

**Tivoli Software  
Cloud & Smart Infrastructure Software**

# **IBM Service Management**

**Yolanda Marín  
ymarin@es.ibm.com**



# Core Attributes of IBM Service Management

## Visibility



***See your Business***  
—  
***Respond faster  
and make better  
decisions***

## Control



***Govern your Business***  
—  
***Improve quality and  
reduce risk***

## Automation

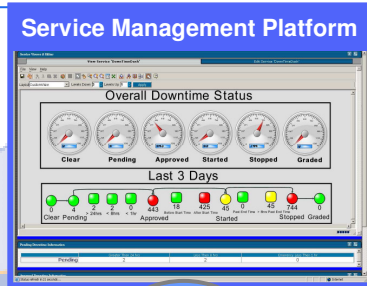


***Optimize your  
Business***  
—  
***Lower costs and  
build agility***



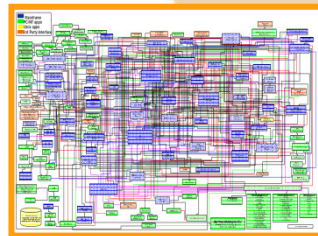
# ISM on z Delivers the ability to answer these three questions

- Service Dashboard
- Business Service and Service Level Management
- Discovery and mapping

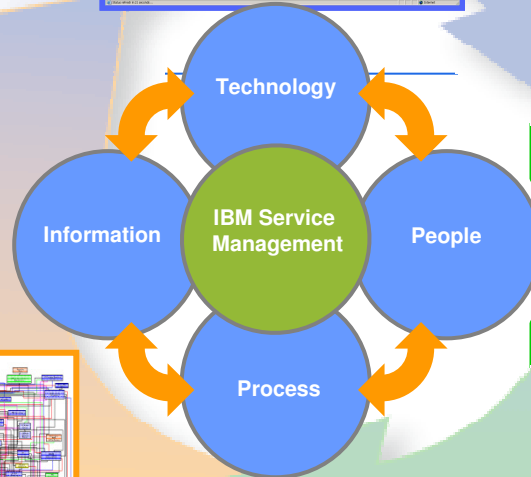


How does this relate to the business service?

- Server monitoring
- Storage monitoring
- Network monitoring
- Data monitoring
- Application monitoring



What's happening with the infrastructure?



What actions do we take to correct the problems?

- System reconfiguration
- Data restore
- User identity provisioning
- System and application restart
- Dynamic workload automation



# IBM Service Management

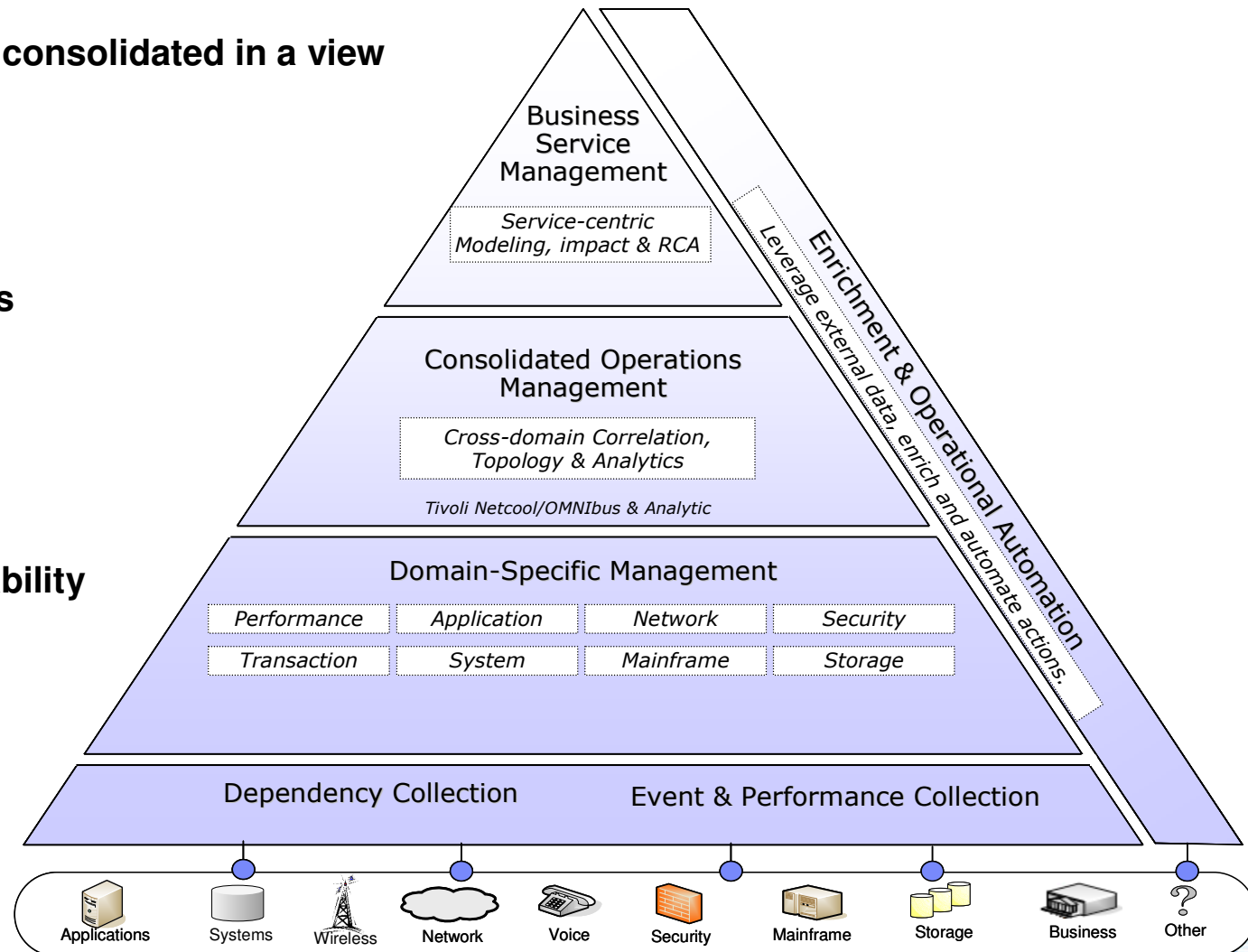
IT and business events consolidated in a view

Consolidated Operations

Operational views

Performance and availability

Covering more than 1000 device



Note: All layers are inclusive of distributed and mainframe.  
Learning for Growth 2011  
IBM Worldwide Software Sales

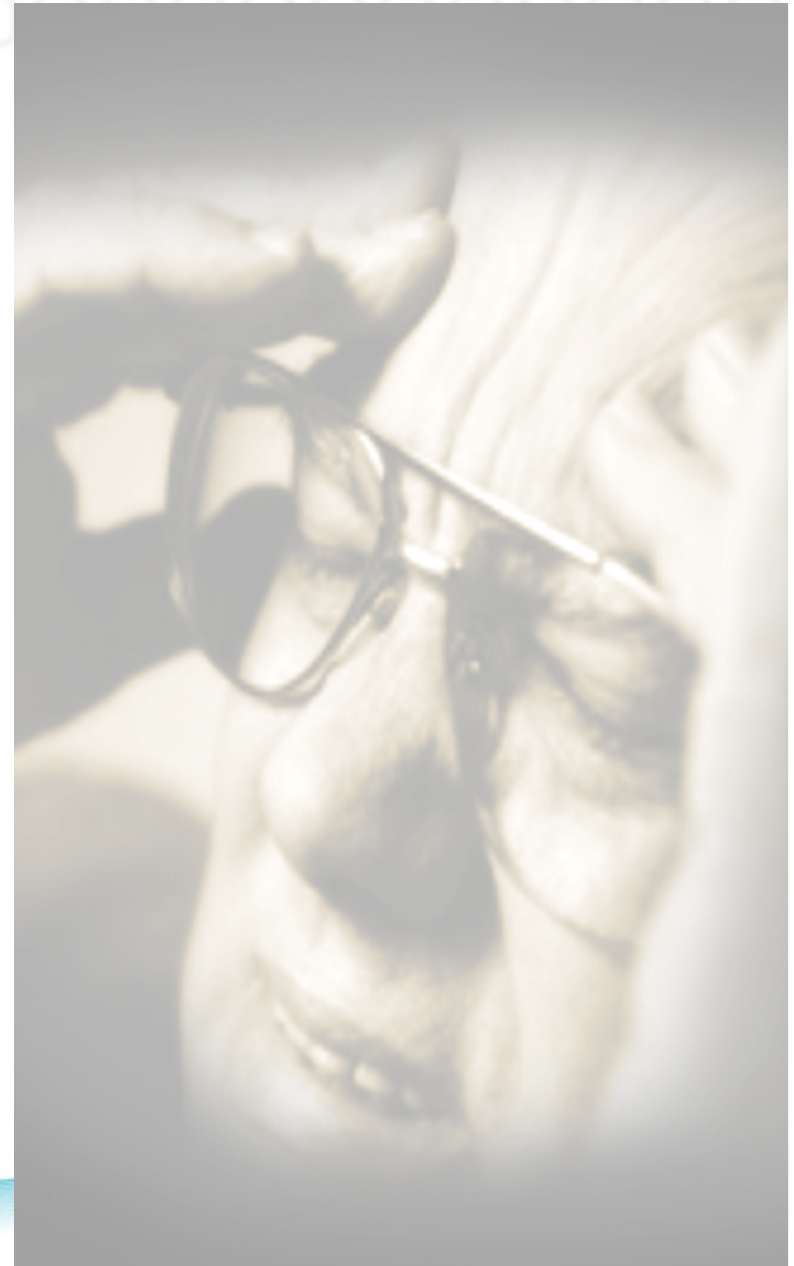
# Client Challenges - Control

## Primary Goals

- Lower the IT budget
- Reduce Compliance Risk
- Be Prepared for Audits
- Protect Critical Data
- Improve Efficiency and Quality

## Targeted Goals

- Ensure Regulatory Compliance and Governance
- Reduce Total Cost of Ownership of IT assets
- Understand IT costs to determine line of business, product and service profitability
- Manage IT Hardware and Software Asset Lifecycles
- Need to Allocate IT Usage Costs in a Shared Environment



Carrier-class service and business assurance system that collects and consolidates enterprise-wide event and alarm information in real-time from many different network data sources and presents a simplified view of this information to operators and administrators.

Improves service visibility for operations and business audiences with customizable dashboards that include real-time service scorecards, tracking of key performance indicators and service level agreements,

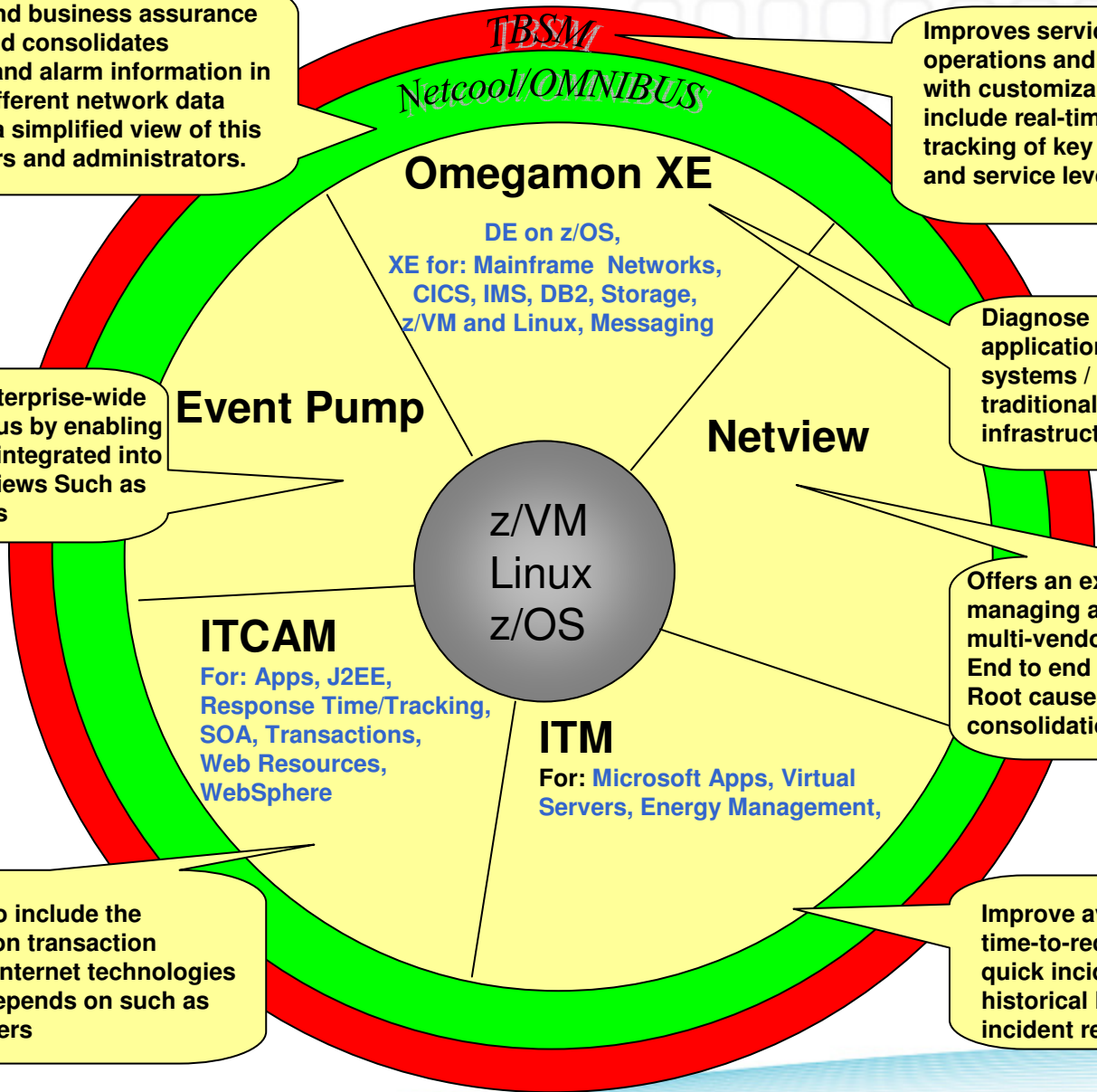
Provides end to end enterprise-wide view of events and status by enabling z/OS information to be integrated into the Business Service Views Such as TBSM/Netcool OMNibus

Diagnose IT problems across applications, middleware and systems / SOA-enabled or traditional computing infrastructures

Offers an extensive set of tools for managing and maintaining complex, multi-vendor, multiplatform networks. End to end view of events/problems Root cause analysis and event consolidation

Extend monitoring to include the end-user's application transaction Experience and the Internet technologies this infrastructure depends on such as DNS and DHCP servers

Improve availability and mean-time-to-recovery (MTTR) with quick incident visualization and historical look for faster incident research



# Application and Resource Monitoring Portfolio

## ITCAM for Transactions

Comprehensive Set of Response Time Capabilities

### OMEGAMON for z/OS

Health monitoring of operating systems

### OMEGAMON for CICS

Health monitoring of CICS/IMS/DB2

### OMEGAMON for MFN

Monitoring TCP/IP VTAM Mainframe Networks

### ITCAM for WAS

Broad Application and Application Infrastructure Monitoring Capabilities

### ITCAM for SOA Platform

Integrated Service, Middleware and SOA Enterprise Management Offering

### OMEGAMON for Mess

Health Monitoring of MQ and Broker Applications

## ITCAM for Applications Diagnostics

Resource monitoring and deep dive diagnostics of WebSphere and J2EE servers



# Tivoli differentiators

## “Enhanced 3270 User Interface”

Command ==> \_\_\_\_\_ Plex ID : \_\_\_\_\_  
 KOBSTART Enterprise Summary Sys ID : \_\_\_\_\_

Auto Update: ON

All Active Sysplexes | | | X

Columns 2 to 6 of 9 ← | → | ↑ | ↓ Rows 1 to 1 of 1

◊Sysplex Name	ΔAverage ∇CPU Percent	Highest LPAR Name	ΔHighest ∇LPAR CPU%	ΔPercent LPAR ∇MSU Capacity	+LPAR Group Name
_ ZPETPLX2	3	Z2	3	3.4	N/A

All Active CICSplexes | | | X

Columns 2 to 6 of 19 ← | → | ↑ | ↓ Rows 1 to 3 of 3

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



# Tivoli differentiators

## Integration OMEGAMON DE

The screenshot displays the Tivoli Systems Management Dashboard Overview. The main area features a network diagram with various components like z/OS Performance, DB2Plex, CICS, CF Status, IMS, and MQ Series. Below the diagram are several data tables:

**z/OS Performance**

Service Class	Period	Goal Type	G Perc
BATCH	1	Velocio	
BATCH	2	Velocio	
BATHI	1	Velocio	

**CICS Region Overview**

System ID	CICS Region Name	CICS Version	R S
SP12	CCCD18	6.2.0	N/
SP12	CCCD19	6.2.0	N/
SP12	CCCD20	6.2.0	N/

**IMS Address Spaces**

Originating System Identifier	MVS System	IM
XEIMS:SP12:MVS	SP12	I71
XEIMS:SP12:MVS	SP12	I71

**DB2 Threads**

Originnode	
D71G:SP12:DB2	02/08

**MQ Series**

Origin Node	P
MQ12:SP12:MQESA	04
MQ12:SP12:MQESA	03
MQ12:SP12:MQESA	04

Ready | Hub Time: Tue, 02/08/2005 07:02 PM | Server Available. | Shelter Overview - hqdn1.usca.ibm.com - EWOOD \*ADMIN MODE\*

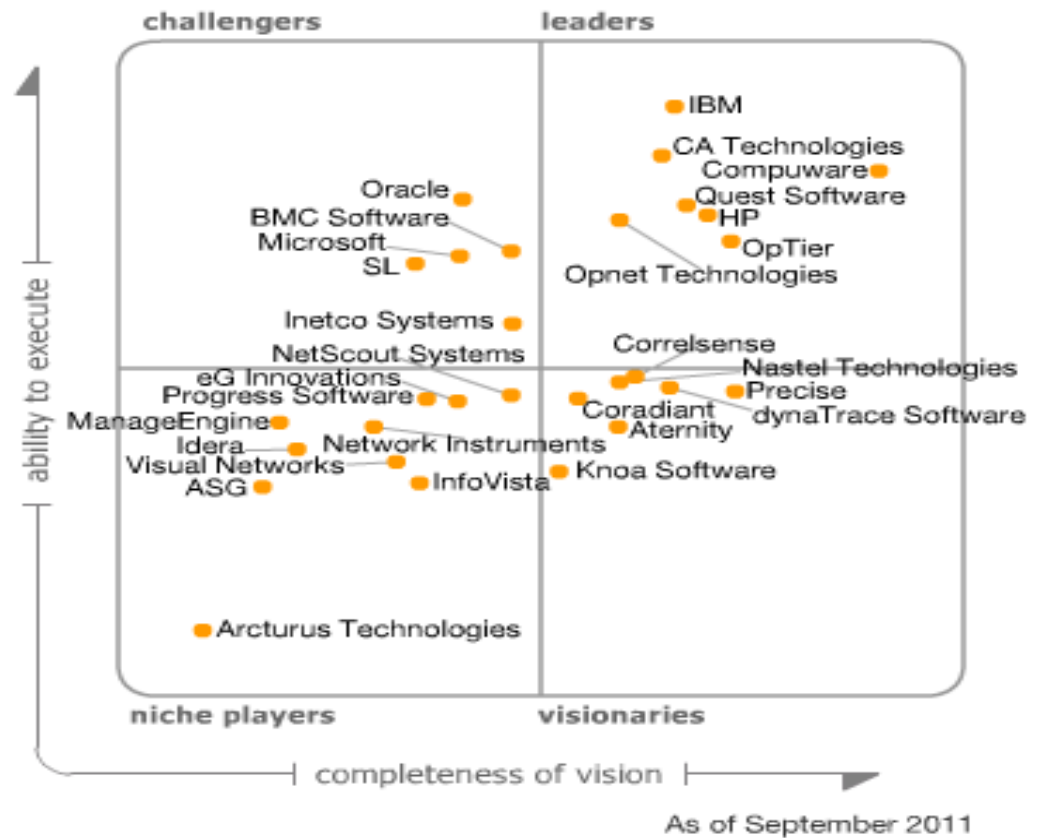
# Tivoli differentiators

- CPU cost reduction with ziip & zaap processors
- Easy to use, to learn
- Integration
- Sub-capacity
  - Navigate all monitors through single intuitive tree (zseries-dist)
  - CAM – WAS / MQ same user interface zSeries and distributed
  - Main zSeries products have same Web and 3270 interfaces available
  - Cross product / system view supports all previous exceptions
  - Central administration of thresholds
  - Automation integrated and controllable from Enterprise Console
  - Automation available w/o extra product (REXX or Assembler)
  - Cross platform problem correlation
  - Single monitoring address space supports multiple 3270 users
- New licensed ways, new price -----> ask IBM



# Gartner has recognized IBM Tivoli as a leader in Application Performance Monitoring

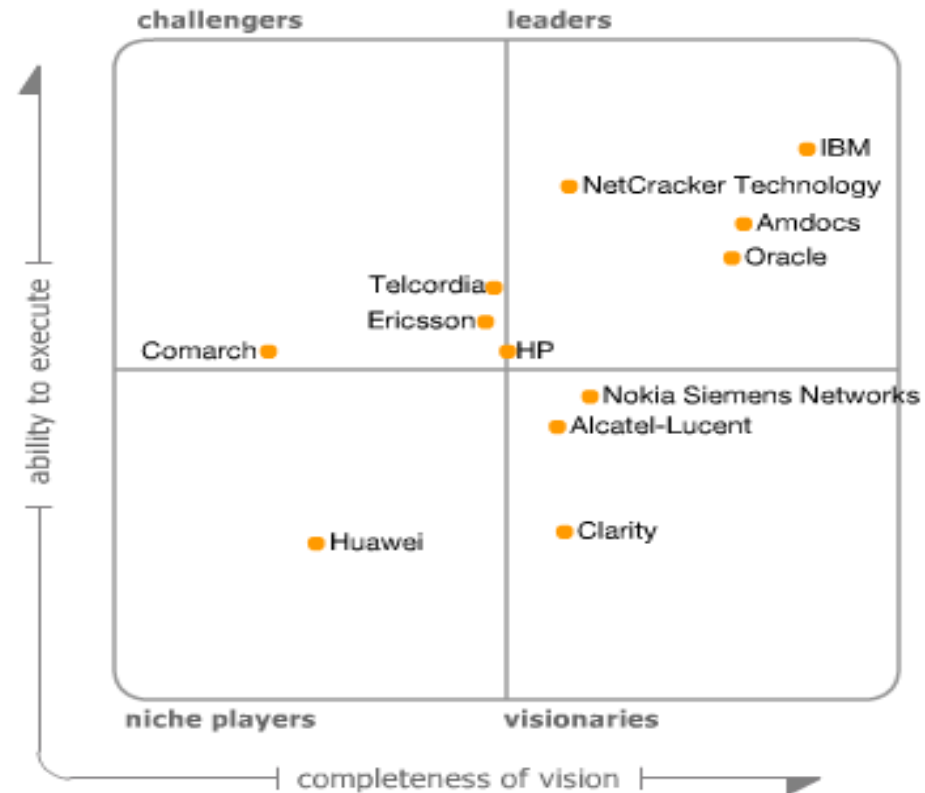
Magic Quadrant for Application Performance Monitoring  
 Will Cappelli, Jonah Kowall  
 September 19, 2011



© 2011 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner is a registered trademark of Gartner, Inc. or its affiliates. This publication may not be reproduced or distributed in any form without Gartner's prior written permission. The information contained in this publication has been obtained from sources believed to be reliable. Gartner disclaims all warranties as to the accuracy, completeness or adequacy of such information and shall have no liability for errors, omissions or inadequacies in such information. This publication consists of the opinions of Gartner's research organization and should not be construed as statements of fact. The opinions expressed herein are subject to change without notice. Although Gartner research may include a discussion of related legal issues, Gartner does not provide legal advice or services and its research should not be construed or used as such. Gartner is a public company, and its shareholders may include firms and funds that have financial interests in entities covered in Gartner research. Gartner's Board of Directors may include senior managers of these firms or funds. Gartner research is produced independently by its research organization without input or influence from these firms, funds or their managers. For further information on the independence and integrity of Gartner research, see "Guiding Principles on Independence and Objectivity" on its website, [http://www.gartner.com/technology/about/ombudsman/omb\\_guide2.jsp](http://www.gartner.com/technology/about/ombudsman/omb_guide2.jsp)

# Gartner has recognized IBM Tivoli as a leader for Operations Support Systems

Magic Quadrant for Operations Support Systems by Martina Kurth  
October 24, 2011



As of October 2011

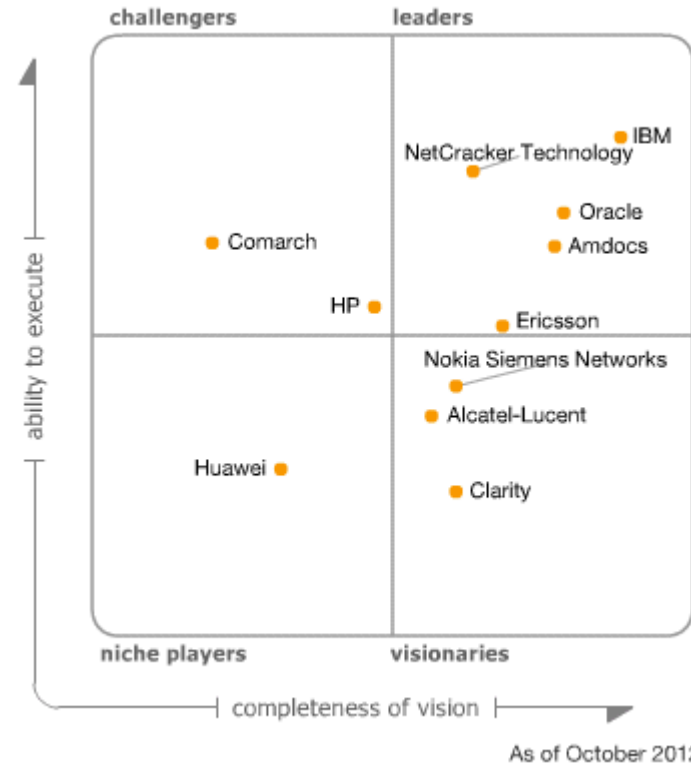
© 2011 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner is a registered trademark of Gartner, Inc. or its affiliates. This publication may not be reproduced or distributed in any form without Gartner's prior written permission. The information contained in this publication has been obtained from sources believed to be reliable. Gartner disclaims all warranties as to the accuracy, completeness or adequacy of such information and shall have no liability for errors, omissions or inadequacies in such information. This publication consists of the opinions of Gartner's research organization and should not be construed as statements of fact. The opinions expressed herein are subject to change without notice. Although Gartner research may include a discussion of related legal issues, Gartner does not provide legal advice or services and its research should not be construed or used as such. Gartner is a public company, and its shareholders may include firms and funds that have financial interests in entities covered in Gartner research. Gartner's Board of Directors may include senior managers of these firms or funds. Gartner research is produced independently by its research organization without input or influence from these firms, funds or their managers. For further

and "Objectivity" on its website, [http://www.gartner.com/technology/about/ombudsman/omb\\_guide2.jsp](http://www.gartner.com/technology/about/ombudsman/omb_guide2.jsp)

# Gartner has recognized IBM Tivoli as a leader for Operations Support Systems



In their latest 2012 Magic Quadrant for Operations Support Systems (OSS), **Gartner has identified IBM as the leading worldwide player.**

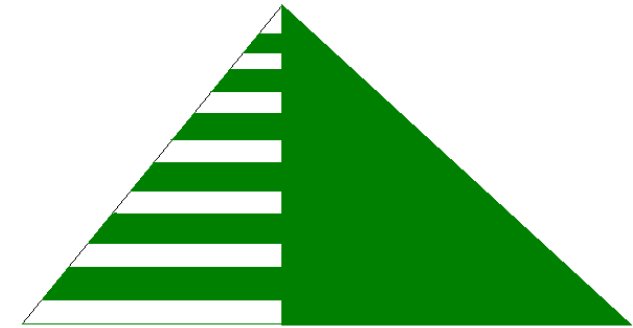


© 2012 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner is a registered trademark of Gartner, Inc. or its affiliates. This publication may not be reproduced or distributed in any form without Gartner's prior written permission. The information contained in this publication has been obtained from sources believed to be reliable. Gartner disclaims all warranties as to the accuracy, completeness or adequacy of such information and shall have no liability for errors, omissions or inadequacies in such information. This publication consists of the opinions of Gartner's research organization and should not be construed as statements of fact. The opinions expressed herein are subject to change without notice. Although Gartner research may include a discussion of related legal issues, Gartner does not provide legal advice or services and its research should not be construed or used as such. Gartner is a public company, and its shareholders may include firms and funds that have financial interests in entities covered in Gartner research. Gartner's Board of Directors may include senior managers of these firms or funds. Gartner research is produced independently by its research organization without input or influence from these firms, funds or their managers. For further information on the independence and integrity of Gartner research, see "Guiding Principles on Independence and Objectivity" on its website, [http://www.gartner.com/technology/about/ombudsman/omb\\_guide2.jsp](http://www.gartner.com/technology/about/ombudsman/omb_guide2.jsp)

# OMEGAMON V 5.1 Review: Client-driven Redesign of Mainframe Performance and Availability Monitoring

IBM's new OMEGAMON V5 mainframe management environment evaluation:

- Greatly improved its 3270 command line interface — adding a sort of color-coded graphical element to its 3270-based screens (“a GUI on a green screen”)
- **Integrated its various OMEGAMON modules , placing them all under control of an overview panel from which they can be launched, and enabling them to share information more easily;**
- Added new features and functions that improve administrator efficiency by reducing the amount of time it takes to perform certain functions. (As an example, a new “find” command enabling to the administrator to save time that would be spent manually searching for program/region/file information)
- Focused on organizing its management products to address the needs of certain mainframe management roles (such as DBA, systems programmer, etc.) with customized “views” based on organizational roles.



**CLABBY ANALYTICS**



# Info-Tech Research Group has placed IBM Tivoli in the highest position of its 'Champion' quadrant.

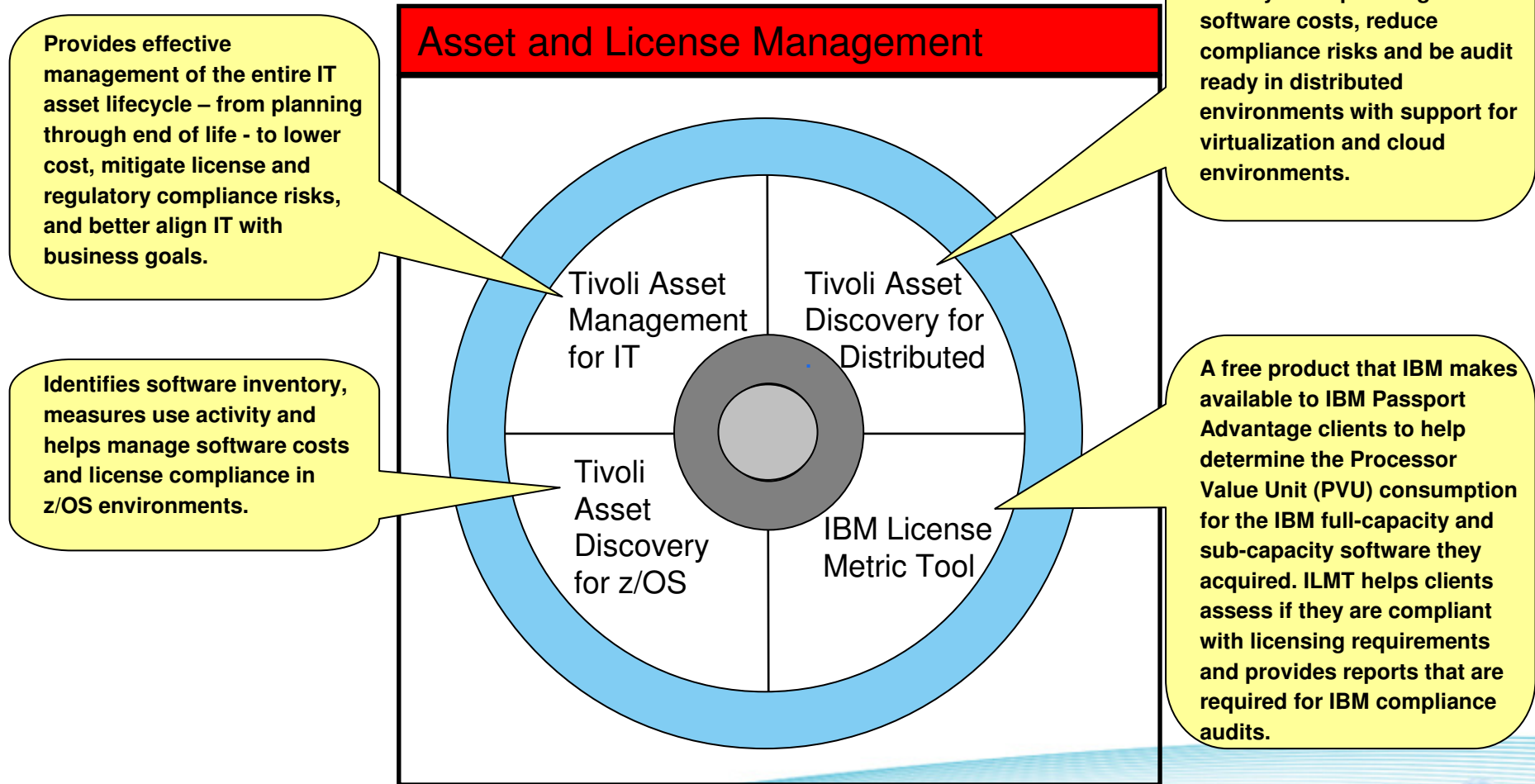
Info-Tech scored several of IBM's strengths in the systems management space, including:

- Dynamic thresholds that can vary and account for expected fluctuations in resource demands.
- **System z mainframe and Power Systems monitoring** capability which complements broad non-IBM platform support.
- High scalability



# Software License Management

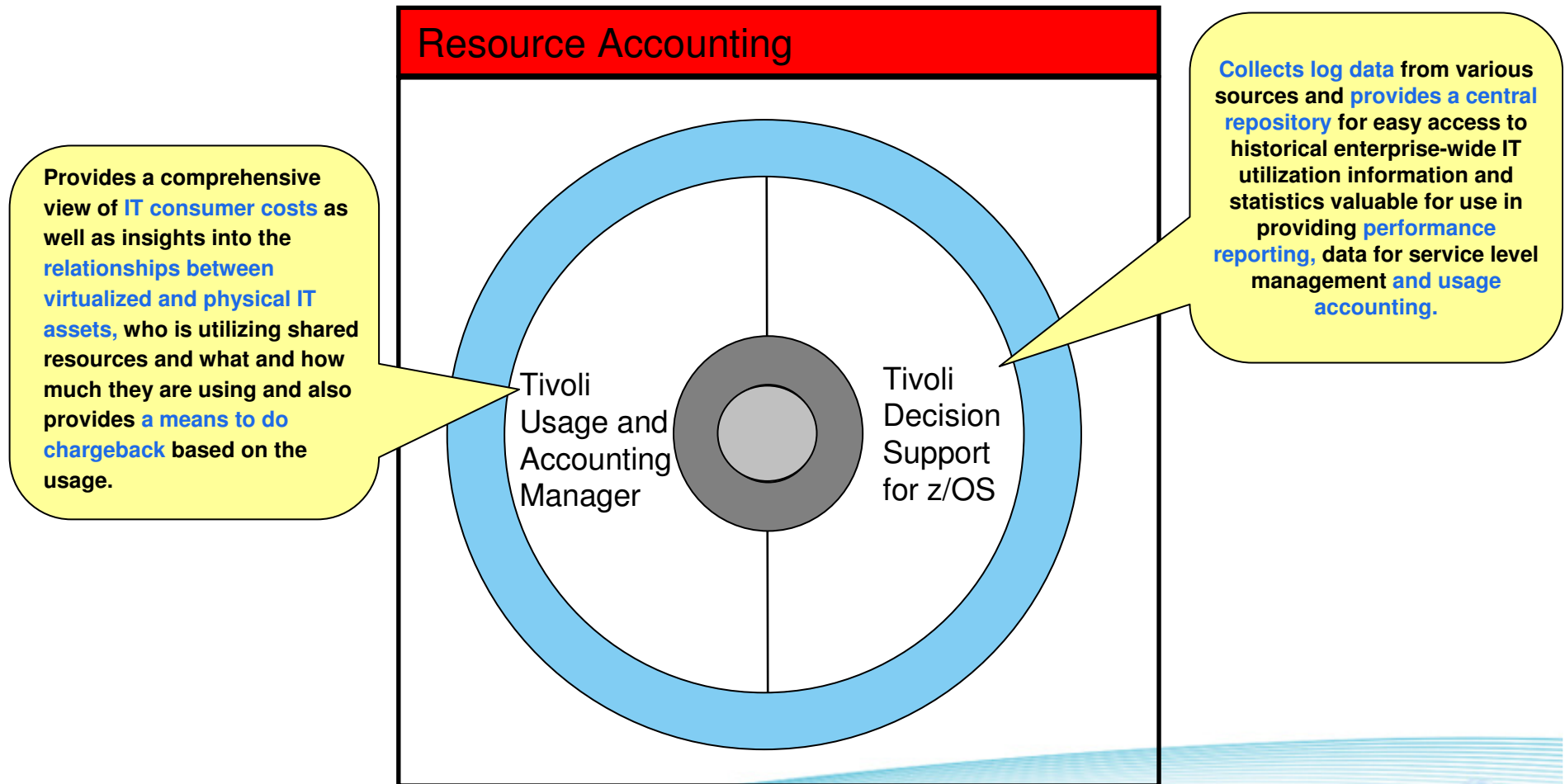
*Reduce IT costs by rationalizing the software portfolio and tracking hardware and software assets.*



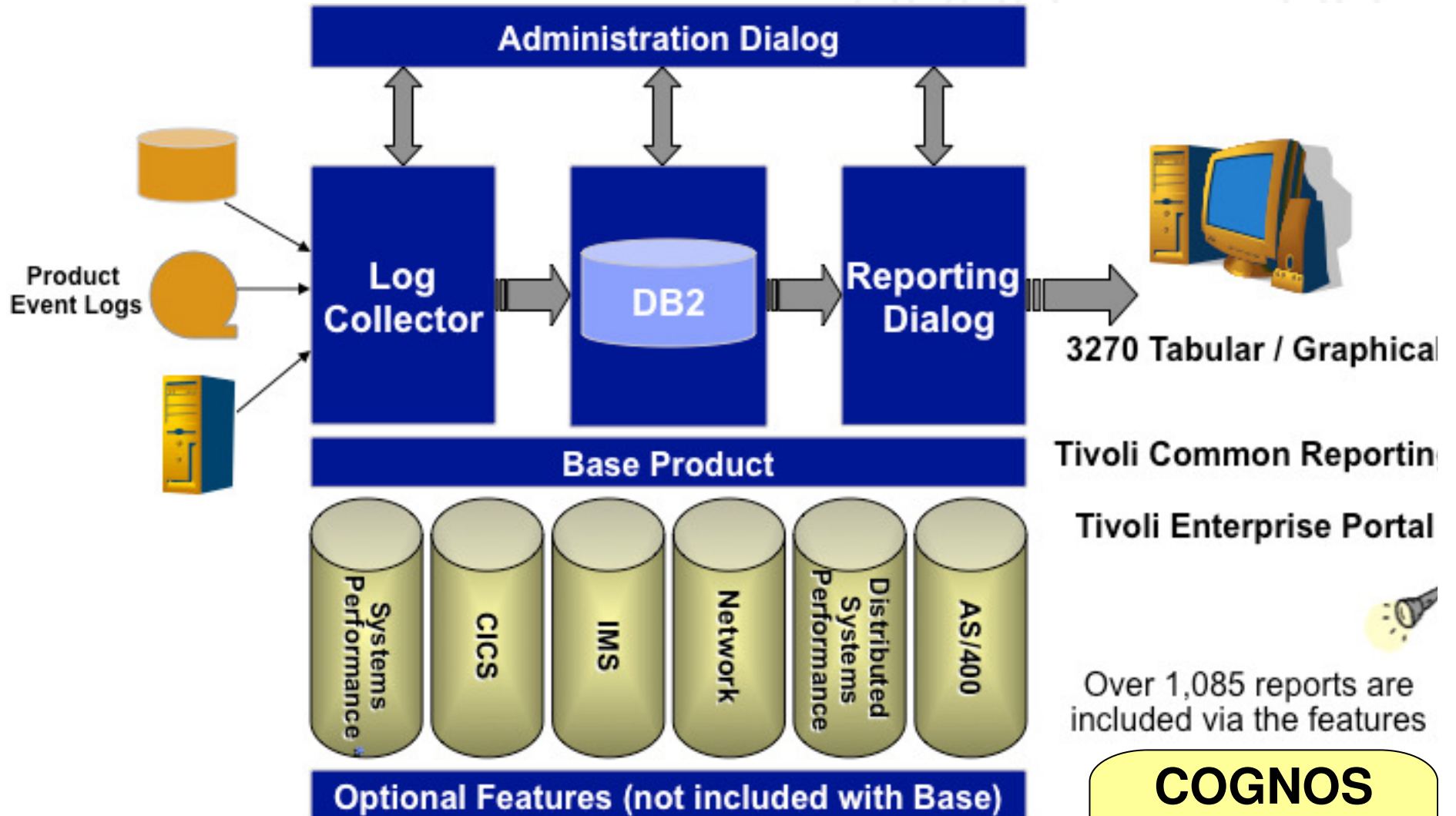


# Resource Accounting and Chargeback

*The IT department was once a cost center, a black box with immeasurable and uncontrollable spending. Today, IT resources are being distributed to the client in virtual environments. Resource accounting allows for client chargeback and knowledge about what resources are being utilized and who or what is using those resources.*



# TDS/z



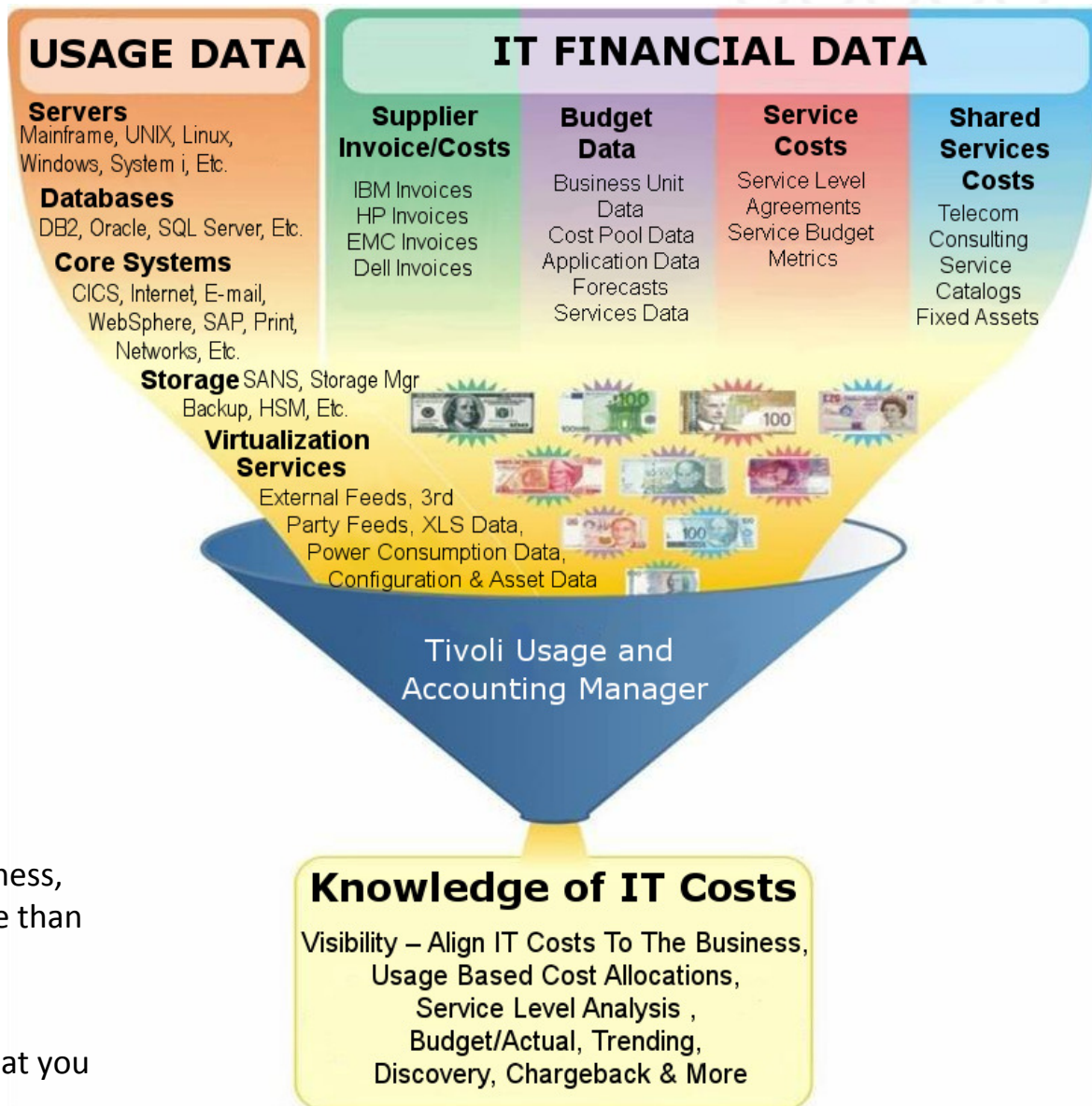
3270 Tabular / Graphical

Tivoli Common Reporting

Tivoli Enterprise Portal

Over 1,085 reports are included via the features

**COGNOS Report included**



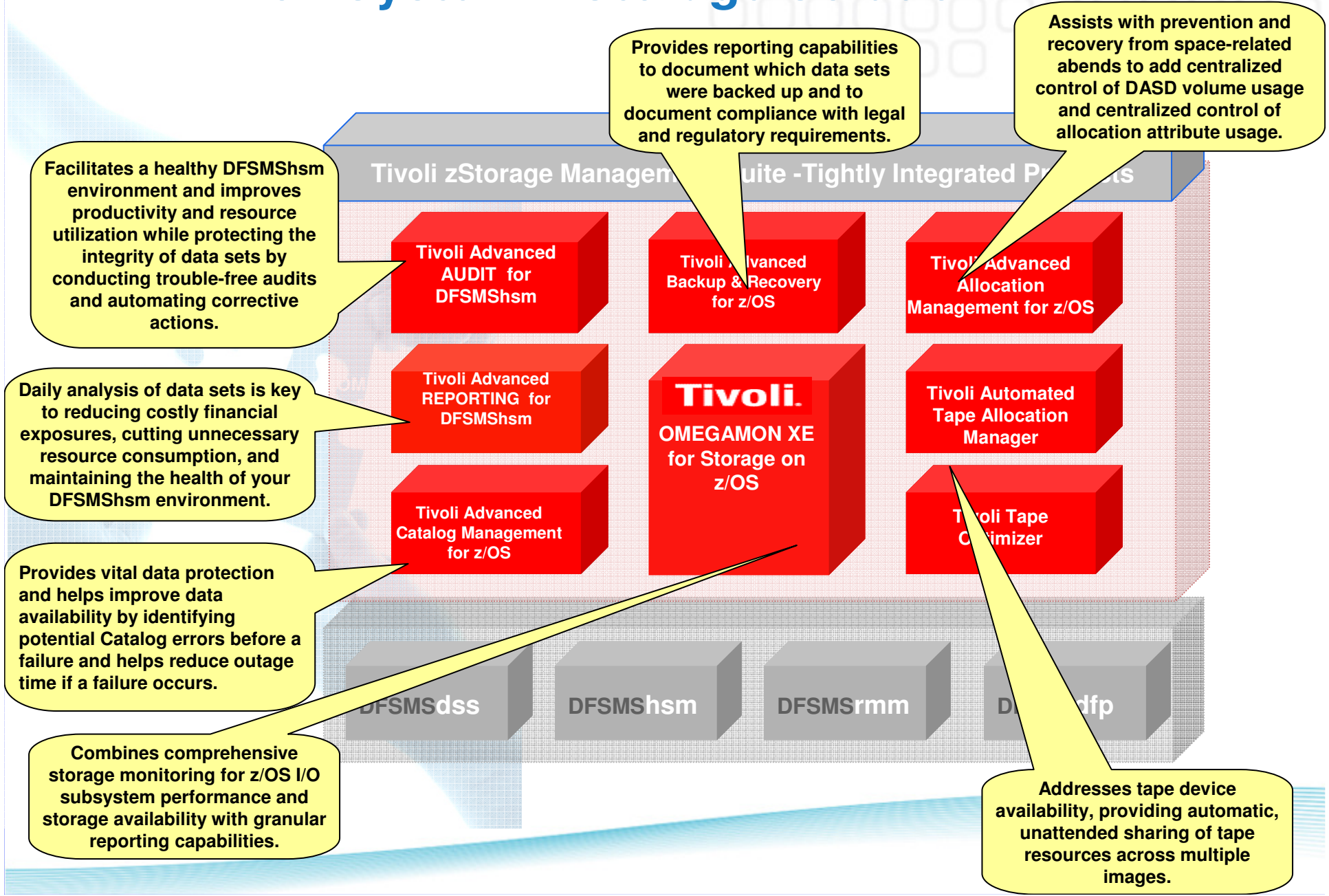
Know what IT costs!

When running a business, nothing matters more than knowing how much something costs.

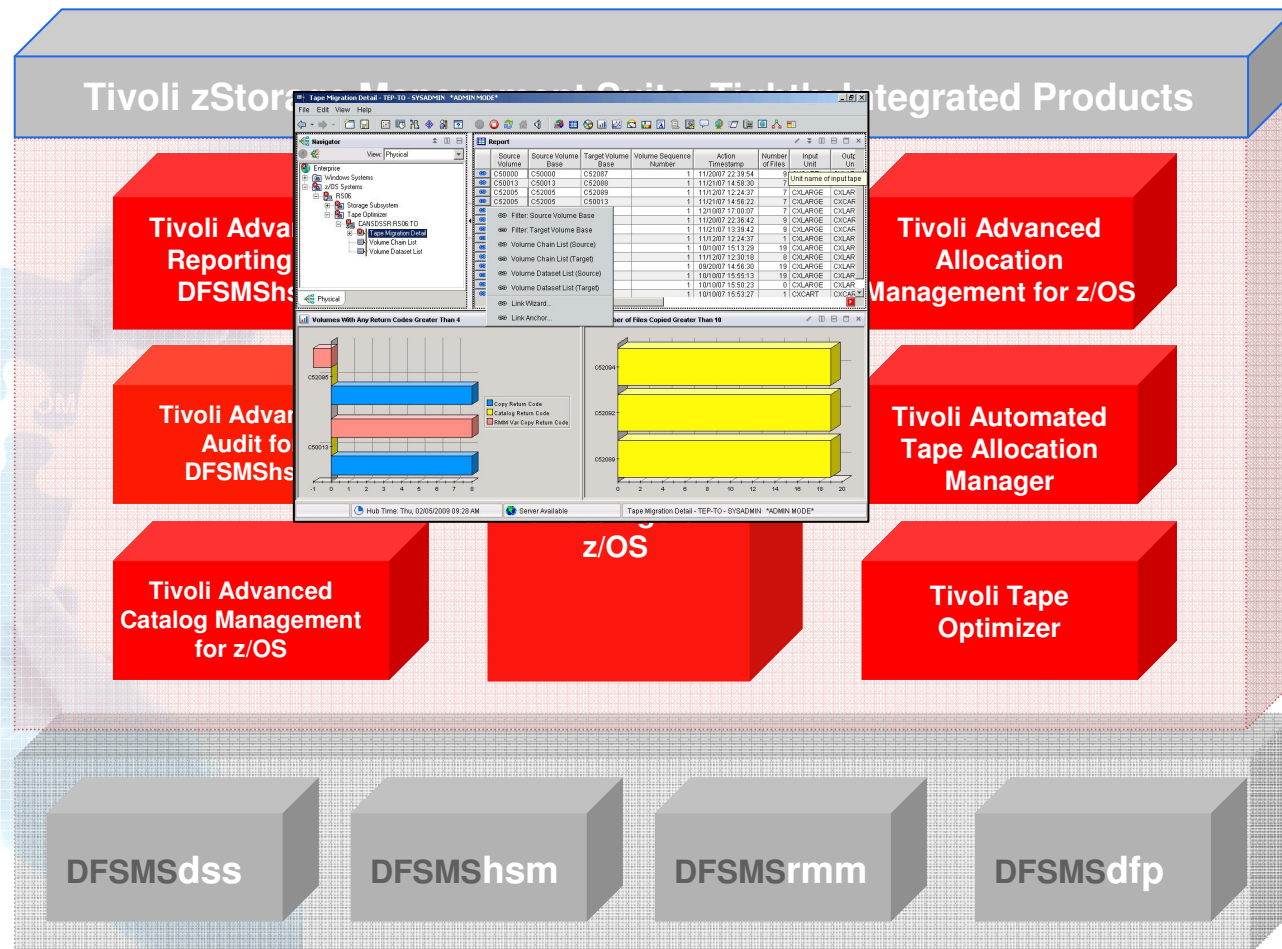
You can't manage what you don't measure.



# IBM Tivoli System z Storage Solution



# IBM Tivoli System z Storage Solution



# Client Challenges: Automation

## *Application Availability*

### IT challenges

- **Business continuity mandatory**
- **Downtime unaffordable**
- **Applications heterogeneous by nature**
  - **Different HW/SW platforms**
  - **Cross-cluster application dependencies**
- **Complexity**

### Client pressures

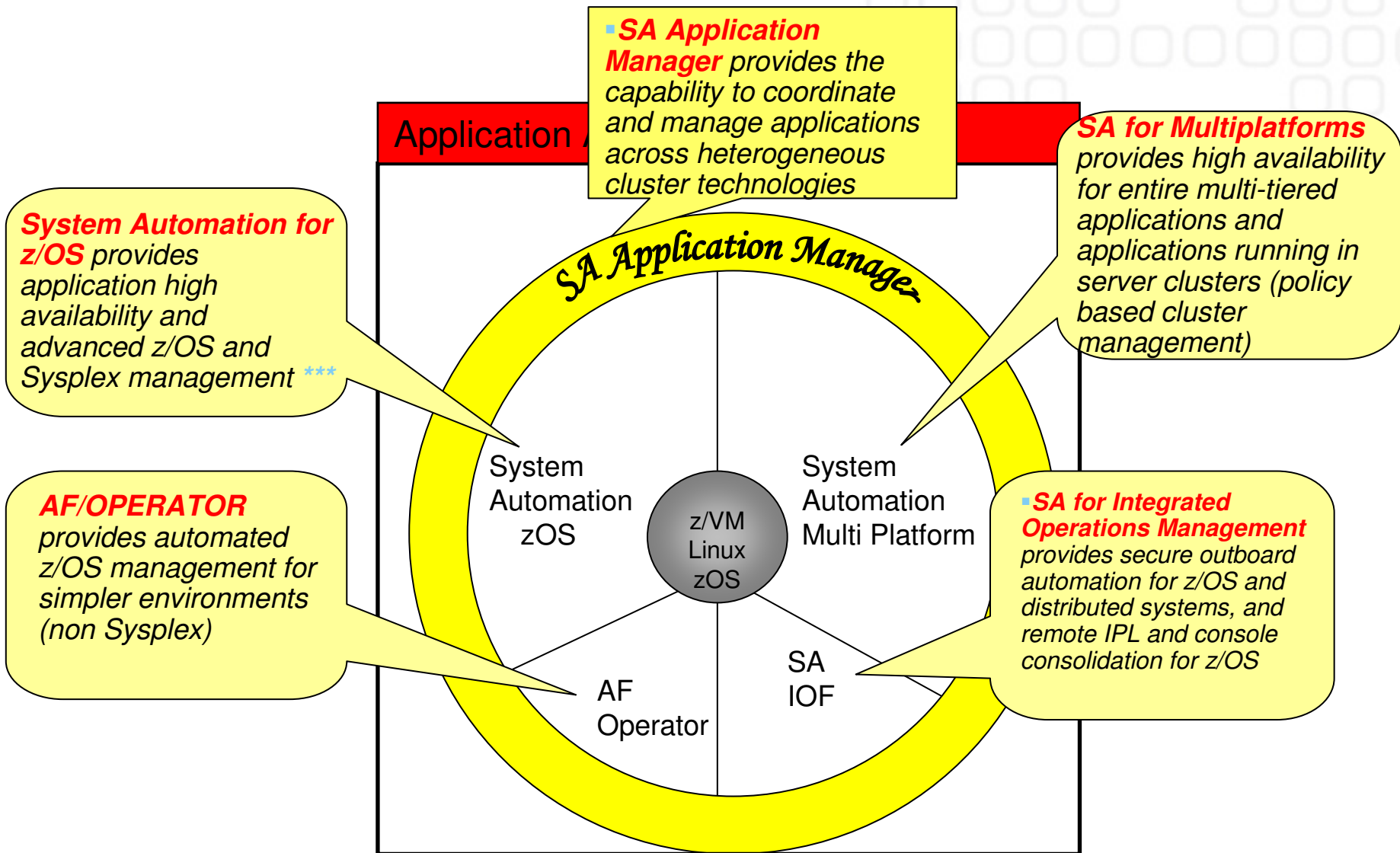
- **How to recover business** rather than IT resources
- Application availability
- Operations complexity and costs
- Cost and availability issues due to multiple automation and operations teams plus education requirements
- Automation implementation and maintenance costs
- Rapid change of I/T infrastructure

Loss of business

Loss of clients – the competition is just a mouse click away

Loss of credibility, brand image and stock value





# Application Automation & High Availability

Automation and Availability are **two major functional aspects** provided by the SA Product Family

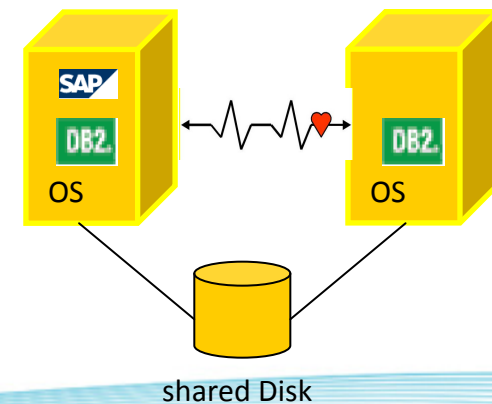
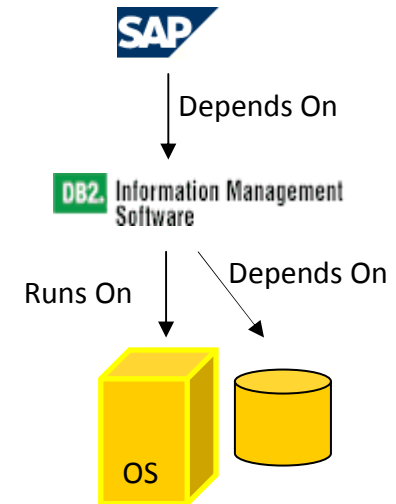
## Automation

- **PLANNED SCENARIOS**
- Automate complex operations – reduce skill requirements
  - Applications skills
  - Operation System skills
- Focus on dependencies between business relevant applications
- Support changing automation goals

- SA monitors application, systems, file systems, networks
- SA choreographs startup and shutdown of these resources

## High Availability for Applications:

- **UNPLANNED SCENARIOS**
  - Avoid downtime - keep business critical applications Running 24 x 7
- SA provides HA cluster for redundancy
  - SA uses automation aspect to re-assure availability





# Client Challenges : Automation

## *Workload Automation*

### **IT challenges**

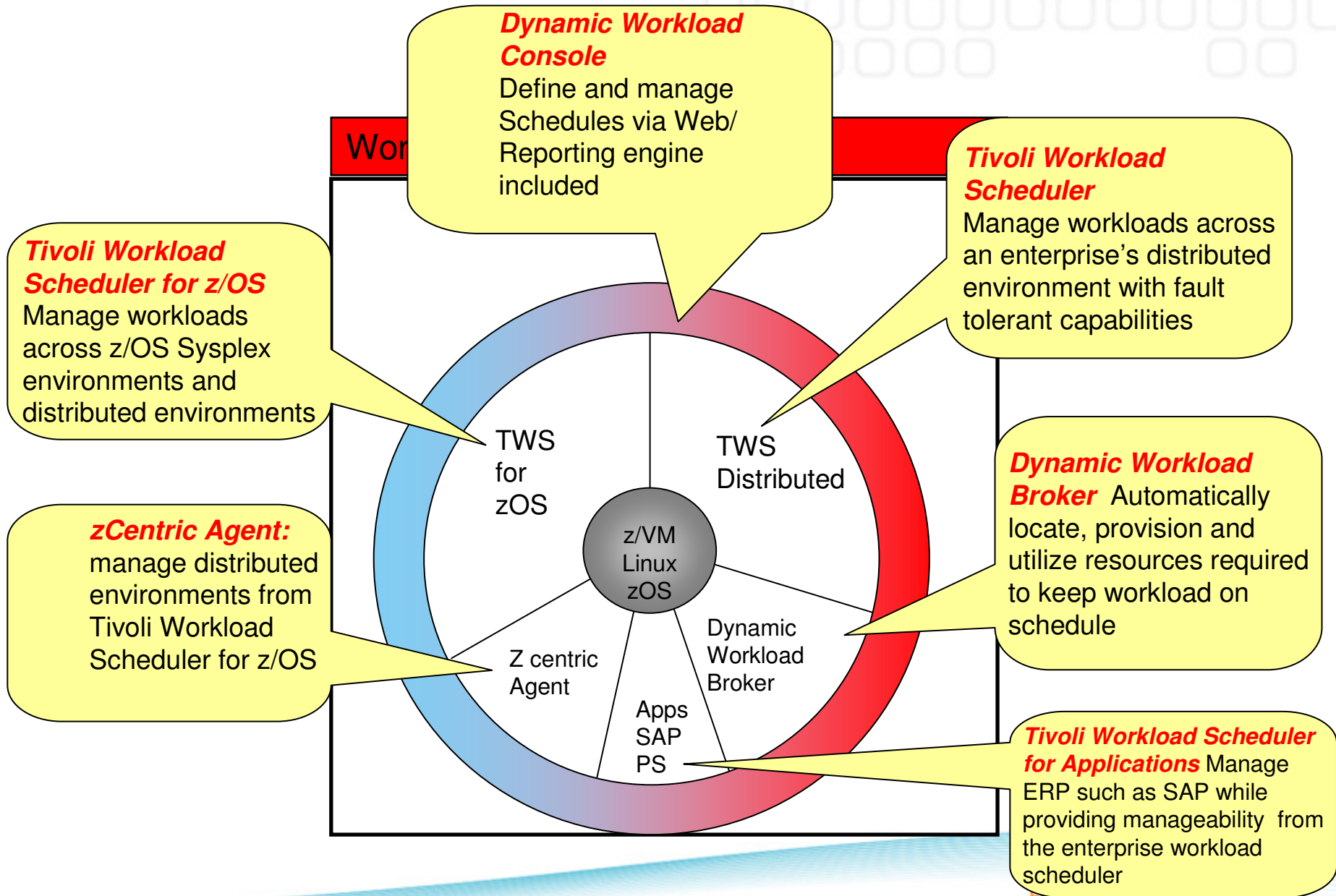
- **Batch windows shrinking**
- **Need enterprise wide control**
- **Applications heterogeneous by nature**
- **Complexity**
- **Dynamic configurations**

### **Client pressures**

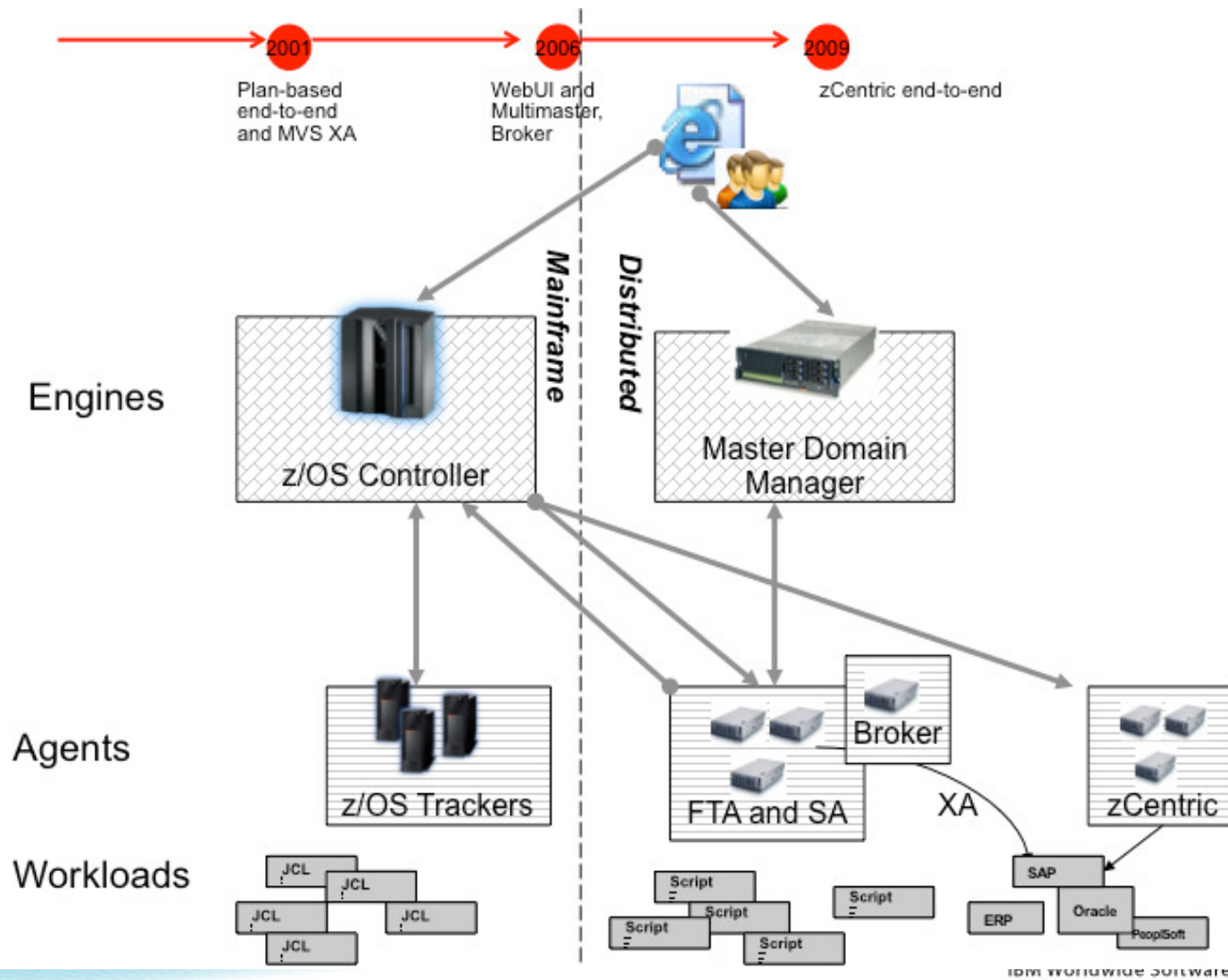
- Do more with less
- Compliance
- Data restrictions
- Operations complexity
- ITIL
- Rapid change of I/T infrastructure



# Tivoli Workload Scheduler Suite



# How TWS Version 8.6 contributes to the end-to-end evolution

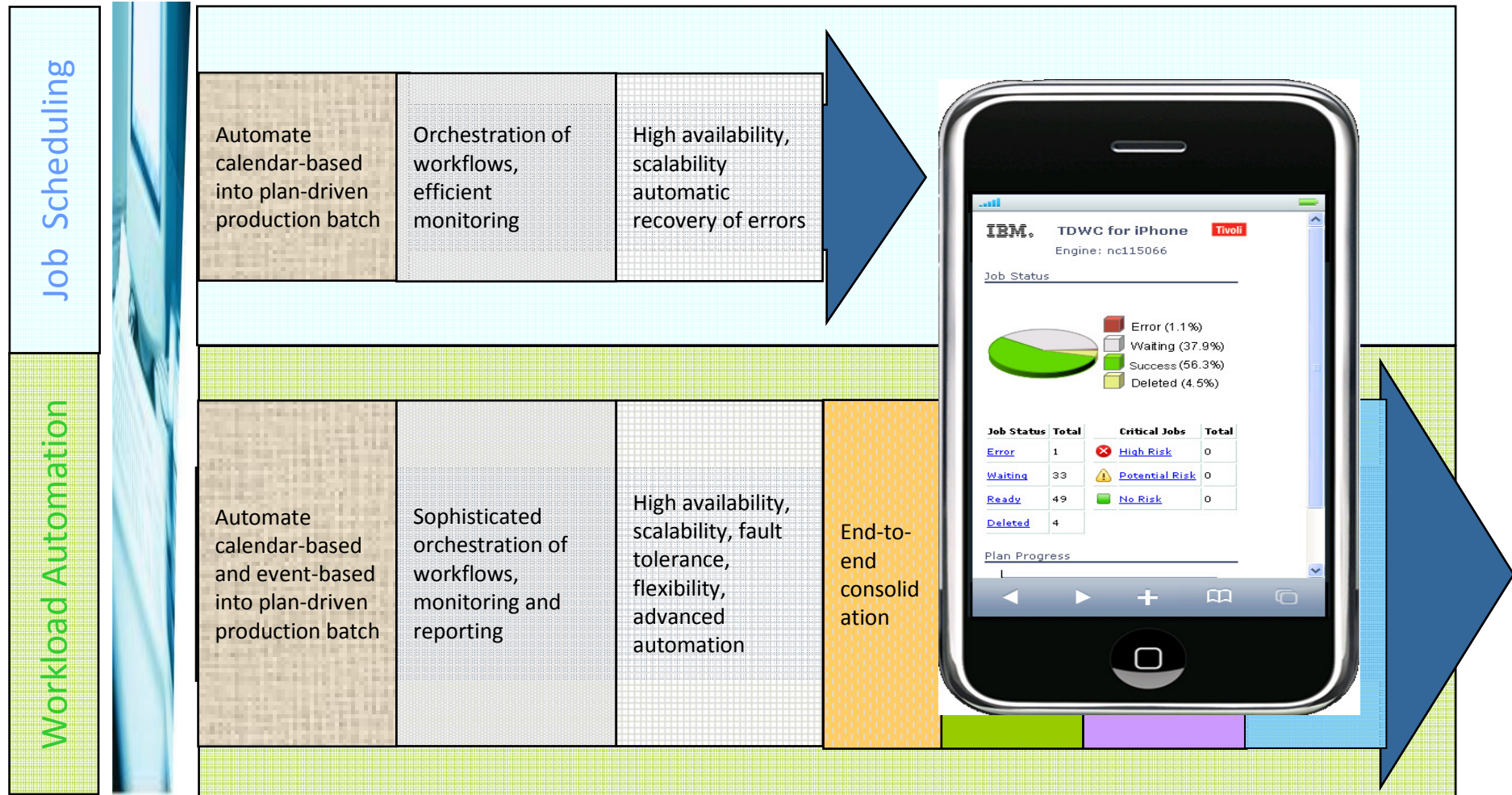


# How TWS Version 8.6 contributes to the end-to-end evolution

- Strong integration of TWS z/OS with z/OS system, resulting in: efficient architecture, low overhead, no latency time, high scalability
- Scalability (our TWS z/OS customers run up to 400.000 daily jobs)
- High availability (redundant elements guarantee high availability)
- Efficient distribution of workloads
- Predictability through a precise and consistent plan
- Efficient 24x7 services, with L2 in all the world
- Free additional features (web console, critical path, dynamic scheduling, automation in the cloud).



# Tivoli has responded with increased functionality and evolution from Job Scheduling to Workload Automation

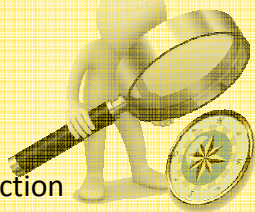


# IBM Tivoli RES suite

## Docet&WIC/MP1

### IT Asset Documentation

Detailed mapping, documentation, and impact analysis of the corporate IT assets for both the mainframe and open systems.



Reduction of time needed to write applications and document objects

A significant reduction in errors as a result of the lack of knowledge

immediate, accurate and complete impact analysis of all activities

Improve reliability of processes

## J-MAN 2

### JOBs and Applications Management

Drastic reduction of time required to maintain production objects.



Complete management of JCL life cycle and scheduling

Conversion of JOBs in compliance with the site standards for different environments

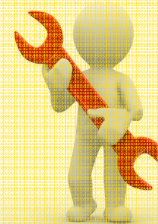
Generation and cloning of environments for multi-company IT systems

Elimination of coding errors, reduction of Logical and Environmental errors

## Re-Engineering3

### Batch Flow Reengineering

Automatic tool for re-engineering of Batch Schedules according to "maximum efficiency" and "best reliability".



Improve performance and quality of scheduling by increasing parallelism, eliminating contention of resources and errors, while ensuring the automation of recovery/restart operations.

## UpTown/MP4

### End-User Autonomy

Batch on Demand  
Batch as a Service



Give users the ability to autonomously manage the submission of on-demand batch executions without having to involve the production staff

A new modern web applications to easily run what is needed when it is needed.

## Ws-Planning 5

### Proactivity

Alerting and Monitoring system of the Batch flow



Proactive Alerting system for any deviation from the expected executions time or deviations from the execution flow.

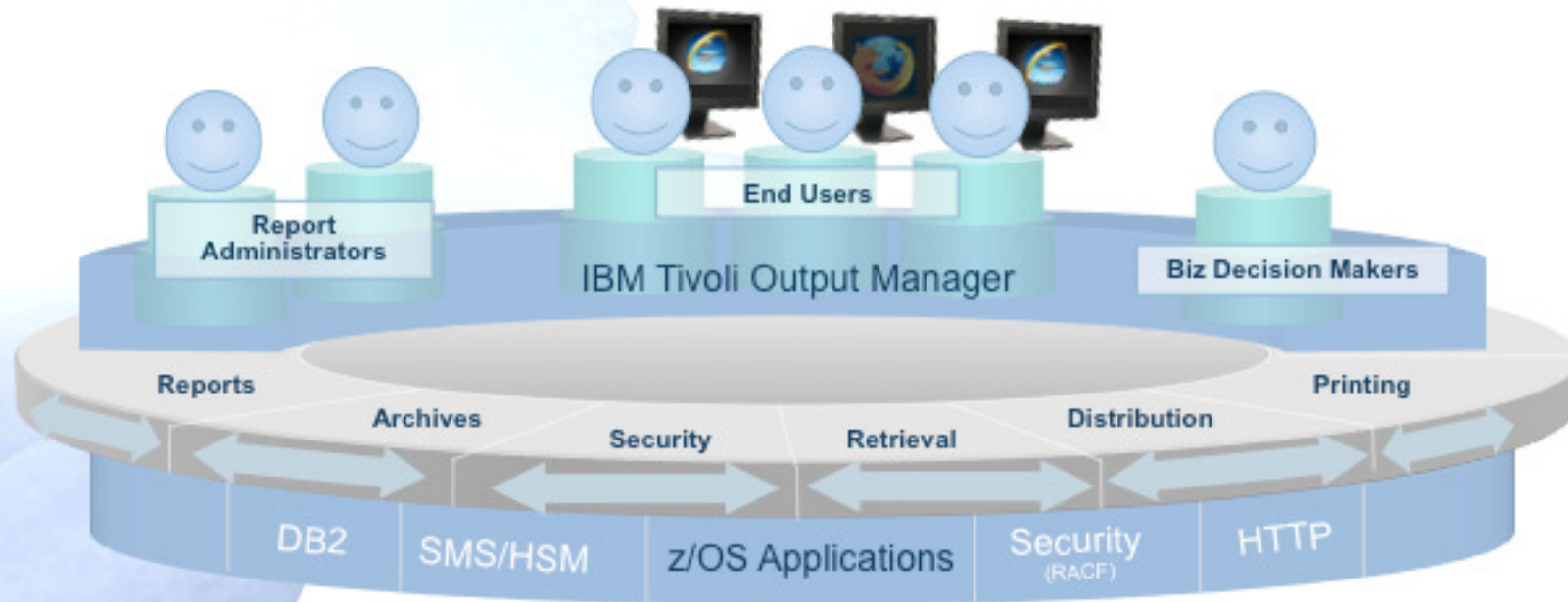
Expert Monitoring of the state of the art of the Batch Flow.

Alerting and Monitoring at every competence level

Historical database of the executions to allow the analysis of how they change in time



# What is ITOM?

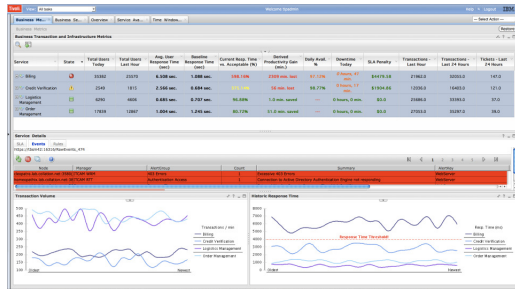


IBM Tivoli Output Manager online report management and distribution product that...

- ✓ Uses trusted products inherent to z/OS
- ✓ Captures enterprise data from existing z/OS applications
- ✓ Customize reports with advanced functions to meet end-user needs
- ✓ Distributes it online
- ✓ Records for auditing and makes outputs easily available to business decision makers

# VISIBILITY: Response Time Management as a KPI process solution

A unique Tivoli and IBM solution that can isolate a transaction to help manage end to end response time SLAs

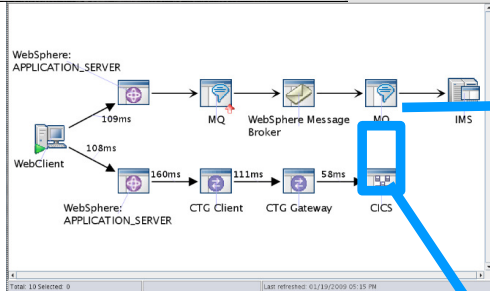


**TBSM**

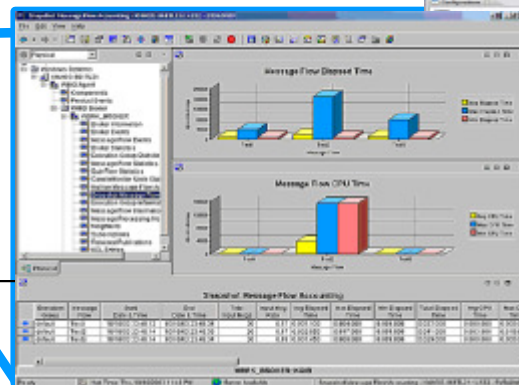
*Sense - Diagnose*

**ITCAM for Transactions**

Configuration Manager    Interdependency Analyzer    Performance Analyzer



**OMEGAMON XE for CICS, IMS, Messaging,...**



*Diagnose - Isolate*

**CICS Explorer**

*Isolate - Repair*

Using ITCAM for Transactions find domains where delays are effecting Response Time, Then to further diagnose launch into the Tivoli Performance Deep Dive Tools from OMEGAMON Once it is isolated, launch to the Performance Analyzer to repair



# Optimize the impact of business infrastructures and services



## Cloud and virtualization management

Automate virtualized infrastructure and the delivery of the services that run on it.

### Virtualized infrastructure management

- Virtual machine provisioning and hypervisor management for reduced infrastructure costs and improved efficiency

### Infrastructure service automation

- Management of service catalogue, reservation, metering, and billing

### Image management

- Management of image library, editing, deployment, retirement

### IBM Tivoli Cloud Ready

Tivoli OMEGAMON for z/VM & Linux on z

IBM Archive Manager for z/VM

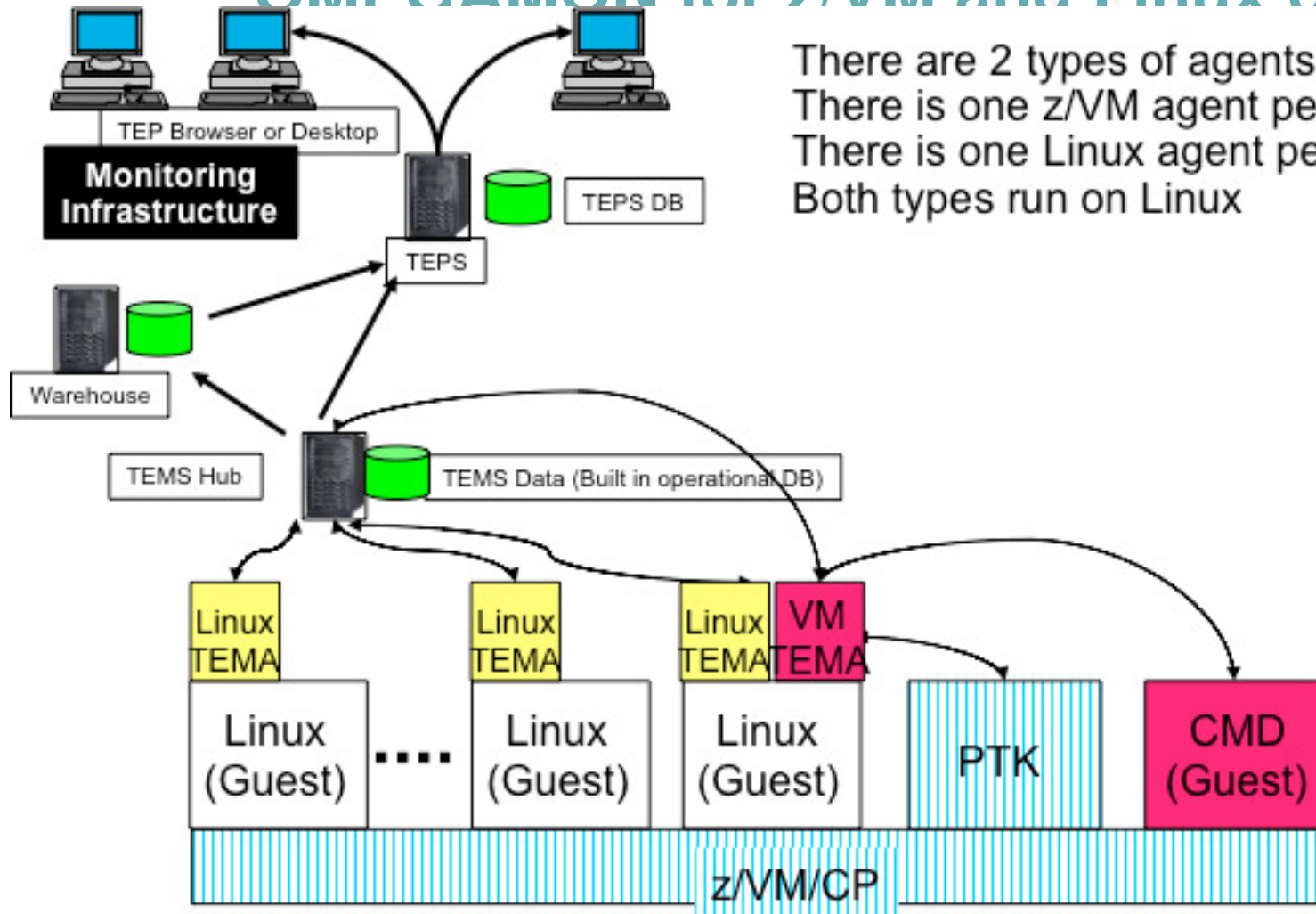
IBM Backup and Restore Manager for z/VM

IBM Tape Manager for z/VM

IBM Operations Manager for z/VM



# OMFGAMON for z/VM and Linux on z



There are 2 types of agents  
There is one z/VM agent per z/VM LPAR  
There is one Linux agent per Linux Guest  
Both types run on Linux



**Bedankt**

Netherlands

**Спасибо**

Russia

**Thanks**

United States

**Takk**

Norway

**Dziękuję**

Poland

**Toda**

Israel

**Dankschen**

Austria

**Obrigado**

Portugal

**Gracias**

Spain

**Tak**

Denmark

**Dekuju**

Czech Republic

**Merci**

France

**Engraziel**

Switzerland

**Tesekkür ederim**

Turkey

**Tack**

Sweden

**Dank u**

Belgium

**Thank You**

United Kingdom

**Danke**

Germany

**Grazie**

Italy

**Jag tackar**

Finland

**Dakujem**

Slovakia

