The next step in
IT optimization
begins here

IT Service Management

Al Zollar

General Manager, Tivoli Software

zSeries Executive Event – Athens, 2005

Tivoli software

ON DEMAND BUSINESS

IT Service Management, zSeries and the Mainframe

- **IT Service Management: The future of systems management**

- **No better foundation for ITSM than the mainframe and zSeries**

- **In an industry bombarded by constant change, mainframe remains a mature platform**

- **Many reasons behind mainframe's enduring success:**

  - Low cost of ownership

  - High availability …reliability … scalability … and security

- **We're committed to bringing mainframe solutions that:**

  - expand mainframe capabilities while enhancing its proven strengths

  - reduce the costs associated with operations and systems management

Agenda

- ● ● **IT trends**

- ● ● **IT challenges**

- ● ● **IBM's management vision and approach**

- ● ● **IT Service Management solutions from IBM**

- ● ● **Next steps to realizing the value of ITSM**
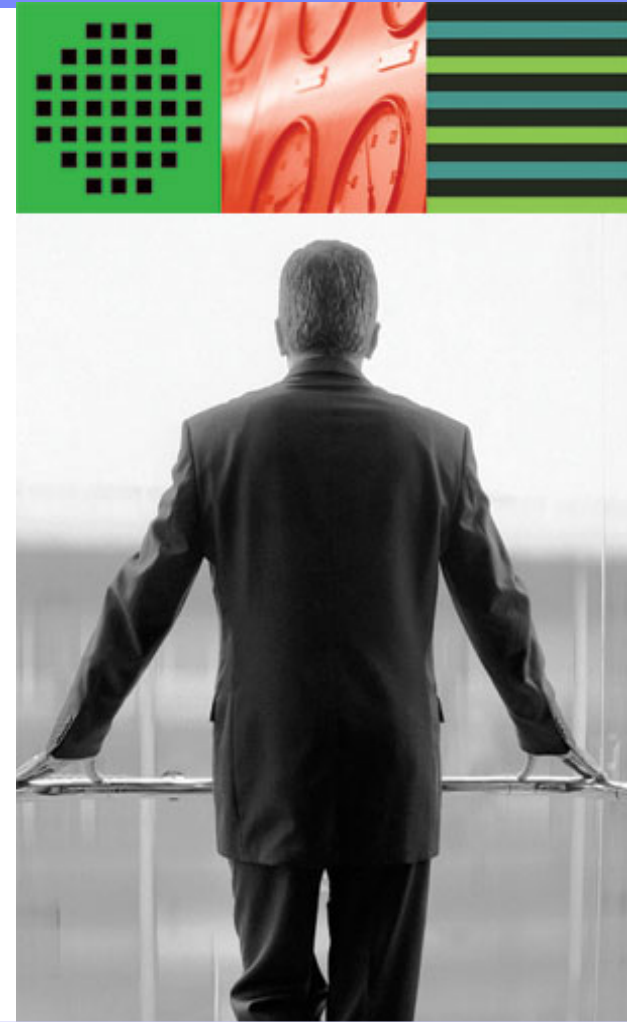
"What matters is how satisfied customers are, how costs are being saved on the supplier side, and how to allow for more creativity and added value at all levels of the organization."   --Erik Brynjolfsson, Director of the Center for eBusiness at MIT

The Challenge: IT Organizations Are Under Tremendous Pressure

- **Change:** Market demands, workloads, service levels

- **Compliance:** Regulations, security, audit capabilities

- **Complexity:** Heterogeneous resources, silos, composite applications

- **Cost:** Management and administration

"We're trying to resolve a huge morass of IT complexity, while demand for our services keeps going up. We're getting hit from both sides. So what are we doing about it? We're delivering an adaptive IT organization that provides services on demand to support the needs of the business."

George Surdu, Director, Global Information Technology Infrastructure, Ford Motor Company, September 2005

IT Infrastructure Trends – Increasing Complexity

Complexity of today's composite applications…

"… most **Global 2000 companies support 500-1000 applications**, and the majority of these are not of the shrink-wrapped variety."

"Application Management Poll Reveals New Trends"
Cameron Haight
Gartner April 2004

…make managing IT infrastructure a different challenge every day.

"**Composite applications** have contributed to increased management complexity. Organizations need to be able to maximize the potential for these types of applications by **ensuring that robust management processes are in place – across the application lifecycle**."

Cameron Haight
Gartner February 2005

IT Infrastructure Trends – Speed of Change

Rising workloads in a volatile business climate, make meeting service level expectations a daunting challenge.
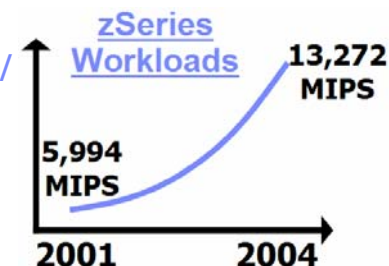
"... the largest z/OS installations **have more than doubled their 'MIPS to head count' ratio**."

"Find the Right Staffing Level for Your z/OS Data Center"
L. Mieritz, M. Willis-Fleming
Gartner, February 2004

zSeries Workloads

13,272 MIPS

5,994 MIPS

2001   2004

"... the installed base of servers in the market under management has increased ... **to approximately 20 million systems today** ..."

IDC, "On-Demand Enterprises and Utility Computing: A Current Market Assessment and Outlook"
IDC #31513 , July 2004

Distributed Server Install Base

20 Million

5 Million

1996   2004

"**Business activity across our applications is in constant flux.** The correct settings for performance yesterday will be different from what it needs to be today, and different from what it will need to be tomorrow."
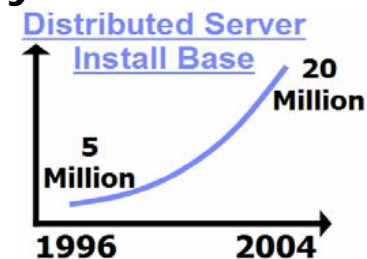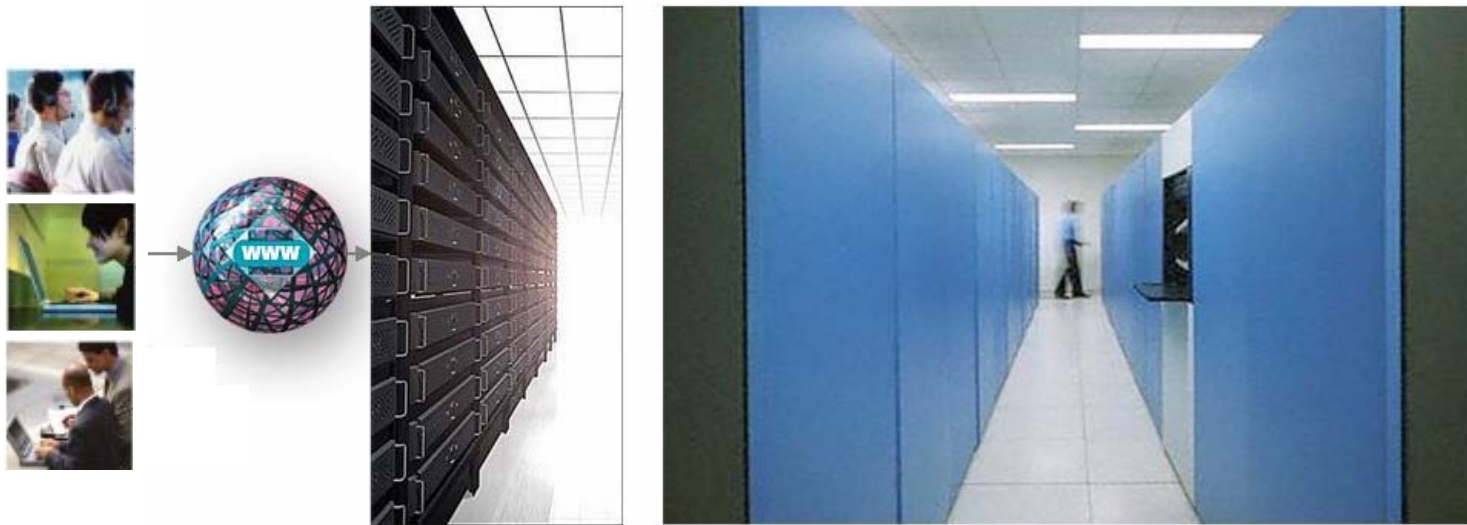
Ken Van Kley, Blue Cross Blue Shield Illinois

IT Infrastructure Trends – Compliance

The changing global regulatory and business environment requires security, privacy, and ongoing audit capabilities.

"On a typical day, the security team logs 38,000 attempts – by unauthorized individuals or automated probes – to access the state's networks. **That's about one every 2.3 seconds.**"

"Defending Data: a Never-Ending Vigil"
Todd Spangler quoting Dan Lohrman, Chief Security Officer for the State of Michigan
Baseline, 2004

IT Infrastructure Trends – Rising Operational Costs

Managing volatility, complexity and compliance measures have boosted operational costs ... at the expense of new initiatives.

Spending (USB$)

New server spending (USM$) 3% CAGR

Cost of mgmt. & admin. 10% CAGR
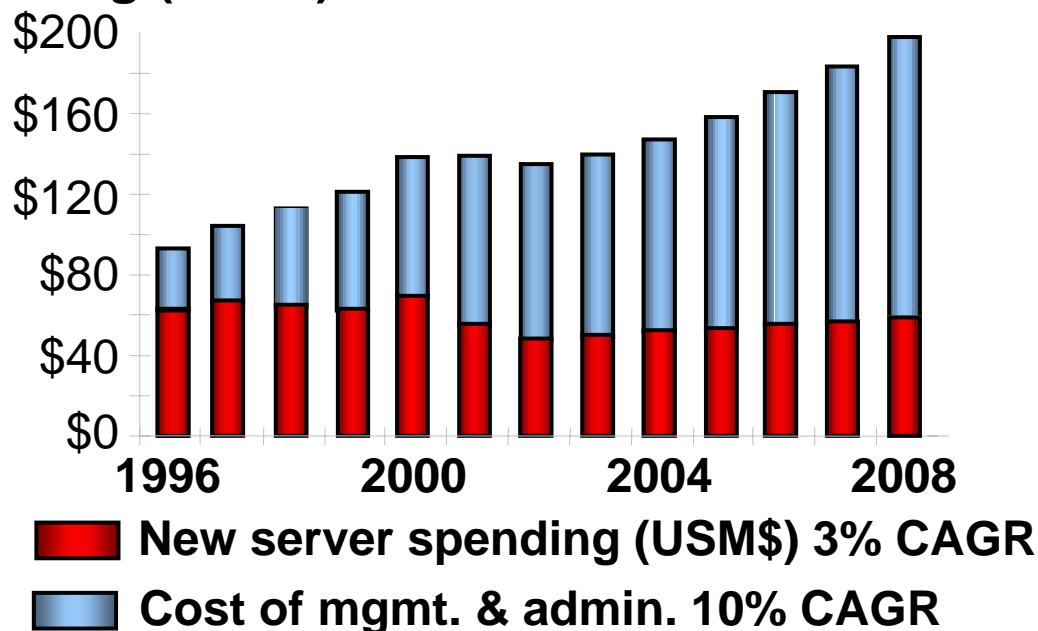
"Not only do operational costs far exceed the budgets for new hardware, they are **growing at approximately two-and-a-half times the compound annual growth rate.**"

IDC, "On-Demand Enterprises and Utility Computing: A Current Market Assessment and Outlook"
IDC #31513 , July 2004

IT Vision: Managing IT Like a Business

Effective and efficient delivery of IT services in support of business goals

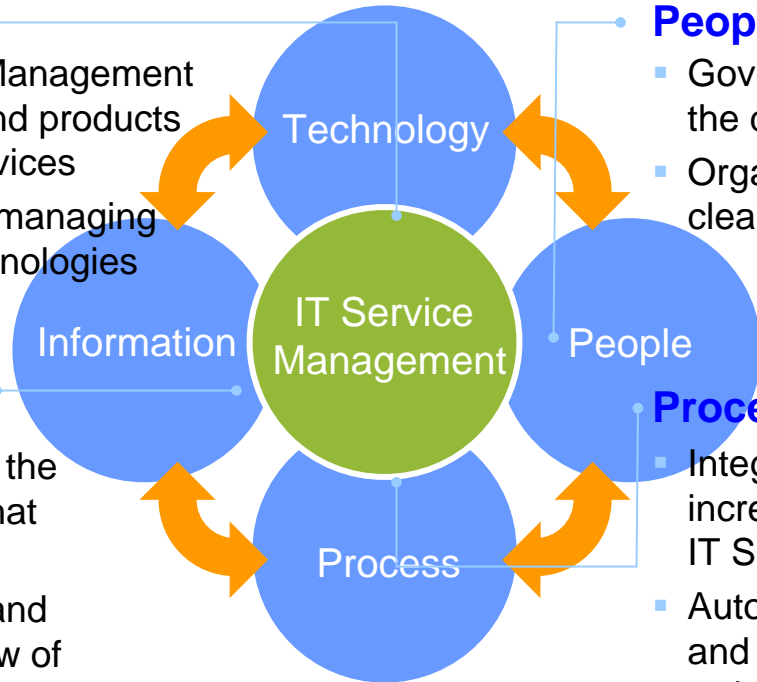| Desktop Experts and Tools	Network Experts and Tools	Application Experts and Tools	Database Experts and Tools	Server Experts and Tools	Mainframe Experts and Tools	Storage Experts and Tools

Availability Management

Change Management

Service Level Management

Security Management

Information Lifecycle Management

Release Management

Technology

- Infrastructure Management technologies and products for resilient services
- Integrates self-managing autonomic technologies

People

- Governance establishes the decision framework
- Organization functions in clearly understood roles

Information

- Information for the technologies that act on it
- Standardized and centralized view of information

Processes

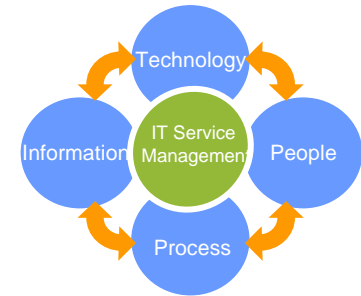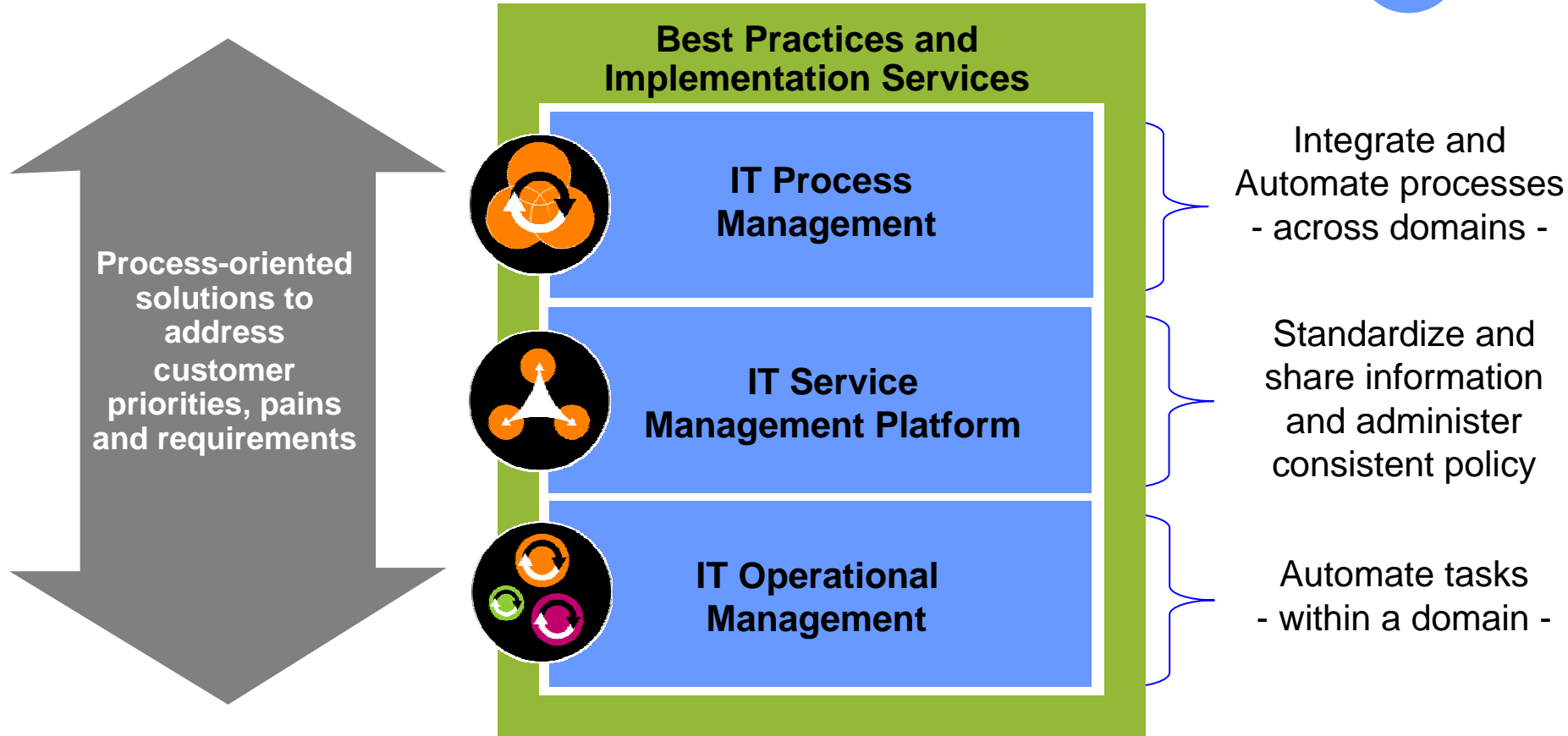- Integrated to enable increased value add from IT Services
- Automation of process and service workflows to reduce costs

Technology

People

Information

Process

IT Service Management

9

Putting IT Service Management into Action

Technology

IT Service Management

Information

People

Process

IBM IT Service Management

Best Practices and Implementation Services

Process-oriented solutions to address customer priorities, pains and requirements

IT Process Management

Integrate and Automate processes - across domains -

IT Service Management Platform

Standardize and share information and administer consistent policy

IT Operational Management

Automate tasks - within a domain -

10

Leverage Best Practices and Implementation Support from IBM

Best Practices and Implementation Services

- IT Process Management
- IT Service Management Platform
- IT Operational Management
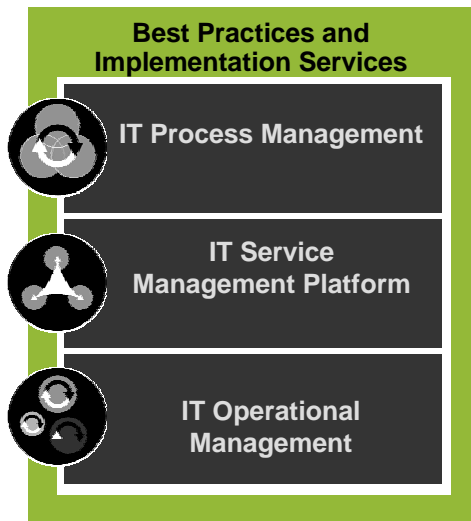
- **IBM Tivoli Unified Process**
  - IBM Process Reference Model for IT
  - Tools Mentor - make ITIL actionable!

- **Open Process Automation Library (OPAL)**

- **IBM Global Services**
  - Innovation Workshops
  - Infrastructure Services Readiness Engagement
  - IT Service Management Design
 - Implementation Services

ITSM Process Managers: Automated Management of Your Key Business Processes Right Out of the Box

- Packaged solutions with predefined processes
- Integrates with Tivoli and non-Tivoli products
- Improves customer focus and satisfaction
- Assists in regulatory compliance

Best Practices and Implementation Services

- IT Process Management
- IBM Service Management Platform
- IT Operational Management

Application Management

- Service Level Management
- Availability Management
- Information Lifecycle Management
- Workload Management
- Release Management
- Service Continuity Management
- Security Management
- IT Financial Management

Compliance Management

Available 1H2006

Tivoli Change and Configuration Management Database
– A Platform for IT Service Management
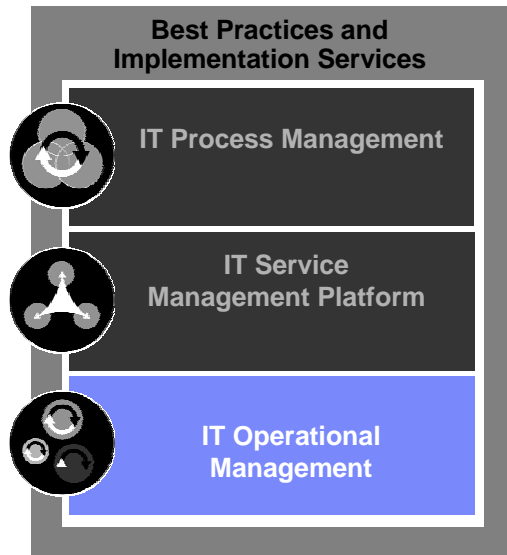
Based on <u>proven</u> IBM technology: **Tivoli**   **WebSphere.**   **DB2.**   **IBM @server**

Best Practices and Implementation Services

- IT Process Management
- IT Service Management Platform
- IT Operational Management
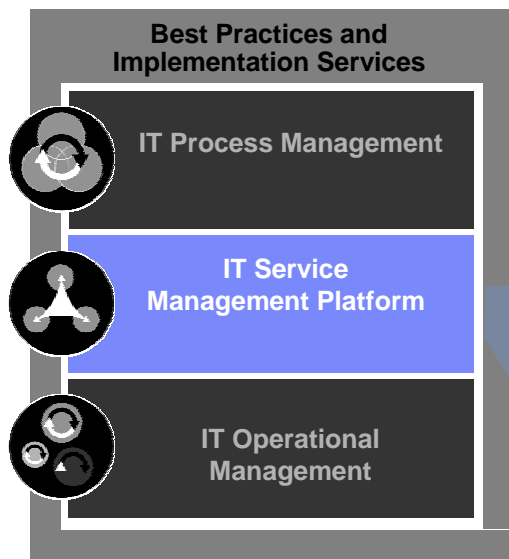
- **Configuration Management Database**
    - Open, federated model
    - API and GUI reporting access

- **Workflow Engine**
    - Based on WebSphere technology
    - Process modeling and simulation
    - Automated process execution
    - Real-time monitoring and reporting

- **Automated Process Workflows**
    - Change & configuration management

Limited availability _now_

Tivoli IT Service Management Technology & Products – Leverage Current Technology and Products

Best Practices and Implementation Services

- IT Process Management
- IT Service Management Platform
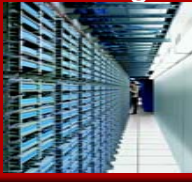- IT Operational Management

Automation

- Tivoli Business Systems Manager
- Tivoli Enterprise Console
- Tivoli Monitoring
- Tivoli NetView
- Tivoli OMEGAMON XE
- Tivoli Systems Automation
- Tivoli Workload Scheduler
- Tivoli License Management

Security

- Tivoli Access Manager
- Tivoli Identity Manager
- Tivoli Federated Identity Manager

Storage

- Tivoli Storage Manager
- Tivoli Continuous Data Protection
- Total Storage Productivity Center

What Our Customers Are Saying…

" *With their new IT Service Management strategy, IBM Tivoli is now really focused on the big picture – not only delivering tools, but an integrated combination of tools, sharing their data through a central database and supporting ITIL processes."*

- Andres Golombek, IT Production, Commerzbank

COMMERZBANK

" *The Tivoli suite of products has been (and will continue to be) integral to the bank in providing objective system data and other information to measure our progress. The integration of the Tivoli suite of products into our infrastructure plays a key role in our ITIL success."*

- Tony Flora, Snr VP Global Services and Fulfillment Group

Bank of America

" *Our staff couldn't do it all – cost-effectively deliver reliable services to both customers and internal staff – without leveraging the predictive and automated capabilities of Tivoli software. Without Tivoli solutions, we would have had to substantially increase our staff if we were to meet our business goals."*

- Rene Schon, Tivoli Senior Administrator, NLV

" *To become an on demand business, we knew that we needed to become 'Tivolized.' Without the IBM infrastructure management products and tools from Tivoli, we wouldn't have reached the record levels of availability for our business that we have achieved."*

- Dave Murray, Architect & ESM Team Lead, Ahold USA

Ahold USA
Best of the Best

ITSM Maximizes The Value of IBM Mainframes for Your On Demand Business

- **Proven platform provides highly available, secure foundation for delivery of high-quality service**

- **IBM leads the industry in expanding mainframe technologies to handle new applications and workloads**

System z9

- **System z9: The next level in scalability**
  - An all-new server designed to be more:
    - Secure
    - Available
    - Scalable
  - Incorporates new IBM software designed to further:
    - Integrate applications and information
    - Enable resiliency across the enterprise
    - Manage the breadth of the infrastructure
    - Simplify IT operations
  - Networking and storage to help deliver:
    - Improved responsiveness
    - Lower costs
    - Higher availability
    - Better recoverability

Most Extensive Portfolio for Mainframe Management


BUSINESS SERVICE MANAGEMENT

- IBM Tivoli Business Systems Manager
- IBM Tivoli Service Level Advisor

INFRASTRUCTURE MANAGEMENT

- IBM Tivoli Information Management for z/OS
- IBM Tivoli Performance Modeler for z/OS
- IBM Tivoli Decision Support for z/OS
- IBM Tivoli Decision Support Accounting Workstation

AVAILABILITY PERFORMANCE MANAGEMENT

- IBM Tivoli OMEGAMON DE on z/OS
- IBM Tivoli OMEGAMON XE on z/OS
- IBM Tivoli OMEGAMON XE for CICS on z/OS
- IBM Tivoli OMEGAMON XE for IMS on z/OS
- IBM Tivoli OMEGAMON XE for DB2 on z/OS
- IBM Tivoli OMEGAMON XE for Databases
- IBM Tivoli OMEGAMON XE for Mainframe Networks
- IBM Tivoli OMEGAMON XE for Storage on z/OS
- IBM Tivoli OMEGAMON XE for USS
- IBM Tivoli OMEGAMON XE for Linux on zSeries
- IBM Tivoli OMEGAMON for z/VM
- IBM Tivoli Monitoring for Web Infrastructure for z/OS
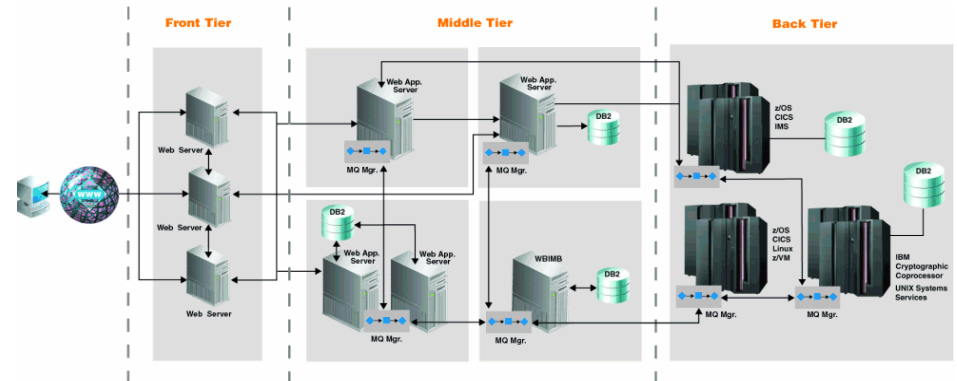
COMPOSITE APPLICATION MANAGEMENT

- IBM Tivoli Composite Application Manager for SOA on zSeries
- IBM Tivoli OMEGAMON XE for WebSphere Application Server on z/OS
- IBM WebSphere Studio Application Manager
- IBM Tivoli Monitoring for Transaction Performance for z/OS

OPERATIONS MANAGEMENT

- IBM Tivoli NetView for z/OS
- IBM Tivoli System Automation for z/OS
- IBM NetView Access Services for MVS
- IBM Tivoli AF/OPERATOR
- IBM Tivoli AF/REMOTE

Continued Commitment to Our Mainframe Customers

SECURITY MANAGEMENT

- IBM Tivoli Access Manager for Business Integration
- IBM Tivoli Access Manager for e-Business
- IBM Tivoli Security Administrator for RACF
- Vanguard Security Center
- Vanguard Administrator
- Vanguard Analyzer
- Vanguard Enforcer
- Vanguard Advisor

OPTIMIZATION PRODUCTION CONTROL

- IBM Tivoli Workload Scheduler for Host Edition
- IBM Tivoli Output Manager for z/OS
- IBM Tivoli Automated Tape Allocation Manager for z/OS
- IBM Tivoli Allocation Optimizer for z/OS
- Diversified Software Systems (DSSI)
- Job/SCAN
- Docu/TEXT

PROVISIONING

zSeries License Management (Isogon)

- IBM Tivoli License Compliance Manager for z/OS
- IBM Tivoli Contract Compliance Manager

zSeries Storage Management

- IBM Tivoli Storage Manager for z/OS
- IBM Tivoli Storage Optimizer for z/OS

Advanced Monitoring and Managing of Mainframe Performance

Enhanced!
IBM Tivoli OMEGAMON XE for IBM System z9 and eServer zSeries

- Proactively manage your mainframe infrastructure

- Quickly identify and solve system delays by analyzing bottlenecks and building a detailed picture of resource usage

- Integrates with Tivoli Enterprise Portal
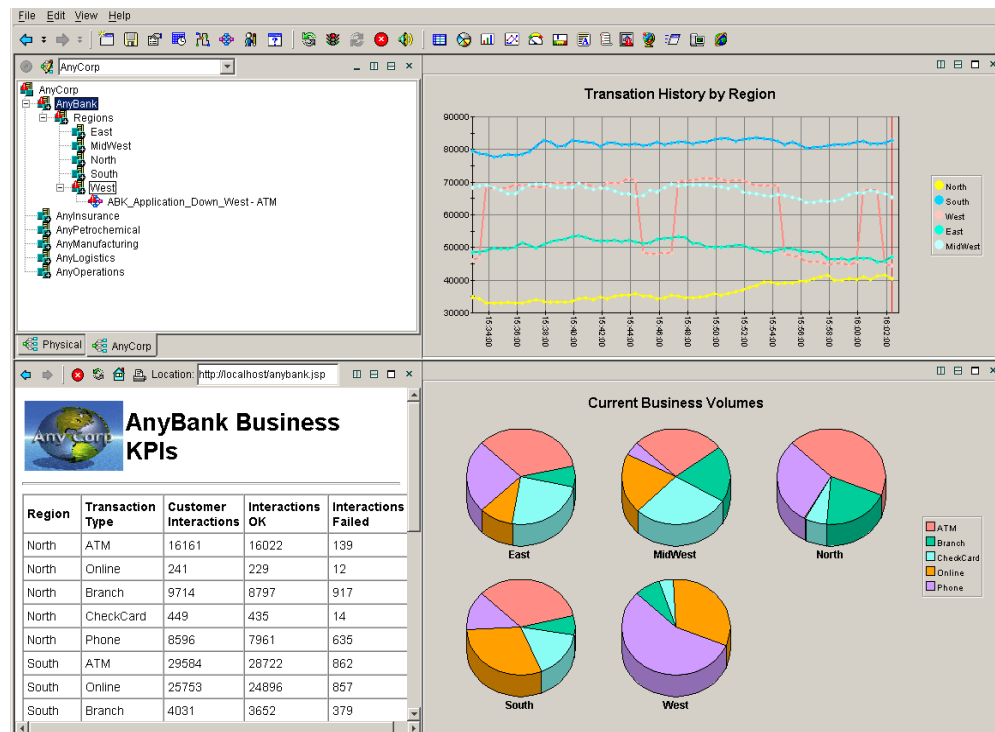
Exceptional Availability Management of Mainframe Networks

Enhanced!

IBM Tivoli NetView for z/OS

- Improve network and system availability by managing both mainframe TCP/IP and SNA networks

- Manage larger networks, more resources and more systems with fewer resources and personnel

- Integrates with Tivoli solutions to provide comprehensive, seamless availability management across your IT environment
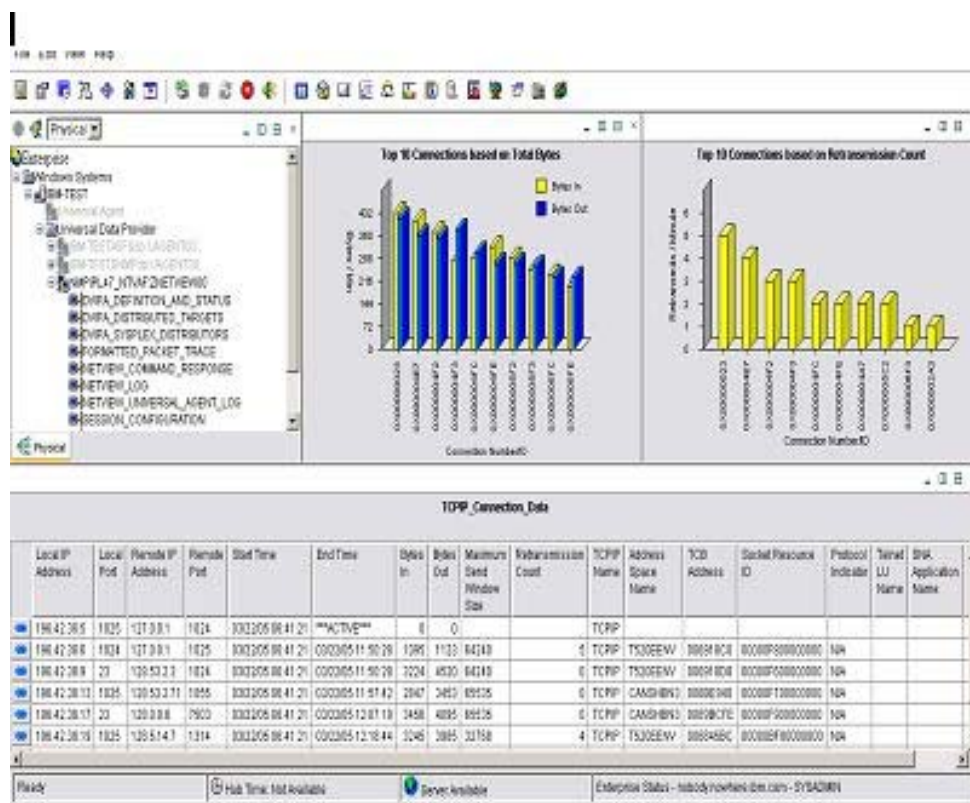
Automated Management for z/OS and Multiplatform Environments

Enhanced!

IBM Tivoli System Automation z/OS & Multiplatform

- Automate the process of bringing up and down composite applications and supporting resources

- Automate goal-based healing through policies without complicated programming requirements

- Pre-packaged best practices for SAP, Siebel, WebSphere and more
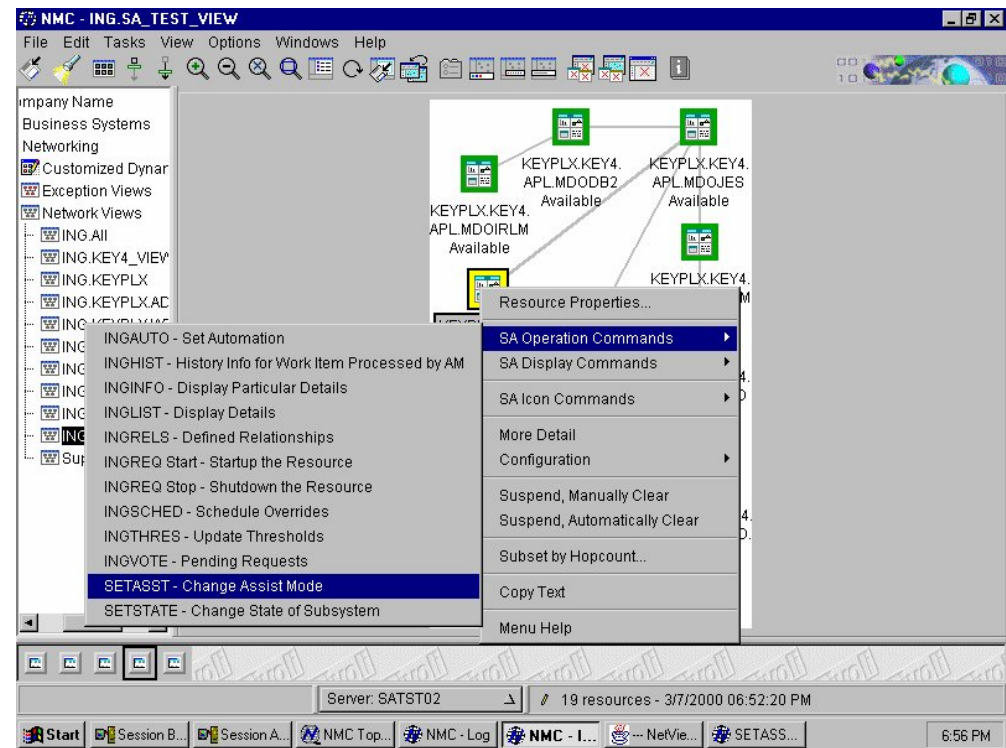
Automate and Manage Workloads with Tivoli Composite Application Manager for SOA

- **Manage** SOA service and application performance

- **View** underlying Web Services infrastructure (WebSphere, .NET, WebLogic)

- **Identify** potential problems across an SOA

- **Mediate** services (start/stop, audit and logging)

- **Automate** authentication of SOA services through integration with FIM

- **Analyze** historical Web Services data (content and context)

- **Extend** management to the life cycle of SOA-enabled applications with Tivoli/Rational

Service Operations View

Service Inventory View

Service Performance View
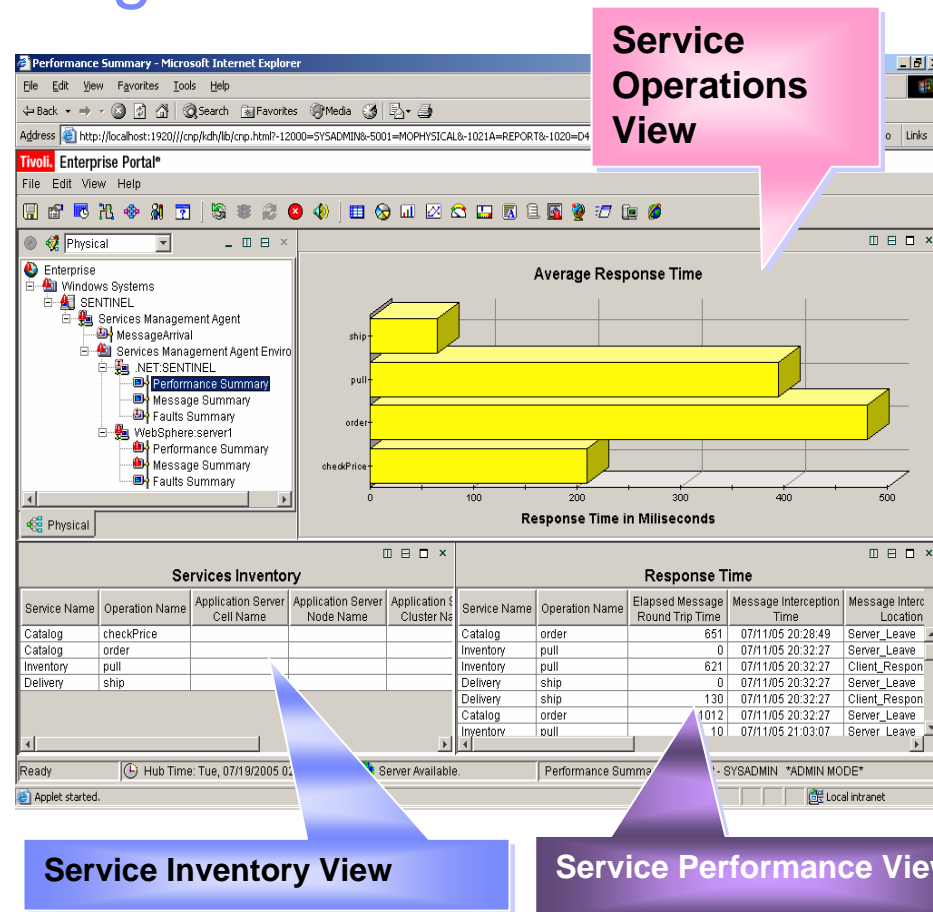
Visit Tivoli SOA Management at
http://www-306.ibm.com/software/tivoli/features/soa/index.html

Expanded Software Asset Management Solutions
– Help Control Costs, Meet Compliance Challenges

IBM Tivoli License Compliance Manager for z/OS

(formerly Isogon SoftAudit)

- Auto-discovery, centralized, accurate software inventory and usage information

IBM Tivoli Contract Compliance Manager (formerly Isogon Vista)

- Manage contractual and financial details of IT software and hardware agreements

Manage software inventory, usage and licenses
- Complete, accurate reporting on software assets and usage
- Manage software costs by learning which software justifies more investment …or less
- Demonstrate adherence to stringent accounting standards
- Better planning, budgeting and control of enterprise software costs based on business needs

The only vendor with solutions spanning mainframe and distributed platforms

Tougher Security Solutions Strengthen Protection from Intrusion and Help Manage Compliance Requirements

- **Reseller Agreement with Vanguard Beefs Up Security Management Solution**

  ‣ Security administration, integrity auditing, and intrusion detection and management

  ‣ Helps address the most stringent security rules and regulations

  ‣ Reduce complexities of RACF security administration and enforce best practices
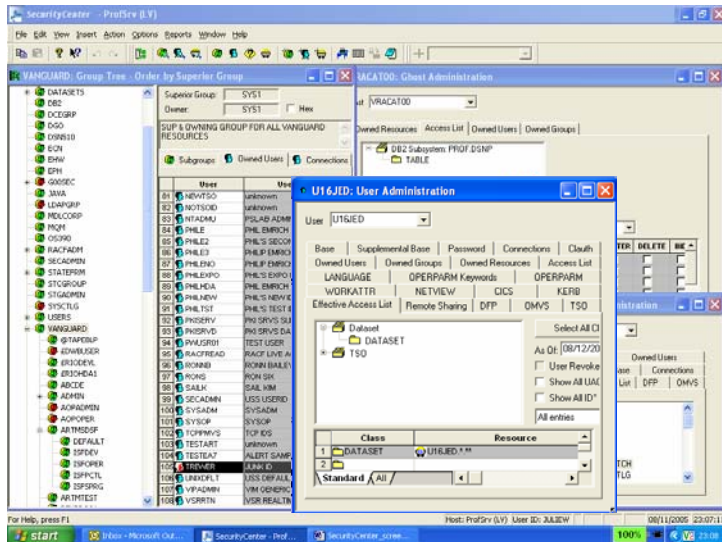
- **IBM and Vanguard Security Solutions**

  ‣ **Vanguard Security Center** offers an easy-to-use graphical user interface for RACF and DB2 security administration on z/OS

  ‣ **Vanguard Administrator** provides advanced security server management and analysis with automation and power utilities

  ‣ **Vanguard Analyzer** assists with security system snapshots or full-scale System z9 security audits

  ‣ **Vanguard Enforcer** manages and enforces security policy on z/OS and RACF

  ‣ **Vanguard Advisor** provides event detection, analysis and reporting capabilities for z/OS and RACF

  ‣ **IBM Tivoli Security Administrator for RACF** is designed to provide a low-cost RACF management solution

Simplify z/OS Operations with Tivoli Enterprise Portal
-- New management console integrates tools, data and processes

Tivoli Enterprise Portal

Mainframe

- Host and Distributed Infrastructure Management
  - OMEGAMON XE
  - NetView for z/OS
  - SA for z/OS
- Composite Application Management
  - *Transaction Tracking, J2EE, SOA*
- zAAP processors and Cryptographic Coprocessors
- CICS TS 3.1
- DB2 v8.1

Distributed

- UNIX
- Windows
- Linux
- OS/400
- DB2, Oracle, Microsoft SQL, Sybase
- mySAP, Siebel
- HACMP
- Microsoft Exchange
- Microsoft .NET
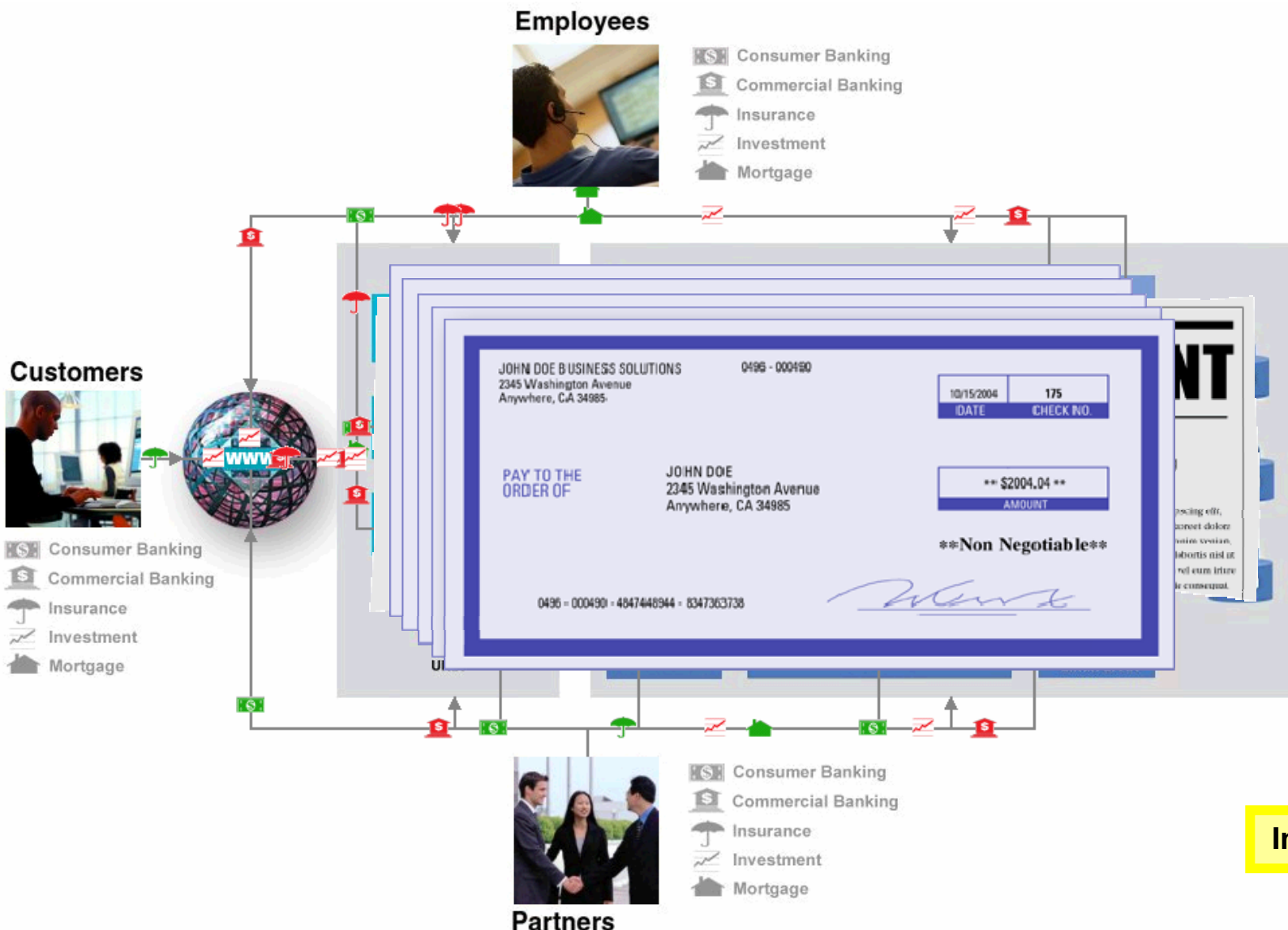- Virtual Servers - Citrix, VMWARE ESX

Process Integration

- Business Systems Mgmt
- Service Support
- Service Delivery

End-to-End Management

IT Service Management Solutions in Action

Making End-to-End Management a Reality

IBM Tivoli Monitoring v6.1

OMEGAMON XE for z/OS v3.1.0

OMEGAMON XE for DB2 PE, DB2 PM v3.1.0

OMEGAMON XE for CICS on z/OS v3.1.0

OMEGAMON XE for IMS on z/OS v3.1.0

OMEGAMON XE for MF Networks v3.1.0

Tivoli Enterprise Console v3.9

System Automation for Multiplatform v2.1

System Automation for z/OS 3.1

OMEGAMON DE on z/OS 3.1

NetView on z/OS v5.2

OMEGAMON XE for Storage on z/OS v3.1.0
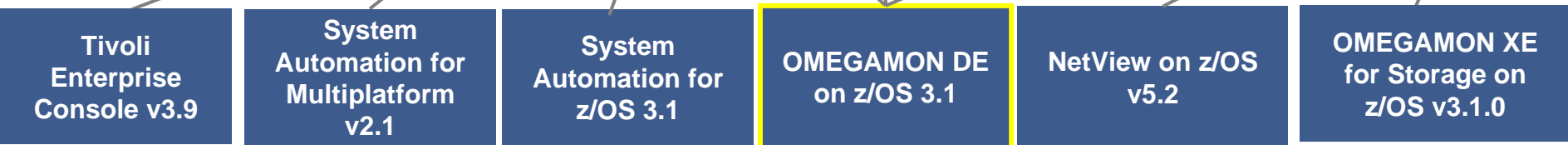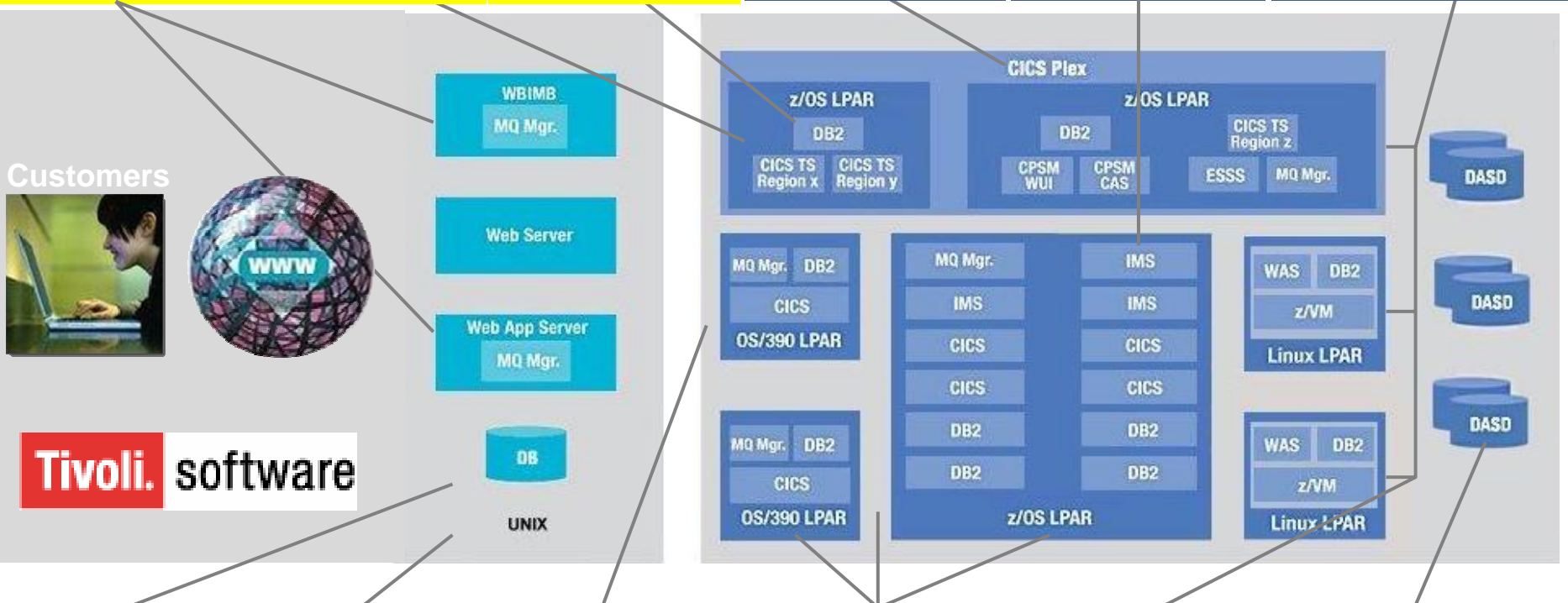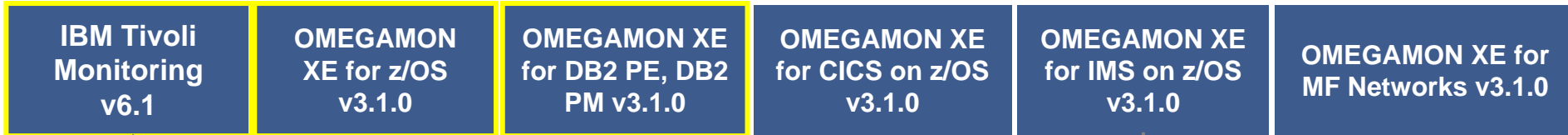
Autonomic Maturity is the Key to ITSM Success

Autonomic

- System takes action based on predefined business policies and priorities

Adaptive

- System can match a particular symptom to a recommended action and then initiate action

Predictive

- Predict events and take action based on trend analysis and CMDB

Managed

- Leverage infrastructure management tools
- Action taken in response to events data

Basic

- Resource Intensive
- Manual problem determination and resolution

On Demand

Traditional

Levels of On Demand Automation

Where Should You Focus First?

Where you start depends on YOUR organization's priorities.

ENTRY →

Best Practices and Implementation Services

- **IT Process Management**
- **IT Service Management Platform**
- **IT Operational Management**

← **ENTRY**

- ➢ Innovation Workshops
- ➢ Services Readiness Assessment
- ➢ IT Service Management Design
- ➢ Packaged Offerings and Implementation Services

- ➢ IT Process Managers
- ➢ IBM Tivoli Unified Process
- ➢ IT Service Management Assessment Tool
- ➢ Tivoli and other IBM Products

Four Points to Take Away

- *Maintaining our leadership in enhancing mainframe hardware and software to integrate and interoperate with new platforms and applications*

- *Providing zSeries and end-to-end management solutions to find and fix problems quickly*

- *Improving service delivery with solutions that manage IT processes, based on ITIL best practices*

- *Delivering ITSM solutions that can meet your key IT challenges cost effectively*

Time