

Increase Availability and Reduce Costs with Redesigned OMEGAMON V5.1

Pulse 2013



IBM System z Service Management continues providing customers improved business flexibility

Key Takeaways

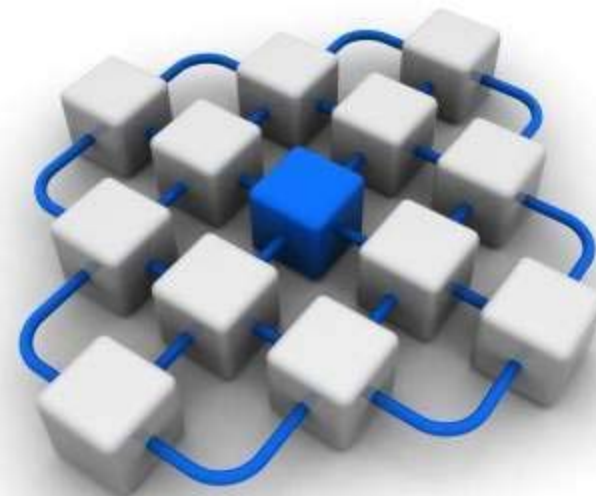


1. IBM recognized leader in **Application Performance Management** for monitoring, managing and optimizing IT infrastructure - *Gartner 2011 MQ*
2. IBM continues to provide new Service Management **visibility, control and automation** capability based on high priority customer requirements - *agile transparent development*
3. Redesigned **OMEGAMON** provides significant customer value to reduce costs and decrease risks - *R&D investment and strategy*

Application Performance Management a key component of Business Service Management

Application performance management (APM) refers to discipline within service management focused on monitoring and managing of performance and service availability .

- **End-user experience** monitoring
- **Application and Services** sub-system monitoring
- **Application runtime architecture** discovery, modeling and display
- **User-defined transaction** profiling
- **Application performance** analytics



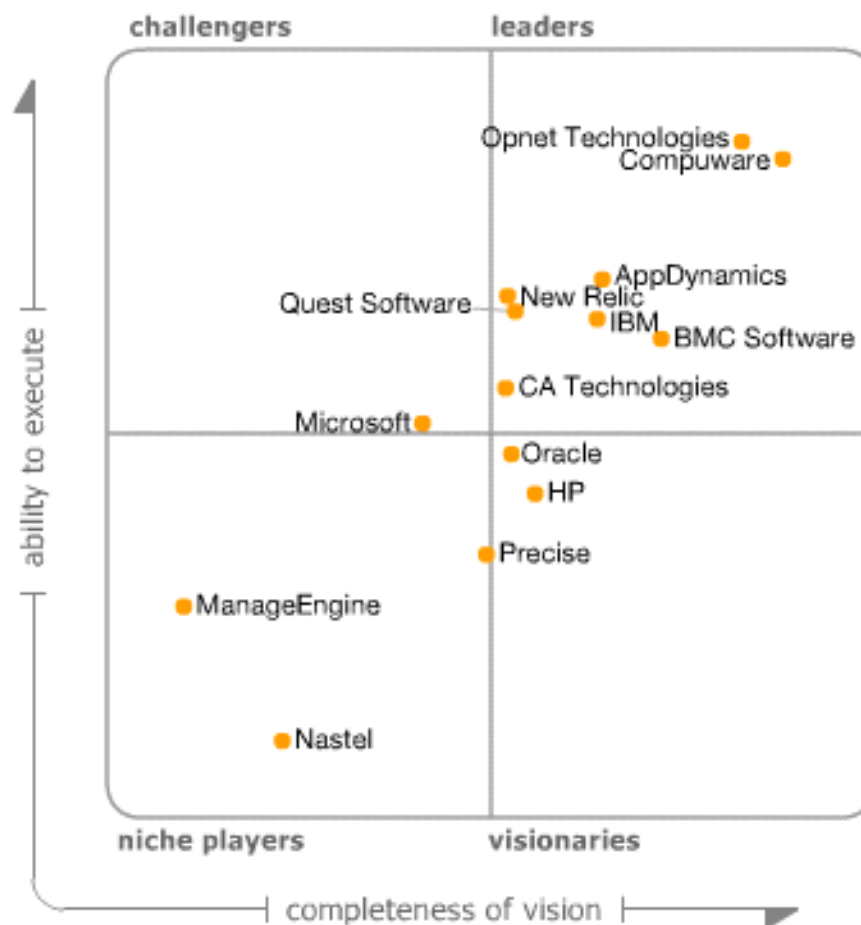
IBM Monitoring solution includes ITM, ITCAM and OMEGAMON

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



As of August 2012

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IBM announcing customer-driven, redesigned, simplified OMEGAMON Version 5.1 product family

Visibility with modernized and strengthened OMEGAMON product line for reduced resource usage and faster problem resolution

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

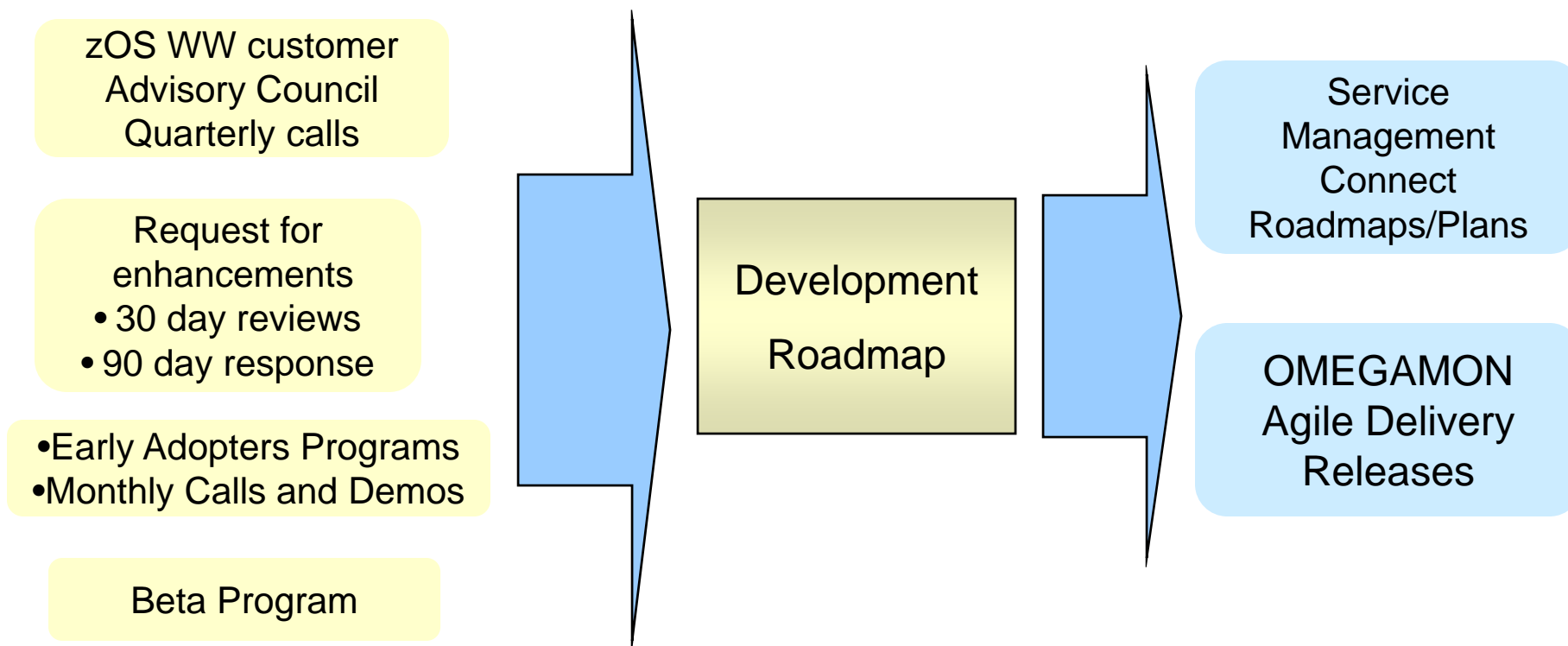
Reduced Costs with decreased resource usage

- Usage of zIIP specialty servers
- Simplified OMEGAMON architecture



Redesigned OMEGAMON capability driven by high-priority customer requirements

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



OMEGAMON for z/OS provides SMEs with faster problem determination and availability management

First two products being released are OMEGAMON for z/OS and CICS

- **Simplify monitoring** with ability to view enterprise summary of multiple sysplexes
 - Can save 50 to 75% of time needed to find problems
- **Faster problem identification and management** by navigating directly to other OMEGAMON v5.1 monitors
- **Cost Savings** with new CEC and CPU top consumers views to manage resource utilization
- **Higher availability** by incorporating Health Checks from Tivoli z Management Console to identify problems
- **Easy navigation** from sysplex to lpar to address space for faster product resolution to meet SLAs



Reduce system outages and increase productivity

Enhanced 3270 user interface creates Enterprise wide view of information for improved availability

- Understand transactions across multiple sysplexes
- Color coding to provide ability to find and resolve problems quickly
- Eliminates need to move between multiple screens and monitors

“GUI on a green screen”

The screenshot displays a 3270 terminal window with the following sections:

- Enterprise Summary**: Shows a table for "All Active Sysplexes". A callout "z/OS-wide sysplex view" points to the title. A callout "Customize Views" points to a button in the table header.
- All Active CICSplexes**: Shows a table for "All Active CICSplexes". A callout "CICSplex details views" points to the table header.

Sy Na	ent	Highest LPAR Name	ΔHighest LPAR CPU%	ΔPercent LPAR MMSU Capacity	+LPAR Group Name
_ ZPETPLX2	3	Z2	3	3.4	N/A

ΔCICSplex Name	ΔNumber of Regions	ΔTransaction Rate	ΔCPU Utilization	Any SOS Regions	SOS Region
_ OMEGPLEX	1	0 / m	0.3%	No	n/a
_ TESTPLEX	8	10985 / m	18.4%	No	n/a
_ WUIPLEX	1	0 / m	0.0%	No	n/a

OMEGAMON for CICS provides improved visibility and opportunity to reduce resource usage

In addition to the OMEGAMON family capability:

- Manage using service level analysis of transactions based on response times with new enhanced 3270 UI
- Take advantage of zIIP specialty processor to decrease resource usage
 - Up to 73% of CICS SLA processing off-loaded
- New 'Find' command to easily locate hung users and programs connections over entire cicsplex
 - Can reduce fix times from 90 minutes to 2 minutes
- Easy navigation from CICSplex to region to resource for faster problem identification and resolution



Simplify SLA management with decreased resources

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 shows a 3270 terminal window titled 'Top Consumers for Sysplex ZPETPLX2'. The menu bar includes 'File Edit View Tools Options Help' and the date/time '11/08/2011 10:41:'. The main content area is titled 'Highest Consuming Address Spaces of CPU' and displays a table with columns for 'Address Space', 'ASID', 'CPU Percent', and 'VName'. A bar chart to the right of the table shows the relative CPU consumption for each address space. A yellow callout bubble points to the table with the text 'Top consumers view of details', and another yellow callout bubble points to the bar chart with the text 'Gain graphical view of data'.

Address Space	ASID	CPU Percent	VName
CICS3A1A	0174	113.9	Z1
MQQ2S12S	017F	55.7	Z2
MQQ2S23S	015C	41.7	Z3

Example of quickly finding and fixing z/OS Problem

Screen 1 Exceptions

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	CANSYSL	Performance_Index	4.28	-
- LPAR400J	CANSP12	Performance_Index	1.42	-
- LPAR400J				

New E3270UI highlights problems and simplifies resolving them quickly

Possible Looping Job

Screen 2 Exceptions

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	CANSYSL	Performance_Index	2.50	-
- LPAR400J	CANSP11	Performance_Index	1.42	-
- LPAR400J	CANSP22	Performance_Index	1.30	-
- LPAR400J	CANSP22	CPU_Loop_Index	99.6	-
- LPAR400J	CANSYSG	Performance_Index	4.28	-

Enter 'c' to cancel job

Screen 3 Cancel Address Space

Command ==> KMSPLX0

Address Space Name : MGRABZ
ASID : 0044
Address Space Type : BATCH
SMF ID : SP22

Press ENTER to continue

Job Cancelled

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

Screen 4 Exceptions

Columns 3 to 5 of 6 Rows 1 to 4 of 4

◊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	-

New Problem Determination and Management allows Operations and SMEs to see what is happening sooner

Increase availability by monitoring over time to identify and fix potential problems before they become outages

- Set exceptions to quickly alert operators across entire sysplex
- Warned about a problem 98% faster than before

KM5MSU0 4-Hour Rolling Average MSU Statistics SMF ID : SP22

LPAR

4 Hour MSUs.....	6	LPAR Defined	Yes
% LPAR MSU Capacity.....	6.0	Average %	0.0
LPAR Capacity Limit.....	100	Average % 1	100.0
LPAR Capacity Limit Basis.	Entitled		

4 Hour Rolling Average

LPAR Group

LPAR Group Name	Average Unused Group MSUs	LPAR Group Capacity Limit	Group LPAR MSU Limit
CANDLE	93	100	100

5 Minute Intervals

Columns 2 to 6 of 8 48

Time Period	% Time Uncapped	Uncapped MSUs/Hour	% LPAR Uncapped	Uncapped MSUs/Hour
08:59-09:02	100.00	8.83	8.83	0.00
08:54-08:59	100.00	6.59	6.59	0.00
08:49-08:54	100.00	6.52	6.52	0.00
08:44-08:49	100.00	7.25	7.25	0.00

5 minute intervals

Bottleneck Analysis provides visibility to potential problems before they become outages

Quickly find out where resource contentions and shortage exist

Integrated into e3270ui to allow for easier problem monitoring

The screenshot displays the 'Bottleneck Analysis' tool interface. At the top, it shows 'KM5BOTA2' and 'Bottleneck Analysis' with a window title bar. Below this is a section titled 'Address Space DBX2DIST Summary' with navigation controls for columns and rows. The main data area is a table with two columns: 'Attribute' and 'Percent'. The 'Percent' column contains numerical values, and the right side of the table features a bar chart where each bar's height corresponds to the percentage value. A yellow callout box labeled 'Bottleneck Analysis' points to the top of the chart area. Below the main table is a section titled 'Contention (%) by Resource' with a table of contention data. A yellow callout box labeled 'Monitor Contention' points to this section. Another yellow callout box labeled 'Easy to See Problem Areas' points to the bar chart area.

Attribute	Percent
Using CPU	8.1
Using zIIP	8.4
Using zIIP on CP	1.6
Stimer ECB Wait	55.9
CPU Loop Index	29.0
zIIP Wait	7.2
Using Crypto Assist Proc	5.0
CPU Wait	2.2

Resource	Contention (%)	
DBX2DIST	Using CPU	0.0
IEFPROC	Using IFA	13.6
DDF	Using zIIP	29.0
2.2	CPU Loop Index	

Healthcheck analysis assists in finding and fixing problems quickly and efficiently incorporated in e3270ui

Regularly monitor key IT resources and usage

Select and see best practices recommendations on how to fix

Health Checker

Health Check Status

Proc Name.....	HZSPROC	Task Identifier.....	HZSPROC
Status.....	Active	Exceptions SevMed.....	6
Checks Deleted.....	0	Exceptions SevLow.....	6
Checks Eligible.....	146	Exceptions SevHigh.....	2
Checks NotDeleted.....	177	Exceptions SevNone.....	0
Checks Ineligible.....	31	Exceptions Outstanding....	14
Checks DeletePending.....	0		

Columns 1 to 2 of 2 Rows 1 to 1 of 1

Version Identifier	+Parmlib Members
z/OS 01.13.00	LC, IA, CY

Health Checks

Columns 1 to 3 of 26 Rows 1 to 11 of 177

ΔCheck Name	Resource	ΔCheck Status
— XCF_CDS_SPOF	IBMXCF	EXCEPTION-HIGH
— USS_PARMLIB_MOUNTS	IBMUSS	EXCEPTION-HIGH
— VSM_SQA_THRESHOLD	IBMVSM	EXCEPTION-MEDIUM
— XCF_CDS_MAXSYSTEM	IBMXCF	EXCEPTION-MEDIUM
— XCF_CF_STR_POLICYSIZE	IBMXCF	EXCEPTION-MEDIUM
— XCF_CF_ALLOCATION_PERMITTED	IBMXCF	EXCEPTION-MEDIUM
— XCF_CF_STR_AVAILABILITY	IBMXCF	EXCEPTION-MEDIUM
— VSAMRLS_CFCACHE_MINIMUM_SIZE	IBMVSAMRLS	EXCEPTION-MEDIUM
— USS_PARMLIB	IBMUSS	EXCEPTION-LOW
— GRS_AUTHQVLV_SETTING	IBMGRS	EXCEPTION-LOW
— CSV_APF_EXISTS	IBMCSV	EXCEPTION-LOW

Health Check

Sorted, Color Coded Resource Status

Unix workloads growing on z/OS as applications are ported to mainframe

- USS comes included in OMEGAMON XE on z/OS
- Complete view of Unix overhead and activities available and customizable with enhanced 3270 user interface

Command ==> KM5USS z/OS UNIX System Services Overview Plex ID : ZPETPLX2 SMF ID : Z2

UNIX Kernel

Columns 2 to 6 of 9 Rows _____

ΔSyscall ∇Rate	ΔCPU% ∇	ΔI/Os ∇Rate	ΔNumber of ∇Processes	ΔMax ∇Processes	ΔUsed ∇Processes%
0.000	0.00	0.000	495	1900	26.05

Dubbed Address Spaces

Columns 1 to 7 of 7 Rows 1 to 6 of 341

ΔAddress Space ∇Name	ΔASID ∇	ΔCPU ∇Time%	∇CPU _Seconds	ΔType ∇	ΔService ∇	ΔWorking ∇
CICS3A2A	0185	0.00	2185.706			
CSQ2CHIN	0199	0.00	2185.706			
CICS2A2A	0184	5.48	9750.706			
TCPIP	00EC	0.00	6970.156			
CICS2T2A	0185	44.01	6940.055			
VTAM	00DC	0.00	5430.512			

Unix System Services

z/OS address spaces running Unix workload
Running on CICS

Enhanced Configuration and Maintenance capability with Self-Describing Agents

Faster, easier, less error-prone for improved reliability and productivity

- **Eliminate monitoring outages caused by ITM Server recycles**
 - Product upgrades/maintenance requires agent or RTEMS recycles only
- **Eliminate maintenance upgrade errors:**
 - Applies to new installs, staged upgrades, and maintenance
 - Crosschecks and validates version with installed data and framework
 - Avoids inconsistent application data in ITM framework layers
- **Self-describing framework extensible to new capabilities**
- **Eliminates application data DVDs and CDs:**
 - No extra distributed installs or upgrades for mainframe-centric customers



- Moving from 40 hours a week to 4 hours a week maintenance
- 80% improvement in time for installation and maintenance
- 30% improvement in time to configure post installation

Customer Driven improvements simplify Installation and Configuration using Parmgen

Removal of ICAT as primary way to install and configure

*Before -145 ICAT **product-centric** jobs to configure 38 components for 1 LPAR RTE
Today – 8 Parmgen **function-centric** jobs to configure components for 1 LPAR RTE
Customers experiencing over 35% improvement in install and configuration time*

- Install without requirement of distributed server
- Easy to walkthrough steps to complete configuration and customize profile
- Automatically updates hundreds of configuration artifacts according to profile, including auto-discovery of system values

single reference book for upgrade guidance

IBM Tivoli Management Services on z/OS
Version 6.2.3

PARMGEN Reference

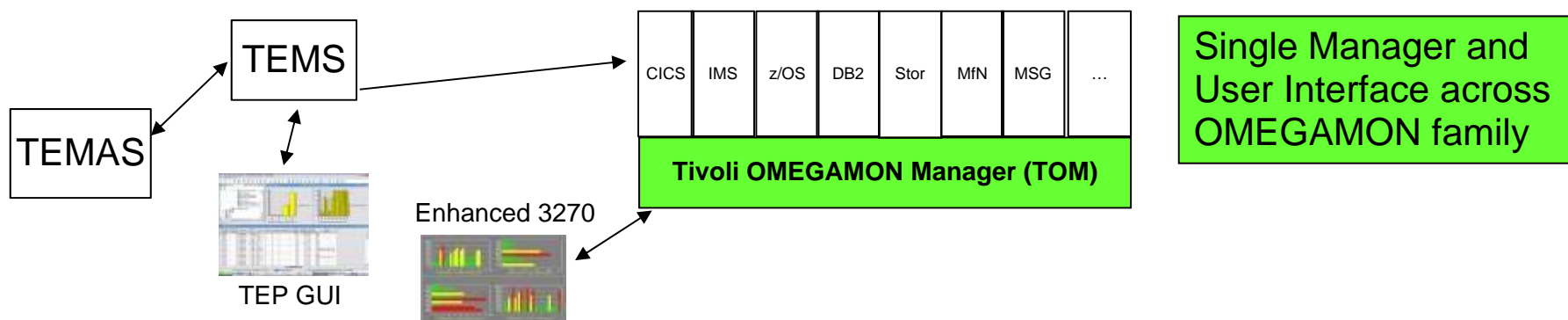
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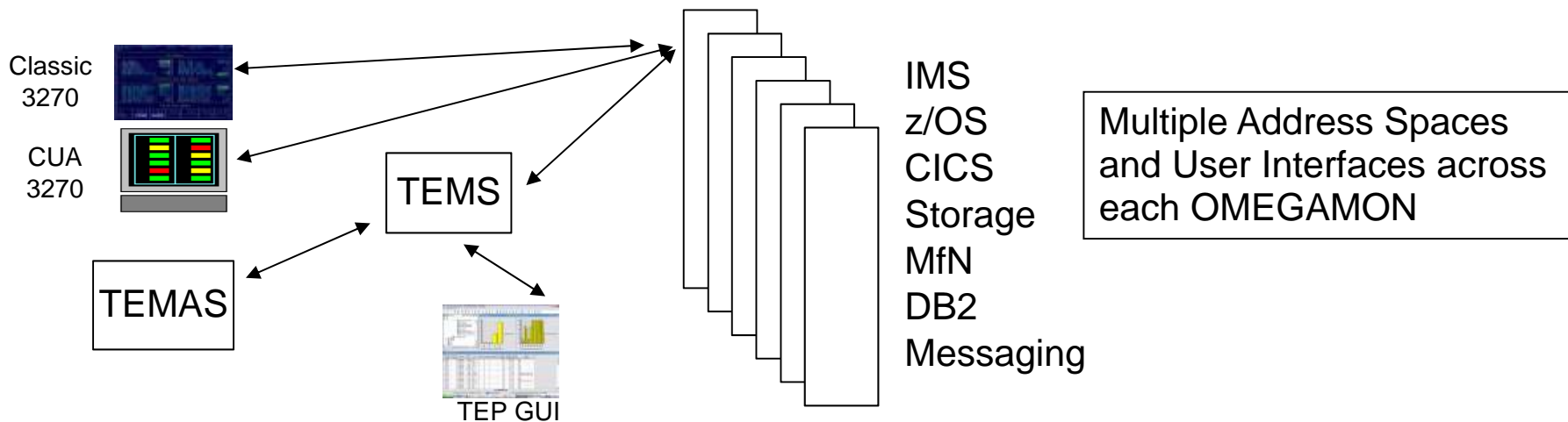
*“I like using the Parmgen approach better than CICAT/ICAT.
I find it much easier to make things repeatable...
I like the fact that Parmgen does not overwrite my running members”*
Typical quotes from early adopters program

Moving to simplified architecture driving decreased resource utilization without lose of current function

Enhanced OMEGAMON Architecture

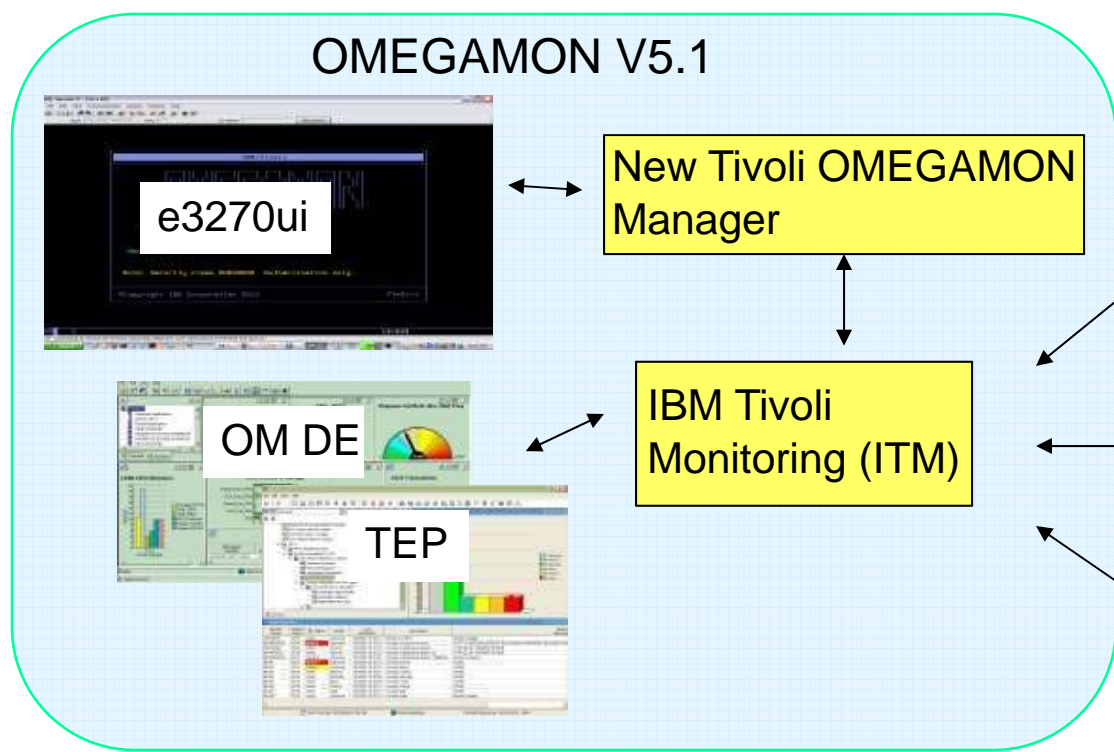


Current OMEGAMON Architecture



OMEGAMON integrates within a total System z Business Service Management solution

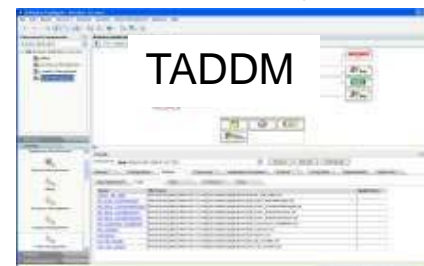
OMEGAMON Portfolio provides performance and availability visibility for System z events and data consumed by a set of Tivoli BSM products



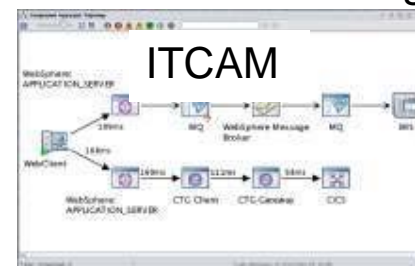
Business Assessment



Discovery



Transaction Tracking



TADDM – Tivoli Application Dependency Discovery Manager
 ITCAM – IBM Tivoli Composite Application Manager
 TBSM – Tivoli Business Service Manager

Analysts already agree that OMEGAMON V5 provides value to customers

Ptak / Noel

On OMEGAMON moving to simplified architecture and a common view across multiple domains, Rich Ptak of **PNA** commented, *"For too long, many IT staff liked working as siloed specialists. If a problem lay outside their silo, they could just toss it over to someone else. But, they can't live that way anymore"* PNA also gave IBM high marks for doing so without losing functionality. www.ptaknoel.com

Clabby Analytics

On OMEGAMON Enhanced 3270 User Interface, Joe Clabby with **Clabby Analytics** commented: *What you've done to your 3270 interface is kind of a "wow"! I'm not a 3270 fan and I love what you've done with it"*



IBM System z Service Management continues providing customers improved business flexibility

Key Takeaways



1. IBM recognized leader in **Application Performance Management** with **Visibility, Control and Automation** for high quality Service Management
2. Redesigned **OMEGAMON V5.1** providing improved visibility for Business Service Management
3. **Enhanced 3270 user interface** provides faster monitoring and problem management for reduced costs, higher availability and improved productivity

Learn more: www.ibm.com/omegamon

Thank
You