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# System Management Software Agenda 2005

Aligning IT Performance with Business Objectives

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# Agenda

- Business and Technology Environment in 2005+
- IT Challenges for System Management Software
- System Management Software
  - Definition
  - System Monitoring Disciplines
  - Shifting Focus
- Business Service Management
- Concept around 'Dynamic IT'
- System Management Software Forecast 2005-2009
- Summary and Conclusions

# Business Environment in 2005: Challenges all around

## Politics & Regulations

- Stagnating Western European Economies
- Major elections in some countries, Vote on European Constitution
- New regulations for accounting and governance (IFRS, IAS, Basel II)
- New EU directives for certain industries (WEEE, RoHS)

## Economic Facts

- 2005: GDP growth in Euro zone 1.7%, worldwide GDP growth rate will reach 3%
- Unemployment rate in Europe was at 8.9% in 2004 and is expected to drop by 1% during 2005
- Strong euro affecting European balance sheets
- Interest rates continue to be at low level – and still fall

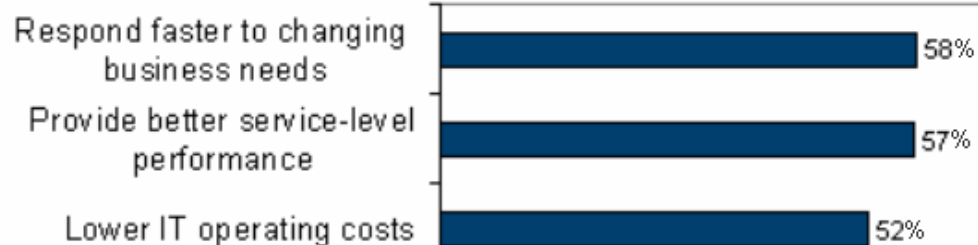
## Outlook

- M&A starting again for critical mass and slow economic upturn
- Delocalization of manufacturing accelerating toward Eastern Europe

# Technology Environment in 2005: Turn rigid IT structures into agile services

- IT economics have evolved over a 40 year-history of business conditions that fundamentally differed from today's
- Today the capability for IT to adjust to downside and upside economic conditions is key – manage the 'breaking distance'
  - Ironically, many organizations will become truly great at reducing costs just at the point when the economy picks up.
- IT organizations must be both proactive and reactive in facing business uncertainty
- IT organizations must be positioned in a closely coupled alignment with business strategy and be a partner in its value proposition
- Dynamic IT is an enabler of business agility and requires an integrated portfolio as the foundation

## Q: Business Needs Driving "On-Demand/Adaptive/Utility" Computing?



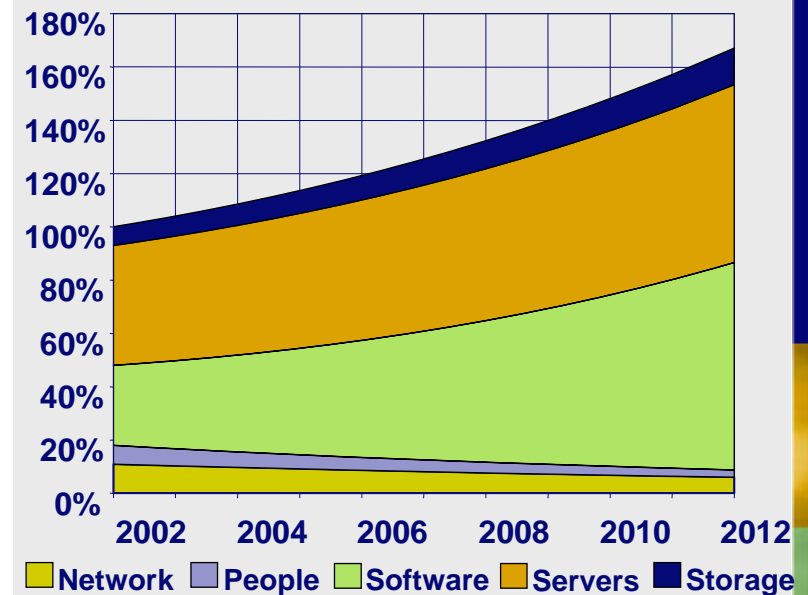
# Impact: Dynamic Enterprises will need 'Dynamic IT' Platforms

- The events of the past 3 years (technology, economics, world politics, etc.) have changed the **dynamics of IT**
- IT organizations need to radically improve their alignment with the business by becoming “opportunity seeking,” using real business value as the currency of success
- The 30-40 years of IT history have focused on optimizing *people, process, platforms, and performance* individually — the new demands on IT dictate focusing on **cross-company process (re)-engineering**, flexible **architectures**, and **integration**
- **Dynamic IT** is targeted at the drivers of business success and will be the hallmark of the new-generation best-practice IT organization
- **Integration** is the driver of dynamic IT and **cornerstone** of *IT value creation*

# IT Challenges for System Management Software

- Growth of data center budget: 7%-9% for 2005
- In times of tight IT budgets and strict cost controls data center consumes 50%-75% of IT budget
- Growing complexity
  - Distributed platforms
  - Heterogeneous infrastructures
  - Supporting new application environments: J2EE, .NET
  - Web everywhere: end-users online
- Meet increasing numbers of SLAs
- Satisfying regulatory compliance requirements
- Need to show business alignment and relevance

Data Center Budget Growth Forecast



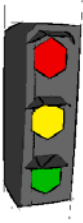
To prevent the data center from consuming the entire IT budget, increased manageability and utilization through standardization and automation are essential

# System Management Software – Definition

- **System Management software is used to manage computing infrastructure resources for end-users, workgroups, business organizations and large enterprises, for systems and applications. The primary focus is on managing servers.**
- Network Management software is used to manage the network and service components of enterprise and service-provider communications infrastructure, especially switches and routers.
- Other major types include Storage Management and Security Management.

# Major System Management Software Functions and Activities/ Views (IDC)

## ■ Performance and Availability Management



Performance Management

- Health and Availability Monitoring; individual elements (clients, servers, blades, routers)
- Element/ device status vs. “Normal conditions” – Up/ Down, Fast/ Slow, Idle/ Busy
- Monitoring and “end-to-end” reporting: application/ IT service/ Business service view
- Taking corrective actions across all IT systems – Automation

Event Automation

## ■ System Operations Software

Job Scheduling

- Exceptions and Alerts – Notification and Responses

Problem Management

- Identifying problem devices – Correlation and Root Causes – Help and Service Desk

Change and Configuration Management

- Software Distribution, Provisioning, Patching

Output Management

- Automated production, distribution, and management of computer-generated information



# IT Processes and Performance

## Key Functions in IT Process and Performance Management

- Service Level Management: Setting goals and agreements on specific workloads, transaction volumes, response times
- System performance monitoring: Tuning to optimize use of resources, measuring actual vs. goals – but high component utilization is only one indicator!
- Element monitoring gets the basic measurements
- Consider transaction times “hop to hop” across tiers, slowest “hop” is the bottleneck, improve performance by removing bottlenecks
- Understanding current and future demand,
  - Trending, forecasting
  - Scheduling, load balancing
  - Capacity management and provisioning

# Coping With Complexity

= Tools

## Operational Processes

## Tiers/ Domains

<i>Change Management</i>										
<i>Service-Level Mgmt.</i>										
<i>Disaster Recovery</i>										
<i>Capacity Management</i>	<i>Network Management</i>	<i>Database Management</i>	<i>Server Management</i>	<i>End-Point Management</i>	<i>Service Desk</i>	<i>Storage Management</i>	<i>Middleware Management</i>	<i>Application Management</i>	<i>Operations Management</i>	<i>Web Management</i>
<i>Workload Management</i>										
<i>Problem Management</i>										
<i>Production Acceptance</i>										
<i>Asset Management</i>										
<i>Performance Mgmt.</i>										
<i>Inventory Management</i>										
<i>Vendor Management</i>										
<i>Configuration Mgmt.</i>										
<i>Bus. Relationship Mgmt.</i>										

Tools are a patchwork of capability overlapping domains and operational processes

# Shifting Focus for Management Software: What's Changing ?

- Classical approach is basic element management
- Monitor servers, networks, “individual component health”
- Results in “stovepipe” approach aligned with technology stacks
- With distributed and Web applications, more focus on end-to-end, cross-technology views
- Doesn't eliminate “element” views – it supplements them with cross-element and transaction views
- Want to see element, application, service, and business views

Measure transactions (both “real” and “synthetic”) across “tiers” or “Composite Applications” to get the “end-to-end” view of loads, response times, etc.

# Evolution of End-to-End Views

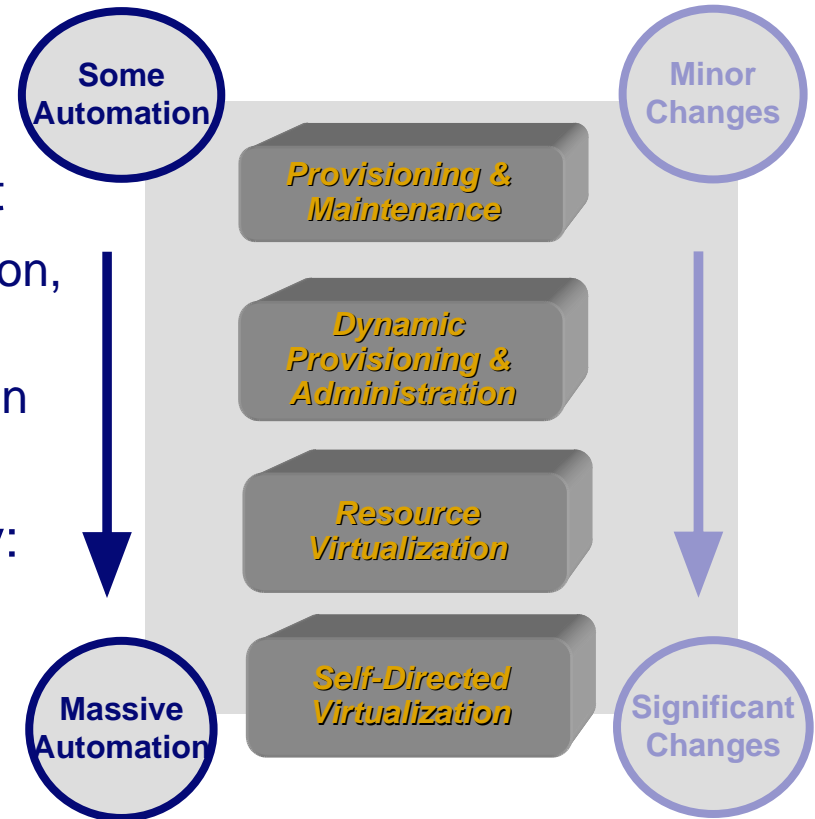
More flexible infrastructure environment

- e.g., virtualization, dynamic alteration, grid computing
- Starting with intelligent configuration management

All large vendors have efforts underway:

- IBM, HP, Sun, EMC ...

Roll out slowly over next 2-3 years



# Supporting Management Standards and Tools

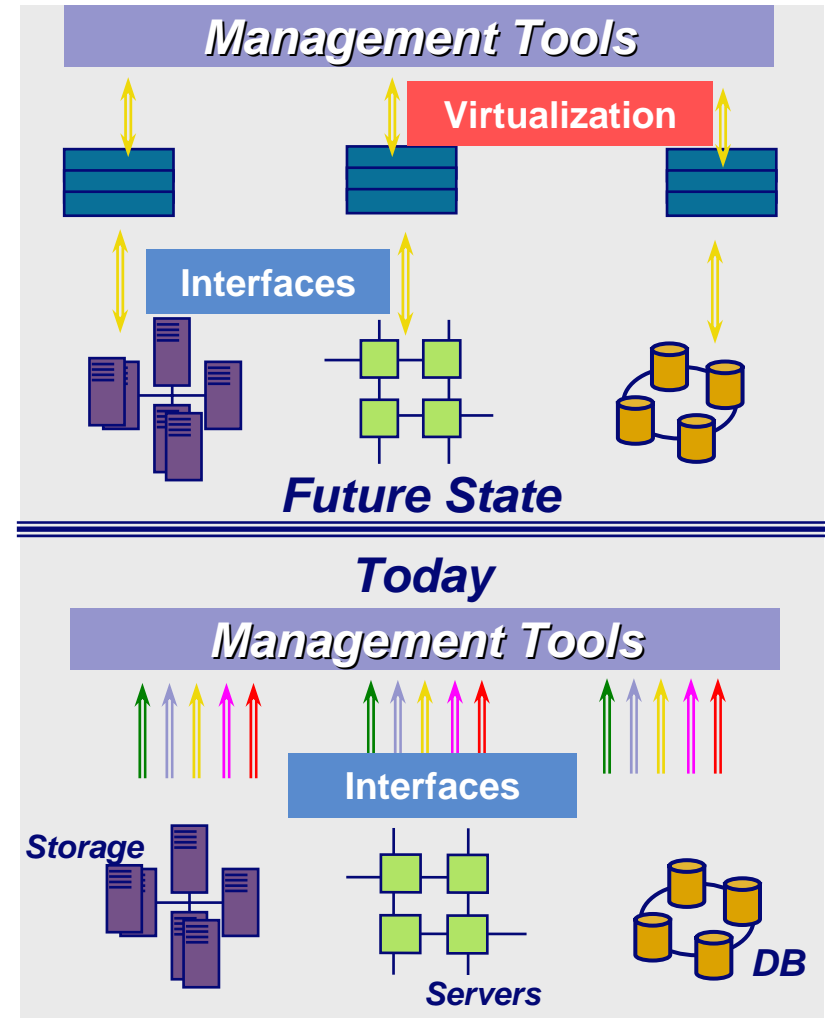
Management technology must be more standards-driven

- Standards for describing current state, configuration, and activity level
- Standards must allow for interactive management at both virtualization software and physical resource
- XML will be the foundation

Management of the physical resource and its virtual state

- Allowing end-to-end tracking
- Usage management

Policy management will require correlation of physical, virtual, and demand data



# Emerging Technologies and Suppliers

## Grid controllers

- Platform, Sun, IBM, Sybase (Avaki), Data Synapse, United Devices

## Auto provisioning & update

- IBM (Think Dynamics), Veritas (Jareva), Opsware, Mercury Interactive (Kintana), BladeLogic, Sun (CenterRun), Moonlight, Racemi

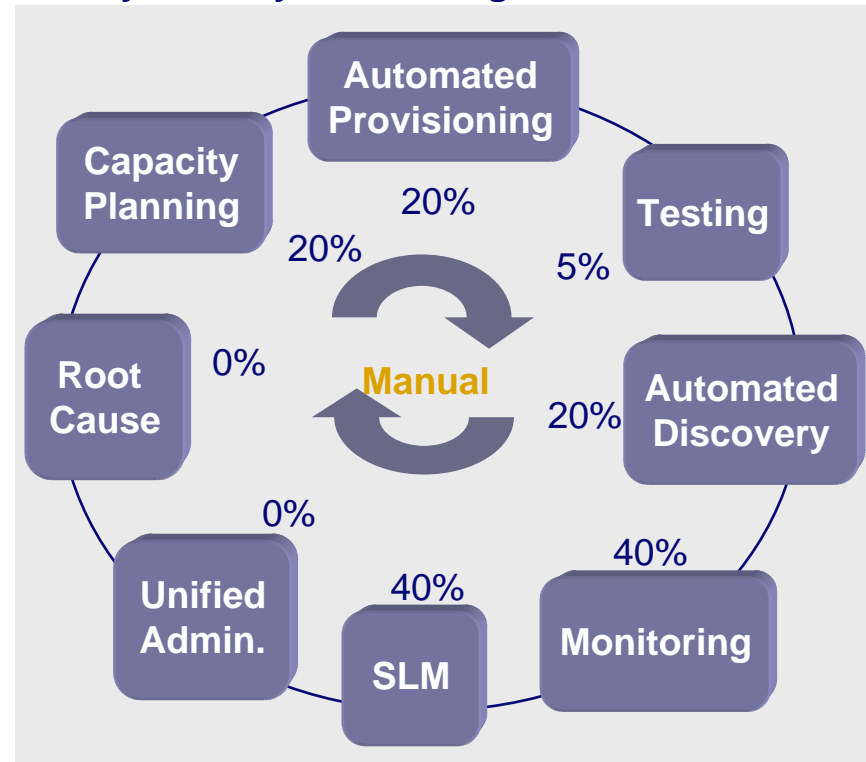
## Dynamic partitioning

- VMware, Microsoft (Connectix), SWsoft,

## Blade servers

- IBM, HP, Sun, Dell, Fujitsu, Egenera, RLX Technologies

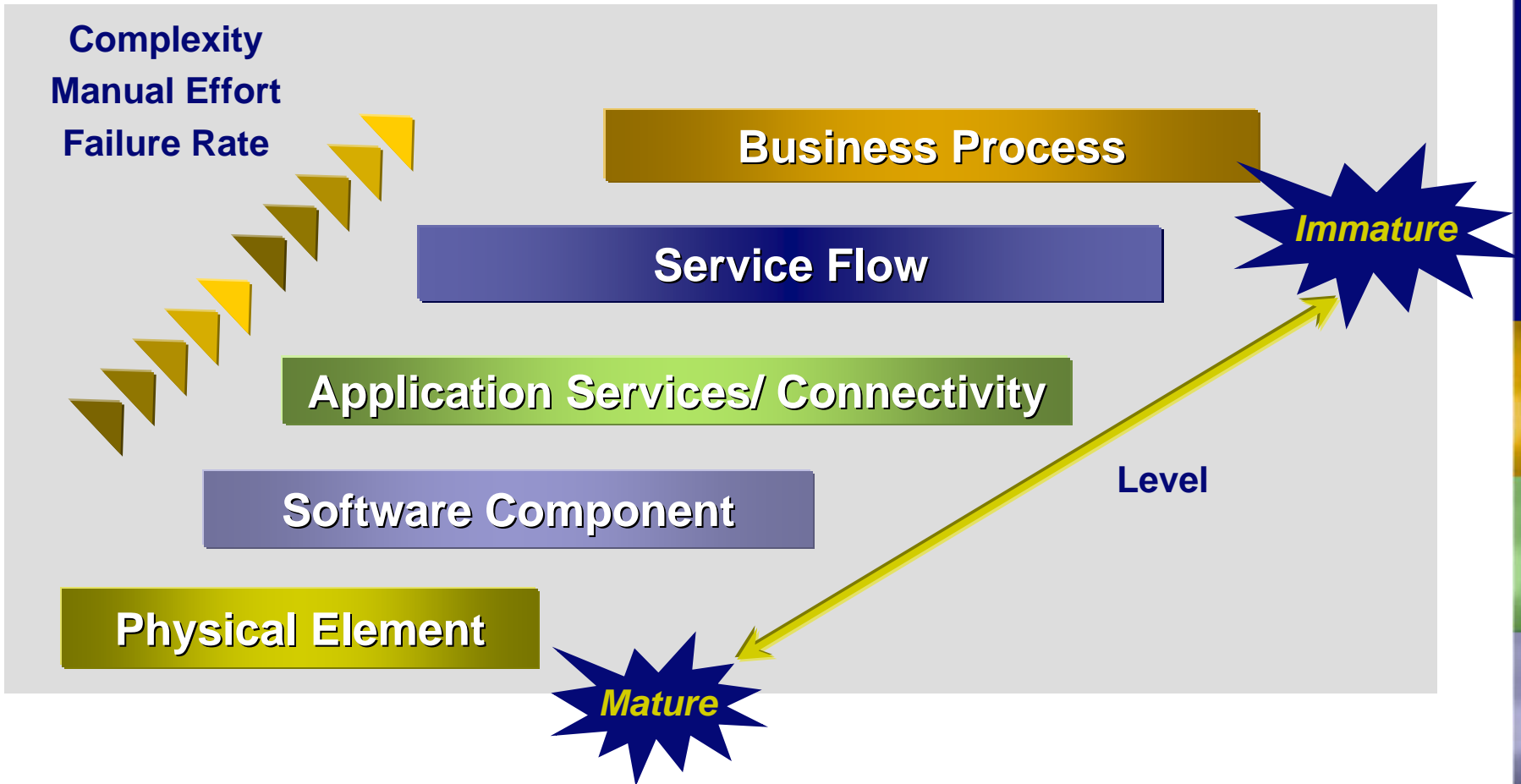
## Life Cycle of System Management Needs



# What About the Business?

- Response from a recent IDC survey:
  - “Use IT to directly monitor and adjust performance of the business”
- Key Idea: use the underlying management software technology to monitor and manage from the business perspective, using business metrics
  - Are key business services up and responsive?
  - What are they delivering in business terms?
- Quick impact: add some business metrics to the infrastructure status and health measures
- Show business metrics in displays and dashboards
- Show performance behavior in terms of business metrics

# Technology Relationship Maps

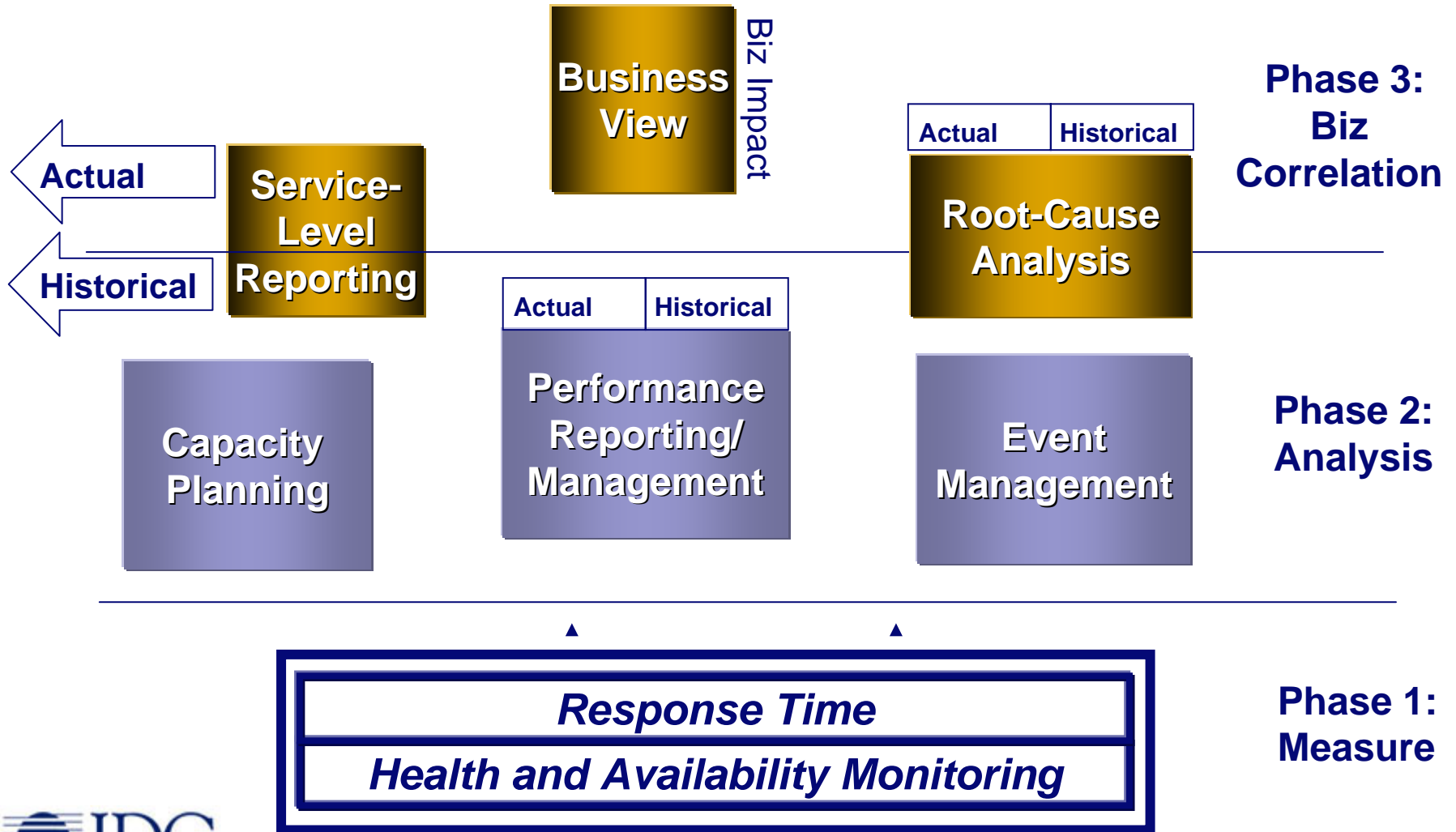




# Business Service Management - New Emphasis for IT

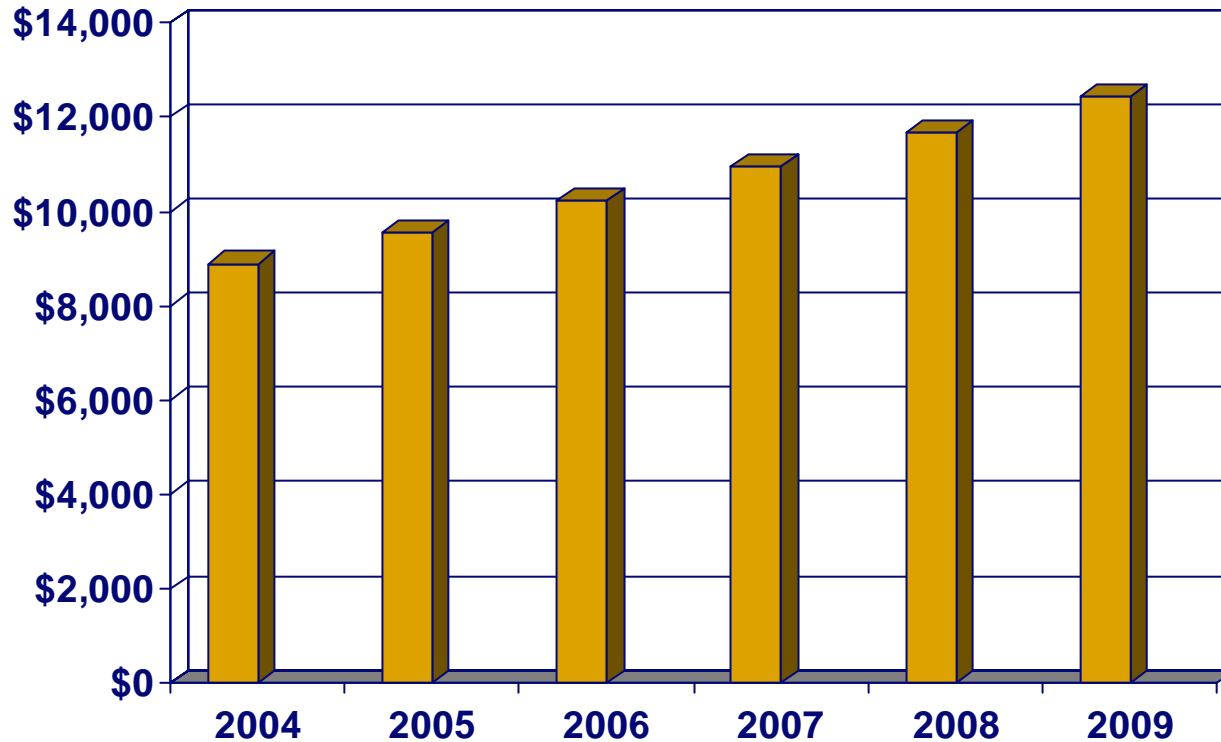
- Look at IT as a revenue-generating service provider
  - Much higher direct business impact
  - Much higher corporate visibility
- Align IT with Business Objectives
- Relate IT Applications to Business Services
  - Performance and Availability of Transactions
  - Are Business Service Level Objectives met ?
- Prioritize actions by business importance
- Show how IT is delivering – use business metrics
- Start with the Business Problem – work top down

# Future System Monitoring Disciplines



# Worldwide System Management Software, Market Forecast 2005-2009

In Million US\$



Market Growth (2004-2009): 39.8%  
CAGR 6.9%

# What About “Dynamic IT?”

- A long term objective
- Vision of major vendors

**ON DEMAND BUSINESS™**

**Lean Enterprise**

High Performance Business

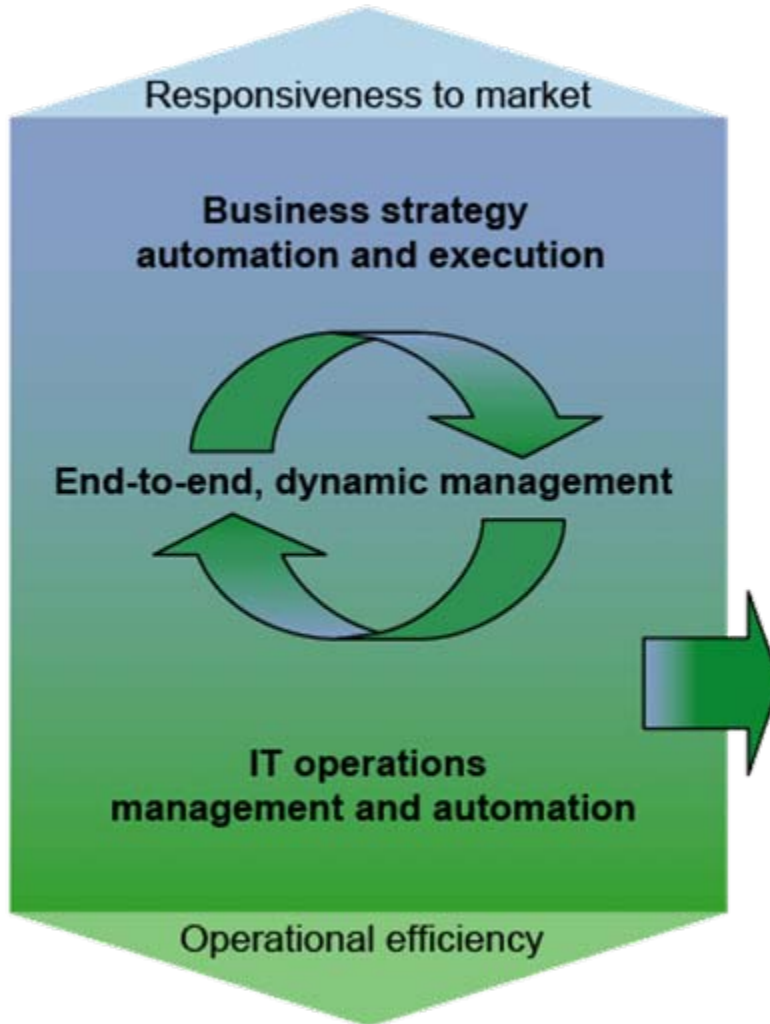


CONNECTED ENTERPRISE

Solutions for the **adaptive enterprise.**

- To be implemented by developing System Mgmt Service capabilities
- Will enable IT to adapt to changing business needs more quickly “sense and respond” paradigm
- Based on use of virtualized resources
- Dynamically assign resources, change priorities
- Higher degree of IT Automation
- Meet changing business service goals

# The “Dynamic IT” Vision



**Increase IT operational efficiency and performance**

**Deliver better IT operating performance in support of the business and lower IT operating costs by:**

1. Automating labor-intensive tasks
2. Developing end-to-end management capabilities
3. Reducing “hardwired” inflexibility through virtualization
4. Adopting flexible sourcing and payment options

**Service-level management and automation**

**Metering, measurement, and chargeback**

**Security**

**Infrastructure virtualization**

**Infrastructure provisioning**

**Platform monitoring and management**

# What are some Ongoing Challenges ?

- Managing Complexity
- Integrating information from multiple elements, platforms and applications
- Finding and Correcting Problems regardless of where they occur
- More Automation of Routine Events
- IT Process Improvement “ITIL”
- Closer Alignment to Business Processes

# Summary and Conclusions

- System Management continues to be an important IT priority
- IT-Business alignment is critical
  - Focus on managing key applications
  - Add business metrics and perspective
  - Manage performance of the business
- Deliver integrated portfolio and create 'rapid response' platform
  - People
    - Integrate across IT cultures
    - Create a culture of innovation
  - Process
    - Focus on cross-business process engineering
    - Drive to operational excellence
  - Platforms
    - Reduce infrastructure complexity
    - Leverage applications and information
    - Create a flexible and integrated architecture
  - Performance
    - Measure in support of agility



**Thank you!**

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