABLE

Hours Ago	JVM HEAP SIZE	# OF REQUESTS
1	179 MB	358
2	173 MB	359
3	168 MB	358
4	163 MB	359
5	158 MB	358
6	151 MB	359
7	146 MB	358
8	142 MB	359
9	137 MB	359
10	130 MB	359
11	125 MB	358
12	121 MB	359
13	116 MB	359

SUPPLEMENTAL INFO

Timestamp: Oct 8, 2004 11:09:09 AM

Actual Range: Oct 6, 2004 11:00:00 AM - Oct 8, 2004 11:00:00 AM

JVM HEAP SIZE

Average	75
Minimum	0
Maximum	179

OF REQUESTS

Average	332
Minimum	0
Maximum	1631

Done

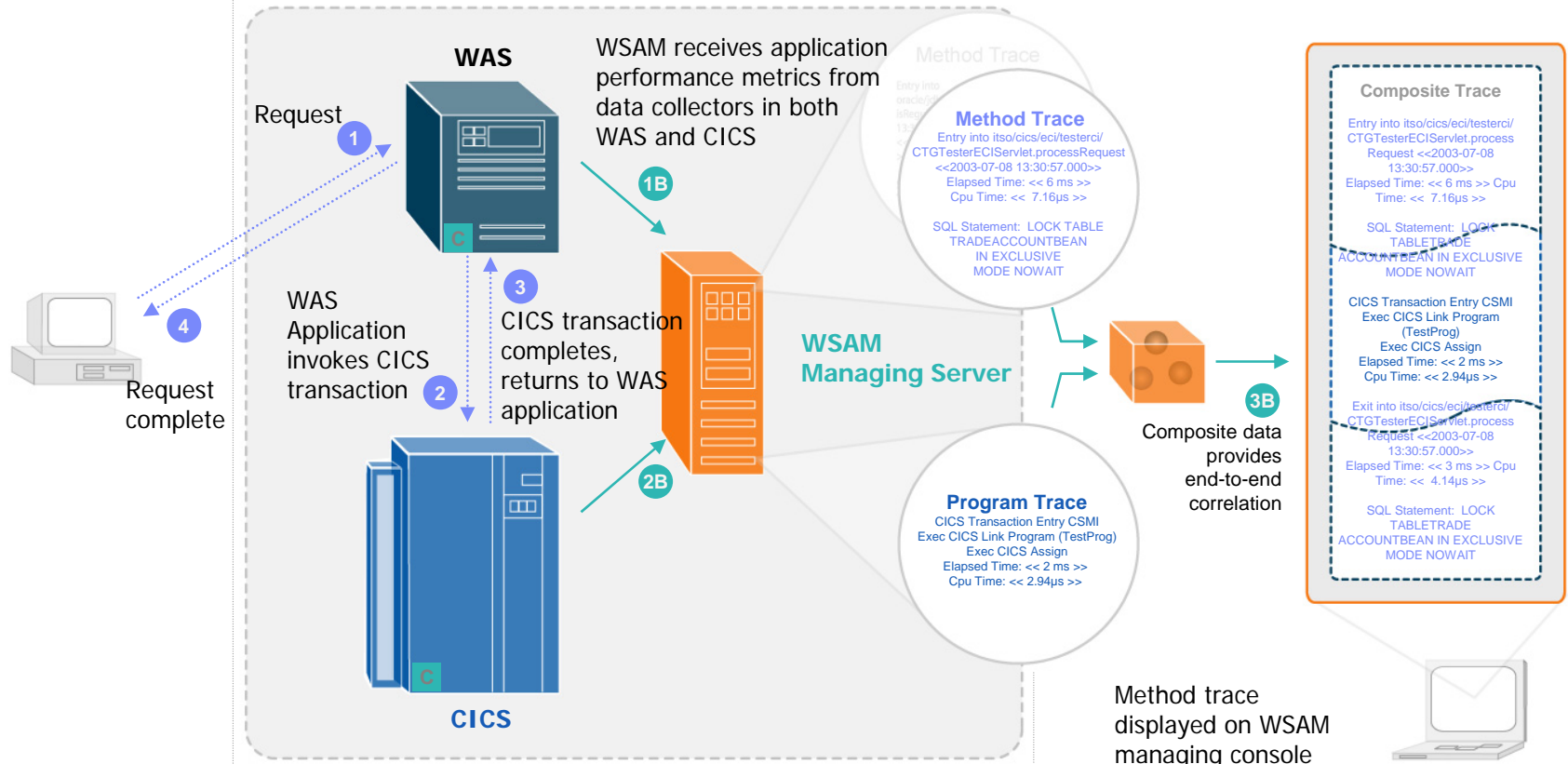


WSAM CICS Composite Transaction

Client Request

App Server Business Logic
CICS Transaction Management

CICS Application Monitoring



```

Method Trace
Entry into its/cics/eci/testerc/
CTGTesterECIServlet.processRequest
<<2003-07-08 13:30:57.000>>
Elapsed Time: << 6 ms >>
Cpu Time: << 7.16µs >>

SQL Statement: LOCK TABLE
TRADEACCOUNTBEAN
IN EXCLUSIVE
MODE NOWAIT
    
```

```

Program Trace
CICS Transaction Entry CSMI
Exec CICS Link Program (TestProg)
Exec CICS Assign
Elapsed Time: << 2 ms >>
Cpu Time: << 2.94µs >>
    
```

```

Composite Trace
Entry into its/cics/eci/testerc/
CTGTesterECIServlet.process
Request <<2003-07-08
13:30:57.000>>
Elapsed Time: << 6 ms >> Cpu
Time: << 7.16µs >>

SQL Statement: LOCK
TABLETRADE
ACCOUNTBEAN IN EXCLUSIVE
MODE NOWAIT

CICS Transaction Entry CSMI
Exec CICS Link Program
(TestProg)
Exec CICS Assign
Elapsed Time: << 2 ms >>
Cpu Time: << 2.94µs >>

Exit into its/cics/eci/testerc/
CTGTesterECIServlet.process
Request <<2003-07-08
13:30:57.000>>
Elapsed Time: << 3 ms >> Cpu
Time: << 4.14µs >>

SQL Statement: LOCK
TABLETRADE
ACCOUNTBEAN IN EXCLUSIVE
MODE NOWAIT
    
```

= Application Servers with WSAM Data Collector

IN-FLIGHT REQUEST SEARCH

In the Search Request box, type the name of the request for which you are searching. If you leave this box empty, all active requests will display.

SEARCH CRITERIA

Group:

Server:

Search Request/Transaction:

SEARCH RESULTS

Timestamp		Oct 7, 2004 7:53:55 PM					
	<u>Server Name</u>		<u>Client Request/Transaction</u>	<u>Start Date/Time</u>	<u>Thread/Task ID</u>	<u>Total Resident Time (ms)</u> ▾	<u>User ID</u>
	ADCDPL.M2L2.M2L2.CIC22QA2.96 (L3)		CKTI	Oct 7, 2004 7:42:28 PM	<u>26</u>	605759	IBMUSER
	ADCDPL.M2L2.M2L2.servqa.77 (L3)		/cyanea_one/testware/thread?ttl=120&generateCpuTime=false&req	Oct 7, 2004 7:52:30 AM	<u>764962120</u>	34097	N/A
	ADCDPL.M2L2.M2L2.servqa.76 (L3)		/CTGTesterECIWeb/CTGTesterECIServlet	Oct 7, 2004 7:53:00 PM	<u>758065808</u>	3454	N/A
	ADCDPL.M2L2.M2L2.CIC23QA2.bc3 (L3)		CSMI	Oct 7, 2004 7:53:48 PM	<u>101</u>	3186	CICSUSER
	ADCDPL.M2L2.M2L2.CIC23QA1.bcc (L3)		CSMI	Oct 7, 2004 7:53:48 PM	<u>45</u>	2974	CICSUSER



IBM WSAM ADMINISTRATION AVAILABILITY PROBLEM DETERMINATION PERFORMANCE ANALYSIS LOGOUT HELP

PROGRAM/COMPONENT TRACE
 The Program/Component Trace helps you analyze the composition of programs and components in a request. The Flow View presents program and component events in their order of execution and lets you identify slow or expensive programs and components using the Threshold Highlighter.

MENU

- [Select New Task](#)
- [Transaction Detail](#)
- [Stack Trace](#)
- [Program/Component Trace](#)
- [WorkArea](#)

PROGRAM/COMPONENT TRACE PROPERTIES

Application Server Name	CIC22QA2	Transaction	CKTI
Execution Start Time	Oct 7, 2004 7:42:28 PM	Transaction Type	CICS TRANSACTION
Resident Time(ms)	605759	CPU Time(ms)	12.928

Nesting Summary Drilldown View Flow View Search

Threshold Highlighter

Δ Elapsed Time >= 5 (ms) Δ CPU Time >= 5.0 (ms) Apply Reset to Default

COMPLETE FLOW VIEW 1000 per Page

Queue Names Match Queue Names Don't Match

1 - 24 of 24 Results 1

Depth	Event Type	Event Data	Elapsed Time (ms)	CPU Time (ms)	Δ Elapsed Time (ms)	Δ CPU Time (ms)
0	Entry	CKTI.CKTI	0	0	0	0
1	EXEC CICS Entry	START TRANSID	284,788	6.112	** 284,788 **	** 6.112 **
1	EXEC CICS Exit		284,788	6.4	0	0.288
1	EXEC CICS Entry	SYNCPPOINT	284,788	6.544	0	0.144
1	EXEC CICS Exit		284,788	6.544	0	0
1	EXEC CICS Entry	HANDLE ABEND	284,789	7.152	1	0.608
1	EXEC CICS Exit		284,789	7.296	0	0.144
1	CICS MQI Entry	Queue Manager Name:CSQ1 Queue Name: Operation:MQGET hObj=0001 Id=MQGMO.Opt=008197	284,789	7.44	0	0.144
1	CICS MQI Exit	Queue Manager Name:CSQ1 Queue Name: Operation:MQGET hObj=0001 Id=MQGMO.Opt=008197	388,858	8.768	** 104,069 **	1.328
1	EXEC CICS Entry	START TRANSID	388,858	9.152	0	0.384
1	EXEC CICS Exit		388,859	9.408	1	0.256
1	EXEC CICS	SYNCPPOINT	388,859	9.552	0	0.144

Done





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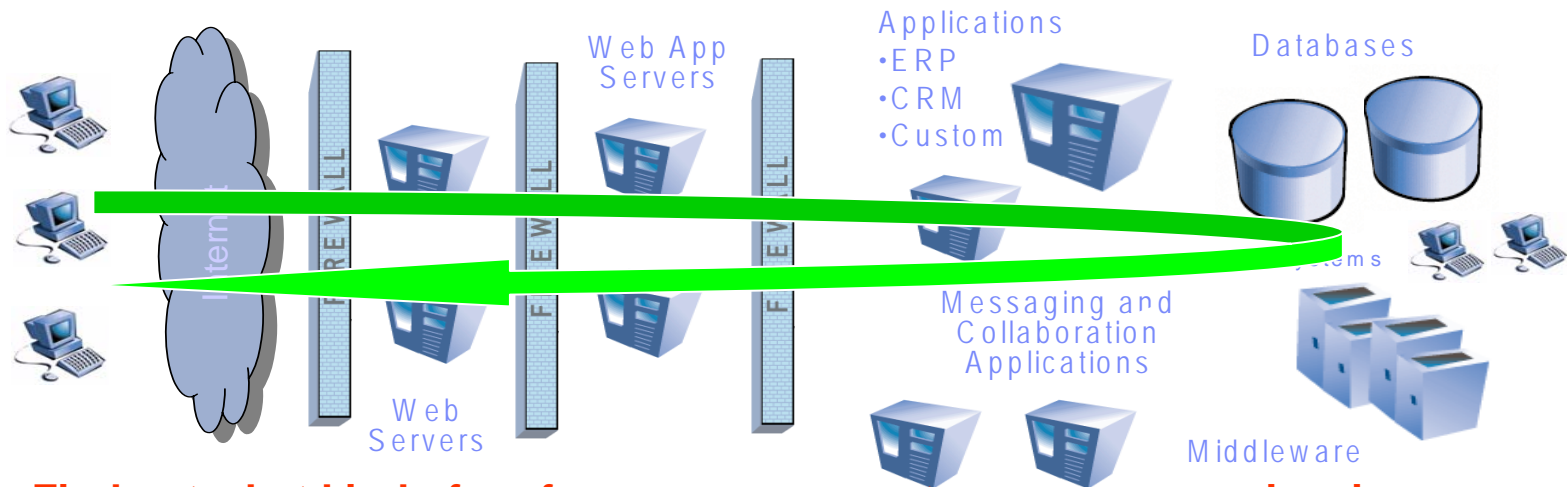
Tivoli Monitoring for Transaction Performance (TMTP)

Tivoli. software



ON DEMAND BUSINESS™

Tivoli Monitoring for Transaction Performance



Find out what kind of performance your customers are experiencing before they pick up the phone to call you.

▶ Transaction Simulation

Measure response time of simulated transactions

▶ Real End User Response Time

Measure response time of live Web traffic

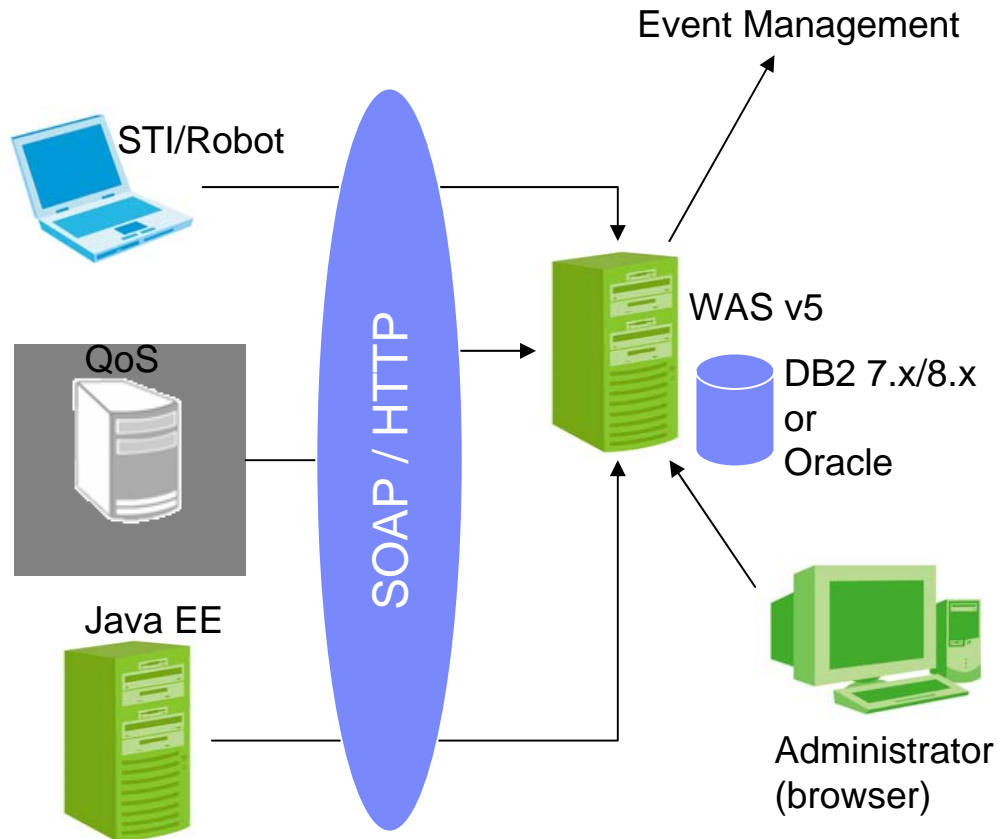
▶ Transaction Decomposition

Trace transactions across systems

Detailed analysis of J2EE transaction flows

Visually and interactively “decompose” using transaction topology

TMTF Infrastructure



Key Components:

- Simulated Transaction Investigator (STI)
- Generic Windows Synthetic Transactions (GenWin)
- Quality of Service Monitoring (QoS)
- Java EE Transaction Decomposition
- Generic ARM (Application Response time Measurement)

IBM Tivoli Monitoring for Transaction Performance - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Print

Address http://t40:9082/tmptUI/jsp/console/WcFrameManager.jsp

Links IBM Tivoli Monitoring for Transaction Performance Java[tm] Pet Store Demo 1.3.1 Plants by WebSphere QoS Plants by WebSphere

Tivoli Monitoring for Transaction Performance

User Name: Administrator

My Work

- ▼ **Configuration**
 - Work with Discovery Policies
 - Work with Listening Policies
 - Work with Playback Policies
 - Work with Schedules
 - Work with Agent Groups
 - Work with Transaction Recordings
 - Work with Realms
- ▼ **Reports**
 - View Big Board
 - View General Reports
 - View Component Events
- ▶ **System Administration**
- ▶ **Downloads**

Transaction : STI_PBW_thru_QoS

93.78
70.35
46.9
23.45
0.0

Legend:

- No Violations
- Availability Violation
- Threshold Violation
- http://t40.ibm.com:85/PlantsByWebS...
- http://t40.ibm.com:85/PlantsByWebS...
- http://t40.ibm.com:85/PlantsByWebS...
- http://t40.ibm.com:85/PlantsByWebS...
- http://t40.ibm.com:85/PlantsByWebS...
- http://t40.ibm.com:85/PlantsByWebS...
- http://t40.ibm.com:85/PlantsByWebS...
- http://t40.ibm.com:85/PlantsByWebS...
- http://t40.ibm.com:85/PlantsByWebS...
- http://t40.ibm.com:85/PlantsByWebS...

Time: 09:26 15:00

Year Month Day Hour Minute

Start Time :

Stop Time :

Work with Transaction Recordings: Create, Edit, etc
Local intranet

IBM Tivoli Monitoring for Transaction Performance - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://t40:9082/tmptUI/jsp/console/WcFrameManager.jsp>

Links IBM Tivoli Monitoring for Transaction Performance Java[tm] Pet Store Demo 1.3.1 Plants by WebSphere QoS Plants by WebSphere

Tivoli Monitoring for Transaction Performance

User Name: Administrator

My Work

- Configuration
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- System Administration
- Downloads

Transaction : STI_PBW_thru_QoS

Stacked Bars

Seconds

Time

Year Month Day Hour Minute

Start Time 2003 9 26 15 : 00

Stop Time 2003 9 27 15 : 00

Apply (Alt+a)

javascript:drawStacks() Local intranet



IBM Tivoli Monitoring for Transaction Performance - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://t40:9082/tmtpUI/jsp/console/WcFrameManager.jsp>

Links IBM Tivoli Monitoring for Transaction Performance Java[tm] Pet Store Demo 1.3.1 Plants by WebSphere QoS Plants by WebSphere

Tivoli Monitoring for Transaction Performance

User Name: Administrator

My Work

- Configuration
 - Work with Discovery Policies
 - Work with Listening Policies
 - Work with Playback Policies
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- Downloads

All Times are in Seconds.

t40.ibm.com

STI
63.463

QOS
2.01

J2EE/WebSphere/5.0/t40/t40/server1
2.005

Opening http://t40:9082/tmtpUI/images/status/warning_16.gif Local intranet



IBM Tivoli Monitoring for Transaction Performance - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://t40:9082/tmtpUI/jsp/console/WcFrameManager.jsp>

Links [IBM Tivoli Monitoring for Transaction Performance](#) [Java\[tm\] Pet Store Demo 1.3.1](#) [Plants by WebSphere QoS](#) [Plants by WebSphere](#)

Tivoli Monitoring for Transaction Performance

User Name: Administrator

My Work

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 - Work with Discovery Policies
 - Work with Listening Policies
 - Work with Playback Policies
 - Work with Schedules
 - Work with Agent Groups
 - Work with Transaction Recordings
 - Work with Realms
- Reports
 - View Big Board
 - View General Reports
 - View Component Events
- System Administration
- Downloads

All Times are in Seconds.

Opening http://t40:9082/tmtpUI/images/topology/jdbc_32.gif Local intranet



TMTTP Topology View

The screenshot displays the IBM Tivoli Monitoring for Transaction Performance interface. The Navigator pane on the left shows the following tree structure:

- bgehman-ma.austin.ibm.com [9.914]
 - J2EE/* [9.914]
 - J2EE/WebSphere/5.1.0.5/bgehman-ma
 - Servlet [9.813]
 - TemplateServlet [9.813]
 - doGet() [9.813]
 - JSP [9.651]
 - _template [9.651]
 - _jspService() [9.651]
 - _footer [0.017]
 - _category [0.16]
 - _jspService() [0.16]
 - _product [8.014]
 - _mylist [0.024]
 - _sidebar [0.62]
 - _banner [0.028]
 - JDBC [0.649]
 - c [0.124]
 - b [0.649]
 - p [0.06]
 - WSJdbcDataSource [0.054]
 - f [0.047]
 - m [0.007]
 - close() [0.007]
 - c [0.629]

The main area shows a topology diagram with the following components and connections:

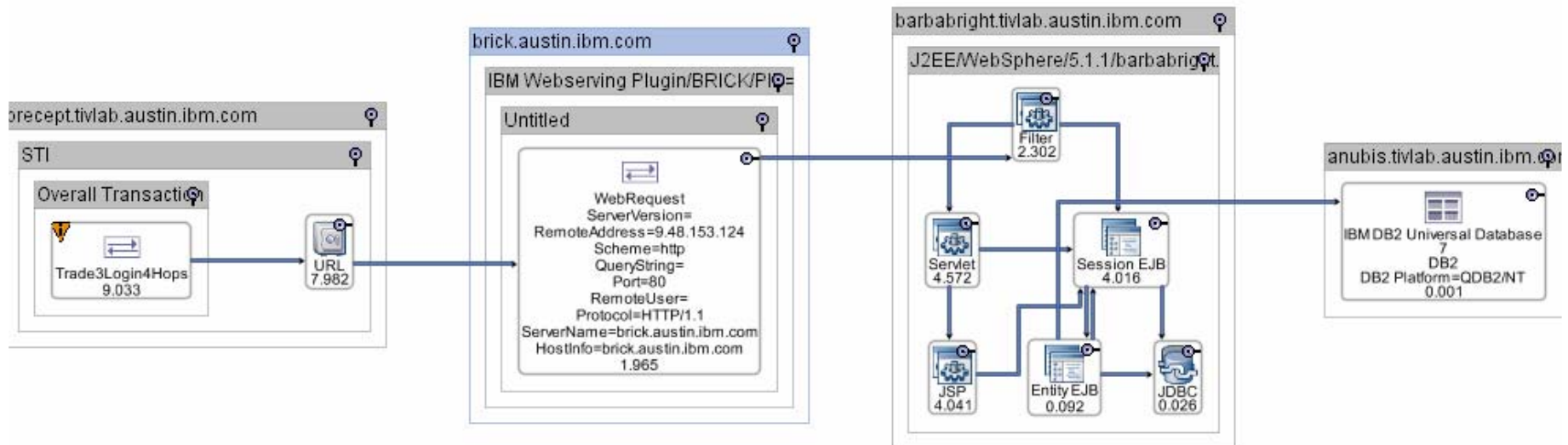
- URI** (http://V.*:9080/petstore.* 9.914) connects to **Servlet** (Template 9.813).
- Servlet** (Template 9.813) connects to **JSP** (_template _jspService() 9.651).

The Inspector pane at the bottom shows the selected component's properties:

Property	Value
Average Duration	9.651

Trace Transactions Through Multiple Servers

- Transaction begins with simulated transaction (STI)
- Flows to IHS WebServer Plug-in
- Flows to WebSphere App server
- Flows to DB2

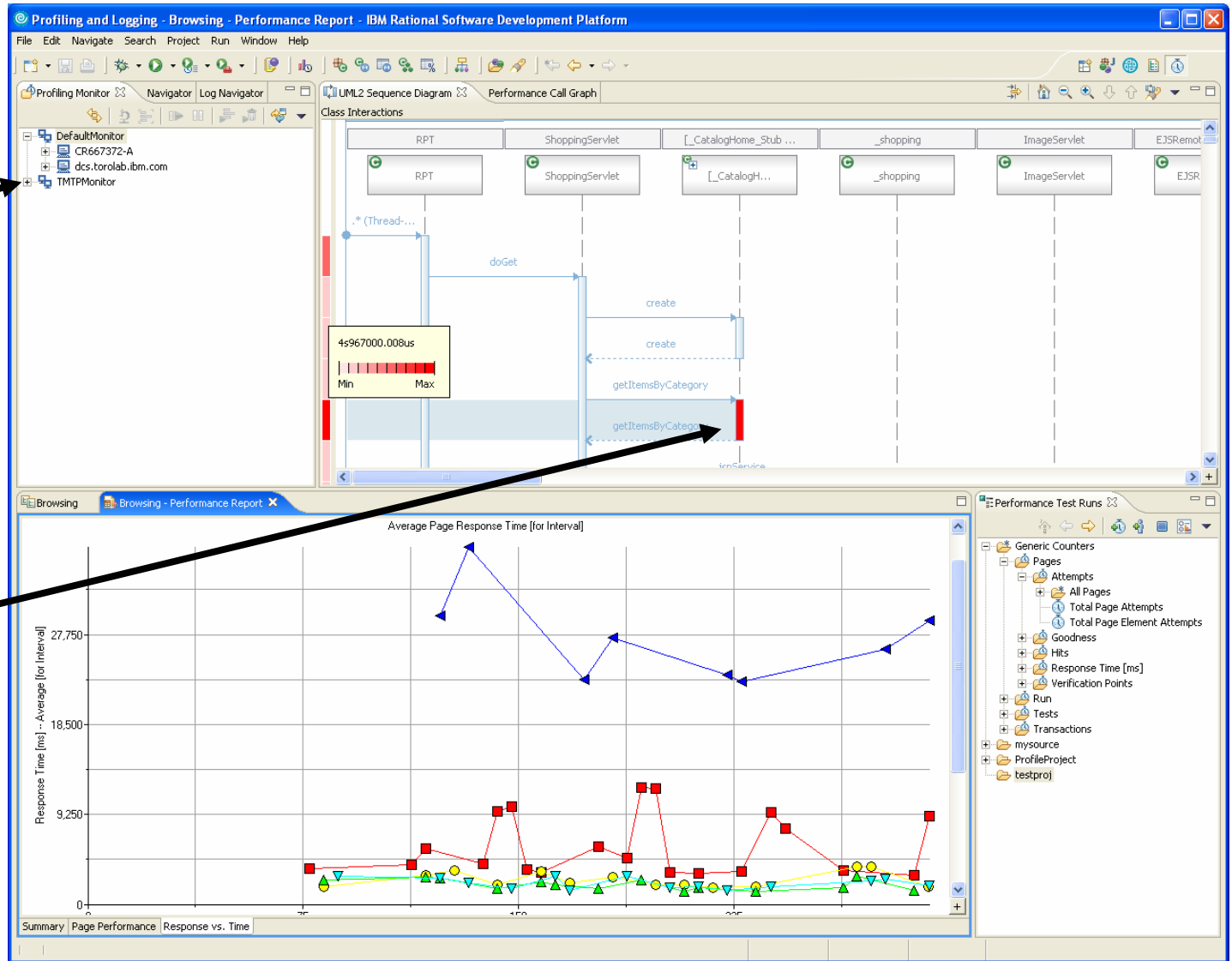




Rational Software Development Platform Integration

Obtain Runtime Performance data from ITCAM...

...and immediately understand where in your code the problem is!





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Response Time Measurement Tools

Tivoli. software

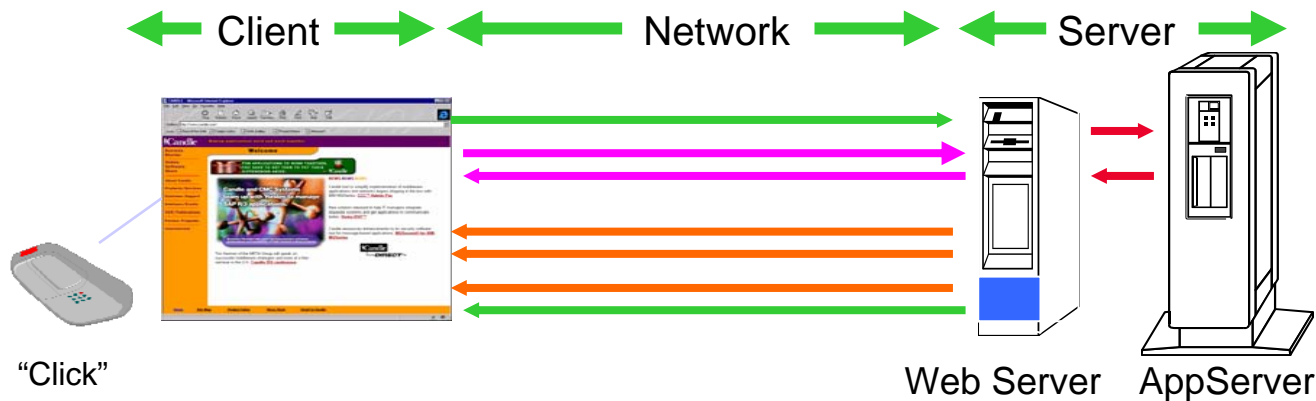


ON DEMAND BUSINESS™

Web Response Monitor

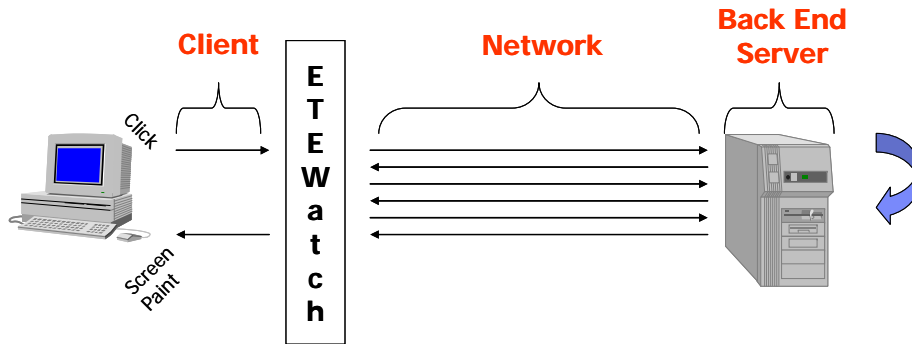
Passive Server-Side Monitoring at the page level

- Round Trip Response Time by Web Page and Object
- Load, Resolve and Web Application Time for each Web Page and Object
- Network vs. Application Time for each Web Page and Object
- Inbound vs. Outbound Traffic rates for each Web Page and Object
- Inbound vs. Outbound Traffic byte counts and Object size
- Cache Request time for each Web Page and Object
- Location Web Page or Object was pulled from (Web Server or Cache)
- Video Response and Play time
- Audio Response and Play time
- Browser Type and Version



ETEWatch for Windows and Citrix Environments

Real end user response times



- Client Time Processing time spent on the client
- Network Time Client to Back End Server and back
- Server Time Total Back End Application Time

Metrics collected

- Total Response Time
- Segmented Response Time
- Browse Time
- Workstation Hostname
- Application Name
- Transaction Name
- Application Destination IP Address
- IP Packet Size

- IT CAM for TT will provide:
 - Integration of ETEWatch capability into IT CAM for TT infrastructure
 - Support for all existing ETEWatch behaviors, including custom behaviors
 - Support for Notes and Outlook



IBM Software Group

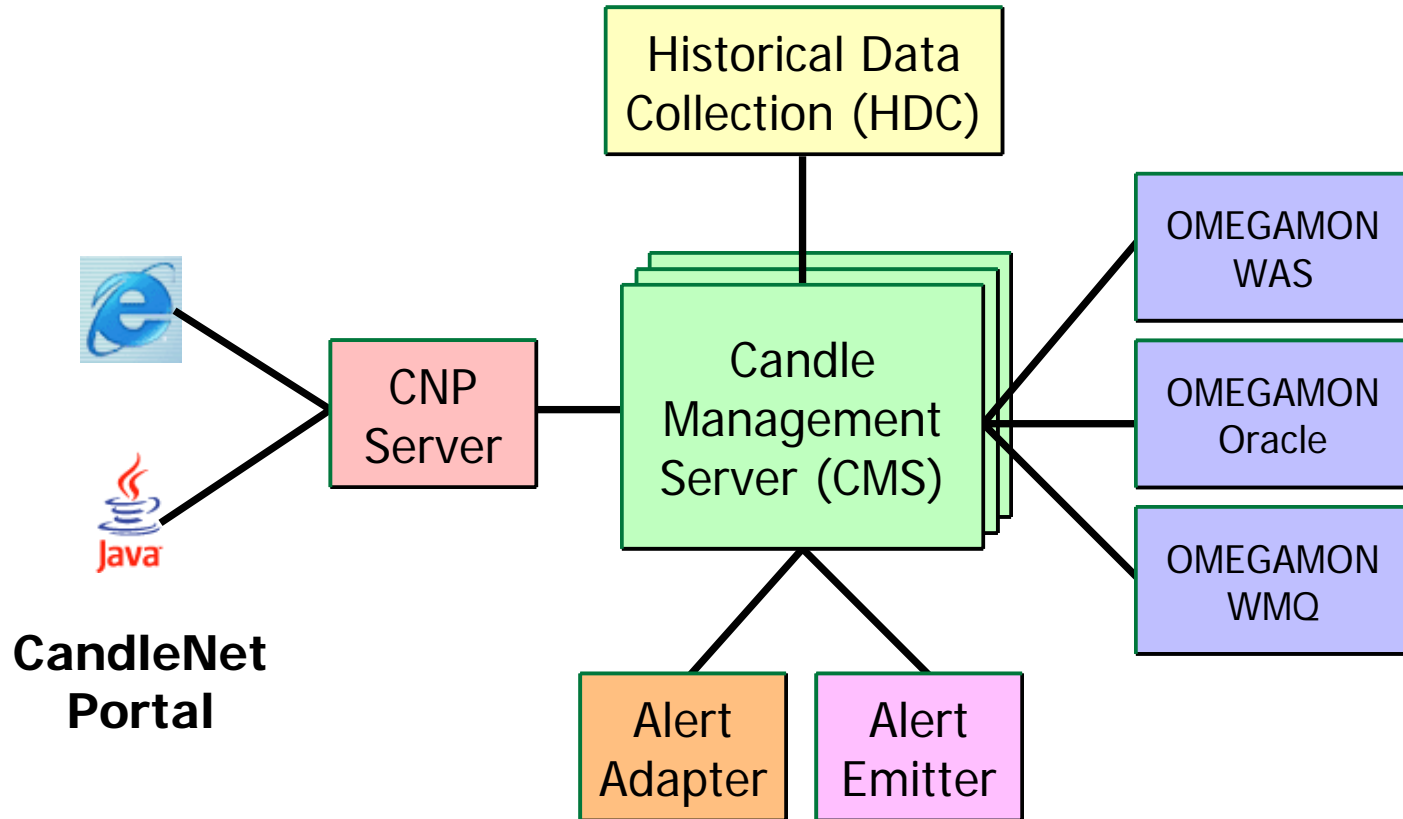
OMEGAMON XE for WBI

Tivoli. software



ON DEMAND BUSINESS™

OMEGAMON Platform Architecture



Recent Queue Statistics - tlee:14450 - TLEE

File Edit View Help

Refresh Now (F5)

- windows systems
 - BWINSE
 - DDLAF42G
 - MLABB1
 - TLEE
 - MQSERIES - TLEE_CONFIG_MGR_QM
 - Application Debugging
 - Application Statistics
 - Buffer Pool Statistics
 - Channel Definitions
 - Channel Initiator Status
 - Channel Performance
 - Cluster Queue Manager
 - Dead-Letter Queue Messages
 - Log Manager Performance
 - Message Manager Performance
 - MQSeries Events
 - Page Set Statistics
 - Queue Definitions
 - Queue Manager Status

Physical Business

Queue Utilization

Sample Date & Time

Sample Date & Time	Percent Full
04/04/01 07:52:35	0
04/04/01 07:54:35	0
04/04/01 07:56:36	0
04/04/01 07:58:35	0
04/04/01 08:00:36	0
04/04/01 08:02:35	0
04/04/01 08:04:35	20
04/04/01 08:06:38	40

Recent Queue Statistics

Sample Date & Time	Input Opens	Output Opens	Cur Opened Exclusive	Current Depth	High Depth Threshold	% Full	Retent Intvl Exceeded	Get Status	Put Status	Cur Defn	Trigger Control
Interval Summary	0	0	n/a	2	80	40.0	No	Enabled	Enabled	Yes	No
04/04/01 08:05:37	0	0	n/a	2	80	40.0	No	Enabled	Enabled	Yes	No
04/04/01 08:04:35	0	0	n/a	1	80	20.0	No	Enabled	Enabled	Yes	No
04/04/01 08:03:35	0	0	n/a	1	80	20.0	No	Enabled	Enabled	Yes	No
04/04/01 08:02:35	0	0	n/a	1	80	20.0	No	Enabled	Enabled	Yes	No
04/04/01 08:01:36	0	0	n/a	1	80	20.0	No	Enabled	Enabled	Yes	No
04/04/01 08:00:36	0	0	n/a	0	80	0.0	No	Enabled	Enabled	Yes	No
04/04/01 07:59:36	0	0	n/a	0	80	0.0	No	Enabled	Enabled	Yes	No
04/04/01 07:58:36	0	0	n/a	0	80	0.0	No	Enabled	Enabled	Yes	No

Queue:MQINPUT01 QMgr:TLEE_CONFIG_MGR_QM Host:TLEE

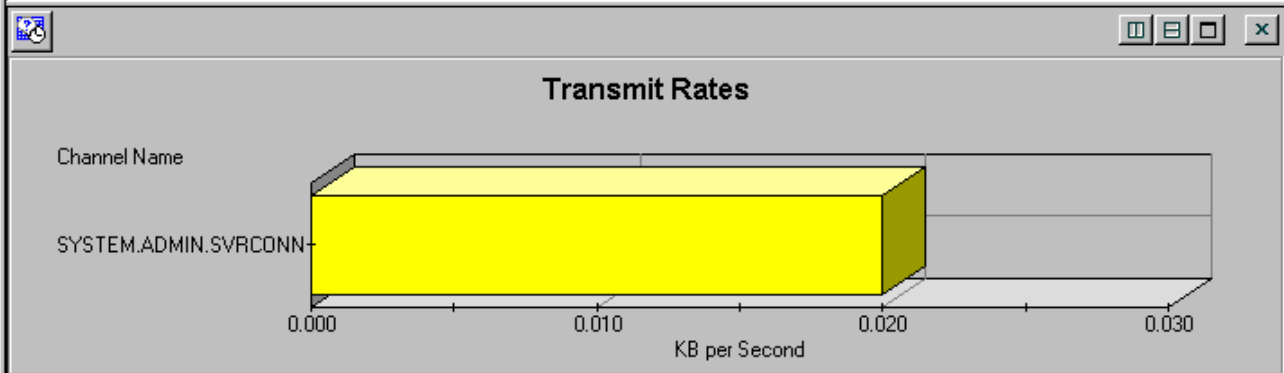
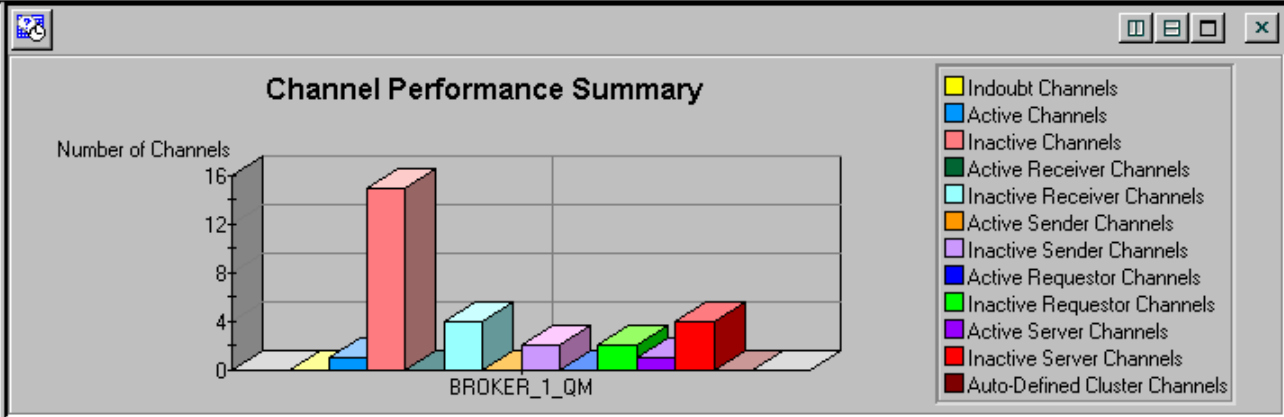
Channel Performance - tlee:14450 - TLEE

File Edit View Help



- DDLAF426
- MQLABB1
 - MQSERIES - BROKER_1_QM
 - Application Debugging
 - Application Statistics
 - Buffer Pool Statistics
 - Channel Definitions
 - Channel Initiator Status
 - Channel Performance**
 - Cluster Queue Manager
 - Dead-Letter Queue Messages
 - Log Manager Performance
 - Message Manager Performance
 - MQSeries Events
 - Page Set Statistics
 - Queue Definitions
 - Queue Manager Status
 - Queue Statistics
 - MQSI Broker - MQLABB1_BK01
- TLEE
 - MQSERIES - TLEE_CONFIG_MGR_QM
 - MQSI Agent
 - MQSI Broker - Big3Server
 - MQSI Broker - Default_Server

Physical Business



Channel Performance

Channel Name	Channel Type	Connection Name	Channel Status	In-Doubt Status	XmitQ Depth	Message Count	Transmit KB/Sec	Batches Complete	Cur Defn	Cur LUv
BK_TO_CM	SDR	mqlabb1(1414)	Inactive	n/a	0	0	0.00	0	Yes	
CM_TO_BK	RCVR		Inactive	n/a	0	0	0.00	0	Yes	
SYSTEM.ADMIN.SVRCONN	SVRCONN	10.6.40.236	Running	No	0	2	0.02	0	Yes	
SYSTEM.AUTO.RECEIVER	RCVR		Inactive	n/a	0	0	0.00	0	Yes	
SYSTEM.AUTO.SVRCONN	SVRCONN		Inactive	n/a	0	0	0.00	0	Yes	

BROKER_1_QM::MQ

Queue Definitions - jhabe5:60471 - SYSADMIN

File Edit View Help

Physical

Application Statistics
Buffer Pool Statistics
Channel Definitions
Channel Initiator Status
Channel Performance
Cluster Queue Manager
Dead-Letter Queue Messages
Log Manager Performance
Message Manager Performance
MQSeries Events
Page Set Statistics
Queue Definitions
Queue Manager Status
Queue Statistics

Queue Definitions Summary

Number of Queues

Legend:

- Monitored Queues
- Local Queues
- Remote Queues
- Alias Queues
- Transmit Queues
- Predefined Queues
- Permanent Dynamic Queues
- Temporary Dynamic Queues
- Cluster Queues

Physical

Link To

- Configure Queue
- Configure Queue Manager
- Configure Namelist
- Split vertically
- Split horizontally
- Remove
- Print Preview...
- Print...
- Properties...

Queue Definitions

Queue	Queue Usage	Definition Type	Creation Date & Time	Cur Defn	Put Status	Default Priority	Default Persist	Queue De	
SYSTEM.CHANNE	Normal	Predefined	04/04/02 10:36:20	Yes	Enabled	0	Yes	MQSeries Channel S	
SYSTEM.CICS.INI	Normal	Predefined	04/04/02 10:36:19	Yes	Enabled	0	No	MQSeries Default Cl	
SYSTEM.CLUSTE	Normal	Predefined	04/04/02 10:36:22	Yes	Enabled	0	No	MQSeries Cluster C	
SYSTEM.CLUSTE	Normal	Predefined	04/04/02 10:36:22	Yes	Enabled	0	No	MQSeries Cluster R	
SYSTEM.CLUSTE	Normal	Predefined	04/04/02 10:36:22	Yes	Enabled	0	No	MQSeries Cluster Tr	
SYSTEM.DEAD.LE	Normal	Predefined	04/04/02 10:36:19	Yes	Enabled	0	No	MQSeries Default D	
SYSTEM.DEFAUL	Normal	n/a	Not Available	Yes	Enabled	1	No		
SYSTEM.DEFAUL	Normal	Predefined	04/04/02 10:36:19	Yes	Enabled	0	No	MQSeries Default In	
SYSTEM.DEFAUL	Normal	Predefined	04/04/02 10:36:18	Yes	Enabled	0	No		
SYSTEM.DEFAUL	Normal	TempDyn	04/04/02 10:36:18	Yes	Enabled	0	No		
SYSTEM.DEFAUL	Normal	n/a	Not Available	Yes	Enabled	0	No		
SYSTEM.MQSC.REFLT.QUEVE	Normal	TempDyn	04/04/02 10:36:19	Yes	Enabled	0	No	MQSeries MQSC Re	
jhabe.FWD.TESTQ	Local	Normal	Predefined	10/02/02 15:50:38	Yes	Enabled	0	No	

jhabe5::MQ

Ready Server Available. Queue Definitions - jhabe5:60471 - SYSADMIN

Start Catalina - catalina jhabe5... Queue Definitions - ... 01.bmp - Paint 3:27 PM



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WebSphere MQ Configuration

Tivoli. software



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WMQ Configuration Management

Defined View - jhabe5:60471 - SYSADMIN

File Edit View Help

MQ Configuration

Configuration

- Defined View
- Prototype View
- Defined and Prototype
- Global Variable Editor
- Audit Log

Defined View

- \$Example.Queue.Managers
 - Athens
 - athens.candle.com:CVILL_ATHENS
 - athens.candle.com:MQMCL8860.01
 - athens.candle.com:QM.Bansl
 - \$Default_Group
 - \$Channels
 - \$NameLists
 - SYSTEM.DEFAULT.NAMELIST
 - \$Processes
 - \$Queues
 - athens.candle.com:QM.V2M25
 - athens.candle.com:QMGR
 - athens.candle.com:QM_dng_athens
 - athens.candle.com:SKM1
 - athens.candle.com:athens.mid.ro01
 - athens.candle.com:athens_sk
 - athens.candle.com:jvasq
 - athens.candle.com:mboag
- MVS
- Test
 - bansl5
 - bansl5.candle.com:BANSLQM3
 - bansl5.candle.com:BANSLQM4
 - bansl5v400
 - bansle
 - dng3
 - jhabe5
 - JHABE5:jhabe5

Attribute	Value
- Manager	
Name	CVILL_ATHENS
Description	
Dead letter queue	
Trigger interval (milliseconds)	999999999
CCSID	
Maximum open handles	256
Maximum message length	4194304
Maximum uncommitted mess...	10000
Expired messages scan interv...	
Default Transmit Queue	
Host system name	
Agent Queue Prefix	KMC.IRA.V350.QUEUE
Queue Manager Platform Type	HPUX
WebSphere MQ Version	Unknown
- Auto Start	
Auto start	<input type="checkbox"/>
Auto define channels	<input type="checkbox"/>
Start listener	<input type="checkbox"/>
Start channel initiator	<input type="checkbox"/>
Start trigger monitor	<input type="checkbox"/>
Workstation userid is defined ...	<input type="checkbox"/>
Configure permanent dynamic...	<input type="checkbox"/>
Configure WebSphere MQ aut...	<input type="checkbox"/>
Protocol	TCP/IP
Port number(IP only)	1414

Physical MQ Configuration

Save Help Reset

WMQ Configuration Management

Defined View - jhabe5:60471 - SYSADMIN

File Edit View Help

MQ Configuration

Configuration

- Defined View
- Prototype View
- Defined and Prototype
- Global Variable Editor
- Audit Log

Defined View

- \$Example.Queue.Managers
- Athens
- MVS
- Test
- bansl5
- bansl5v400
- bansle
- dng3
- jhabe5
 - JHABE5:jhabe5
 - \$Default_Group
 - \$Channels
 - SYSTEM.ADMIN.:
 - SYSTEM.AUTO.R
 - SYSTEM.AUTO.S
 - SYSTEM.DEF.CL
 - SYSTEM.DEF.CL
 - SYSTEM.DEF.CL
 - SYSTEM.DEF.RE
 - SYSTEM.DEF.RE
 - SYSTEM.DEF.SE
 - SYSTEM.DEF.SE
 - SYSTEM.DEF.SV
 - TO.jhabe5
 - \$Namelists
 - \$Processes
 - \$Queues

Attribute	Value
- Common	
Name	SYSTEM.ADMIN.SVRCONN
Description	
Maximum message length	125000
Heartbeat interval	300
Batch heartbeats	500
Keep alive	
MCA UserID	
MCA Type	Process
- Receiver	
Batch size	
Seq number wrap	
Priority	Use default userid
Unit	
Interval	
Unit name	
Unit data	
Transport	
Exits	
Security	
MQSecure	
Queue Sharing Group	
Validation	
Based On	

Delete
 Export
View discrepancies
 Update actual from defined
 Update defined from actual
 Validate
 Find ...
 Replicate
 Scheduling
 Show resolved
 View actual
 Split vertically
 Split horizontally
 Remove

Save Help Reset

Ready Server Available.

Start Catalina - cata Defined View - jhab... x04.bmp - Paint 9:24 AM

WMQ Configuration Management

The screenshot displays the IBM MQ Configuration Management interface. On the left, a tree view shows the configuration hierarchy under 'Defined View', including 'athens.candle' and 'JHABE5:jhabe5'. A context menu is open over the 'athens.candle' node, with 'Export' selected. The right pane shows the properties for the selected queue manager, including Name (CVILL_ATHENS), Description, Dead letter queue, Trigger interval (999999999), and various MQSC commands. The bottom status bar indicates 'Server Available' and the window title is 'Defined View - jhabe5:60471 - SYSADMIN'.

Attribute	Value
Manager	-
Name	CVILL_ATHENS
Description	
Dead letter queue	
Trigger interval (milliseconds)	999999999
MQSC Commands	Partial
	Extended 256
	th 4194304
Maximum uncommitted mess...	10000
Expired messages scan interv...	
Default Transmit Queue	
Host system name	
Agent Queue Prefix	KMC.IRA.V350.QUEUE
Queue Manager Platform Type	HPUX
WebSphere MQ Version	Unknown
Auto Start	-
Auto start	<input type="checkbox"/>
Auto define channels	<input type="checkbox"/>
Start listener	<input type="checkbox"/>
Start channel initiator	<input type="checkbox"/>
Start trigger monitor	<input type="checkbox"/>
Workstation userid is defined ...	<input type="checkbox"/>
Configure permanent dynamic...	<input type="checkbox"/>
Configure WebSphere MQ aut...	<input type="checkbox"/>
Protocol	TCP/IP
Port number(IP only)	1414



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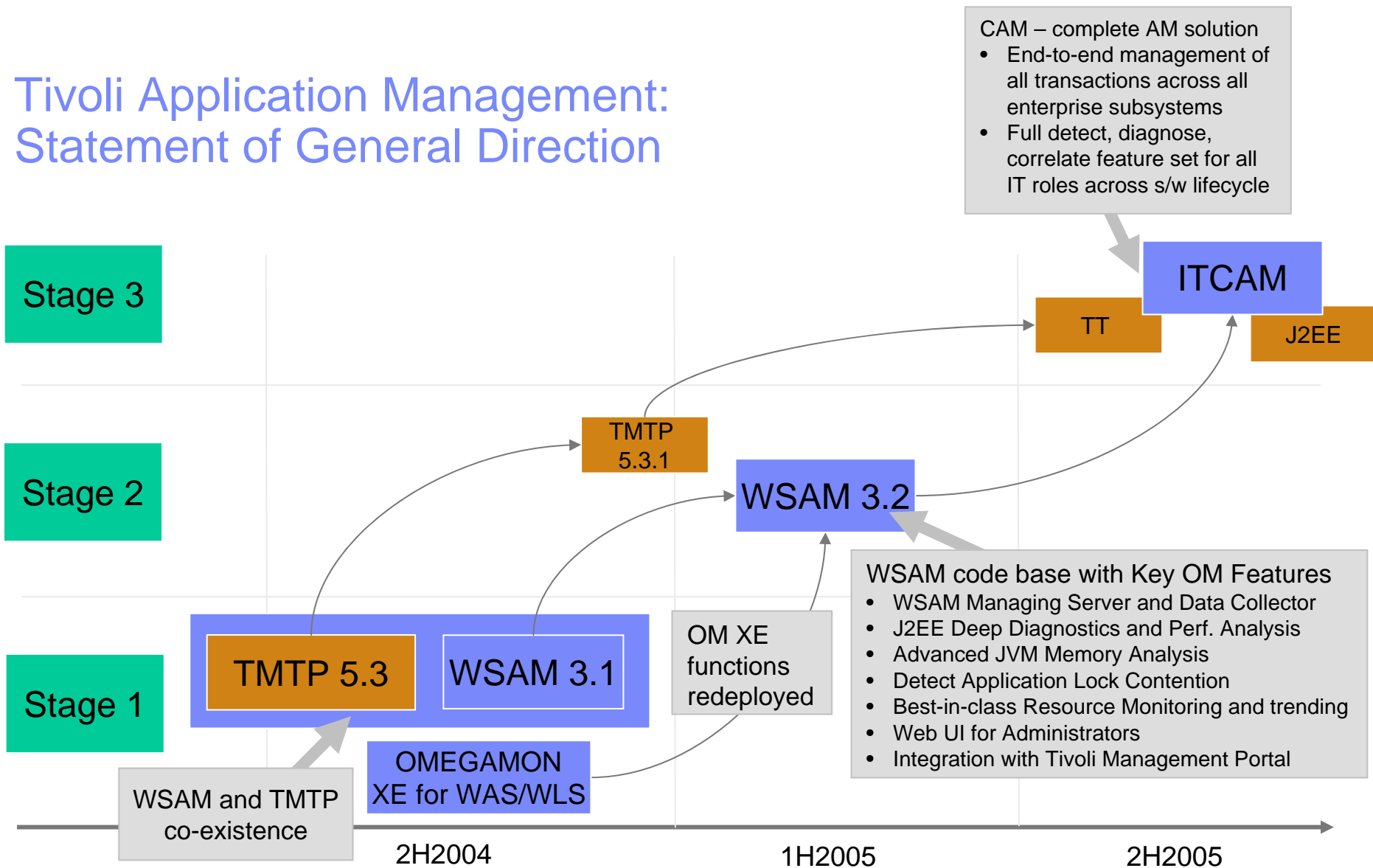
The Future

Tivoli. software



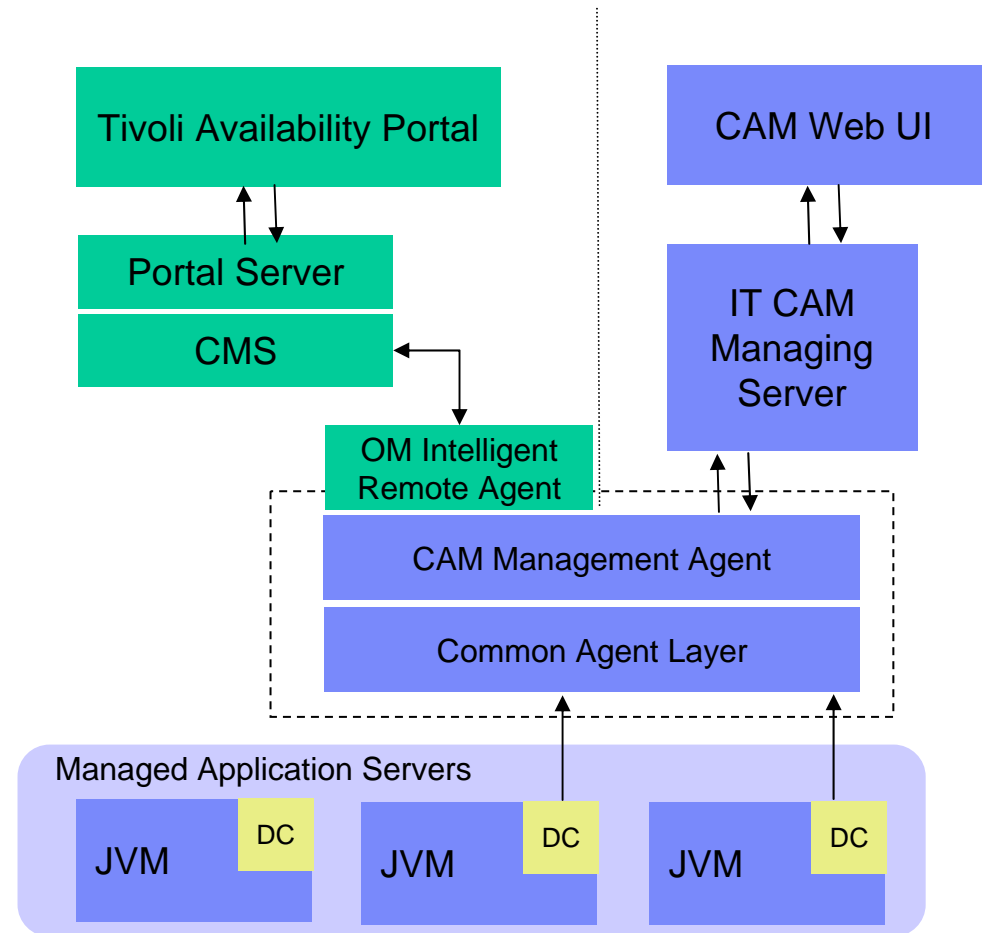
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Tivoli Application Management: Statement of General Direction

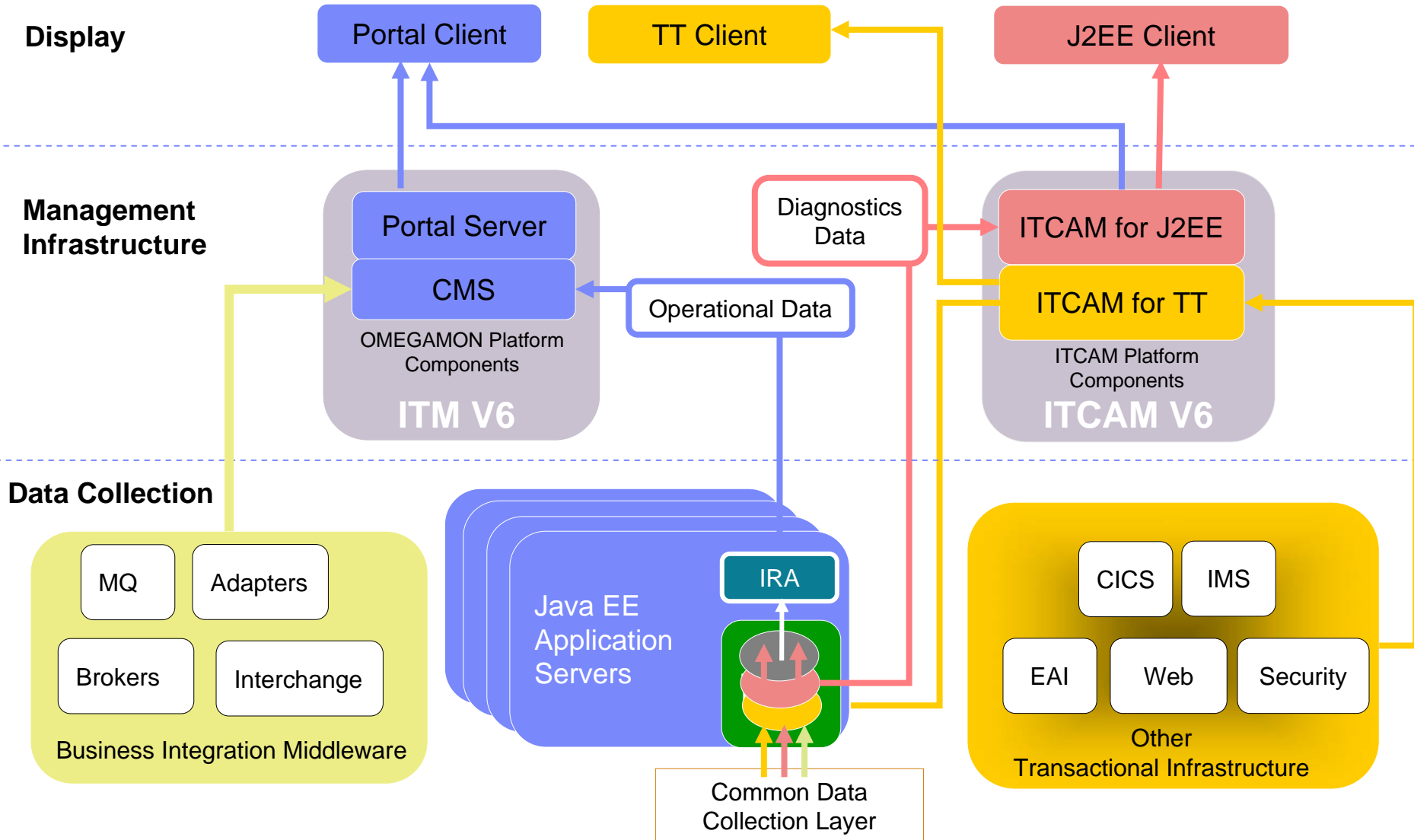


Unified Java EE Monitoring Infrastructure

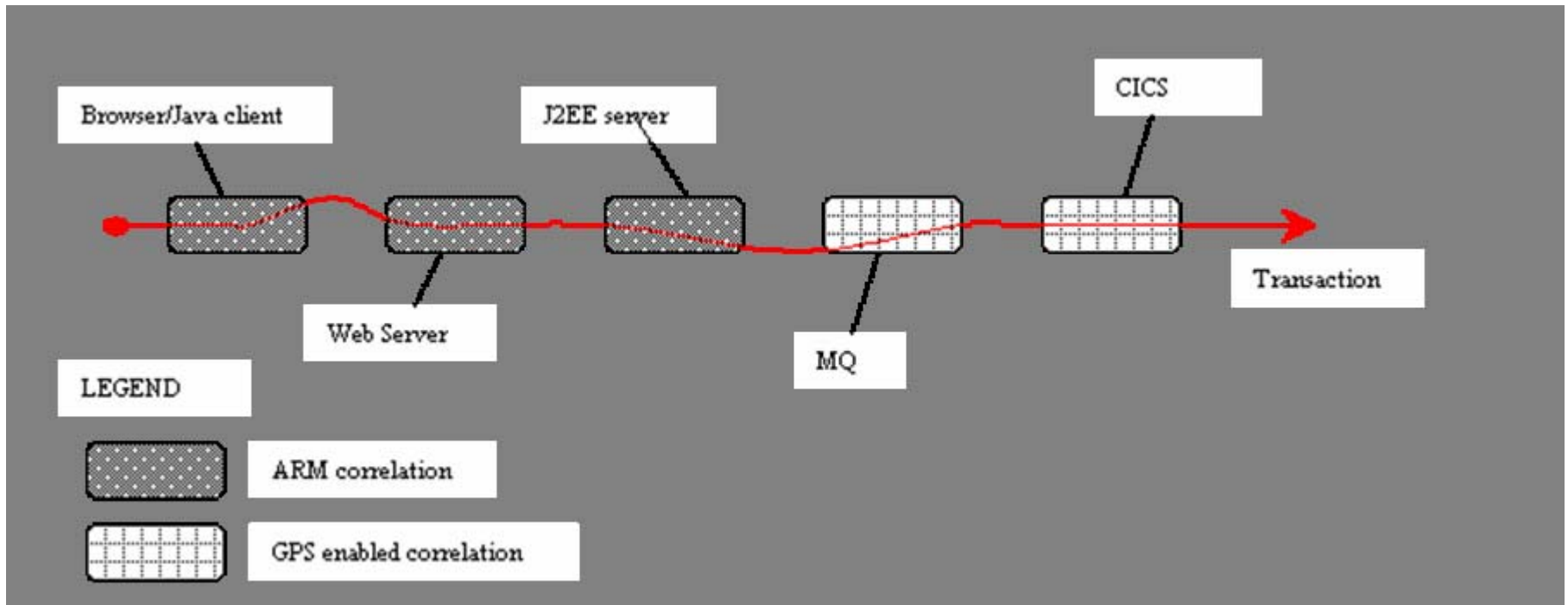
- Single Agent for Transaction Tracking and Resource Monitoring
- Information is being routed based on context of request
- Target audience specific user interfaces
- Interoperable Transaction Identifiers across platforms



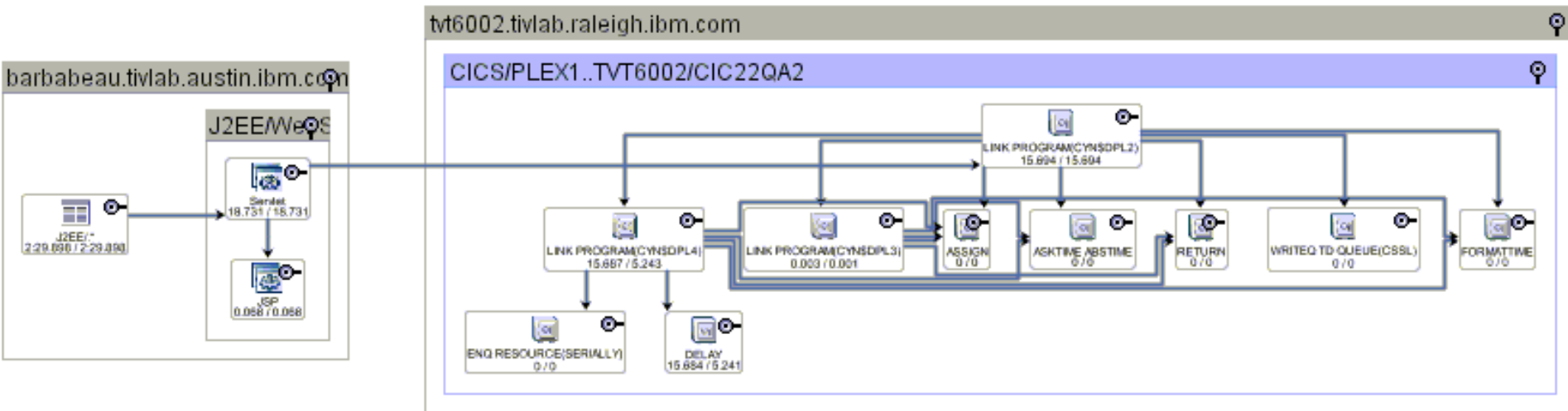
High Level CAM System Design



ITCAM for TT: End-to-End Transaction Tracing



ITCAM for TT: ARM and GPS Combined



ITCAM Family Integration: TT/J2EE Launch In-Context

bgehman-ma.austin.ibm.com [23.594 (12.137)]

- STI [23.594 (12.137)]
- QOS [22.483 (12.725)]
- J2EE/WebSphere/5.1.0/bgehman-ma
 - Filter [20.896 (12.706)]
 - Servlet [19.128 (12.822)]
 - JSP [3.702 (0.627)]
 - Session EJB [1.315 (-0.117)]
 - JDBC [1.359 (0.545)]

ServletInstance Total Duration: 19.128 Instance Delta To Normal Duration: 12.822

Inspector Transaction Stack

Servlet	
Property	Value
Aggregate Successful Count	36
Instance Delta To Normal Duration	12.822
Aggregate Average Duration	2.102



ITCAM and ITM Integration: Tivoli Enterprise Portal (TEP)

Garbage Collector Activity - Microsoft Internet Explorer

Address: http://localhost:1920///cnp/kdh/lib/cnp.html?12000=SYSADMIN&5001=MOPHYSICAL&1021A=REPORT&1020=server1:ARIES:KYN5@KYN.0040.KYNGCACT&-2400=p@s

Tivoli Enterprise Portal®

View: Physical

- Enterprise
 - Windows Systems
 - ARIES
 - J2EE Servers
 - WebSphere App Server
 - Request Analysis
 - Garbage Collector Activity**
 - Log Analysis
 - Pool Analysis
 - Datasources
 - JMS Summary
 - Web Applications
 - EJB Containers
 - DB Connection Pools
 - J2EE Connector Connection Pool
 - Thread Pools

Physical

Garbage Collection Rate - History

Memory Usage - History

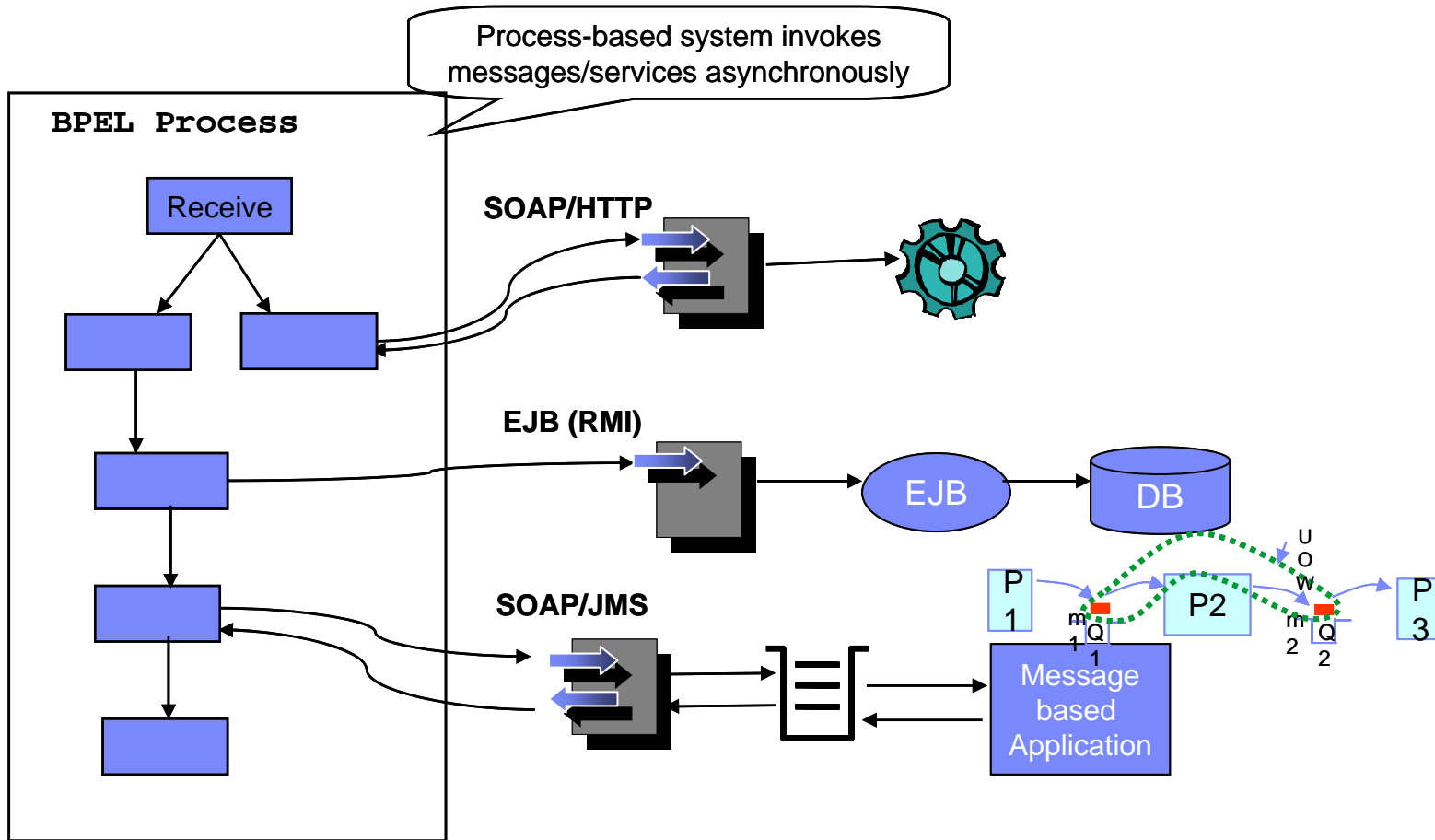
GC Real Time Percentage - History

Sample Date and Time	Interval Time	Process ID	Times Run	Objects Freed	Objects Moved	Total Kbytes Freed	Kbytes in Use	Kbytes in Use Delta	Kbytes Free	Real Time	Real Time Percent	Garbage Collection Rate
05/17/05 18:33:25	55	3368	11	579	117786	846671	65230	-6564	106604	2877	5.1	11.788

Applet CMWApplet started

Local intranet

Outlook: Business Process Monitoring





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Appendix

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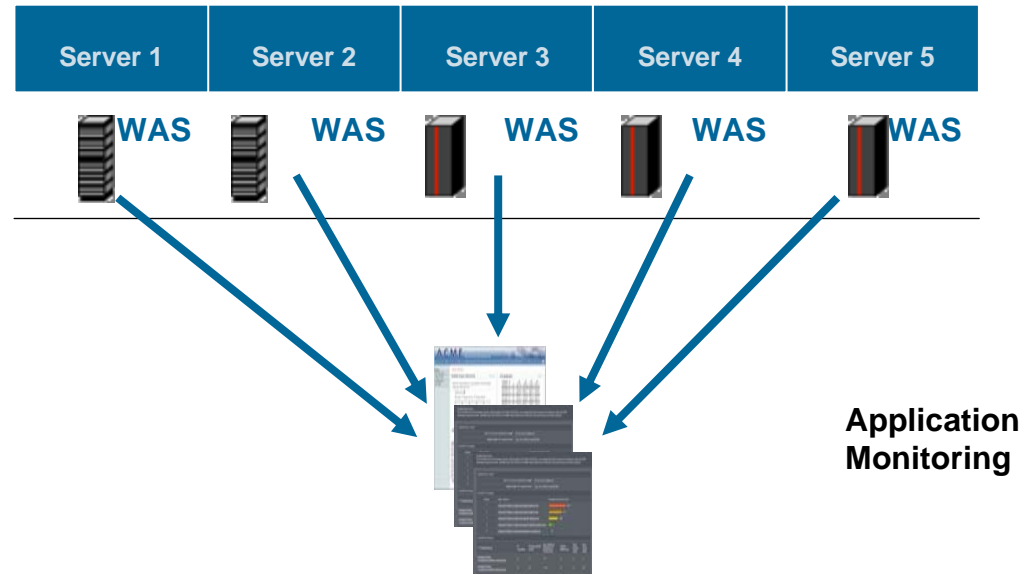


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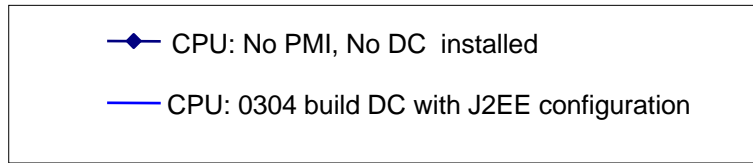
Single WSAM Managing Server – 250 WAS instances

- AIX 5.2 MS
- 4 GB RAM, 2 GB swap
- Number Of Processors: 4
- Processor Clock Speed: 1300 MHz
- WAS 5.1.1
- DB2 8.2
- Default 2 of PS, 2 of AA, 2 Kernels

- 250 WAS DCs
- PMI interval (default 60)
- Heartbeat interval (default)
- Monitoring Level (80% L1, 15% L2, 5% L3)
- Sampling Rate (2%)
- Workload Type (trade 3/JDBC/EJB/Servlet mix)
- Throughput per Server 2 hits a second
- Total Throughput at Management Server 500 hits a second
- No Records Dropped

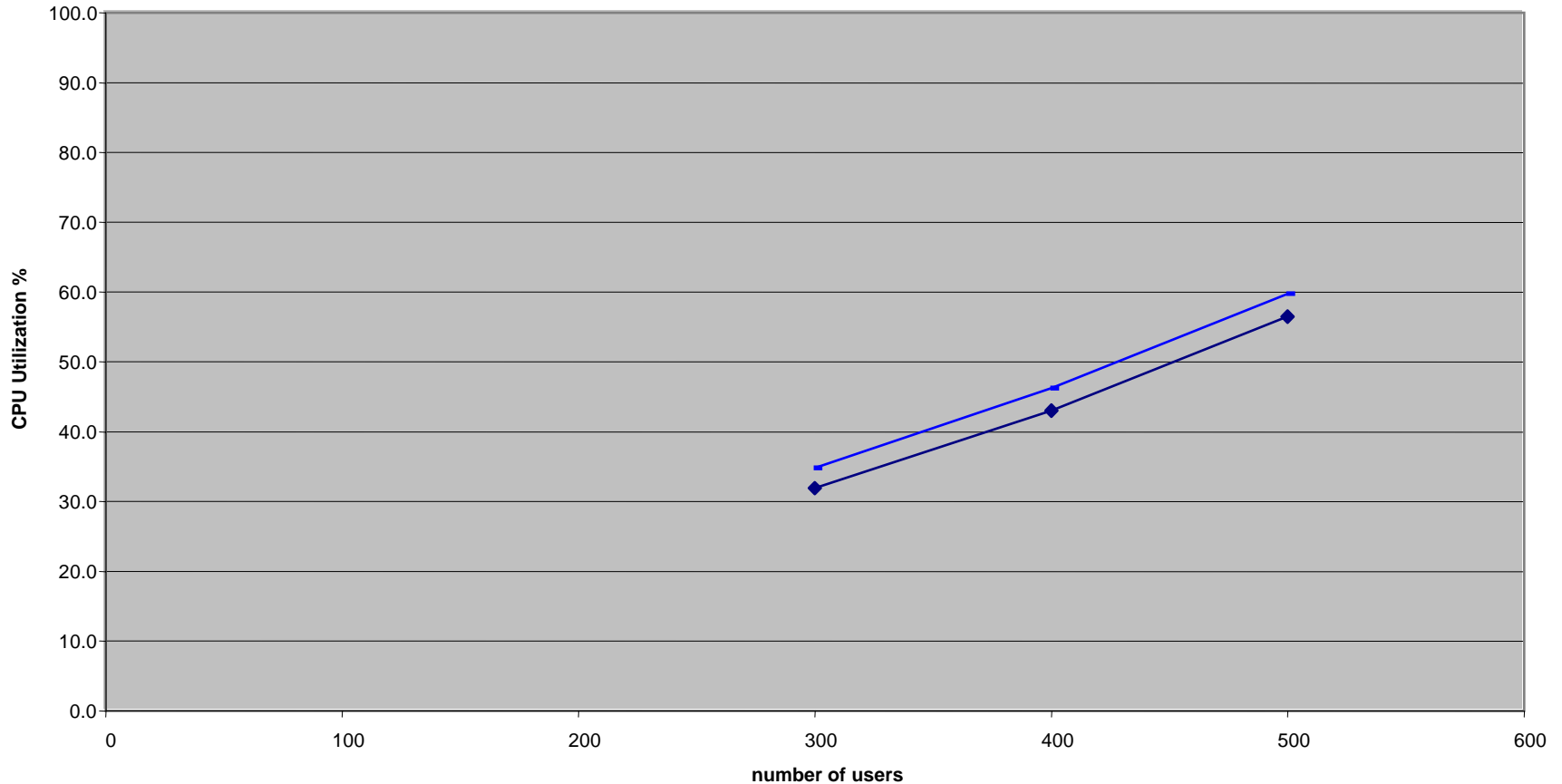


AIX 5.3 DC L1 Performance Overhead – CPU utilization

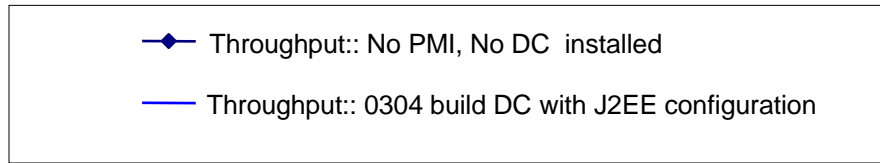


3.25%

Trade 3

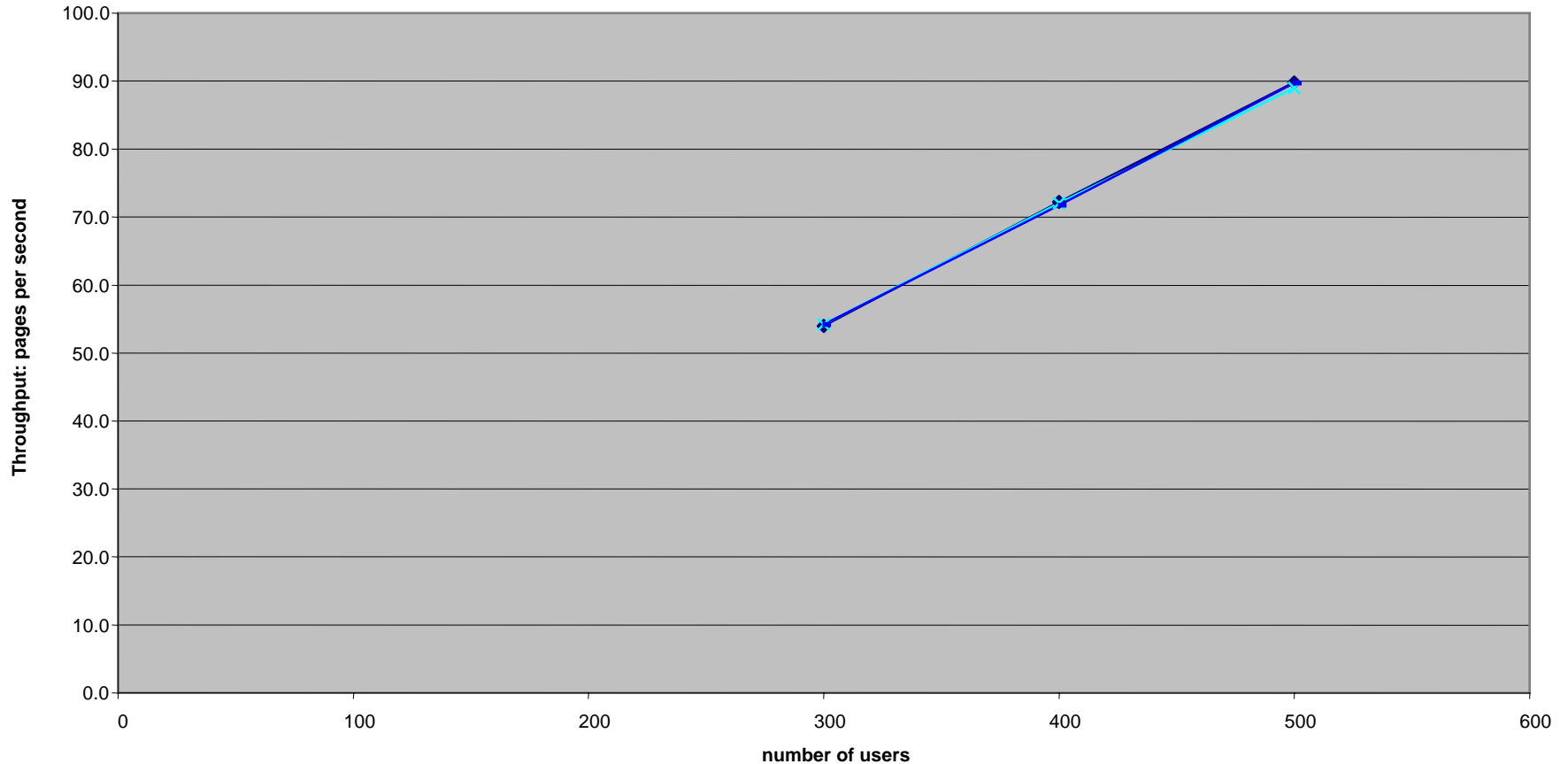


AIX 5.3 DC L1 Performance Overhead – Throughput

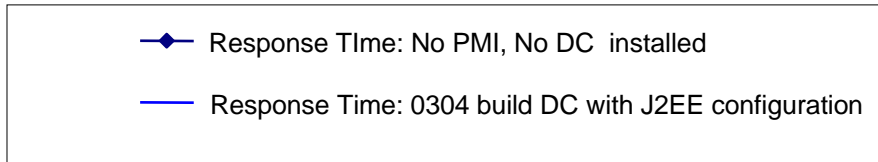


0%

Trade 3



AIX 5.3 L1 DC Performance Overhead – Response Time



15 ms

Trade 3

