

2013 Tech Summit



## Improve mainframe visibility and speed problem solving on zEnterprise using OMEGAMON V5.1



IBM Software Group

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# IBM System z Service Management continues providing customers improved business flexibility

## Key Takeaways



- IBM recognized leader in [Application Performance Management](#) for monitoring, managing and optimizing IT
- IBM provides [enhanced Cross-Product](#) capability to simplify operations ability to achieve System z SLAs
- Redesigned [OMEGAMON XE V5.1](#) provides significant new customer value based on high priority customer requirements

# Costs of poor performing applications sky-rocketing based on increased application complexity

## Computer Glitch Delays IRS Rebate Checks

### Computer glitch dumps kids from state health insurance

By DEBORAH CIRCELLI  
Staff writer

DAYTONA BEACH -- Computer errors in a state health insurance program has officials contacting families of thousands of children who may have been improperly dropped over the last five months to try to get them enrolled again.

Child advocates and officials with Florida Healthy Kids Corp. said a change in the state's computer system for KidCare caused glitches in which notices were sent out late, or not at all, to families that premiums were due or that their insurance was up for renewal. In other cases, letters were not properly sent out informing parents that more documents were needed to continue their coverage.

“Nearly 60% of survey respondents reported the inability to identify issues before end users are impacted...” “Poor application performance translates to lost revenue, research shows”, Network World

“Organizations spend 54% of each outage detecting and identifying.”  
– EMA Decreasing IT Operational Costs by Accelerating Problem Resolution

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## System glitch hits HSBC customers

**HSBC customers faced chaos in the UK on the New Year public holiday as the bank suffered a major breakdown in services.**



A computer glitch meant customers were unable to get money from cash machines or use credit cards and Switch cards.

Bargain hunters may have been hit by HSBC's problems

People were also unable to access their personal accounts or the bank's internet service.

A spokeswoman for HSBC said the glitch was the most serious the bank had experienced in its history, but most problems had now been resolved.

# Customers continue to exploit System z as platform for business critical applications

- 90% of Fortune 500 companies rely on mainframes
- 70% of Enterprise Customers indicate z will play part in **cloud initiatives**
- 90% of top insurance companies use z to process high volume transactions

Why are customers continuing to use System z?

- Up to 50% savings on applicable IT costs
- Up to 99.999% availability and uptime
- Top-rated EAL5 security classification
- Proven mixed-workload management
- Industry leading virtualization and up to 100% utilization

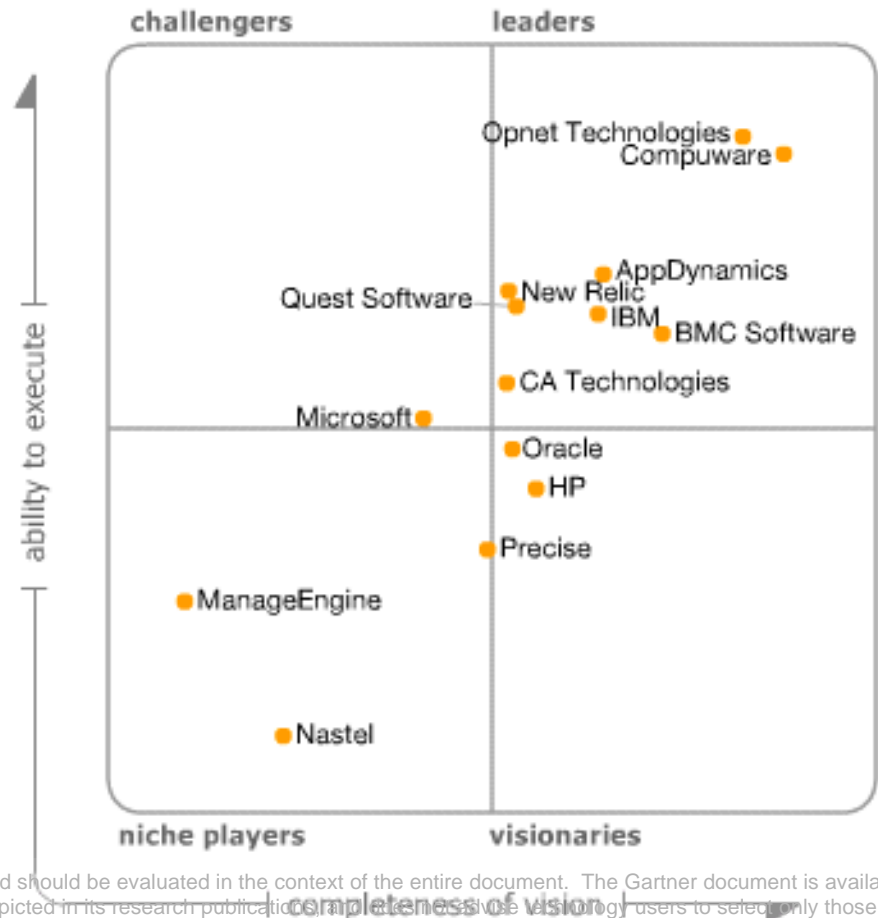
**Achieving high availability requires visibility, control and automation with Application Performance Management**

# Gartner identifies IBM as a Leader in the 2012 Magic Quadrant for Application Performance Monitoring (APM)

## Magic Quadrant for Application Performance Monitoring

Will Cappelli, Jonah Kowall

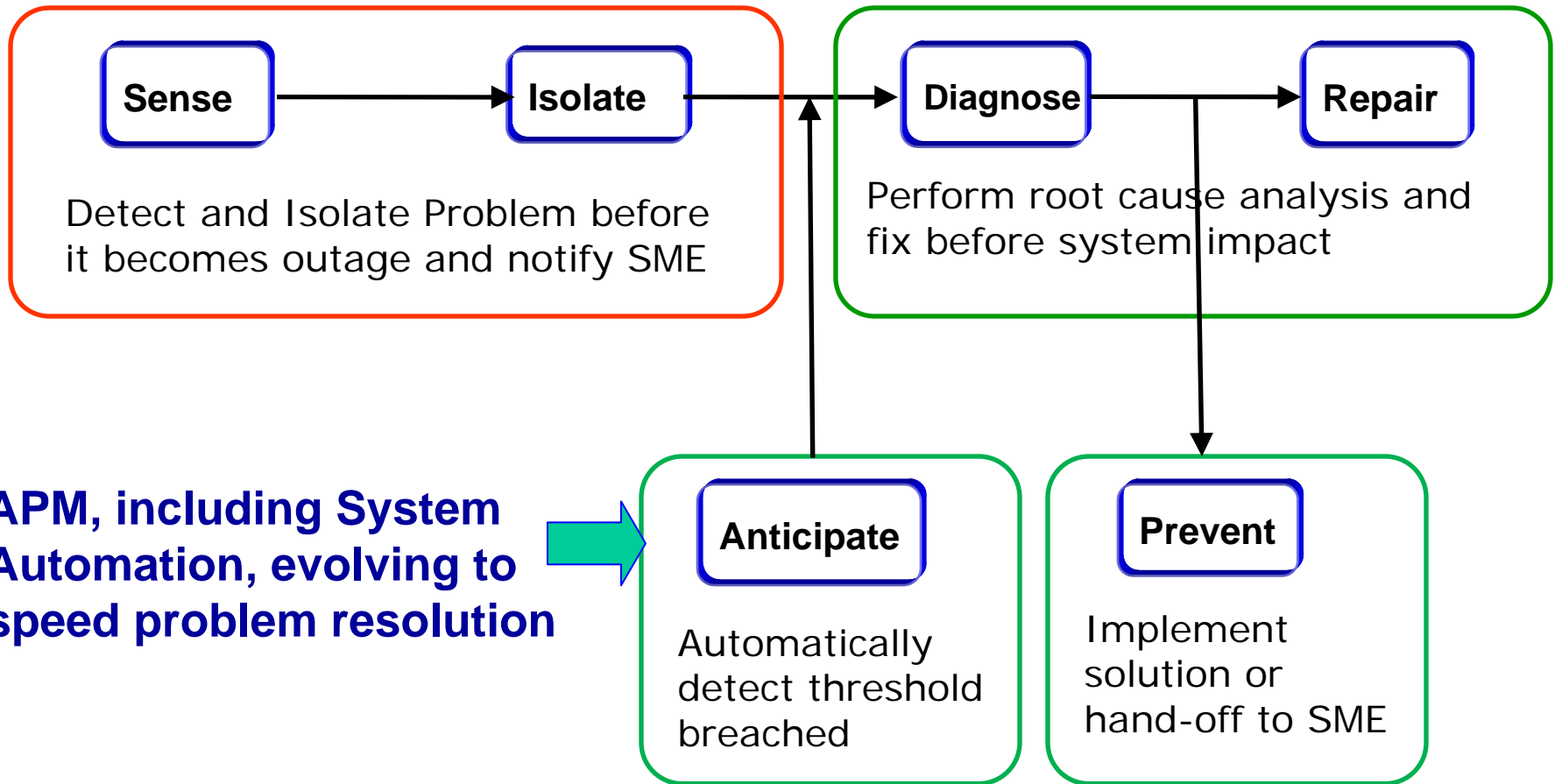
August 16, 2012



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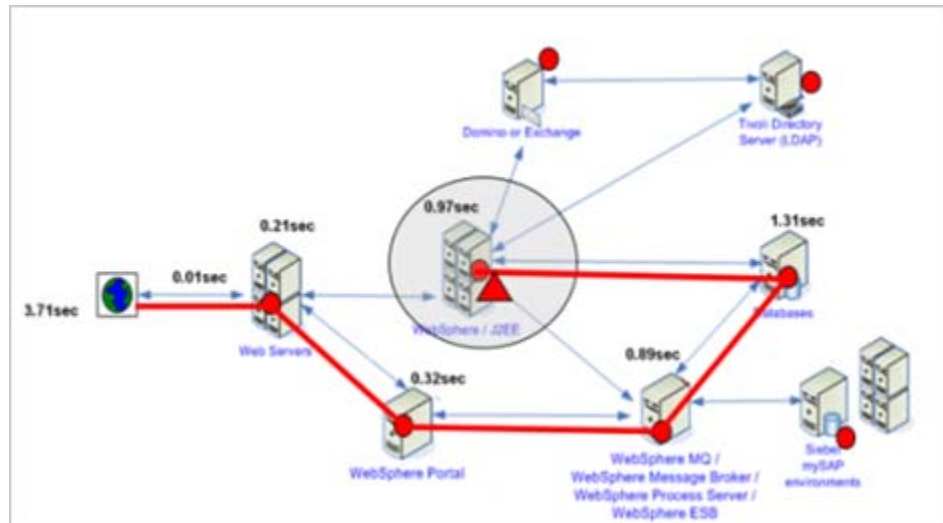
As of August 2012

# IBM Application Performance Management (APM) processes becoming more pro-active across workloads

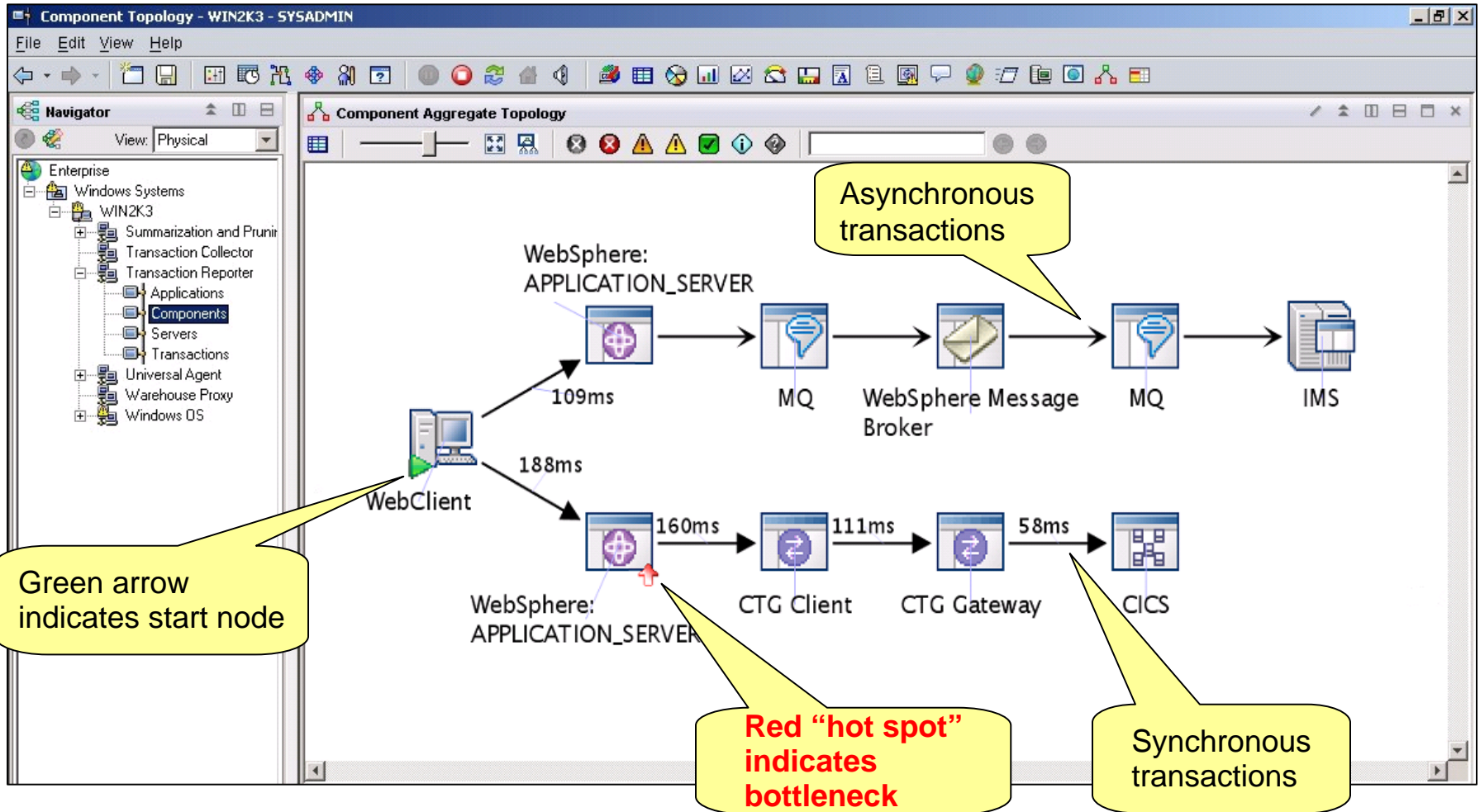


# IBM APM includes Transaction Tracking to quickly find problems across complex business solutions

- Follow path of business transaction across entire infrastructure: mainframe, network and distributed components
  - Agentless: Track flows through network traffic
  - Agent Based: Detailed, Instance-level Transaction Tracking
- Provides visibility and control into entire business critical application flow
- End-to-End view of response times across multiple domains
  - Quickly isolate problems and automatically resolve or hand problem off to SME



# Transaction Tracking designed to increase operations productivity and improve application availability





# ITCAM for Transactions and OMEGAMON work together across entire enterprise for transaction tracking

ITCAM for Transactions can track across each component across an end-to-end complex business application

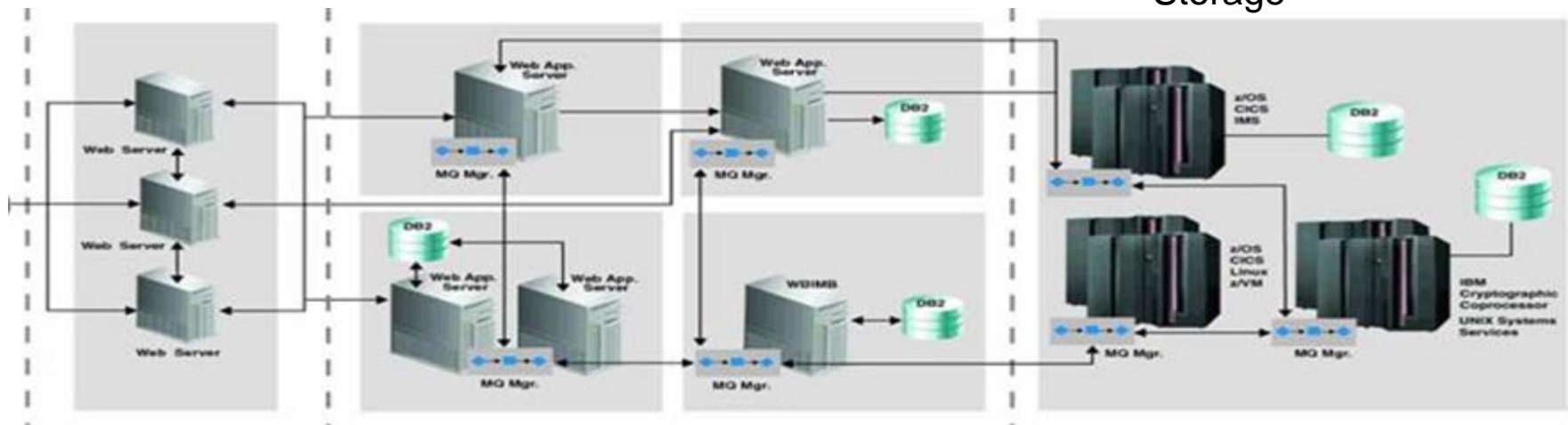
OMEGAMON focused on System z and Subsystems

Web Front-end

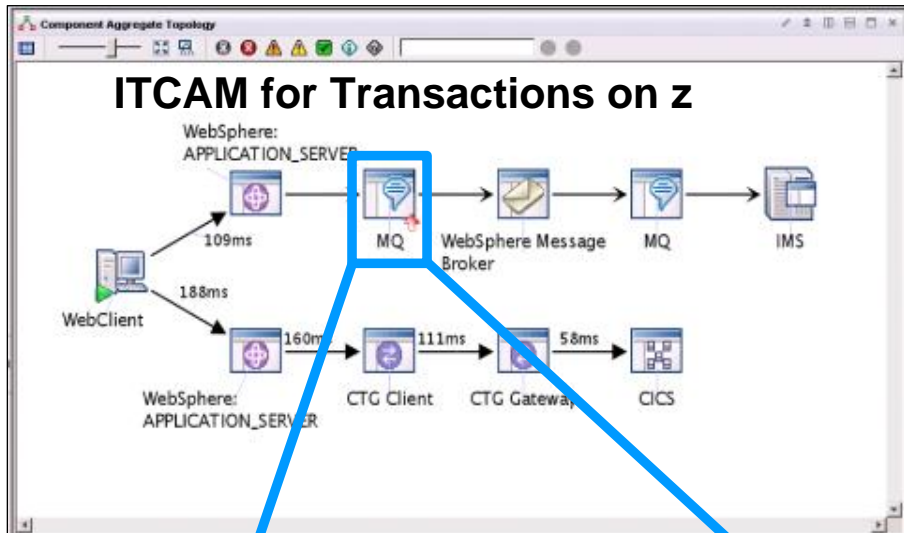
Cloud or Distributed applications

System z Backend

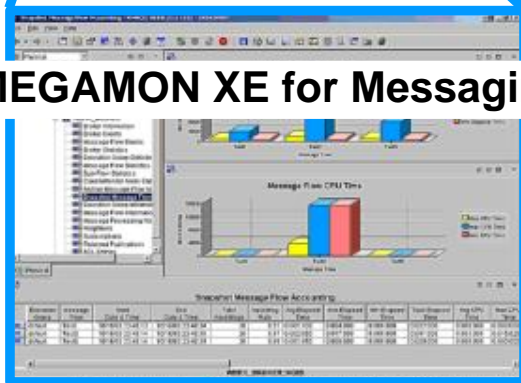
- Database
- Storage



# Seamless integration between ITCAM for Transactions and OMEGAMON for faster application problem resolution




## OMEGAMON XE for Messaging




- Dynamic Workspace Links launch-in-context to appropriate OMEGAMON
- Launch destinations depend on type on data source
  - MQ -> OMEGAMON XE for MSG
  - WAS -> ITCAM for WAS
  - CICS /CTG -> OMEGAMON for CICS
  - IMS -> OMEGAMON for IMS

# OMEGAMON and System Automation work together to improve availability and simplify operations



SA for z/OS  
System Automation  
NetView




**OMEGAMON  
Monitoring**

z/OS	IMS	DB2	z/VM
Linux	CICS	WebSphere	

- Active or passive performance monitoring
  - Managed by automation
  - Integrated with monitor products
- Determine health state or exceeded thresholds
- Send a notification to default event receiver or specified owner of resource
- Start/stop/move resources (work around)
- Expert level: Cure performance problem
  - Using performance monitor, system or affected subsystem

# Case Study: OMEGAMON and System Automation track IMS subsystem response time to meet SLAs

## IT Commitment

- Ensuring IMS meets committed response time target

## Technical solution:

### *OMEGAMON XE for IMS*

- IMS transaction queuing causing a response time problem detected and information sent to System Automation for z/OS.

### *System Automation for z/OS*

- Starts another IMS Message Processing Region, which reducing queuing and therefore response time.
- Informs operations via Tivoli Enterprise Portal and TBSM
- If problem persists, alert IMS transaction owner and stakeholders



# OMEGAMON V5.1 product family provides improved visibility and simplified problem management

Reduced resource usage and improved user interface

## **Increased System Availability with faster problem resolution**

- Enhanced 3270 user interface for SMEs
- Built-in Problem Solving Scenarios

## **Improved Productivity with simplified information**

- Faster Install/Configuration/Maintenance
- zEnterprise monitoring across z196/114 and zBX

## **Reduced Costs with decreased resource usage**

- Usage of zIIP specialty servers
- Simplified OMEGAMON architecture



# OMEGAMON V5.1 customer directed design focused on helping decrease costs and improve usage

Redesigned OMEGAMON Enhanced 3270 User Interface addresses customer requirement to make problem analysis more efficient and effective

## System Programmer Driven Focus Areas for Improvement

- **Simplify**                      Eliminate complexity and frustration
- **Standardize**                Align with existing IBM 3270 Applications
- **Integrate**                    Move from silo monitoring towards composite views
- **Minimize**                    Reduce footprint, install, configuration, and CPU
- **Modernize**                    Make the 3270 Interface 'Best of breed' – SME focused Problem Solving Scenarios
- **Customize**                    Personalize User Interface



# Customer prioritized Problem Solving scenarios built into enhanced 3270 user interface

Easy to see and find critical system and sub-system information for improved performance and availability across System z

- Customized screens focused on customer defined problems
- Screen content based on high priority problems
- Includes Healthcheck and Bottleneck analysis

The screenshot displays a 3270 terminal window titled 'Top Consumers for Sysplex ZPETPLX2'. The window includes a menu bar (File, Edit, View, Tools, Options, Help) and a date/time stamp (11/08/2011 10:41:00). Below the title, it says 'Highest Consuming Address Spaces of CPU'. A table lists the top consumers with columns for Address Space/VName, ASID, CPU Percent, and VName. A bar chart to the right of the table provides a graphical view of the CPU usage data.

ΔAddress Space ▽VName	ASID	ΔCPU ▽Percent	Δ0..20..40..60..80..100	VName
CICS3A1A	0174	113.9	[Red bar]	Z1
MQQ2S12S	017F	55.7	[Yellow bar]	Z2
MQQ2S23S	015C	41.7	[Yellow bar]	Z3

Annotations on the screenshot:

- Top consumers view of details:** A yellow callout bubble pointing to the table header.
- Gain graphical view of data:** A yellow callout bubble pointing to the bar chart.

# Example of quickly finding and fixing z/OS Problem

**Screen 1**

Columns 3 to 5 of 6 Rows 1 to 8 of 8

◊Sysplex Name	◊LPAR Name	ΔException	Value	Waiting Tasks
- LPAR400J	CANSYSG	Performance_Index	7.50	-
- LPAR400J	CANSYSG	Enqueue	SYSDSN	1
- LPAR400J	CANSYSG	GTF_Active	TRUE	-
- LPAR400J	CANSYSG	CPU_Loop_Index	100.0	-
- LPAR400J	CANSP22	Performance_Index	1.76	-
- LPAR400J				
- LPAR400J				
- LPAR400J				

New E3270UI highlights problems and simplifies resolving them quickly

Possible Looping Job

**Screen 2**

Columns 3 to 5 of 6 Rows 1 to 7 of 7

◊Sysplex Name	◊LPAR Name	ΔException	Value	Waiting Tasks
- LPAR400J	CANSYSG	Performance_Index	6.66	-
- LPAR400J	CANSYSG	Active_Storage_Alert	WARNING	-
- LPAR400J	CANSYSG	Performance_Index	2.50	-
- LPAR400J	CANSP11	Performance_Index	1.42	-
- LPAR400J	CANSP22	Performance_Index	1.30	-
- LPAR400J	CANSP22	CPU_KMSPLX0		-
- LPAR400J	CANSYSG	Per		-

Enter 'c' to cancel job

**Screen 3**

Address Space Name : MGRABZ  
ASID : 0014  
Address Space Type : BATCH  
SMF ID : SP22

KMSACTC2 Cancel Address Space

Press ENTER to continue

Job Cancelled

**Screen 4**

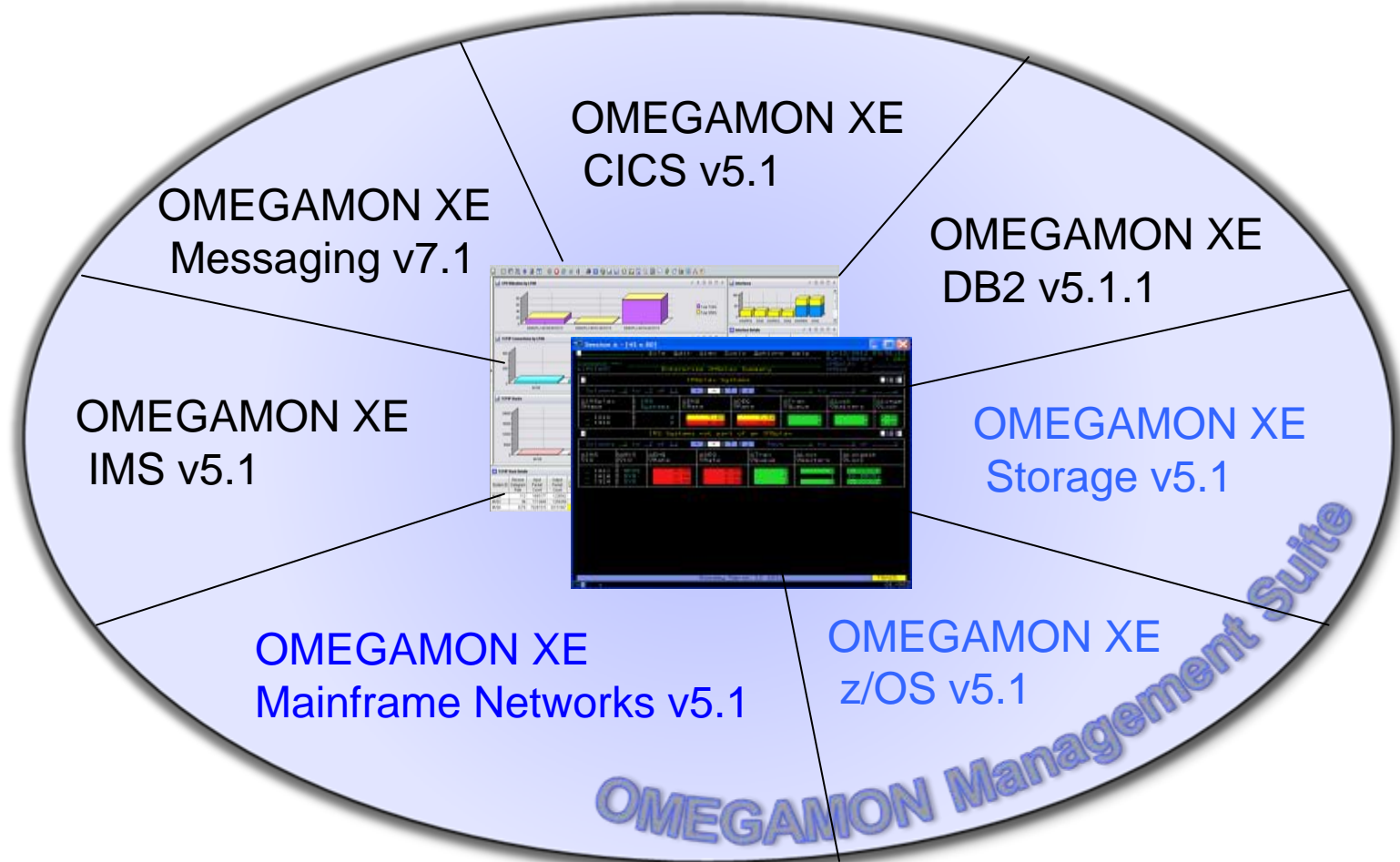
Columns 3 to 5 of 6 Rows 1 to 5 of 5

◊Sysplex Name	◊LPAR Name	ΔException	Value	Waiting Tasks
- LPAR400J	CANSP13	Performance_Index	2.85	-
- LPAR400J	CANSP13	Active_Storage_Alert	WARNING	-
- LPAR400J	CANSP22	CPU_Loop_Index	99.6	-
- LPAR400J	CANSYSG	Performance_Index	4.10	-

In prior releases this would have taken from 5 to 15 screen interactions



# OMEGAMON V5.1 Family provides single screen visibility across entire System z and subsystems



## Each OMEGAMON V5.1 product provides additional capabilities to decrease costs and reduce risks

- **OMEGAMON XE for z/OS V5.1**
  - View summary of multiple sysplexes and subsystems
    - Save 50 to 75% of time needed to find problems
- **OMEGAMON XE for CICS V5.1**
  - New 'Find' command to locate hung users over entire cicsplex
    - Reduce fix times from 90 minutes to 2 minutes
- **OMEGAMON XE for DB2 V5.1.1**
  - Visibility into IBM DB2 Analytics Accelerator (IDAA)
    - Maximize your organization's ROI from appliances
- **OMEGAMON XE for IMS V5.1**
  - MIPS reduction with Application Trace Facility
    - V5.1 uses 24% less CPU than 4.2 running ATF



# OMEGAMON V5.1 family provides visibility across entire System z and subsystems for enterprise view

- **OMEGAMON XE for Storage V5.1**
  - Increased automation and reduce cost with Toolkit Take-Action
  - Greater hardware support with expanded physical hardware monitoring (HDS and STK, IBM and EMC already available)
  
- **OMEGAMON XE for Messaging V7.1**
  - New views of health of Queues, Queue Managers and Channel Managers.
  - Find command to easily locate Websphere MQ resources
  
- **OMEGAMON XE for Mainframe Networks V5.1**
  - Improved Diagnostics with decreased CPU utilization
  - OSA data collection and display to improve diagnostics, visualization, and CPU usage



# Enhanced Configuration and Maintenance capability with Self-Describing Agents and Parmgen

## ITM 6.2.3 autonomic Self-Describing Agent

- 80% improvement in FTE requirements
- 60% improvement in time for installation and maintenance
- 30% improvement in time to configure post installation



Eliminates manual updates of application data DVDs and CDs:

## *Strategic move from ICAT to Parmgen for Installation and Configuration*

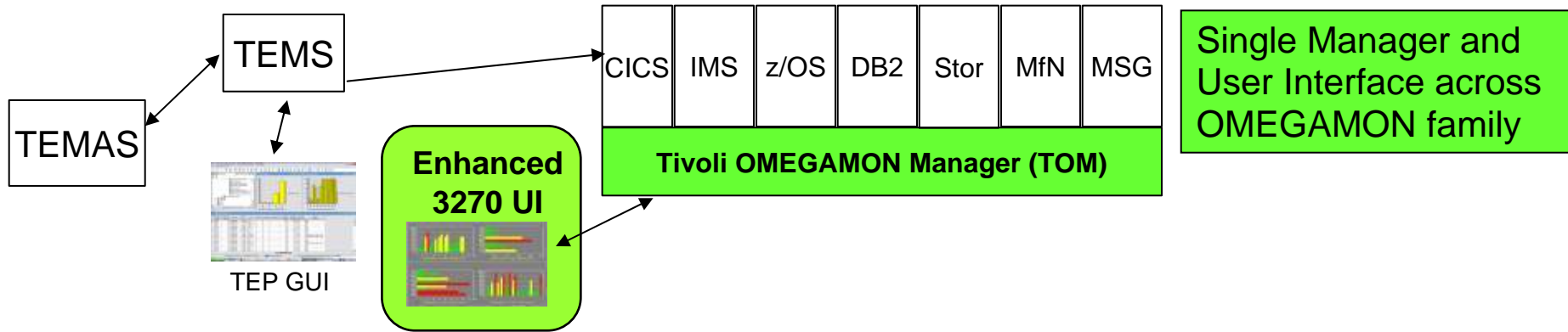
*before - 145 ICAT product-centric jobs to configure 38 components  
now - 8-10 Parmgen function-centric jobs to configure components*

**Customers experiencing over 35% improvement in install/config time.**

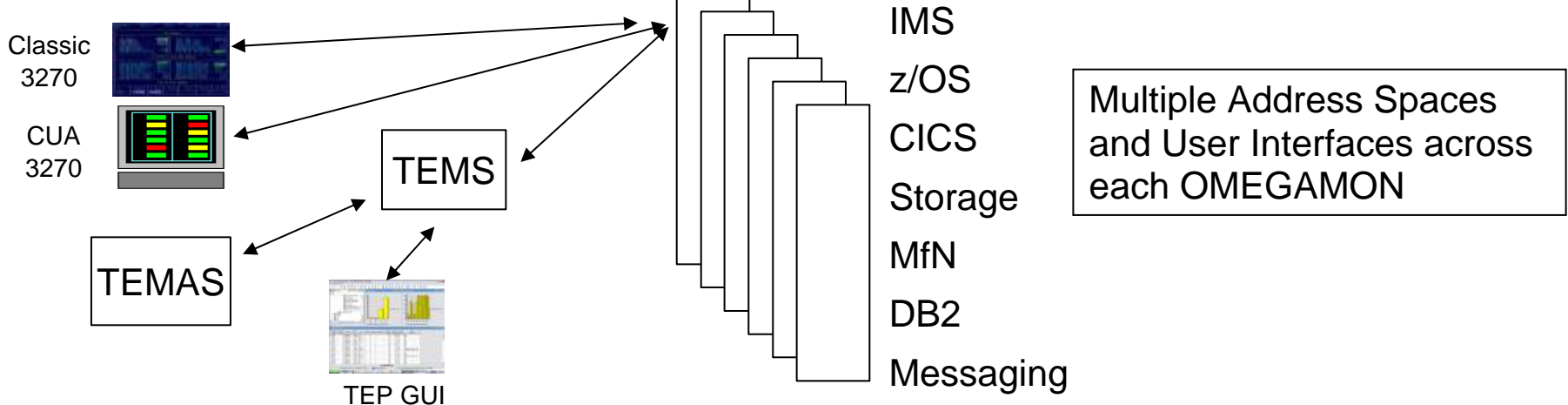
*single reference book for upgrade guidance*

# Moving to simplified architecture driving decreased resource utilization with increased capability

## OMEGAMON V5.1 Enhanced Architecture



## OMEGAMON V4 Architecture



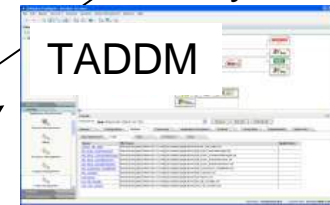
# OMEGAMON integrates within total Enterprise-wide Application Performance Management capability

Performance and availability visibility for System z events and data

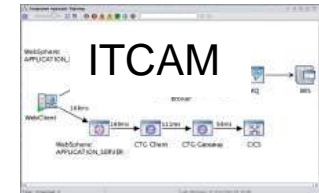
Business Assessment



Discovery



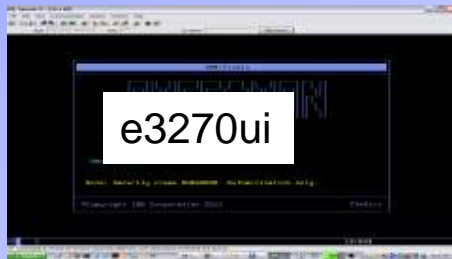
Transaction Tracking



Cloud

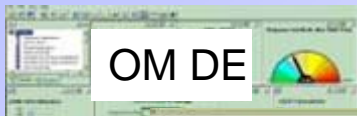


## OMEGAMON V5.1



Tivoli OMEGAMON Manager (TOM)

IBM Tivoli Monitoring (ITM)



TEP



# OMEGAMON V5.1 family proven to provide significant cost savings over other vendors monitoring products

## *Decreasing overall costs*

Customers could see **48% reduction in CPU usage\***, when comparing just cost of running with prior OMEGAMON user interfaces

- OMEGAMON has been exploiting zIIP offload for years.
- OMEGAMON offloads routines for OMEGAMON z/OS, DB2, and CICS as well as use of RMF as a data collector further reducing usage
- With version 5.1, OMEGAMON improved performance and reduced CPU usage in each monitor with improvement from 20%-50%\*

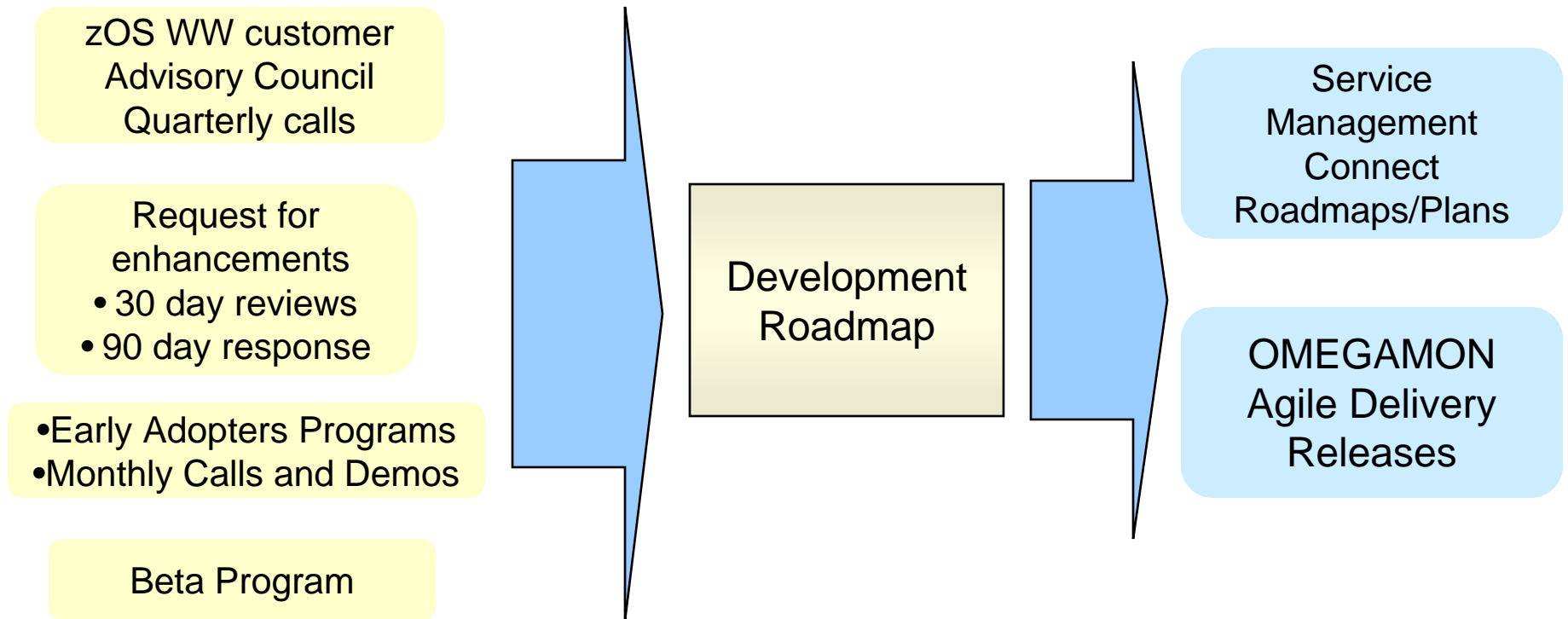


Based on internal testing .

\*Results at your own shops will vary dependent on OM II (CUA) and OMEGAVIEW deployment

# Redesigned OMEGAMON V5.1 capability continues to be driven by high-priority customer requirements

Customer driven capability with new transparent development methodology driven by Agile processes





# Learn more and join conversation on monitoring requirements going forward

Find documentation and latest advise on OMEGAMON V5.1  
Google: OMEGAMON Common Information

## Join the Conversation:

- System z Service Management  
Google: Developerworks System z Management

Includes:

- e3270ui workspace navigation (cheat sheets)
- Parmgen upgrade guidance reference material

## Join OMEGAMON Customer Leadership Council

- provide direction and guidance on future releases.  
*Email: megoodma@us.ibm.com*



# Learn more about IBM's entire Tivoli System z portfolio at upcoming Pulse Conference



Register at:

<http://www-01.ibm.com/software/tivoli/pulse/>

- *Receive Tivoli for System z information updates on a regular basis:*
  - [IBM Software Newsletter](#)





Thank  
You