Improving Network Monitoring with OMEGAMON for Mainframe Networks V5.1

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Increasing visibility with mainframe monitoring can improve availability across entire Enterprise

Key Takeaways

1. IBM has provided leadership and best practices with System z Service Management Visibility, Control and Automation capability for years

2. Enterprise-wide Monitoring and Management provides much better availability and performance results than individual separate products

3. IBM's System z OMEGAMON family addresses key requirements, including reducing risk and decreasing costs, with improved productivity

IBM provides Visibility, Control and Automation to respond to changing priorities and to realize business potential

VISIBILITY

CONTROL

AUTOMATION

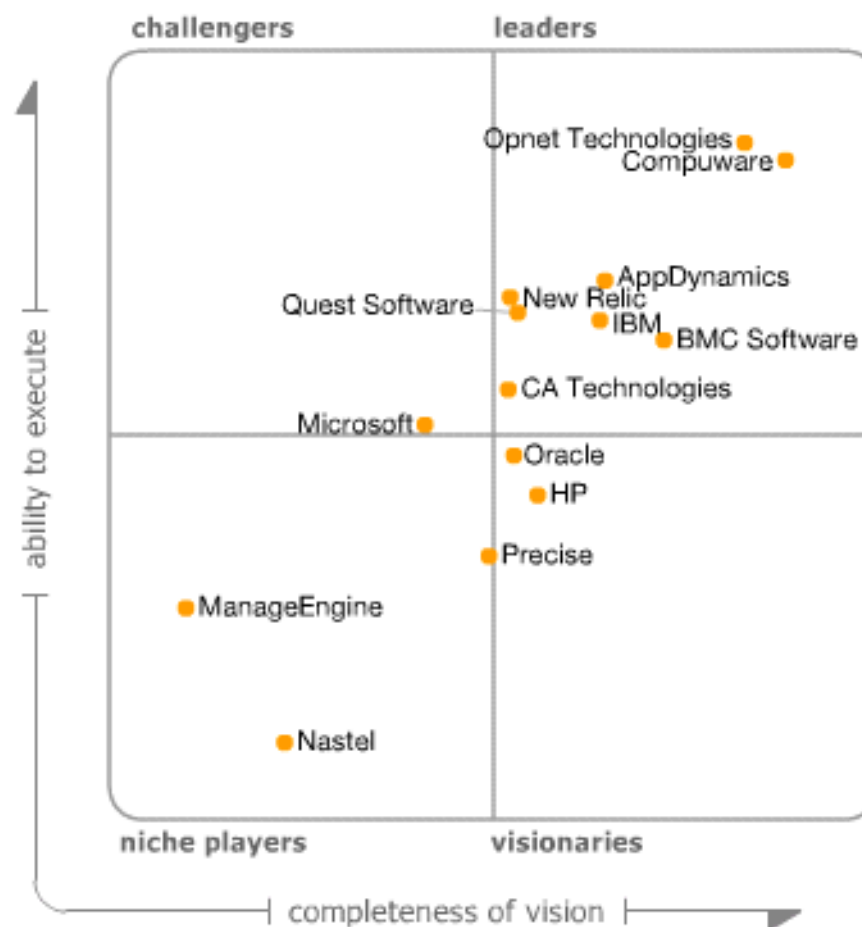React with agility to competitive landscape

Execute with reduced risk & cost

Achieve desired business outcomes

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

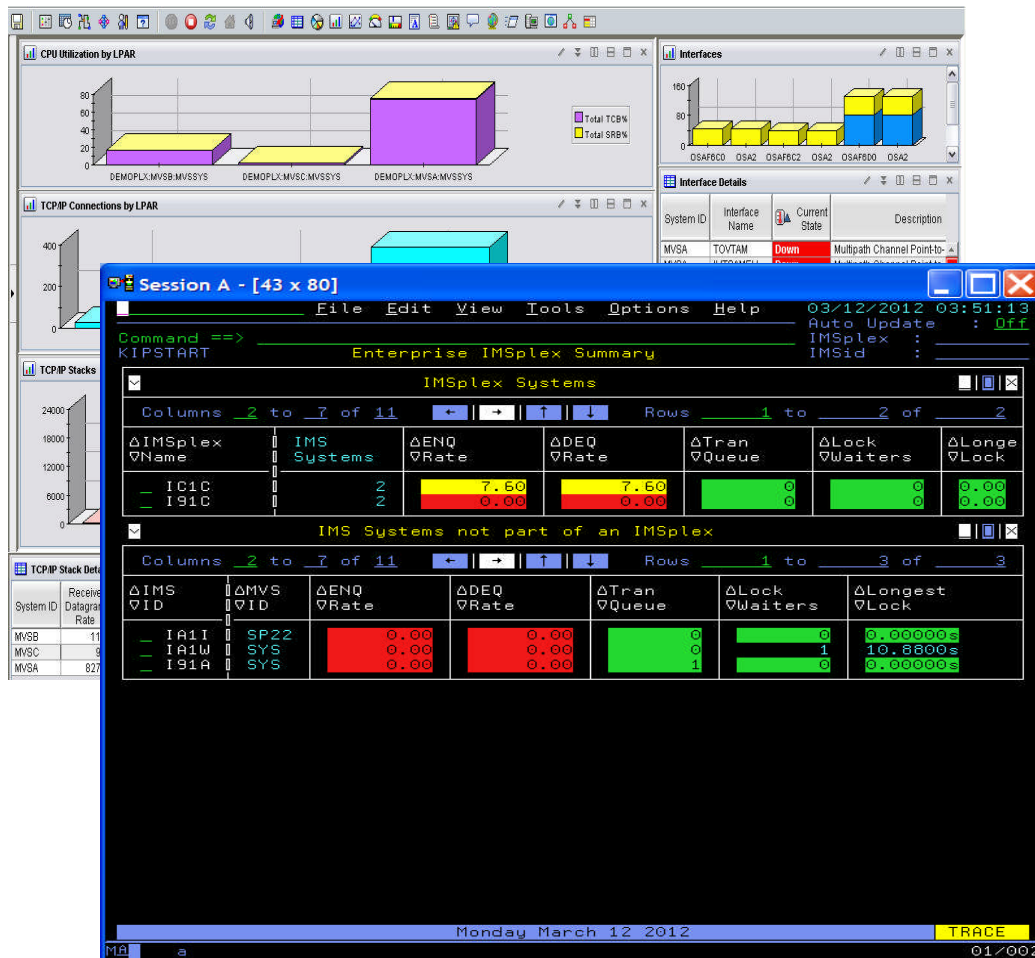Magic Quadrant for Application Performance Monitoring

Will Cappelli, Jonah Kowall

August 16, 2012

challengers | leaders

Opnet Technologies
Compuware

AppDynamics
Quest Software
New Relic
IBM
BMC Software

CA Technologies

Microsoft

Oracle

HP

Precise

ManageEngine

Nastel

niche players | visionaries

ability to execute

completeness of vision

As of August 2012

OMEGAMON V5.1 now has a complete family across System z sub-systems

OMEGAMON XE z/OS v 5.1

OMEGAMON XE CICS v 5.1

OMEGAMON XE DB2 v 5.1.1

OMEGAMON XE IMS v 5.1

OMEGAMON XE Storage v 5.1

OMEGAMON XE Messaging v 7.1

OMEGAMON XE
Mainframe Networks v 5.1

OMEGAMON for z/OS
Management Suite V5.1

Business Agility with improved IT visibility now available with OMEGAMON V5.1 family

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

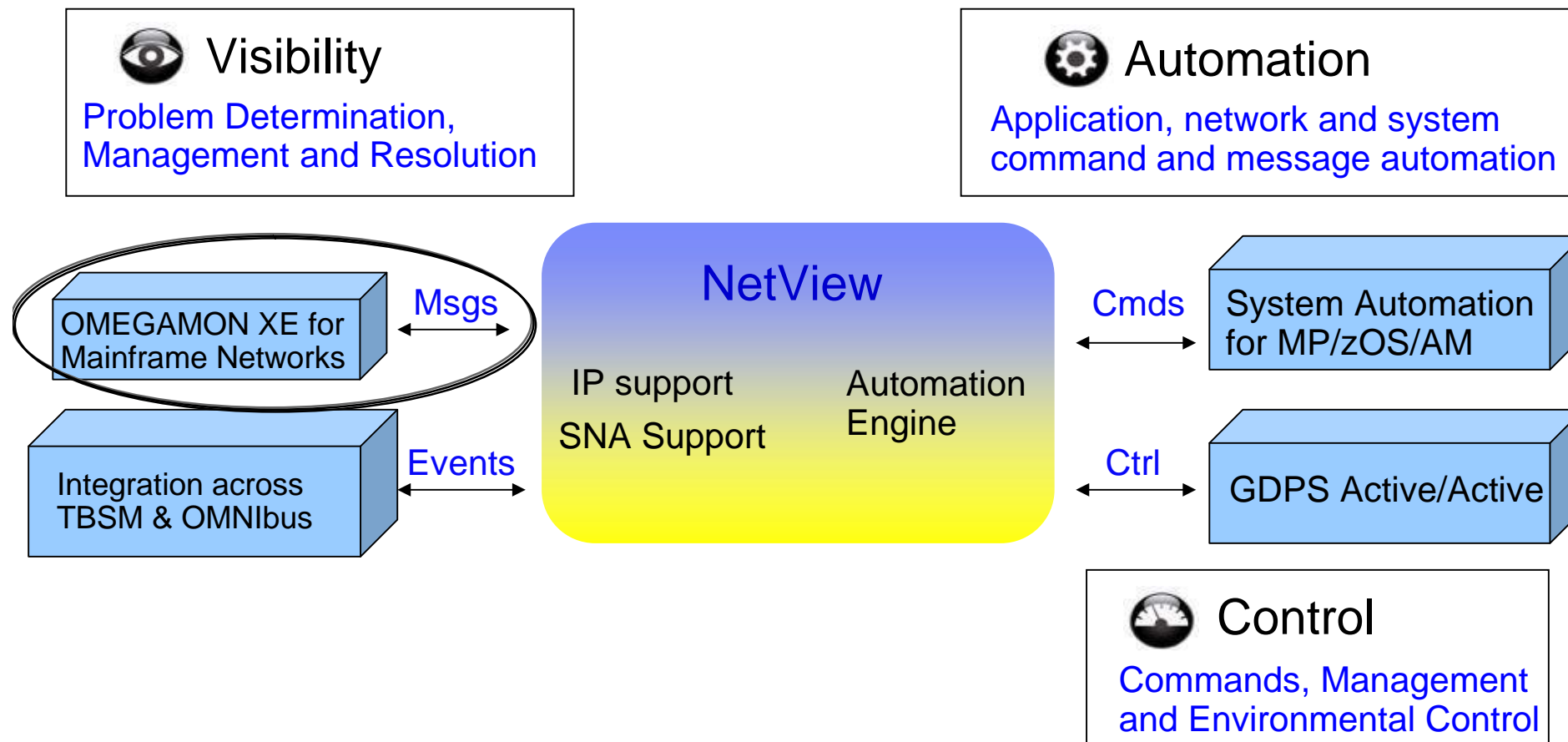- zEnterprise monitoring across z196/114 and zBX

Reduced Costs with decreased resource usage

- Usage of zIIP specialty servers

- Simplified OMEGAMON architecture

Individual products include additional capability

OMEGAMON for Mainframe Networks V5.1 fits into total Integrated Service Management Ecosystem

Visibility

Problem Determination, Management and Resolution

Automation

Application, network and system command and message automation

OMEGAMON XE for Mainframe Networks

Msgs

Integration across TBSM & OMNIbus

Events

NetView

IP support

SNA Support

Automation Engine

Cmds

System Automation for MP/zOS/AM

Ctrl

GDPS Active/Active

Control

Commands, Management and Environmental Control

NetView and OMEGAMON for MfN working together create single view of enterprise networks

NetView

Network <u>Availability</u>

OMEGAMON XE for Mainframe Networks

Network <u>Performance</u>

- Common user interface integrates TCP/IP data from both NetView and OMEGAMON XE for Mainframe Networks.

- Integration function provides customers with a consolidated TCP/IP workbench
  - Allowing management of both TCP/IP availability and performance from the same user interface.

- Smart IP tracing to immediately learn where poor or unstable TCP/IP connections hamper application performance

OMEGAMON for Mainframe Networks V5.1 improves network diagnostics and management

In addition to OMEGAMON V5.1 family capability:

- Improved Diagnostics with decreased CPU utilization
  - Exploiting new callable network management interfaces (NMIs) available with zOS v1.12
  - OSA data collection and display to improve diagnostics, visualization, and CPU usage
- New zEnterprise support with ability to monitor both data and management LANs
- Improved CPU control and resource usage with ability to turn data collection on and off:
- Greater synergy with IBM Tivoli NetView for z/OS and IBM Tivoli OMEGAMON XE for DB2 Performance Monitor created through in-context links between products.
- New workspaces, over 300 new data fields (many from customer requirements), and several new monitoring situations
- Improved Management with Take Action commands, NSLOOKUP and TRACERTE added to existing PING and DROP commands.
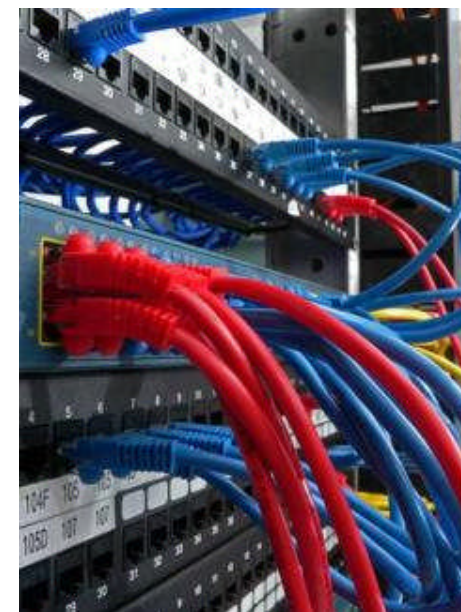
All the components work together to keep applications and services availability
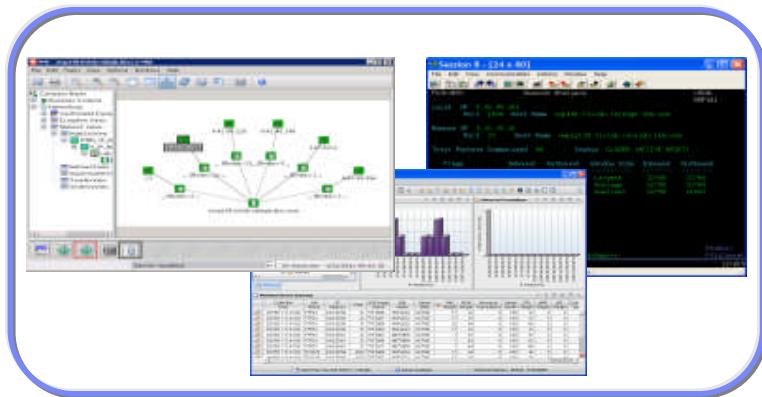
Role appropriate views of the right data at the right time

Rapid problem diagnostics via common UI and drill down between products
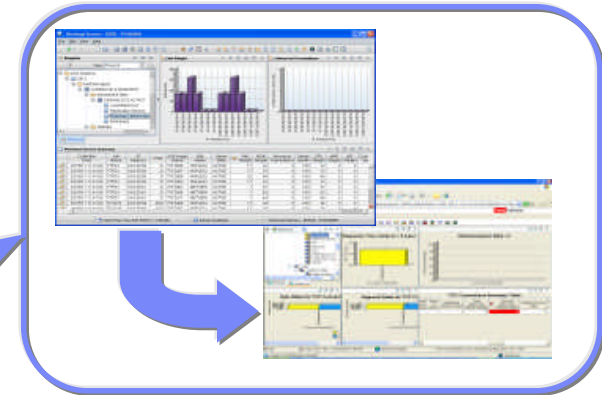
Alert me when thresholds are breeched and enable me to automate corrective actions for the future
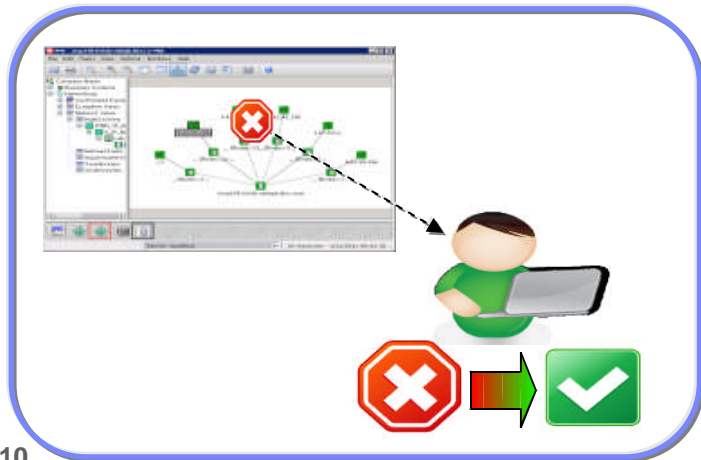
Consistent historical views of resource performance and availability data

OMEGAMON XE on z/OS

OMEGAMON XE for Mainframe Networks

OMEGAMON XE for CICS on z/OS

OMEGAMON XE for IMS on z/OS

NetView for z/OS

OMEGAMON XE on z/VM and Linux

Tivoli Common Reporting
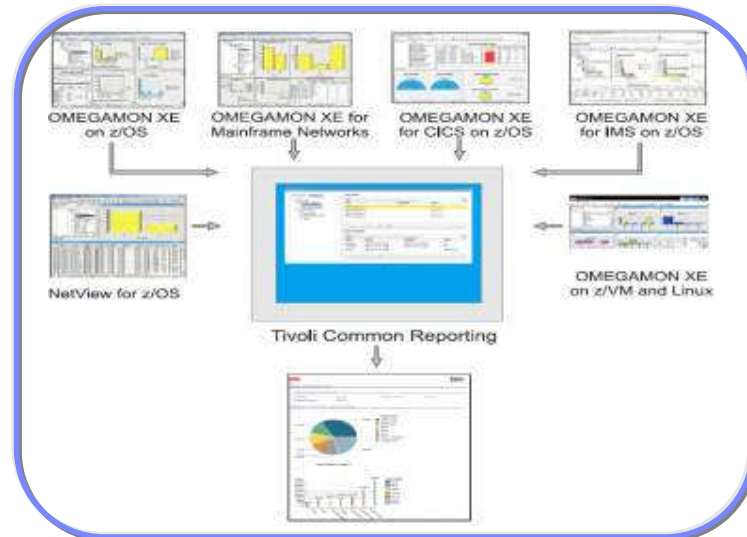
OMEGAMON V5.1 enhanced configuration and maintenance capability with <u>Self-Describing Agents</u>

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/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, 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

The overall process has been simple and quick.   Total time for 3-4 products (z/OS, CICS, DB2, TOM plain vanilla) has been about 2 hours Field Engineer

"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 <u>simplified architecture</u> driving decreased resource utilization without loss of current function

Enhanced OMEGAMON Architecture

TEMS

TEMAS

CICS	IMS	z/OS	DB2	Stor	MfN	MSG

Tivoli OMEGAMON Manager (TOM)

TEP GUI

Enhanced 3270

Single Manager and User Interface across OMEGAMON family
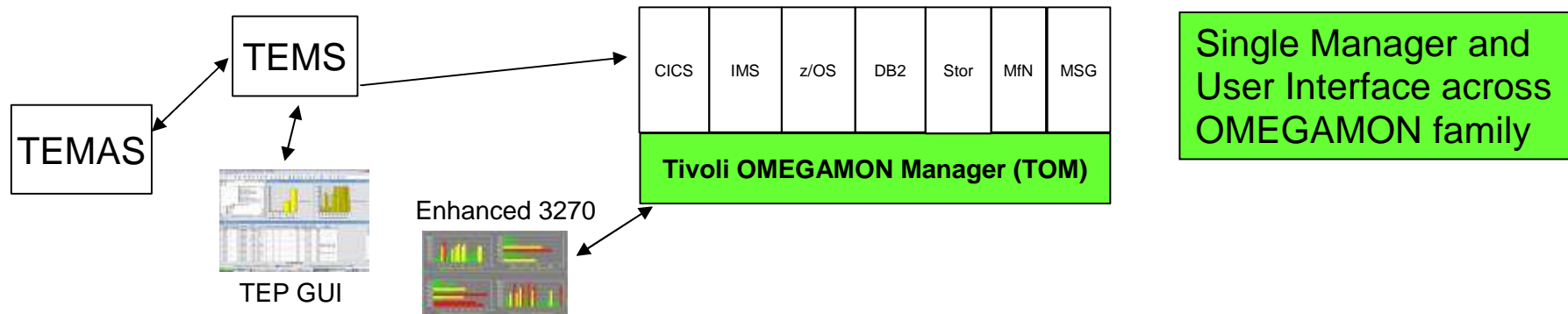
Current OMEGAMON Architecture

Classic 3270

CUA 3270

TEMS

TEMAS

TEP GUI

IMS
z/OS
CICS
Storage
MfN
DB2
Messaging

Multiple Address Spaces and User Interfaces across each OMEGAMON
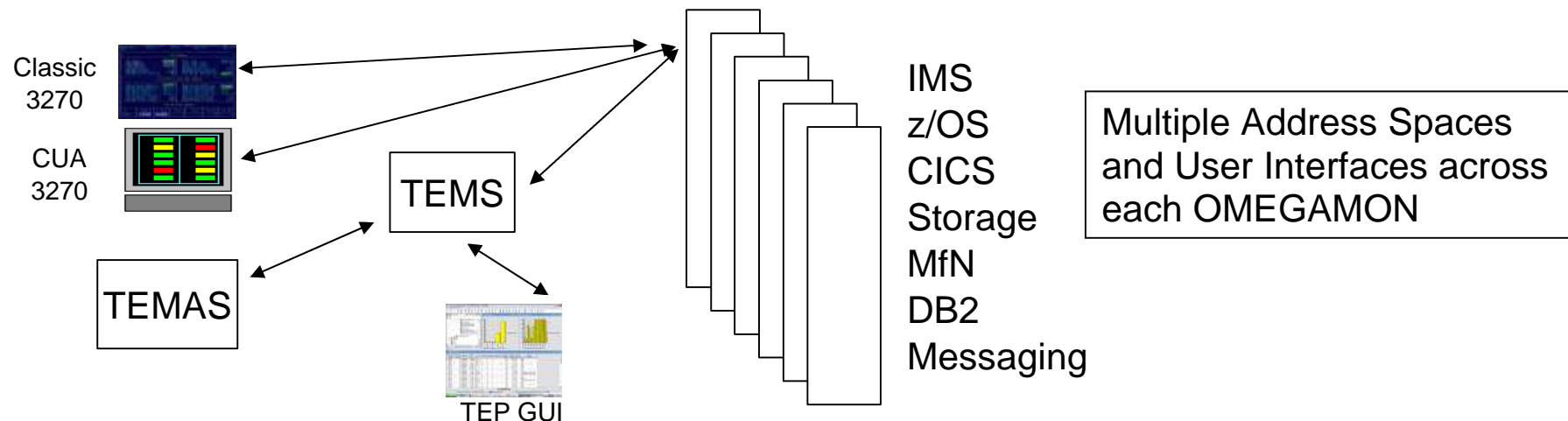
Enhanced 3270 user interface creates Enterprise wide view of information for improved availability

- Understand transactions across multiple sysplexs
- 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"

© 2010 IBM Corporation

Customer prioritized <u>Problem Solving scenarios</u> 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

Top consumers view of details

Gain graphical view of data
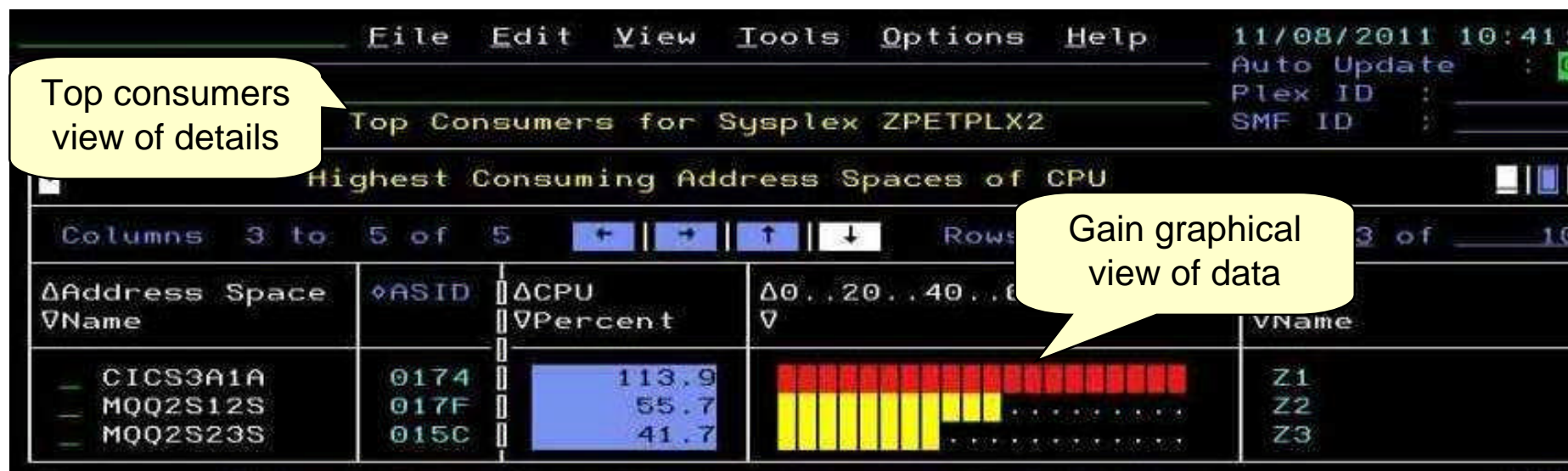
Example of quickly finding and fixing z/OS Problem

New E3270UI highlights problems and simplifies resolving them quickly

Possible Looping Job

Enter 'c' to cancel job

Job Cancelled

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

© 2010 IBM Corporation

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 then before

New Take Action commands on TEP and e3270ui allow for easier network management

- Trace route to monitor, ping or drop connection

- Drop Connection (D) can be issued directly on Connections Summary for selected application.

- Use option ! to see action list and take an action from the list

Issue Commands from Take Action Dropdown

Enterprise level Network Health provides view across LPARs based on user criteria priority

Displays summary of applications which meet one or more predefined criteria

Mainframe network problem solving views to simplify overall network management

```
netmenu              File   Edit   View   Tools   Options   Help      10/03/2012 06:11:23
                                                                      Auto Update    : Off
Command ==>
KOBSTART            KOBSTART  Enterprise  Network  Workspaces                    _|□|×

  ⌄                 Select one of the following, then press ENTER                  1
 ___                     1.  A Enterprise Application Health
  Columns                2.  L Enterprise TCP Listeners Overview
                         3.  C Enterprise Connections Health                    Tot Bac
 ΔSystem      Δ          4.  N Enterprise TN3270 Servers Overview               Rejecte
 ∇ID          ∇          5.  I Enterprise Interfaces Overview
                         6.  O Enterprise OSA Interfaces Overview                   0
  _  4080               7.   Enterprise HiperSocket Interfaces Overview
                         8.   Enterprise OSA Express Ports Overview
                         9.   Enterprise OSA Express Channels Overview
                        10.   Enterprise TCPIP Stack Performance Overview
                         1    Enterprise Memory and CSM Storage Overview
                              Command and Response Log



                          Wednesday  October  03  2012
```

Component monitoring of network problems

Define and display key metrics of application connection problems making it easier to monitor

Display summary of applications, with: percent out-of-order>=5%, or Total out-of-order segments>=15%, or connections in backlog>0, or backlog connections rejected>0, or percent segments retransmitted>3, or Total segments retransmitted >10%

Filtered list showing over-threshold applications

Show Network Interfaces with bad status or errors to assist in finding problems before they become outages.

Displays stats, status, summary data for all interfaces across the enterprise

Sorted, Color Coded Interface Status

© 2010 IBM Corporation

Monitor TN3270 Servers across enterprise from one screen for improved productivity

Displays TN3270 server summary information for TN3270 listeners across enterprise

TN3270 Servers sorted by criteria

View related TN3270 Stack information sorted for simplified, productive management

Sorted IP Layer Metrics

TCP Layer Metrics

UDP Layer Metrics

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

OMEGAMON V5.1

e3270ui

New Tivoli OMEGAMON Manager

OM DE

TEP

IBM Tivoli Monitoring (ITM)

TBSM OMNIbus

Discovery

TADDM

Transaction Tracking
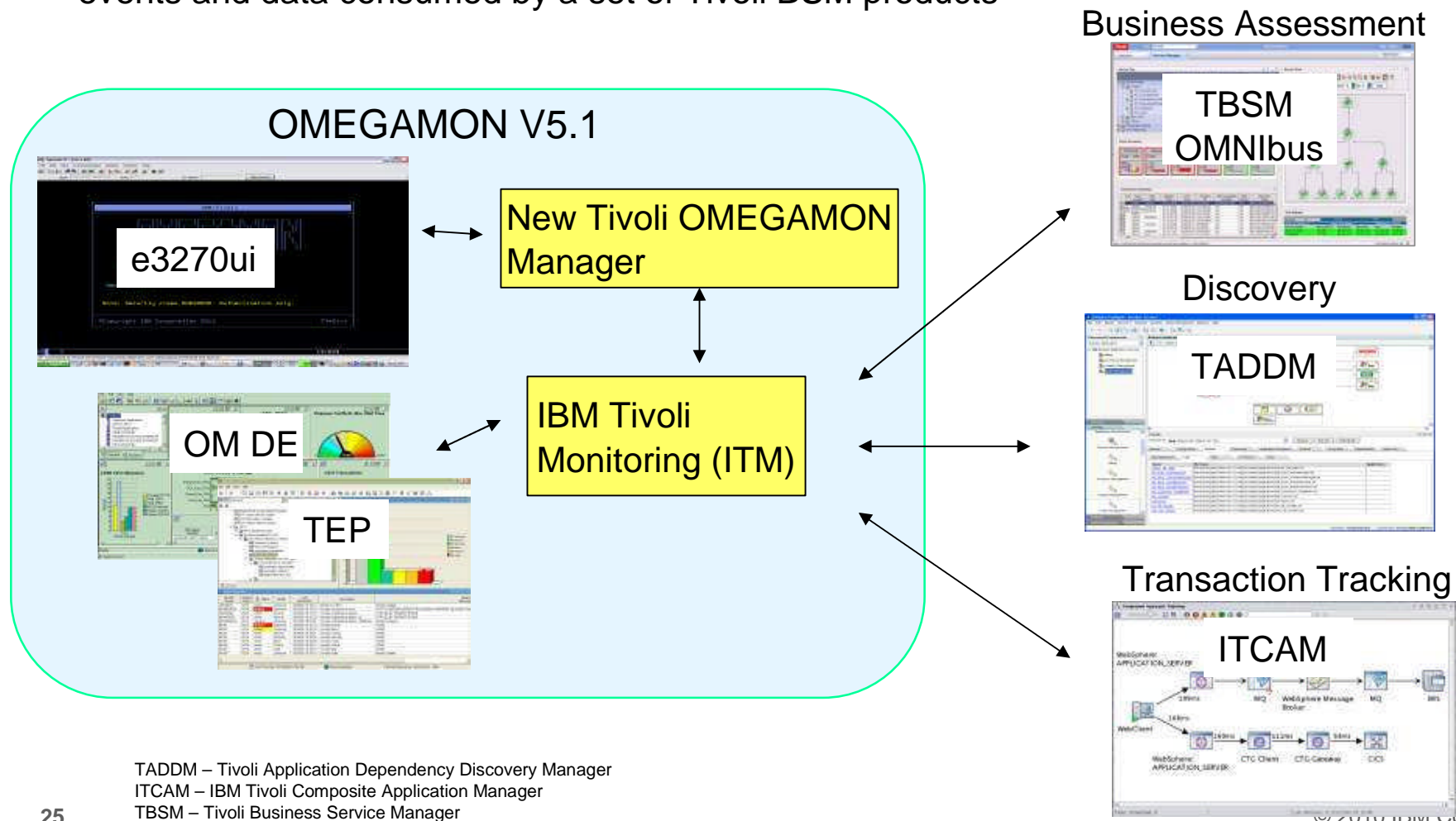
ITCAM

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

Business success is directly dependent on the health of underlying IT systems, applications, and networks

3

- Complexity of today's enterprise environments demands solutions that integrate across all aspects of enterprise network, whether distributed or z/OS.

- IBM in unique position to deliver monitoring and management solutions across enterprise subsystems, including mainframe network

- IBM Tivoli OMEGAMON for Mainframe Networks V5.1 key to system and network availability and integration, providing Visibility, Control, and Automation
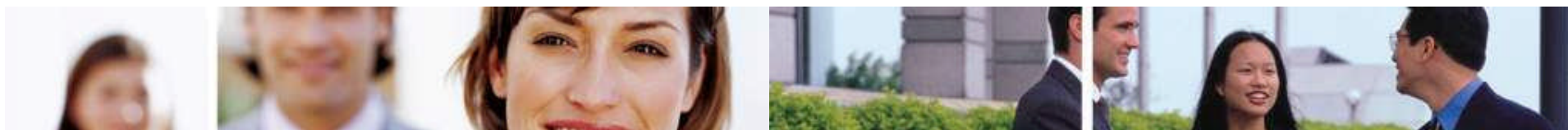
Learn more about IBM's entire Tivoli System z portfolio at upcoming Pulse Conference

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