



# Manage Enterprise Events into a Single View with Business Service Manager from IBM

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December 08, 2011

# Agenda

- Introduction
- Event Management
- Event Pump for z/OS
- Business Service Management

# Integrated Service Management



**VISIBILITY**  
*Monitor in real-time*



**CONTROL**  
*React quickly & effectively*



**AUTOMATION**  
*Achieve efficiency*

## Business Services and Assets

INFORMATION TECHNOLOGY



BUSINESS INFRASTRUCTURE



**CLOUD  
COMPUTING**



**WORK LOAD  
OPTIMIZED SYSTEMS**



**FEDERATED  
INFORMATION**

Visibility, Control and Automation™ across the End-to-End Business Infrastructure & Service Chain



# Additional Knowledge and Insights are Contained in Events all around us

## What is a Event?

An action that has occurred, or the absence of it occurring, which has relevance to the business

Large companies can experience up to **800 Billion** business events daily

Nearly **4 Trillion** RFID events are emitted each day



Over **190 Billion** emails are sent daily



# Business Leaders Struggle With Issues

*Lack of Visibility into Operations Leads to Many Business Problems*

**Exceptions waste resources and increase costs**



**Ineffective inventory management leads to lost sales**



**Poor response time leads to unhappy customers**



**Poor workload management leads to dissatisfied employees**



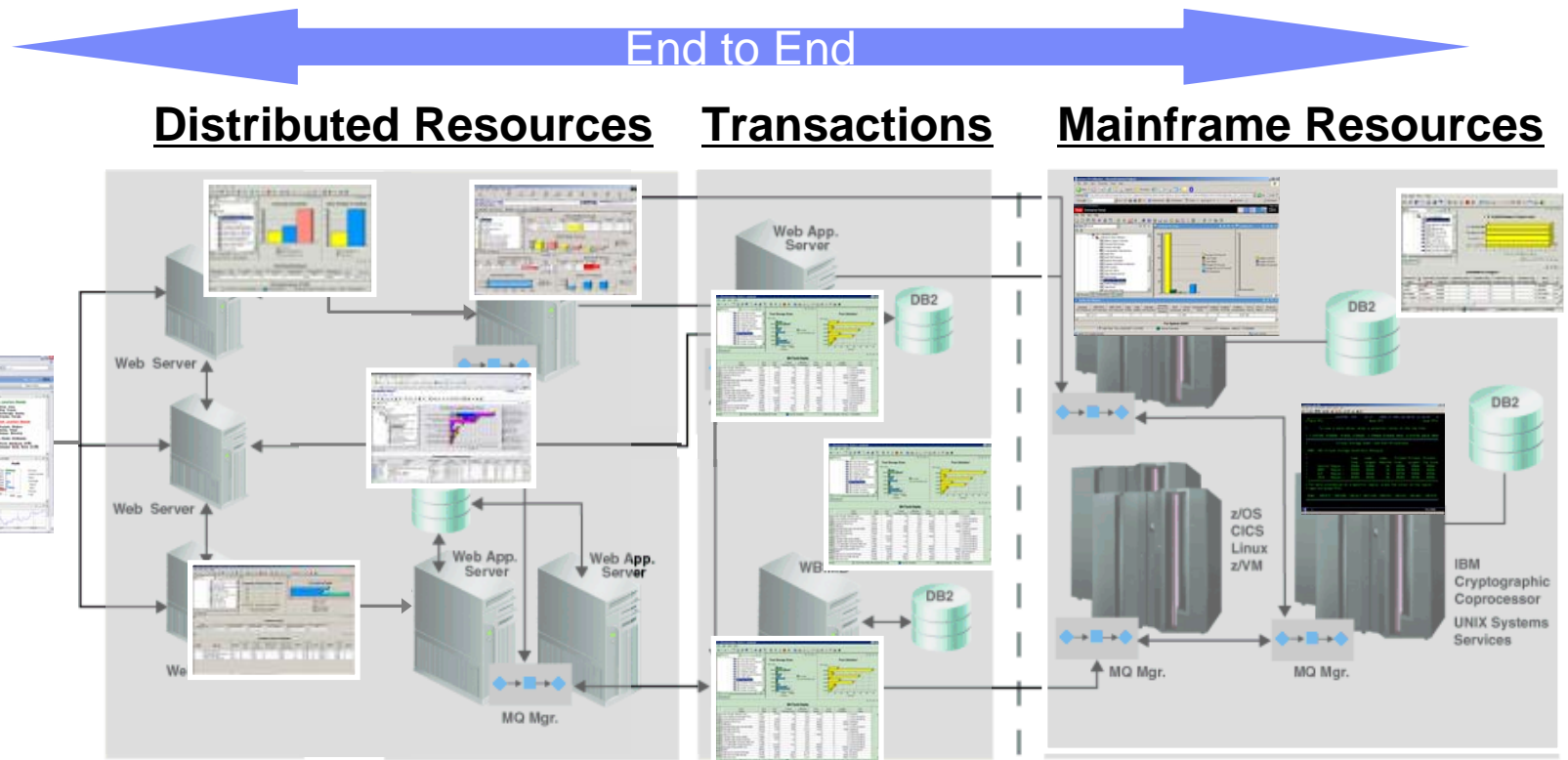
**Paper-intensive and manual processes impede visibility**



**Supply chain disruptions increase costs**

**85% of CEOs Require More Insight into their Businesses**

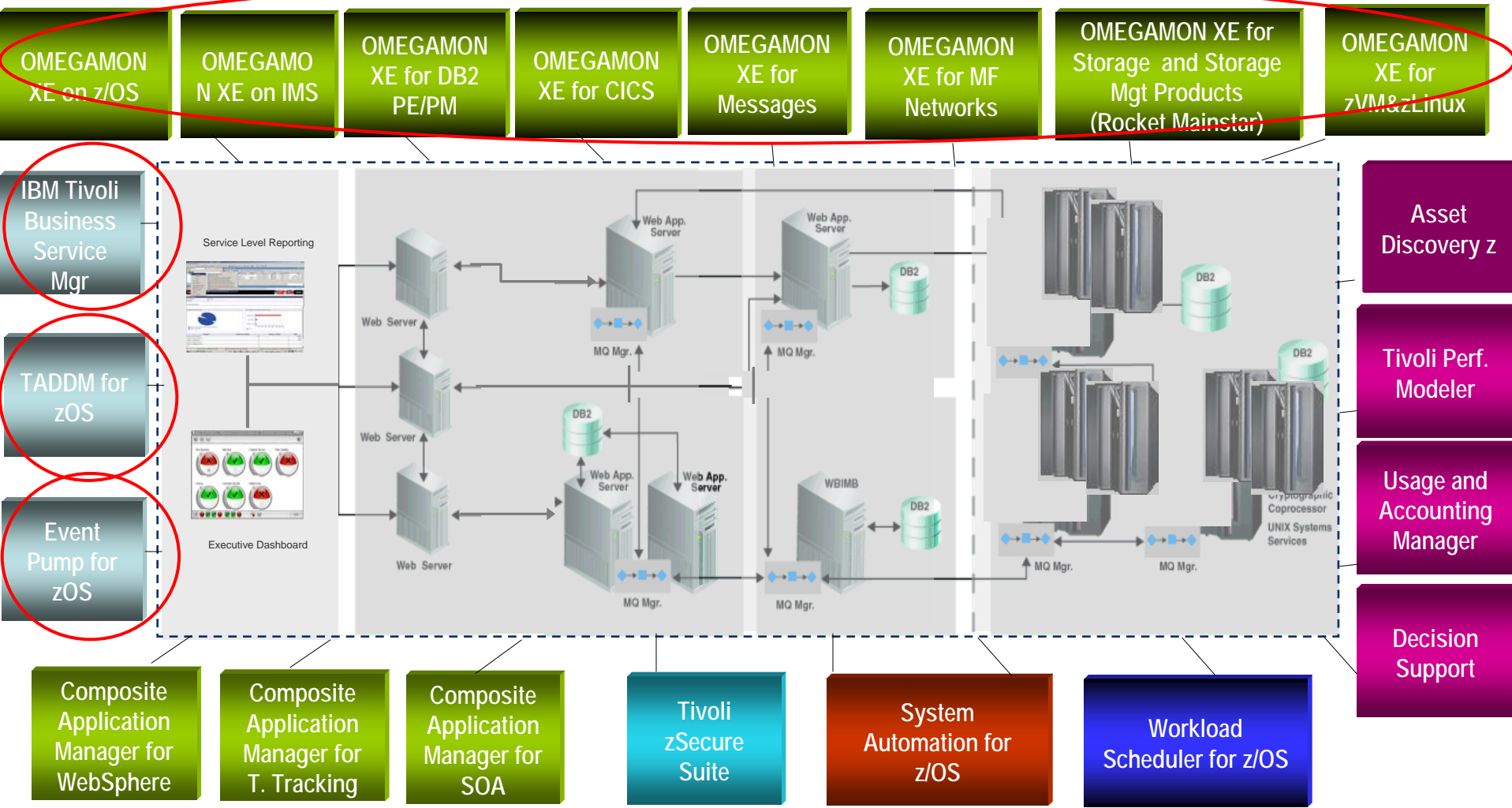
Events come from all Products/Consoles



- In today's environment applications span End-to-End
- A variety of tools to help manage these applications
- Many Events: What is the impact? IT and business

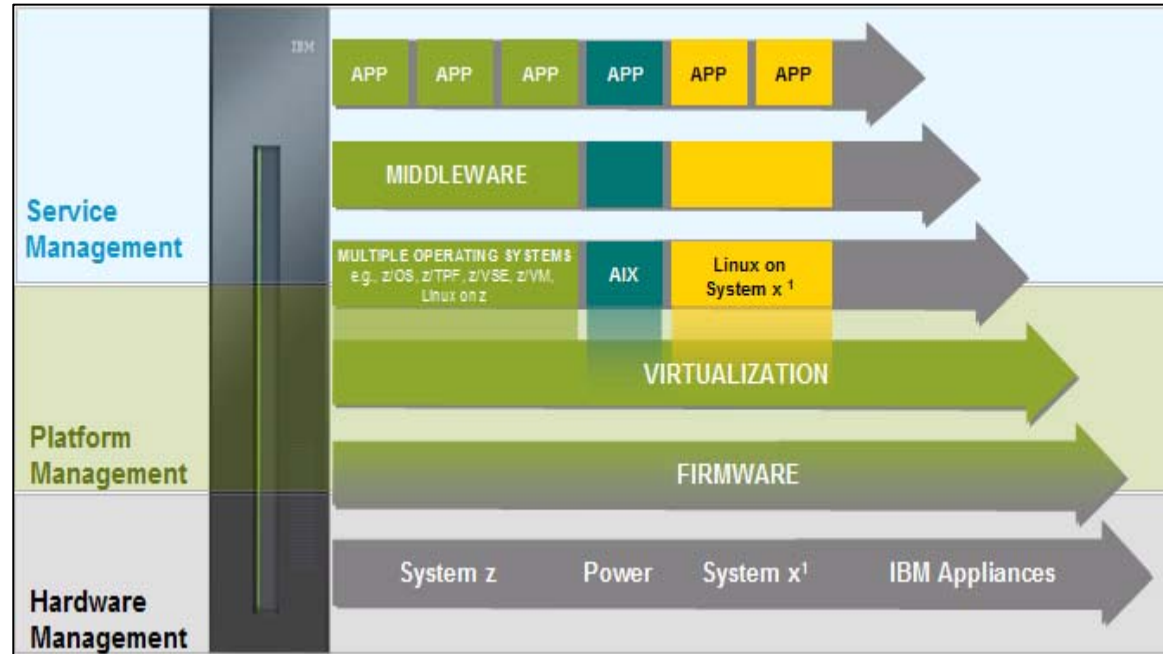
# Tivoli Service Management for z/OS and z/VM Linux

## System z Portfolio



# zEnterprise Service Management

- System z is providing a strong case for centralizing management of the hardware, firmware and hypervisor management across z, Power and x86
- Integrated Service Management provides the capabilities for centralizing management of the operating systems, middleware, storage, networks, and other resources composed to deliver *business services*





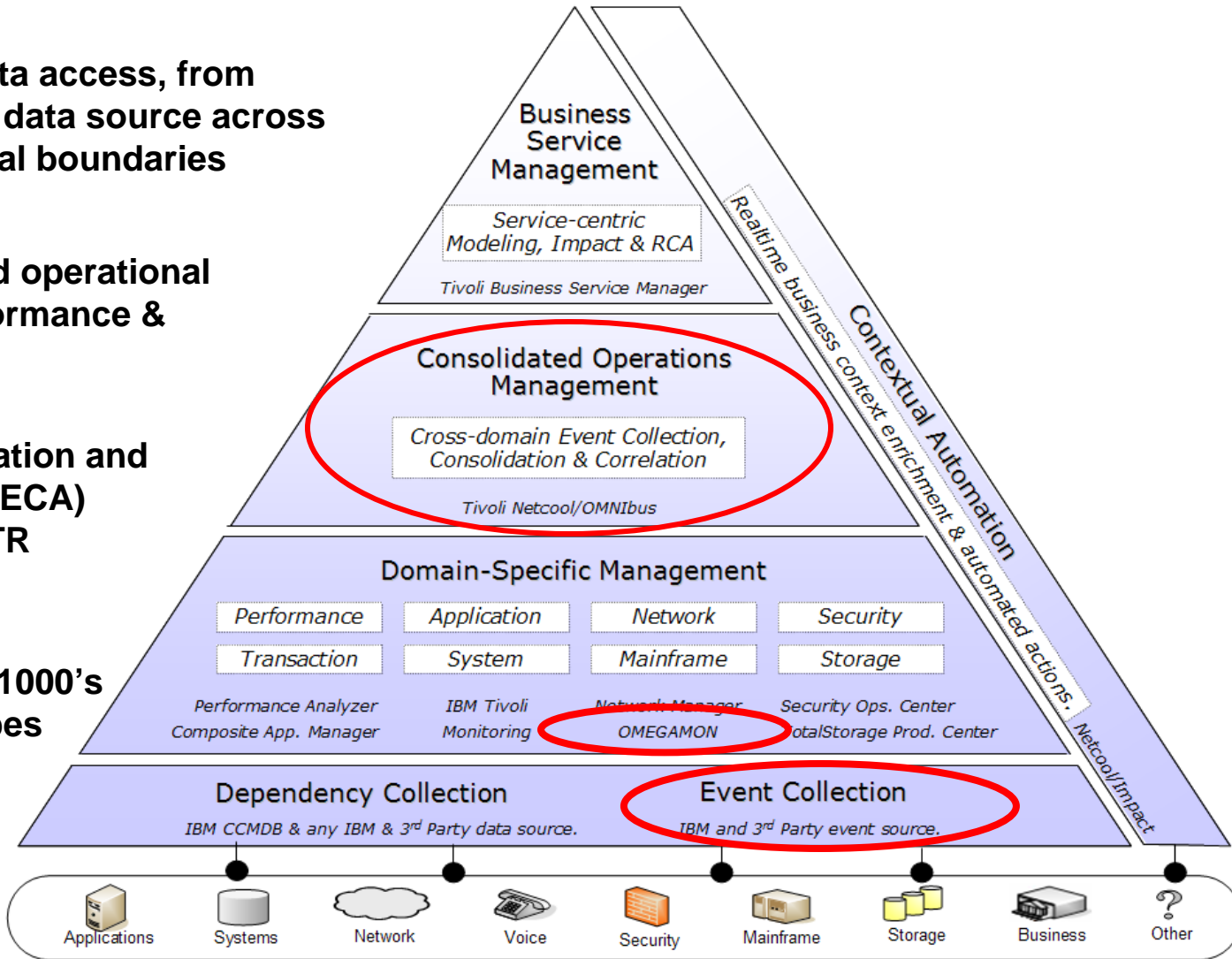
# Business Service Management

Real-time data access, from virtually any data source across organizational boundaries

Consolidated operational view of performance & availability

Event correlation and automation (ECA) reduces MTTR

Complete coverage of 1000's of device types



Note: All layers are inclusive of distributed and mainframe.

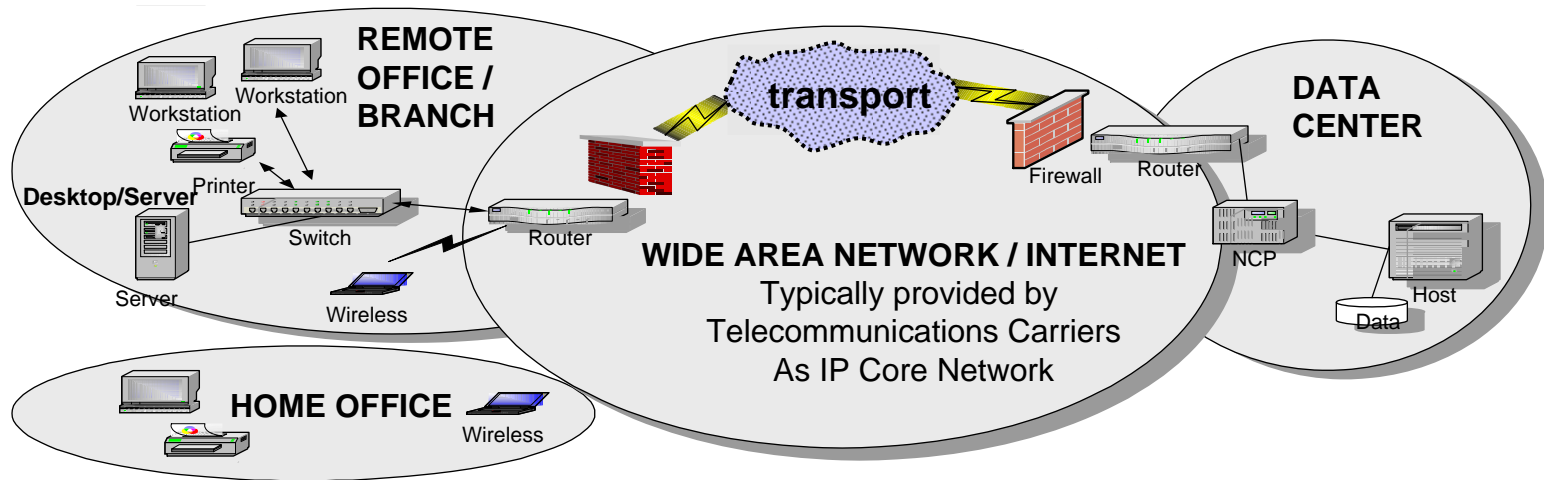
# Consolidated Operations Management

- Reduced Cost of Operations
  - Manage more with same resources
  - Efficiency & effectiveness
- Future Proof
  - Ultra scalable with low cost of ownership
  - Protect existing investments
- Visibility and Correlation across Silos
  - Bring together separate management domains for shorter MTTR
  - Single point of integration for EMS, Management domains and Service Desks enables more efficient automation
- Supports Business Growth
  - Open architecture enabling expansion without re-engineering
  - Flexibility to support changing business needs
- Service Differentiation
  - Provide customer views, performance and quality of service reporting
  - Customer perception is reality – SLA's manageable & meaningful
- Regulatory Compliance
  - Provide framework to help with FAST, SOX & BASELII requirements

# What is Event Management?

- Faults
- Up/Down
- Availability
- Reliability
- Resiliency

# What is Event Management? – Extended into Complex Networked Environments



- Large complex infrastructures.
- Maintaining Service is key for multiple services sharing across enterprise
- Increased range and reach of servers leads to reliance on skilled operators when solving problems
- Determining the actual cause of certain problems requires understanding events across IT and Network disciplines

The goal of **End-to-End Event Management** is to consolidate events, to focus on “root causes” (and identify related “symptoms”), and – where possible – to automate the resolution in response to any problem in the entire environment reducing MTTR (Mean time to Repair) and maintaining service .

# Our Event Driven World

## What is...

### ...a Business Event?

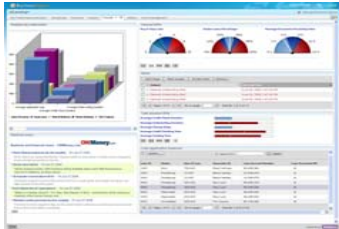
Any electronic signal (message) indicating a change in the state of the business has occurred

### ...Business Event Processing?

The ability to sense when an event or event pattern has occurred (or not occurred) – indicating an actionable business situation – and to coordinate the right response (action) at the right time.



# “Business Event” vs. “IT Event”



Business User

- Loan underwriting process is backed up
- Business monitors indicate backlog threshold exceeded

**Business-only solution:** add more underwriters

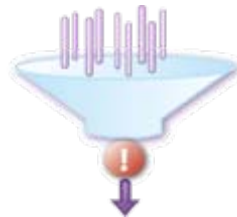


IT Operator



- Database server is down or failing
- Restart or Recycle DB

**IT-only solution:** Investigate further; What is the priority?



## Integrated solution:

- Correlate backlog event and IT restart events
- Send Action to IT dept to raise priority of database problem

# Event Processing for System z



# What is an Event on z/OS?

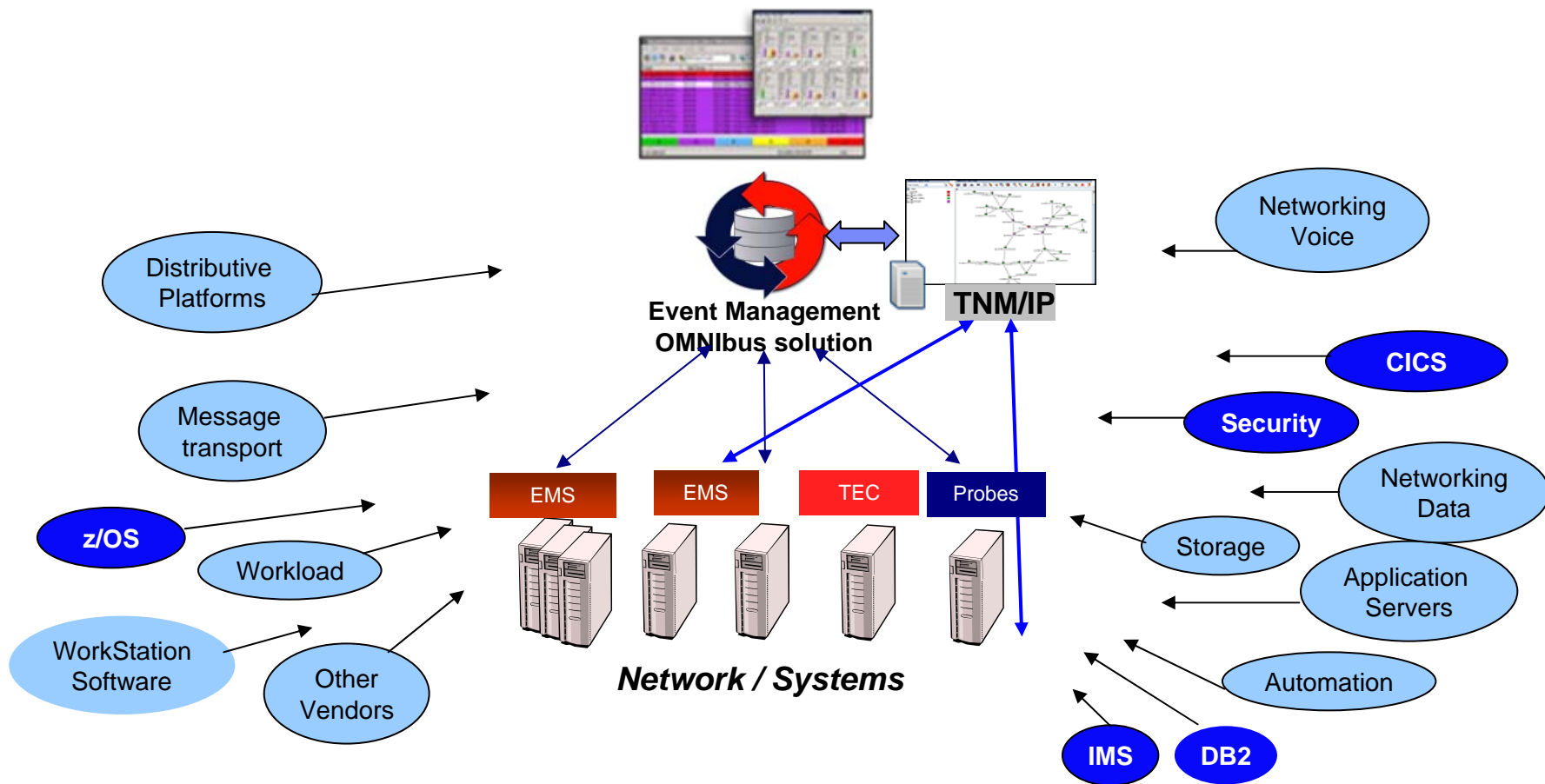
- **A notification (message, alert, log file record) that indicates a change in the application availability or status**
- **A monitored performance metric that indicates a change in a components usage of a resource**
- **Most events should not be forwarded – only the ones that**
  - ▶ Need to be acted on (via automation or manually)
  - ▶ Require correlation with other system, component, or application/business events to isolate a root cause
- **Existing automation/defined manual actions may already identify the events to be forwarded to Netcool/OMNIbus.**



# Tivoli z/OS Management

## *Integrated for end to end solutions*

**A Platform for Centralization of Events**  
**IBM Tivoli Netcool/OMNibus**

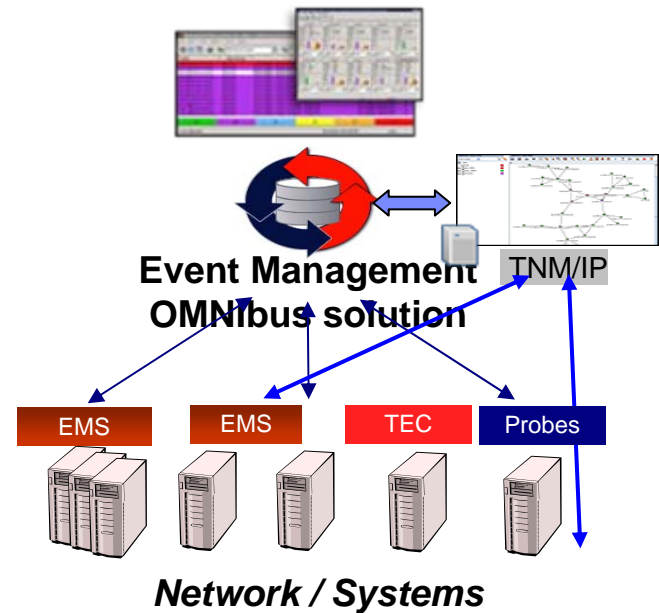


# Tivoli z/OS management

## *Integrated for end to end solutions*

### Distributed *Event and Performance* Management Integration

Platforms	Databases	Applications	Business Integration	Web Infrastructure	Messaging & Collaboration	Universal Agent
Unix	DB2 (Z & Distributed)	SAP	Web Services	WebSphere (Z & Distributed)	Lotus Domino	Agent-less Adapter URL, SNMP, File, Socket, UDB... Agent Quick attach API
Windows			CICS			
Cluster(s)	Oracle	.NET (full suite of MS apps)	SOA	IIS		
Linux	SQL	Citrix	IMS	iPlanet		
z/VM			WebSpher e MQ	Apache		
z/OS	Sybase	Siebel	Exchange	WebSpher e MQ Integrator	95+ Custom Packages available for modification	
VMWare	Informix	Tuxedo	WebLogic	Netcool		

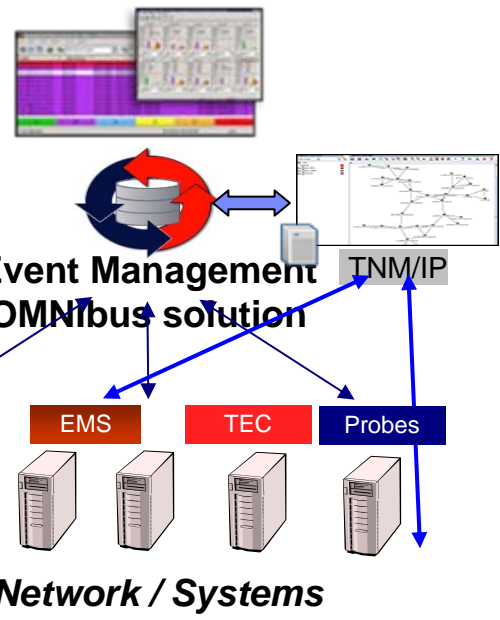


**IBM Tivoli Monitoring delivers world class monitoring across the multi vendor deployed technology resources as well as the State and Status of those resources being monitored and sends this alert data to OMNibus**

# Tivoli z/OS management

## *Integrated for end to end solutions*

### **z/OS Performance Management Integration**



**OMEGAMON XE for System z**

- OM XE on z/OS
- OM z/OS MC
- OM XE on z/VM Linux
- OM XE for Storage
- OM XE for MfN

Dashboard Edition

**OMEGAMON XE for Applications**

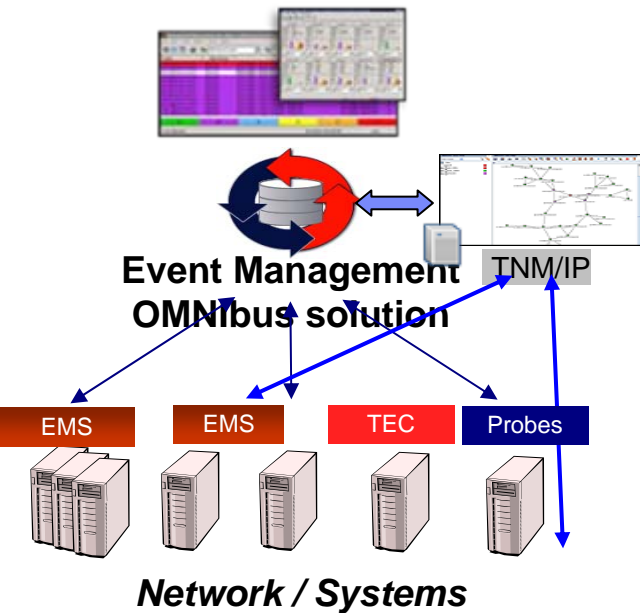
- OM XE CICS
- OM XE CICS TG
- OM XE DB2 PM/PE
- OM XE IMS
- OM XE Messaging (z)



**OMEGAMON XE deploy's proactive monitors for performance thresholds, queues, locks, links, loops, waits, that may or may not generate a message and when fired, sends information to Netcool/OMNibus**

# Tivoli z/OS management *Integrated for end to end solutions*

## z/OS Event Management Integration



## Event Pump for z/OS

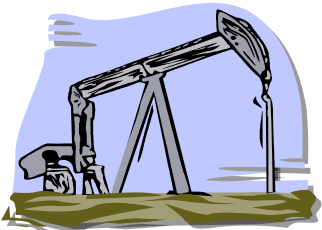


**Event Pump for z/OS reads the syslog and take messages and change them into events to be forwarded to Netcool/OMNibus on changes of state and status**

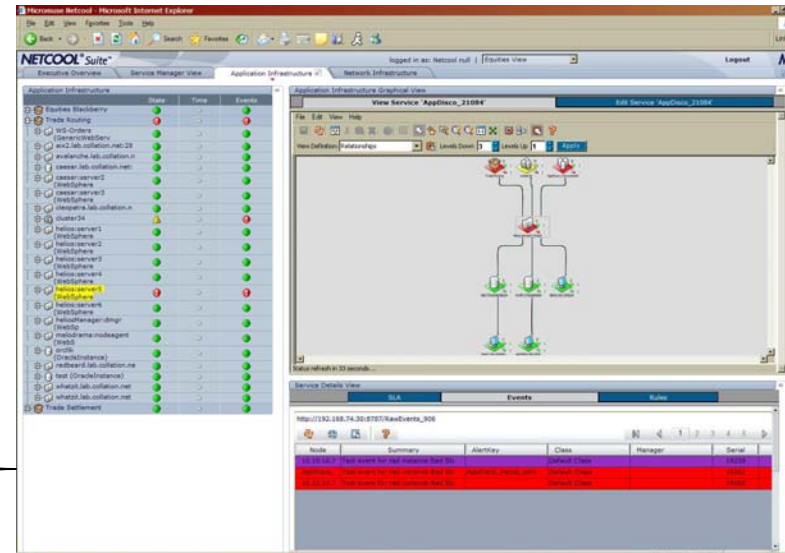
# Status and State of what z/OS systems?



CICS  
 DB2  
 IMS  
 z/OS  
 TSA  
 ---  
 TWS  
 CICS TDQ  
 ---  
 CICS SM  
 RMFIII  
 Storage  
 ...



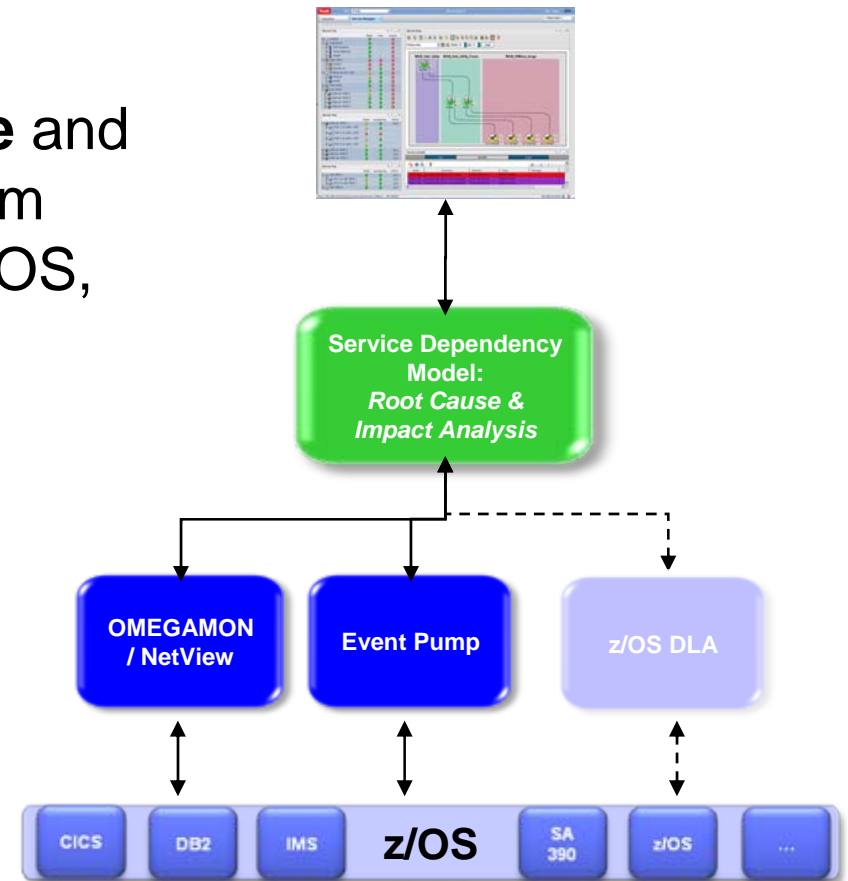
Event Pump  
for z/OS



Tivoli Business Service Manager (TBSM) deployed on Linux on System z or distributed platforms

## Event Pump for z/OS

- Out-of-the-box Collection of z/OS State and Status
- Event Pump for z/OS retrieves **state** and **status resource data** for **TBSM** from subsystems and tools that run on z/OS, such as:
  - z/OS
  - CICS
  - IMS
  - DB2
  - SA/390
- Direct Support for OMEGAMON XE
- Any External Distributed Sources



## How does the Event Pump for z/OS work?

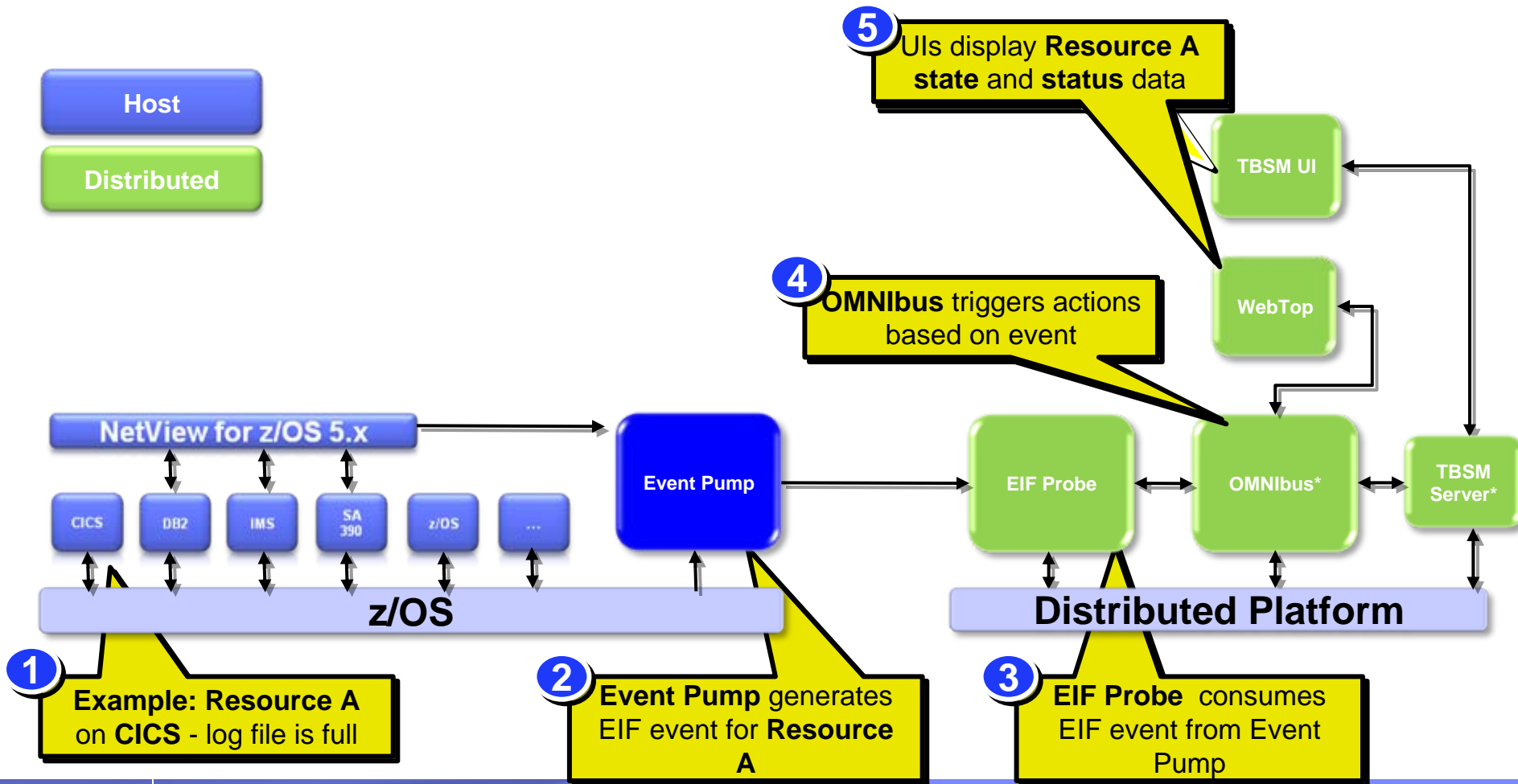
- Systems and Subsystems write messages to the syslog
- The Event Pump for z/OS reads the messages and generates EIF that is sent to an EIF probe in Netcool/OMNIbus.
- Based on what the customer defines as the rules, Netcool/OMNIbus will change the visual of the resource to reflect any State or Status change.
- The Event Pump for z/OS is used with
  - Tivoli Business Service Manager (TBSM) v4.2.1, v6.x
  - Netcool/OMNIbus v7.1.2+
  - or any other IBM product that can consume EIF.

## Event “Feeds”

- From the feeds we get, how do we figure out what messages we should use that are sent to the syslog.
- The messages go through a registration process where it is decided which messages are forwarded from the syslog for state and status to TBSM.
- The feeds provided by Tivoli have been put together by best practices so messages that are forwarded can be used by the business and get value on day one.



# Event Pump for z/OS Event Flows

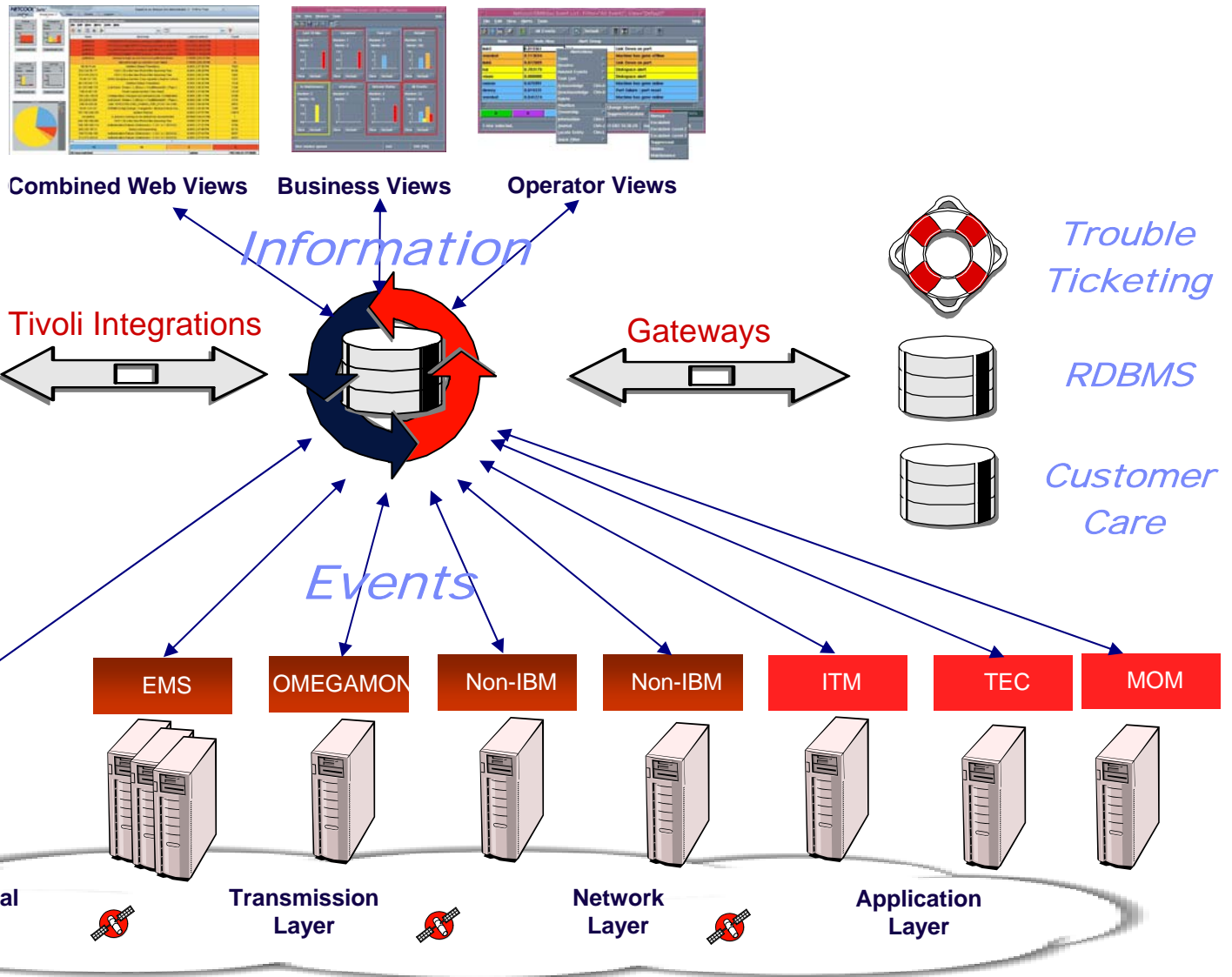


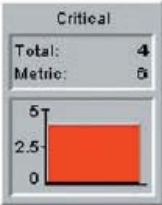
# Bringing z/OS Events to a Single Source Consolidated Operations Management

# Tivoli Netcool/OMNIBus : Event Management

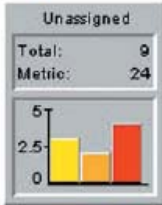
## Tivoli

- ITNM
- Netcool/Impact
- Business Service Manager
- *Event Pump for z*
- *OMEGAMON XE*
- *NetView for z/OS*

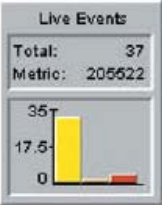




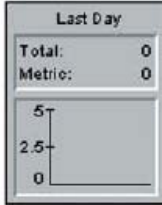
Active Event List



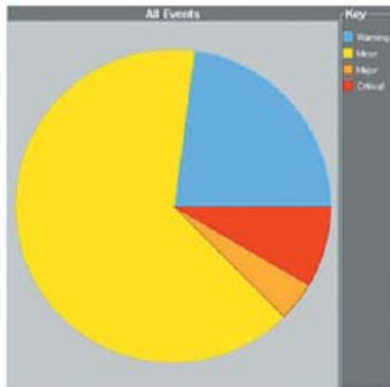
Active Event List



Active Event List



Active Event List


<http://192.168.34.117:8080/webtop/AllEvents/>

File Edit View Alerts Tools Help

Node	Summary	Last Occurrence	Count
griffint41p	A OBJSERVAUTH process running on griffint41p has disc...	11/8/05 12:16:57 PM	1
griffint41p	A NT Event List@C0A82275 process running on griffint41...	10/13/05 2:49:08 PM	2
griffint41p	A JavaAdmin process running on griffint41p has disconn...	11/23/05 4:45:30 PM	1
griffint41p	A NT Event List@AC1965E7 process running on griffint41...	11/8/05 11:43:48 AM	2
griffint41p	Attempt to login as root from host griffint41p failed	11/8/05 2:09:31 PM	2
	Attempt to login as root from host failed	11/8/05 2:09:35 PM	10
68.38.75.44	Interface Status Transitions	6/2/05 2:37:59 PM	7683
232.129.76.171	10.0.1.20 is the New Root of the Spanning Tree	6/2/05 2:38:29 PM	6336
215.146.210.73	10.0.1.20 is the New Root of the Spanning Tree	6/2/05 2:38:24 PM	7094
15.46.147.151	DASD backplane number 1 has reported a fault on hard d...	6/2/05 2:37:59 PM	7327
89.130.162.173	Interface Status Transitions	6/2/05 2:38:20 PM	7429
52.103.188.119	Link Down: ifIndex = 3, ifDescr = FastEthernet0/1, ifType = ...	6/2/05 2:38:25 PM	7168
138.44.90.130	Power supply number 2 has failed	6/2/05 2:37:45 PM	10197
164.129.135.19	Configuration Changed via Command Line: ConfigDataS...	6/2/05 2:38:11 PM	8196
83.229.63.250	Link Down: ifIndex = 3, ifDescr = FastEthernet0/1, ifType = ...	6/2/05 2:38:14 PM	1374
168.30.205.29	slot1 %TN3270S-3-NO_UNBIND_RSP_RCVD: No UNBI...	6/2/05 2:38:26 PM	6952
45.94.144.157	NVRAM Config Change: ChangeInfo = Module 9 block cha...	6/2/05 2:38:26 PM	7290
197.195.230.104	System Reboot	6/2/05 2:37:07 PM	10975
lon-bbtest	A process running on lon-bbtest has disconnected	9/29/05 5:06:41 PM	1
246.190.198.200	10.0.1.20 is the New Root of the Spanning Tree	6/2/05 2:37:39 PM	8609
189.108.240.114	Authentication Failure (Enterprise = .1.3.6.1.4.1.253.8.62....	6/2/05 2:37:53 PM	5756
243.120.187.31	Device not responding	6/2/05 2:37:49 PM	6172
199.73.184.108	Authentication Failure (Enterprise = .1.3.6.1.4.1.253.8.62....	6/2/05 2:37:52 PM	6957
213.218.230.35	Authentication Failure (Enterprise = .1.3.6.1.4.1.253.8.62....	6/2/05 2:37:51 PM	6083

11	31	2	4
48 rows matched			admin
			192.168.34.117:8080

Omnibus - ACHAN2 - SYSADMIN

File Edit View Help

View: Physical

Enterprise

- Windows Systems
  - ACHAN2
    - Tivoli Enterprise Console Server Agent
      - Availability
      - Event Activity
      - Event Distribution
      - Event Throughput
    - Universal Agent
    - Windows OS

achan2.raleigh.ibm.com - Tivoli Enterprise Console: AllActiveEvents

Total: 17 Selected: 1

Time Received	Class	Hostname	Severity	Status	Message
May 12, 2006 12:22:02 PM EDT	TEC_Start	ACHAN2	Harmless	Open	TEC Event Server initialized
May 12, 2006 12:22:45 PM EDT	Omnibus	snapshot	Critical	Open	Diskspace alert - 97% full
May 12, 2006 12:22:45 PM EDT	Omnibus	k87643	Critical	Open	Machine has gone offline
May 12, 2006 12:22:45 PM EDT	Omnibus	d87632	Warning	Open	Link Down
May 12, 2006 12:22:47 PM EDT	Omnibus	test-2376	Warning	Open	Diskspace alert - 80% full
May 12, 2006 12:22:47 PM EDT	Omnibus	sic3602	Harmless	Open	Machine is online
May 12, 2006 12:22:47 PM EDT	Omnibus	custod	Minor	Open	Diskspace alert - 70% full
May 12, 2006 12:22:47 PM EDT	Omnibus	barracuda	Minor	Open	Machine has gone offline
May 12, 2006 12:22:47 PM EDT	EVENT	dolphin	Critical	Open	Database down
May 12, 2006 12:22:47 PM EDT	EVENT	stingray	Warning	Open	File system full
May 12, 2006 12:22:48 PM EDT	Omnibus	rtsad	Critical	Open	Diskspace alert - 97% full
May 12, 2006 12:22:49 PM EDT	Omnibus	jd732	Critical	Open	Machine has gone offline
May 12, 2006 12:22:49 PM EDT	Omnibus	nd428	Warning	Open	Link Down
May 12, 2006 12:22:49 PM EDT	Omnibus	dev-3229	Warning	Open	Diskspace alert - 80% full
May 12, 2006 12:22:49 PM EDT	Omnibus	tx72104	Harmless	Open	Machine is online

Acknowledge Close Details Information

TEC Processes Virtual Sizes

Process	Virtual Size
teo_task.exe	~38
teo_server.exe	~42
teo_rule.exe	~45
teo_dispatch.exe	~35
teo_reception.exe	~32

Total Number of Open Events By Severity

Severity	Count
Fatal	0
Critical	5
Minor	4
Warning	5
Harmless	3
Unknown	0

Hub Time: Fri, 05/12/2006 12:42 PM

Server Available

Omnibus - ACHAN2 - SYSADMIN

What is the Next Step...

Business Service Management

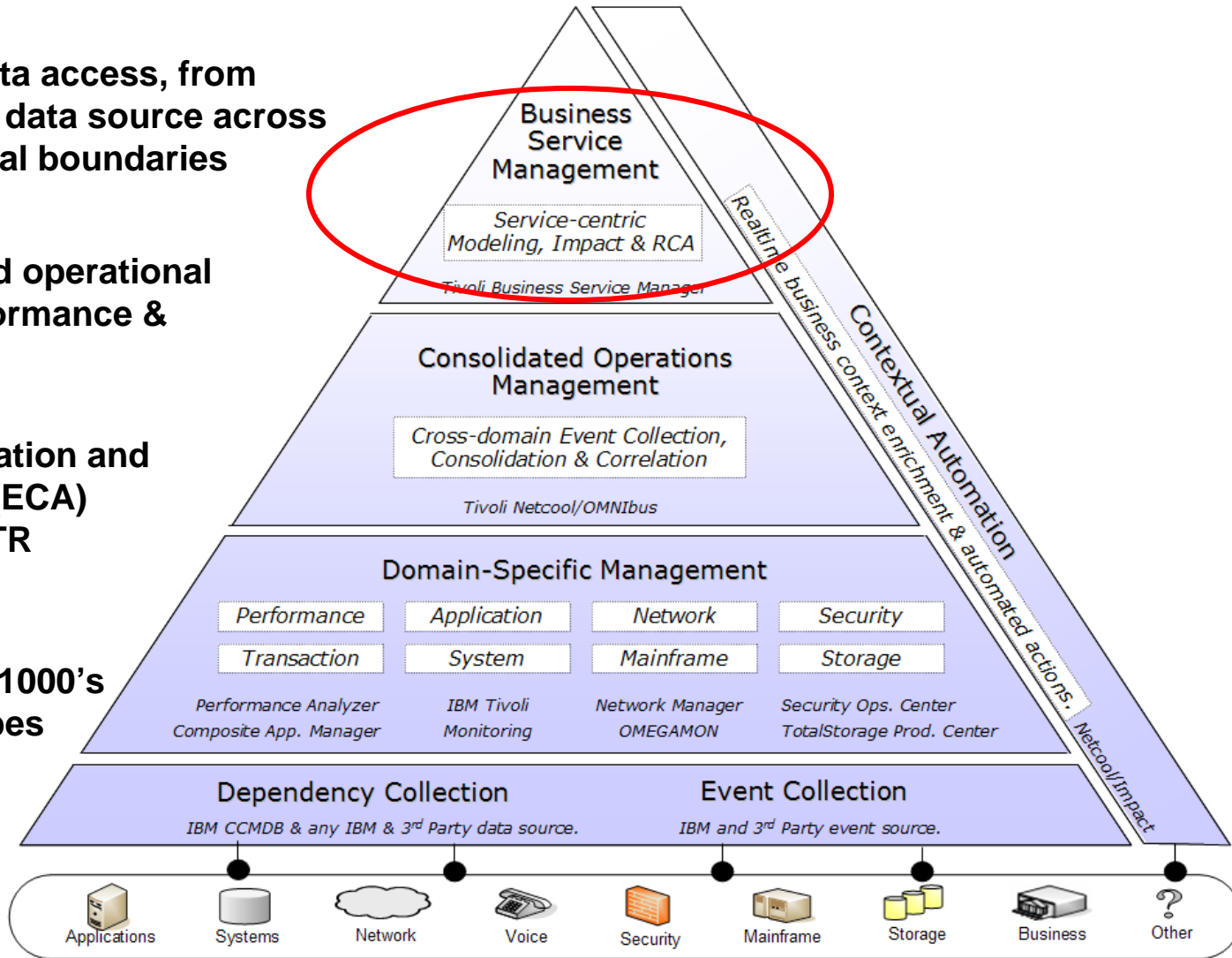
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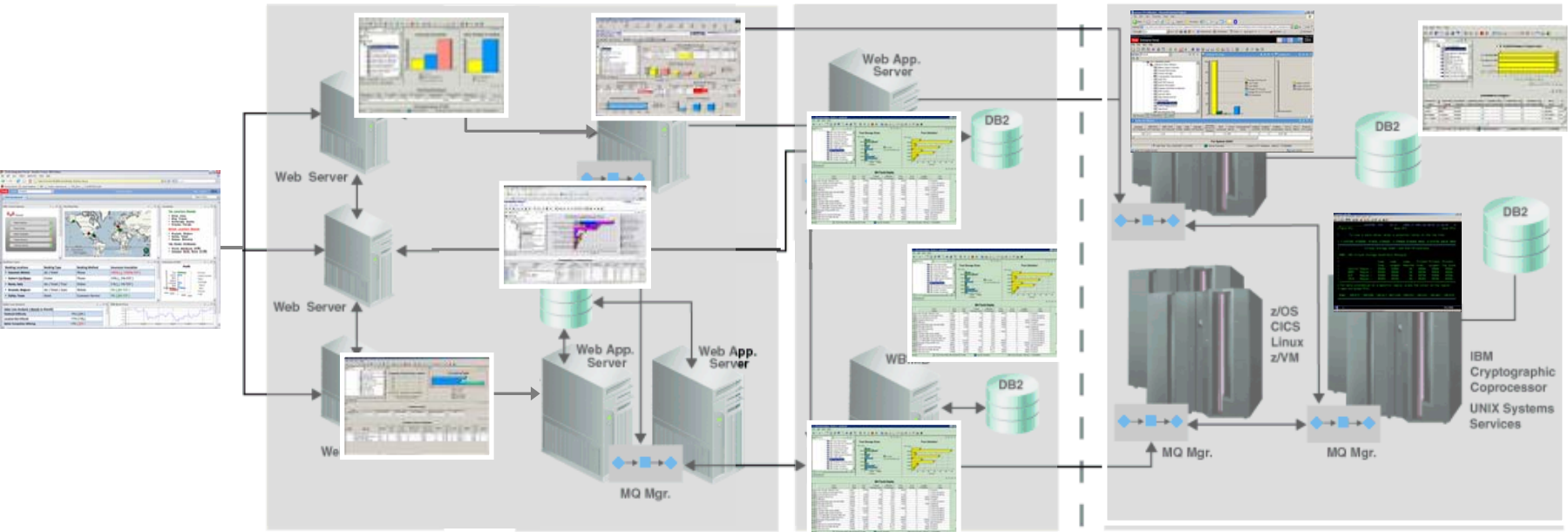
# Today's Management Needs to be End to End



## Distributed Resources

## Transactions

## Mainframe Resources



- In today's environment applications span End-to-End
- A variety of Domain tools to help manage these applications
- When a problem is seen they have no idea of the impact to the business



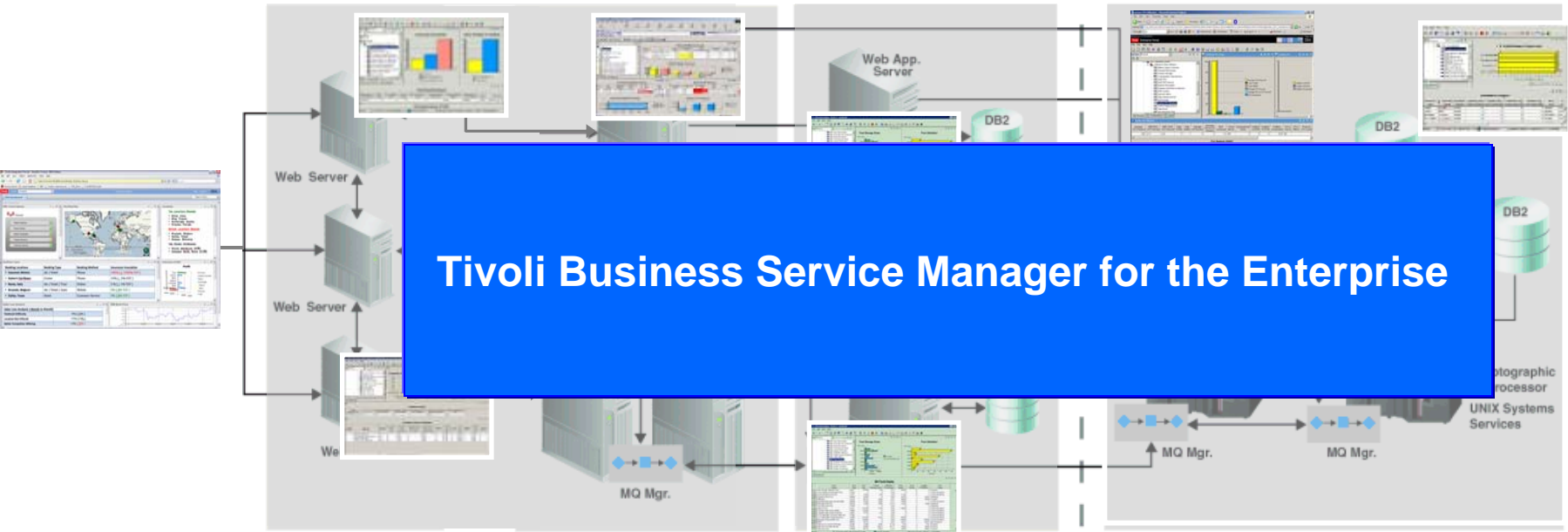
# Today's Management Needs to be End to End

End to End

Distributed Resources

Transactions

Mainframe Resources



- In today's environment applications span End-to-End
- A variety of Domain tools to help manage these applications
- When a problem is seen they have no idea of the impact to the business

# The Role of Business Service Management

BSM is a top down approach to IT service management which begins with and centers around the ability of IT Operations to measure and continually improve delivery against operational objectives and business commitments as a means of prioritizing and maximizing the positive impact of IT investments and assets on the business.



# Business Service Management is for the *business...*

## Solves multiple business problems...

- Consolidate events, find root causes,...
- How do I prioritize resolution?
- How do I efficiently assign key resources?



## Prioritizes issues according to business impact!

- Business metrics, Key Performance Indicators (KPIs) and Service Level Agreements (SLA) help prioritize actions
- Examples
  - Number of trades succeeded/failed in the last hour
  - Number of customers who lost mobile connectivity yesterday
  - What kind of response time was promised
  - How many customers are waiting (on “hold”) for service

# Business Service Management (BSM) Provides Process Visibility

*Business leaders gain real-time visibility and actionable insight into processes*

**Real-time** information consolidated into customizable dashboards



**Business leaders** monitor process KPIs and receive alerts

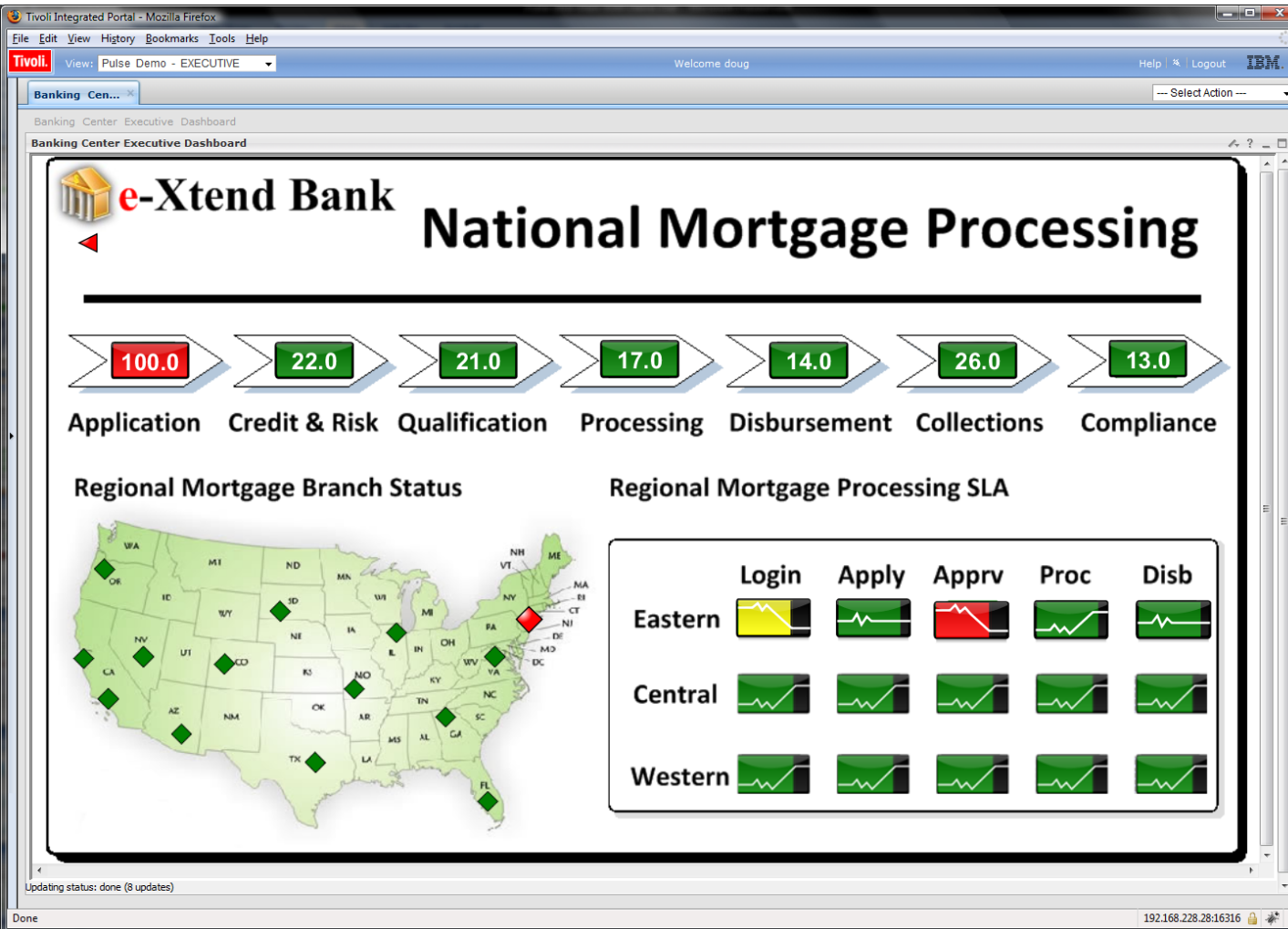


# Real-Time Business Dashboard



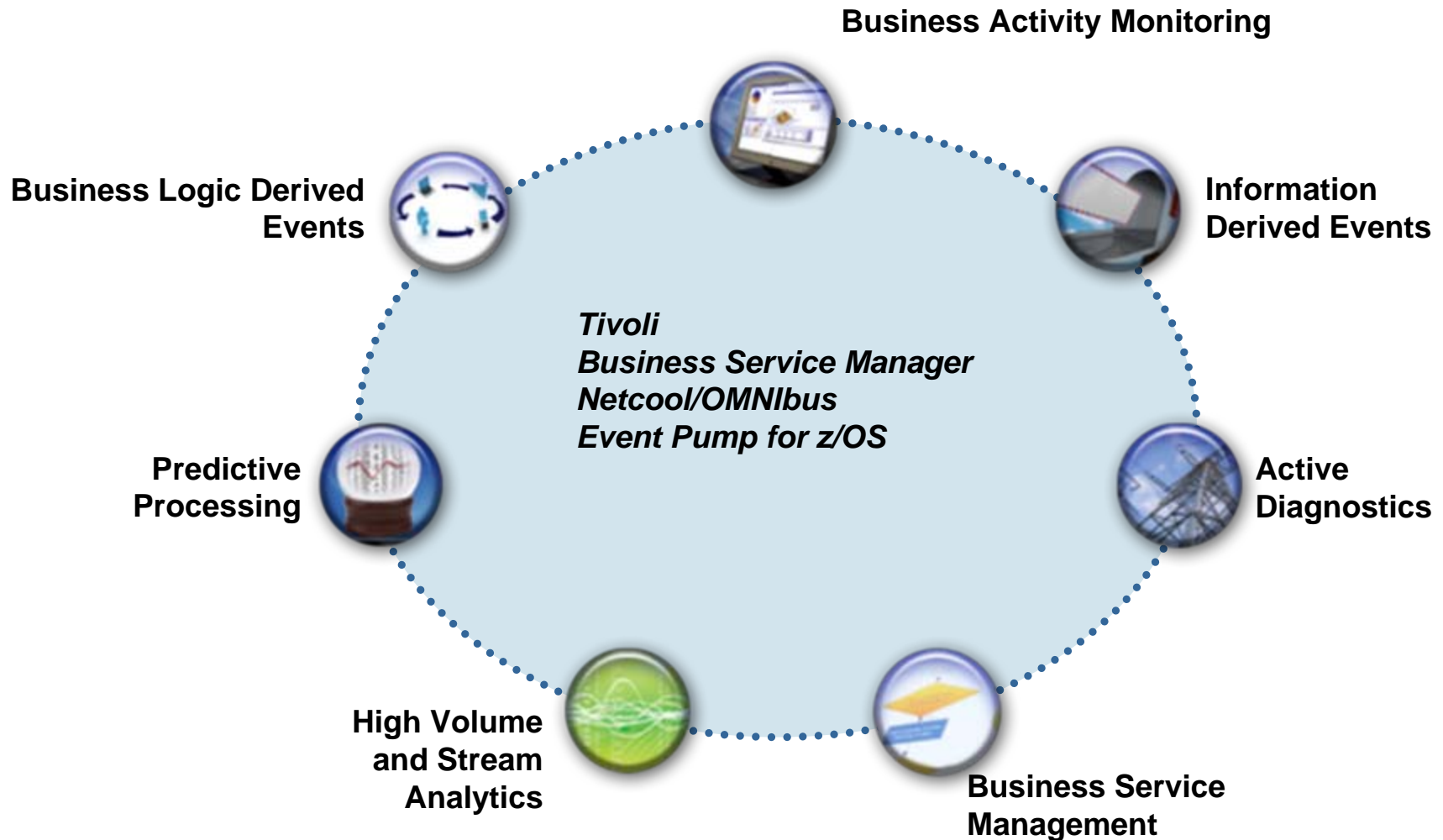
- **Aggregate views** into key Banking Center Portfolio of offerings, services, applications and/or functions
- **“Quick, at a glance”** at high-level aggregate state and status
- Most important information: KPI

# National Mortgage Dashboard

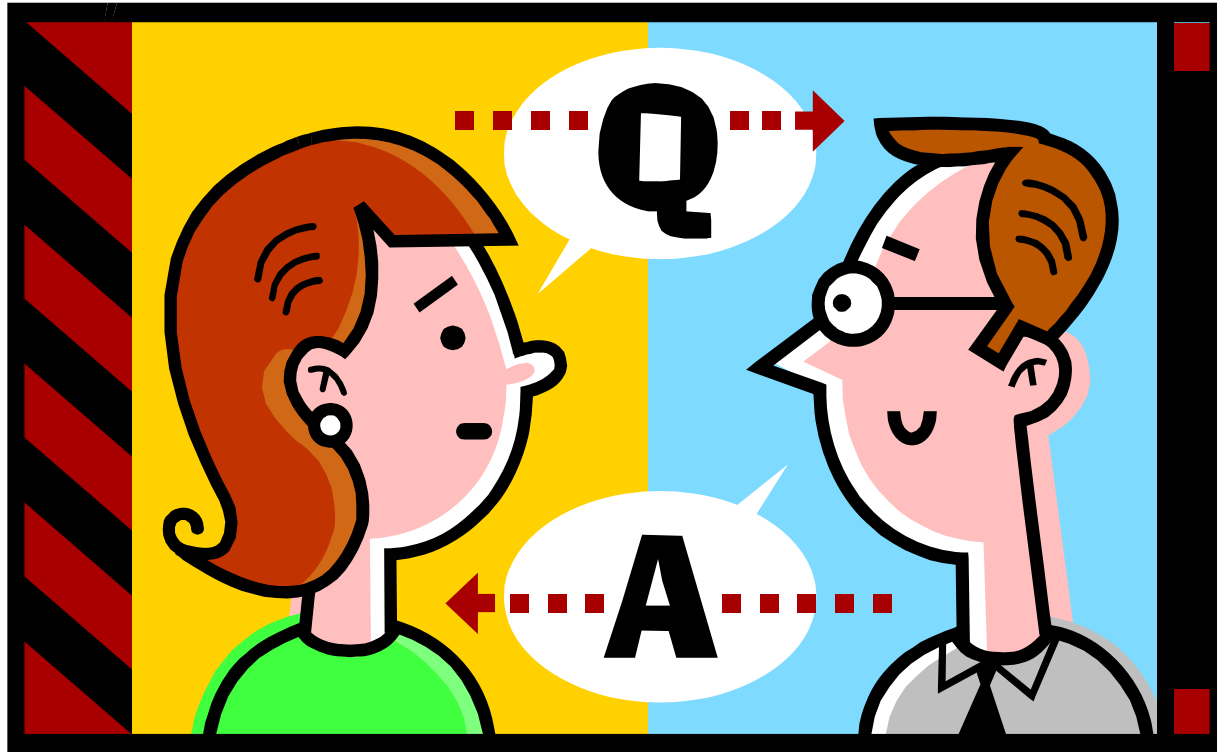


- National context provides quick “**at a glance**” view to broad business process
- Ideal for executives or management with territorial responsibility
- Business / IT Analyst uses to direct / guide problem identification and first level analysis
- Geography or LoB boundaries work well
- Goal is to provide answer, ability to make decision, take action at highest level possible

# Event Processing



# Questions & Answers





# Thank You for Joining Us today!

Go to [www.ibm.com/software/systemz/events/calendar](http://www.ibm.com/software/systemz/events/calendar) to:

- ▶ Replay this teleconference
- ▶ Replay previously broadcast teleconferences
- ▶ Register for upcoming events