IBM Tivoli Software

IBM Tivoli Service Management Center for System z
Consolidate onto System z and transform to a centralized service management model

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December 18, 2008

Agenda

- Challenges
- IBM Service Management
- IBM Tivoli Service Management Center for System z
- Solution Example: Performance Management from IBM Tivoli
- Customer Case Studies

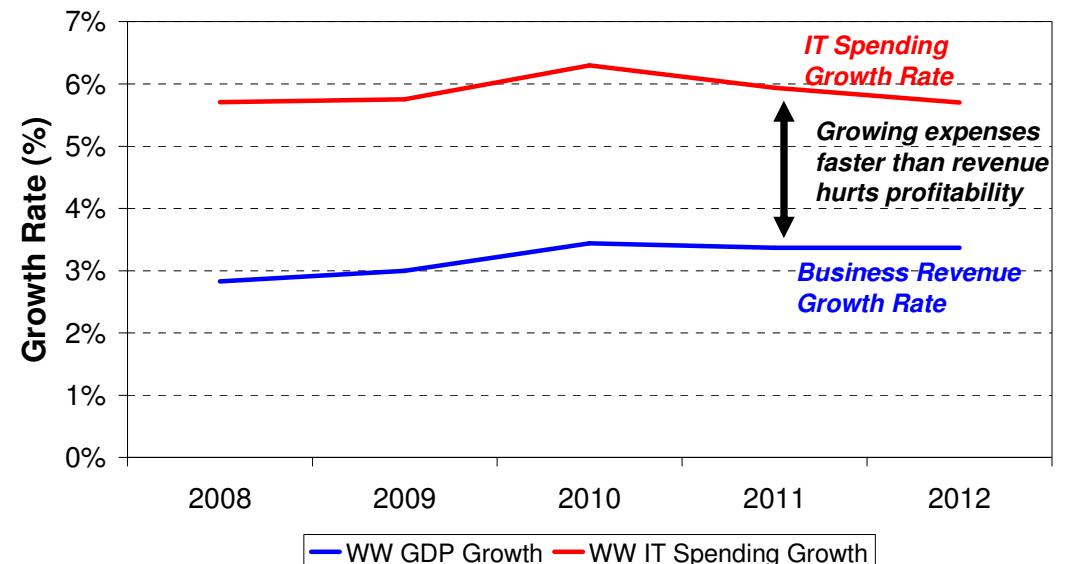# Challenges in Today's Business Environment

- **Business challenges**
  - Rising customer expectations for quality service
  - Pressures to control costs
  - Managing complexity as IT and business infrastructures converge
  - Managing the risks associated with change
  - Understanding and implementing the appropriate industry best practices

- **IT challenges**
  - Growing number of administrators needed to support business growth
  - Growing number of operators needed to troubleshoot end-to-end services across the IT infrastructure
  - Difficulty ensuring security and compliance across the end-to-end environment
  - Difficulty optimizing IT resource utilization
  - Difficulty responding / adapting to business needs

**Growth Forecast of
WW GDP vsTotal IT Spend**

*IT Spending
Growth Rate*

*Growing expenses
faster than revenue
hurts profitability*

*Business Revenue
Growth Rate*

Growth Rate (%)

7%
6%
5%
4%
3%
2%
1%
0%

2008 2009 2010 2011 2012

── WW GDP Growth ── WW IT Spending Growth

Source: IDC and World Bank

IT Complexity Drives Hidden Costs

- Managing today's mixed IT platform environments can be complex and costly
 - Thousands of servers
  - Underutilized assets
  - Thousands of software licenses
  - Thousands of distributed control points
  - Ineffective costing methodologies

- The Result
  - Massive complexity
  - Spiraling people costs
  - Increased availability and downtime costs
  - Increased security breach costs
  - Sub-optimal investment choices

IT Spending

Source: IDC

Many infrastructure management initiatives are focused on changing this direction but adoption has been slow & difficult!!
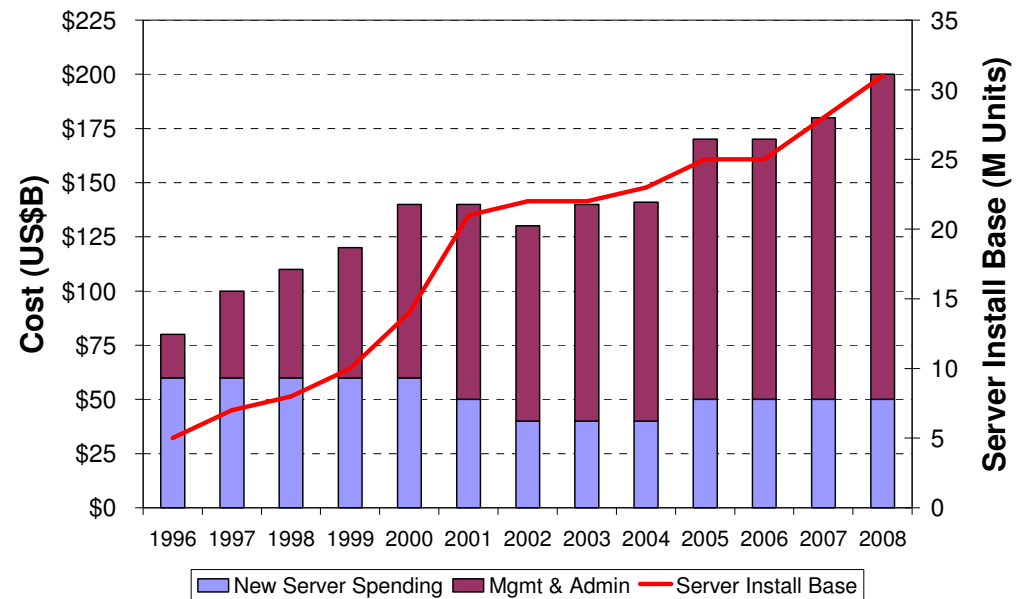
What is a Service?

- **A service is a means of transforming assets (capabilities and resources) into value for both the provider and the customer (internal or external).**

  – Internal services include:
    – Help desk support that resolves a software problems i.e. Email issues, a locked computer, the need for more memory
    – Security and license compliance on employee computers
    – Online health benefits enrollment- Web meetings and phone conferencing
    – Tracking location and utilization of fleet of trucks
    – Web meetings and phone conference capabilities

  – External services include:
    – Using an ATM to withdraw money from your account,
    – Ordering a new service for your wireless phone i.e. short messaging service or a new ring tone
    – Tracking a UPS package
    – Online shopping
    – Climate control, concession store closed-circuit TV security systems and Wi-Fi networks for airport terminal

What is Service Management?

- **Service Management is the combination of specialized systems and capabilities needed to manage and deliver quality services while controlling cost**
  - Examples of service management systems and capabilities include:
    - Improving service delivery through repeatable processes
    - Minimizing the impact of IT failures on business productivity
    - Protecting the business from internal and external threats
    - Controlling the business and IT assets you rely upon to bring value to your business
    - Ensuring that data and business information is retained according to compliance requirements
    - Reducing power consumption with effective energy management
    - Optimizing the return on investment of all assets across the business enterprise
    - Meeting customer expectations for services delivered

IBM Service Management at a Glance

Integrated software, hardware, and services to establish

Visibility: *To see and understand the workings of your business*

Control: *To effectively manage your business*

Automation: *To adapt and optimize your business*

IBM Service Management

Best Practices, Methodologies & Services

Service Management Platform

IBM Service Management Provides Comprehensive Solutions

IBM Service Management

Best Practices, Methodologies, and Services

Service Management Platform

| Service Delivery & Process Automation	Service Availability & Performance Management	Storage Management	Security, Risk & Compliance	Datacenter Transformation	Asset & Financial Management	Network & Service Assurance

Visibility	Control	Automation

Managing Mainframe Services in Connection with the Overall Business Entity Can be Challenging

"Aligned IT and Business result in DOUBLE the productivity gains of isolated business and IT efforts" *

- The business process – including services and IT resources – span Mainframe and Distributed platforms

- System z-exclusive and platform-dependent service management tools create silos

- Communication gap is created across service management silos

- Lack of end-to-end visibility, control, and automation inhibits the ability to optimize the end-to-end business process
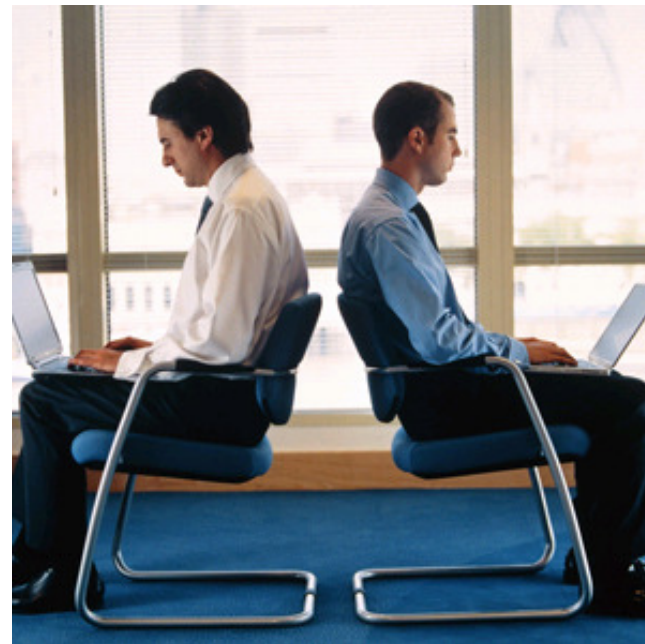

* Source: London School of Economics – McKinsey survey and analysis of 100 companies in France, Germany, UK and US

IBM Tivoli Service Management Center for System z

Service Management and Best Practices Model for Mainframe Clients

Exploit System z as a centralized hub to manage the end-to-end health of your business entity

Centralized Management

Tivoli Service Management Center for System z

Integration

Dyanamic Infrastructure
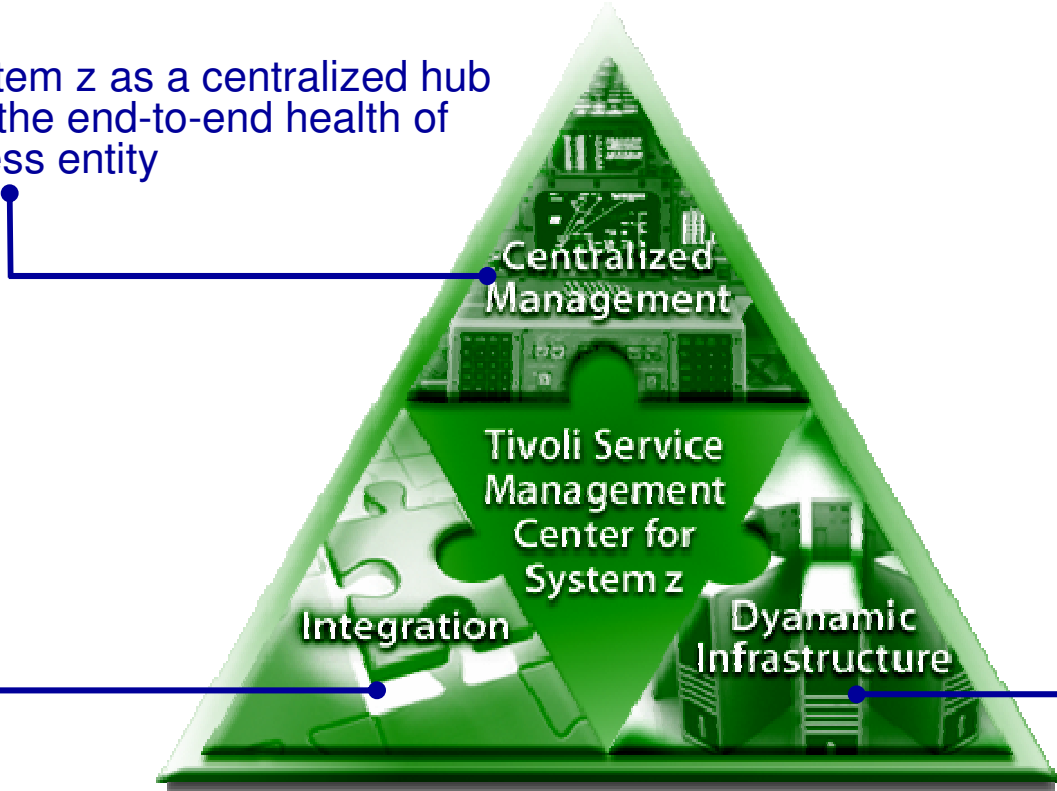
Integrate service management processes across the business entity and IT infrastructure

Transform to a dynamic business-aligned and service-oriented IT organization

Recentralize service management to optimize IT and the entire business process

Provide Business Aligned Dashboards

What is the health of the business and services that support it?

Visibility

Consolidate Operational Information

What is the correlation, impact of service events to business?

Automate Service Operations

Are activities efficiently executed when delivering business services?

Automation

Automate Infrastructure Management

How to eliminate time consuming and error prone manual taks?

Monitor Infrastructure Resources

How are infrastructure events affecting services?

Centralized Management

Exploit System z for highly available, reliable, secure management processes

Fulfill Service Requests

How effectively are requests for services being managed?

Map Service Dependencies to Infrastructure

How are resources connected to provide business services?

Control

Manage Risk and Compliance
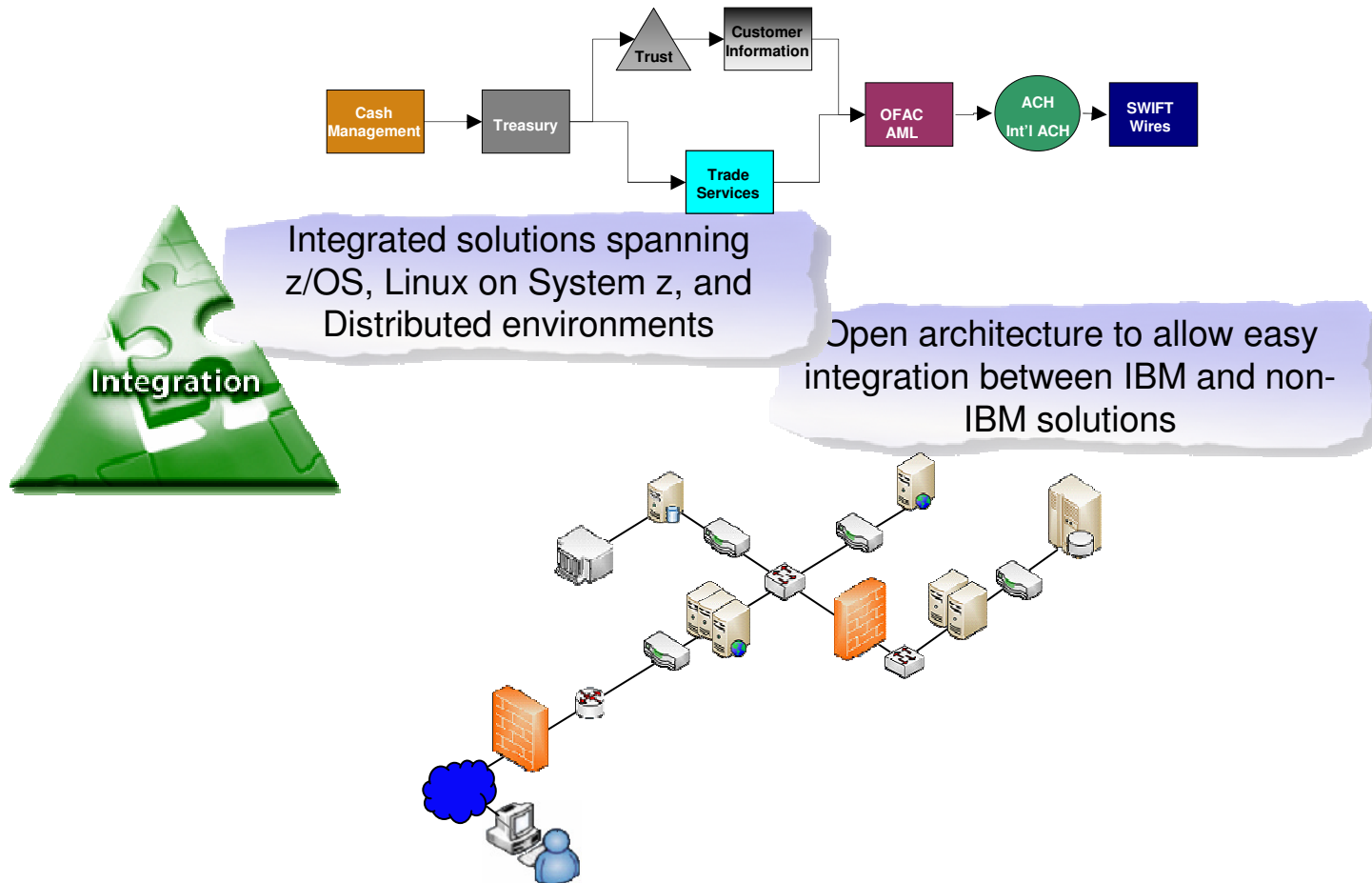
How is services information integrity ensured?

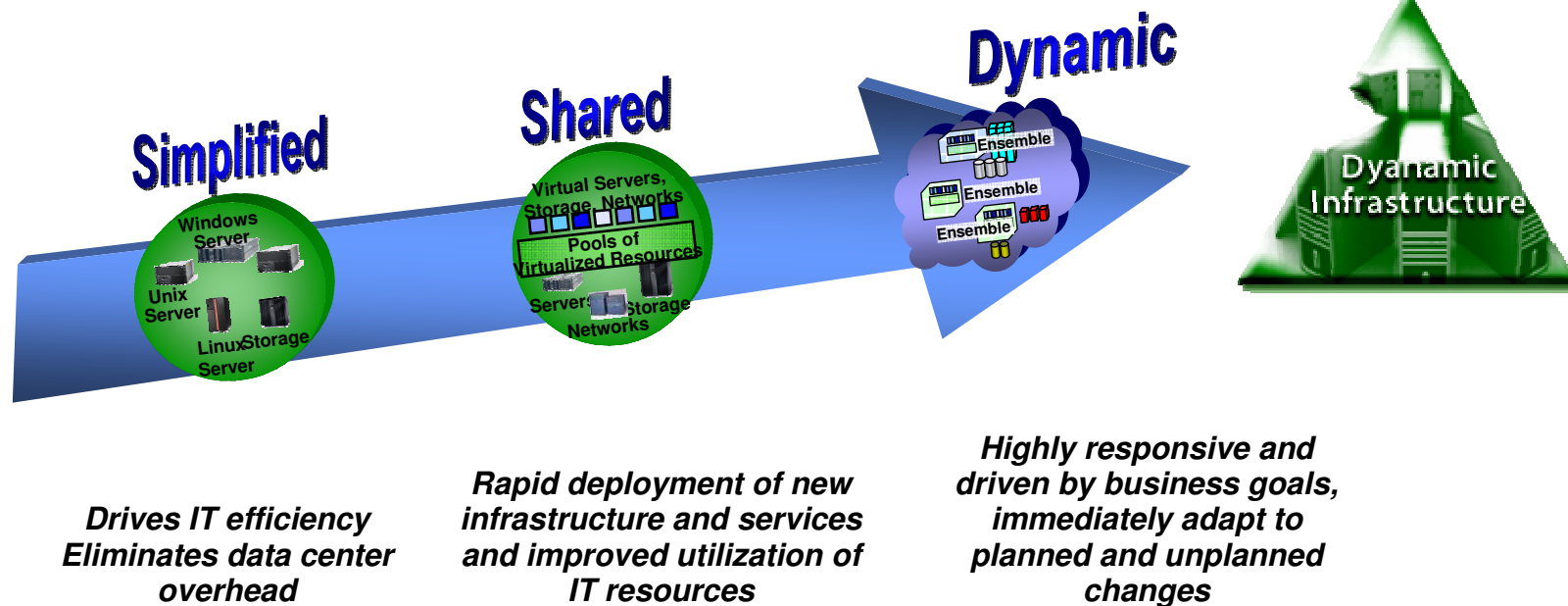Align, Control Assets and Resources to Business Priorities

How are resources deployed to meet business demand?

# Integrate service management processes across platform silos, and align with business processes

Cash Management → Treasury → Trust → Customer Information → OFAC AML → ACH Int'l ACH → SWIFT Wires

Trade Services

Integration

Integrated solutions spanning z/OS, Linux on System z, and Distributed environments

Open architecture to allow easy integration between IBM and non-IBM solutions

Automate service management to free time for innovation and to rapidly adapt to changing business demands

Simplified

Windows Server

Unix Server

Linux Server

Storage

Shared

Virtual Servers, Storage, Networks

Pools of Virtualized Resources

Servers Storage Networks

Dynamic

Ensemble

Ensemble

Ensemble

Dyanamic Infrastructure

Drives IT efficiency Eliminates data center overhead

Rapid deployment of new infrastructure and services and improved utilization of IT resources

Highly responsive and driven by business goals, immediately adapt to planned and unplanned changes

Benefits of IBM Tivoli Service Management Center for System z Solutions

- Improve service quality and reliability

- Reduce administrative and operational complexity

- Minimize operational risk and exposure

- Enable business optimization and innovation

- Align business and IT

- Improve cost efficiency, staff productivity and value from your business and IT assets

- Reduced cost per transaction
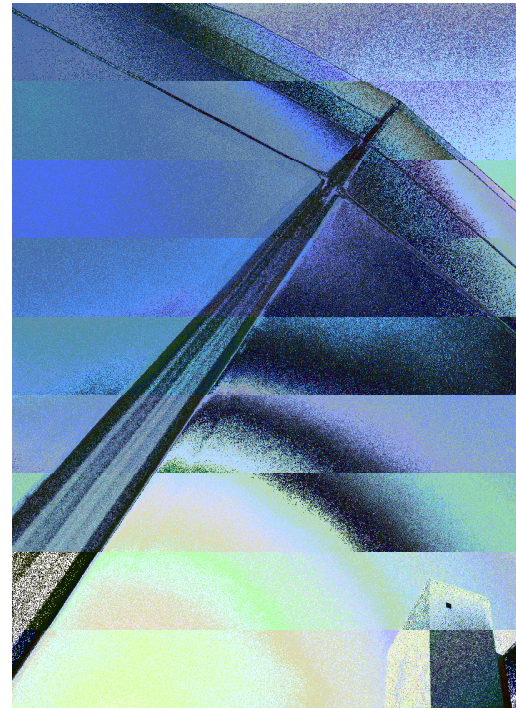
IBM Tivoli Service Management Center for System z

"This announcement from Tivoli is a welcome step toward corralling some historically autonomous system management approaches into a more coherent and more easily focused tool set to improving the effectiveness of management systems and personnel in both crisis and proactive analysis situations."

-- Dr. David Boyes, President/CTO,
Sine Nomine Associates
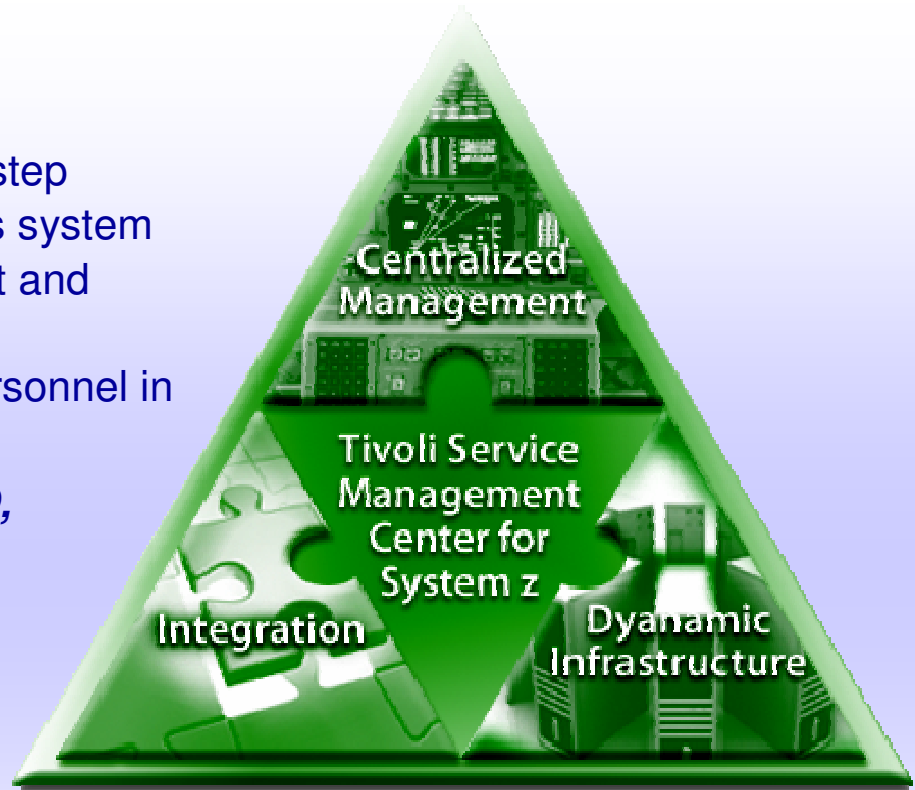
"IBM System z management from Tivoli is a step forward as customers are looking for <u>tighter integrations between mainframe processes and the service-level perspective</u> … There is also a growing set of customers that want to maximize process and technology standardization <u>across distributed and mainframe platforms</u>."
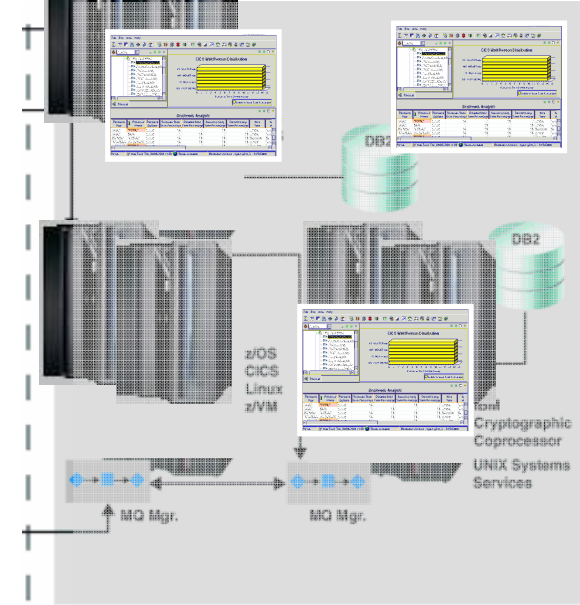
-- Stephen Elliot, IDC, Networkworld, March 3, 2008

System z to the Enterprise: How We Got Here

Distributed Resources
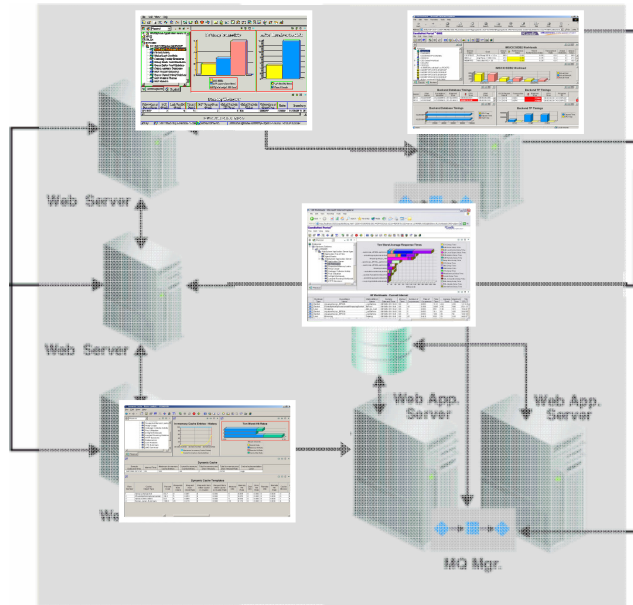
- System, Middleware, Application Availability
- Workload Provisioning
- System and Network Performance Management

Mainframe Resources

- System, Middleware, Application Availability
- Workload and Resource Management
- Capacity Management
- Sysplex and GDPS
- Data security
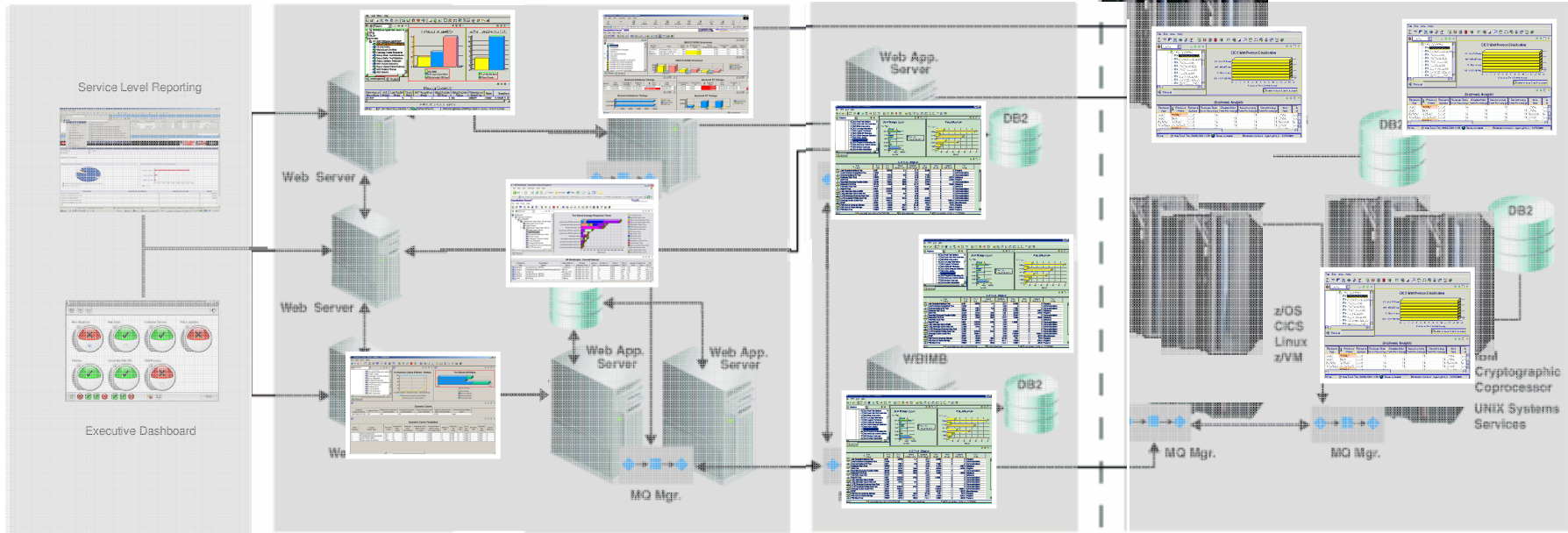- Automatic intrusion defense

System z to the Enterprise: How We Got Here

Business Services   **Distributed Resources**   **Transactions**   **Mainframe Resources**

- Business Service Availability
- Service Provisioning
- System, Network, Transaction & Service Performance Management
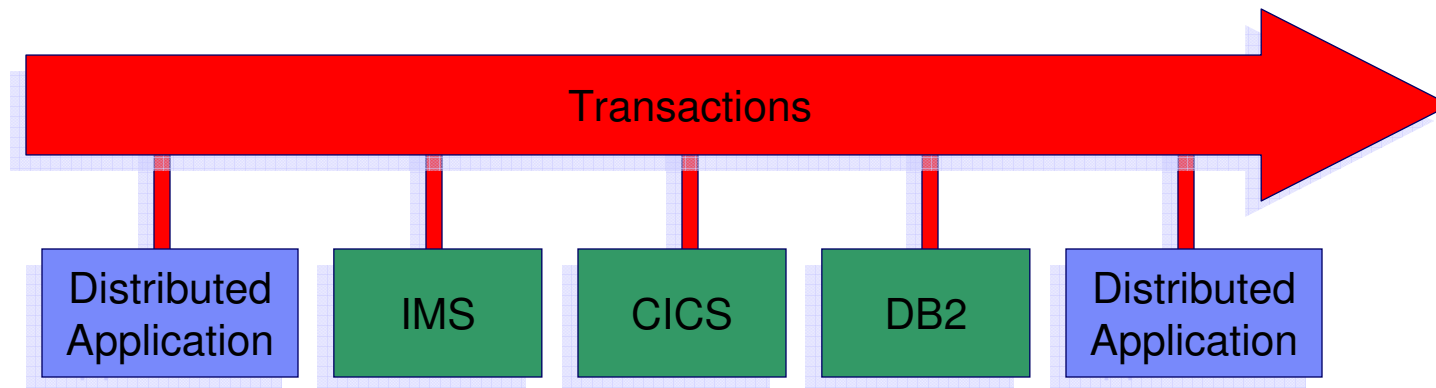
- System, Middleware, Application Availability
- Workload Provisioning
- System and Network Performance Management

- Composite Application Availability
- Workload Provisioning
- System, Network & Transaction Performance Management

- System, Middleware, Application Availability
- Workload and Resource Management
- Capacity Management
- Sysplex and GDPS
- Data security
- Automatic intrusion defense

Only IBM Provides a Single View of End-to-End Business Entity Performance and Health

- An integrated view of application and transaction tracking

Transactions

| Distributed Application | IMS | CICS | DB2 | Distributed Application |

- Transaction tracking provides a view of the composite application flow and of its performance
- When an exception occurs, deep dive views are available for each specific application, middleware, and subsystem

End to End Performance Management from Tivoli System z Inclusive
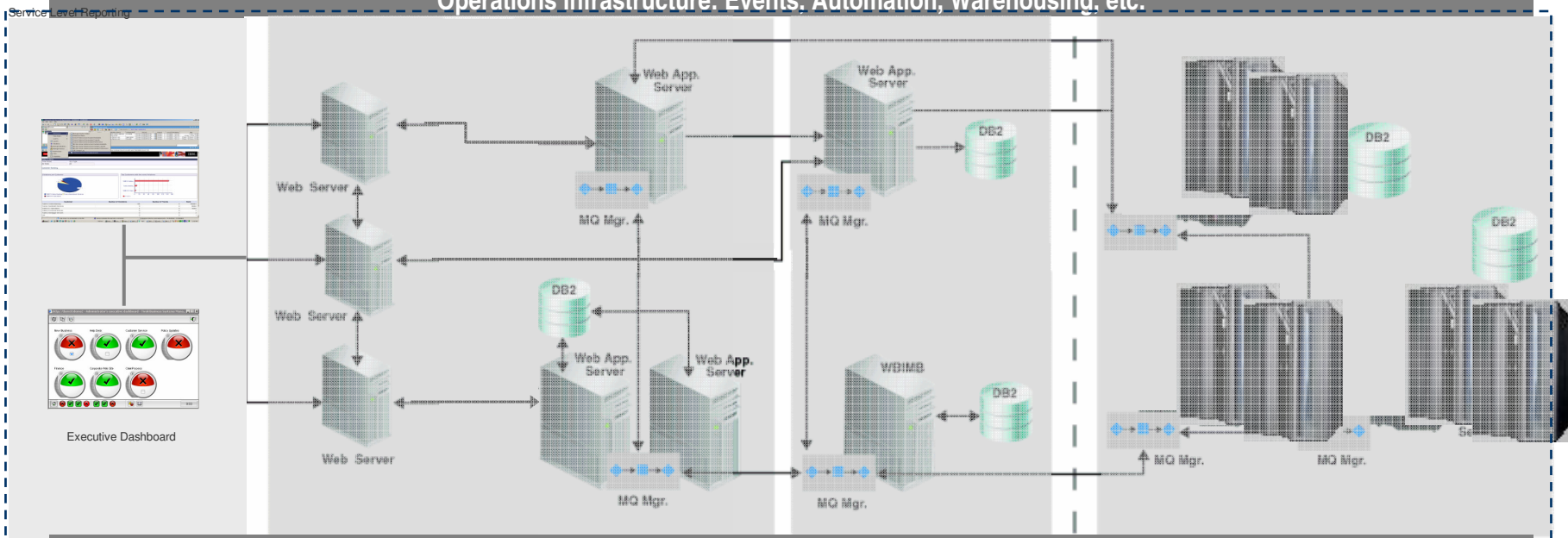
Business Service Management

SOA Management

Composite Application Management

Network Management

Systems Management

Operations Infrastructure: Events, Automation, Warehousing, etc.

Service Level Reporting

Executive Dashboard

Web Server

Web Server

Web Server

Web App. Server

Web App. Server

Web App. Server

Web App. Server

Web App. Server

WBIMB

MQ Mgr.

MQ Mgr.

MQ Mgr.

MQ Mgr.

MQ Mgr.

MQ Mgr.

DB2

DB2

DB2

DB2

DB2

Operations Infrastructure: Events, Automation, Warehousing, etc.

Asset Management

Storage Management

Workload Management

Security Management

Usage & Accounting Management

Integrated End to End Support for Heterogeneous Environments

IBM Tivoli monitoring spans the breadth of your IT environment

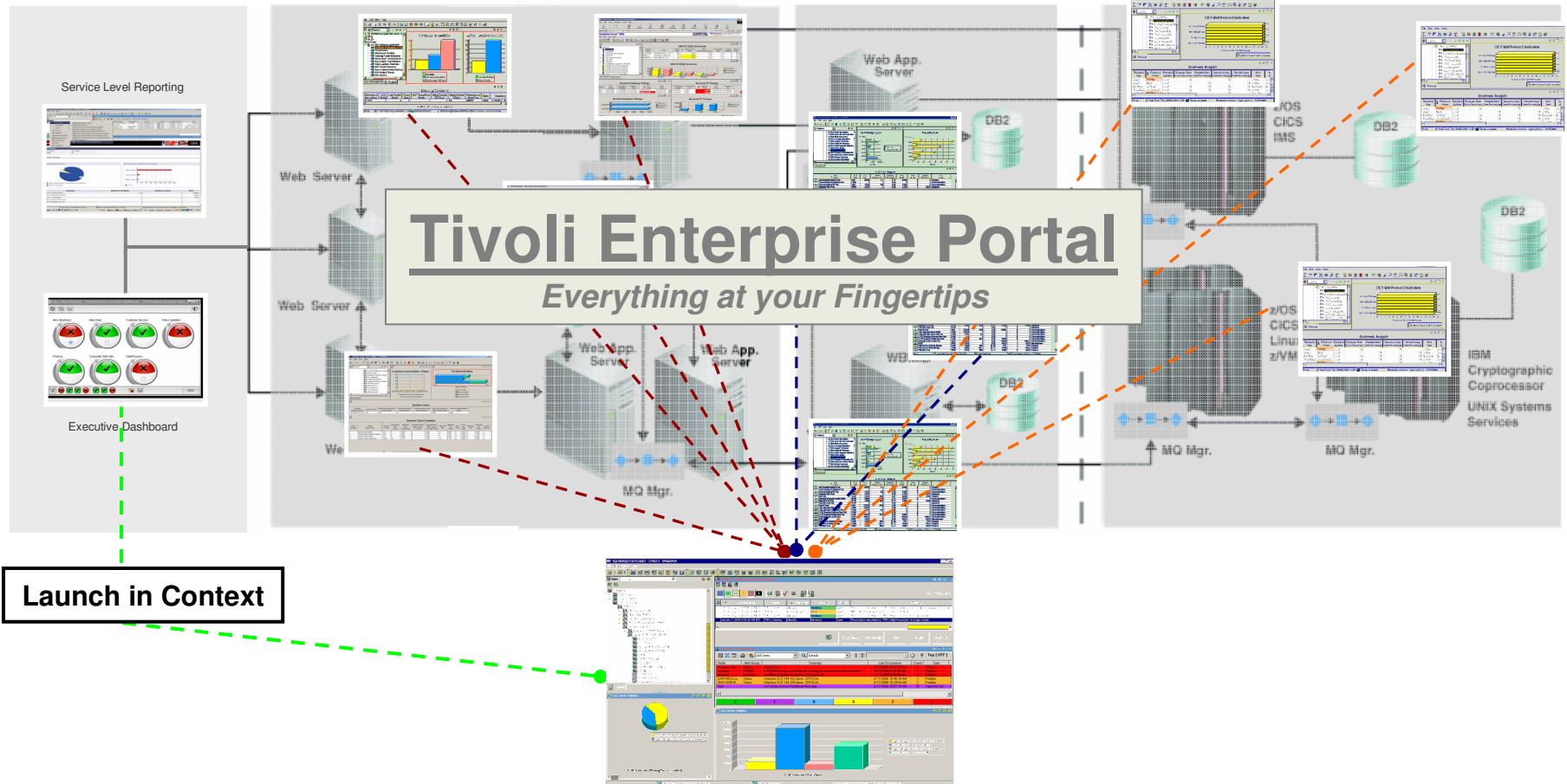| Platforms	Databases	Applications	Business Integration	Web Infrastructure	Messaging & Collaboration	Universal Agent
Unix	DB2 (z & Distributed)	SAP	Web Services	WebSphere (Z & Distributed)	Lotus Domino	**Agent-less Adapter** URL, SNMP, File, Socket, UDB…. **Agent** Quick attach API
Windows		CICS				
Cluster(s)	Oracle	.NET (full suite of MS apps)	SOA	IIS		
Linux			IMS			
z/VM	SQL	Citrix		iPlanet		95+ Custom Packages available for modification
z/OS			WebSphere MQ		Exchange	
VMWare	Sybase	Siebel		Apache		
OS/400	Informix	Tuxedo	WebSphere MQ Integrator	WebLogic		Netcool

A Complete View IT Infrastructure Performance

A single portal to monitor the overall health of the infrastructure

Business Services **Distributed Resources** **Transactions** **Mainframe Resources**

Service Level Reporting

Executive Dashboard

Web Server

Web Server

Web App. Server

Web App. Server

MQ Mgr.

Web App. Server

DB2

DB2

z/OS
CICS
IMS

DB2

DB2

z/OS
CICS
Linux
z/VM

IBM Cryptographic Coprocessor

UNIX Systems Services

MQ Mgr. MQ Mgr.

Tivoli Enterprise Portal

Everything at your Fingertips

Launch in Context

IBM Tivoli Performance Management Family
Sense, Isolate, Diagnose, Repair

- IBM Tivoli Performance Management provides the foundation for Service Management

- Centralized and extensible Performance Management for entire business entities

- Optimize the health and performance of business services and the SOA environment

- Open interfacing for integration with third-party tools

IBM Tivoli Business Service Manager

IBM Tivoli Service Request Manager

IBM Tivoli Application Dependency Discovery Manager

IBM Tivoli Netcool/OMNIbus

IBM Tivoli Enterprise Portal
IBM Tivoli OMEGAMON
IBM Tivoli Monitoring
IBM Tivoli IT Composite Application Manager
IBM Tivoli NetView
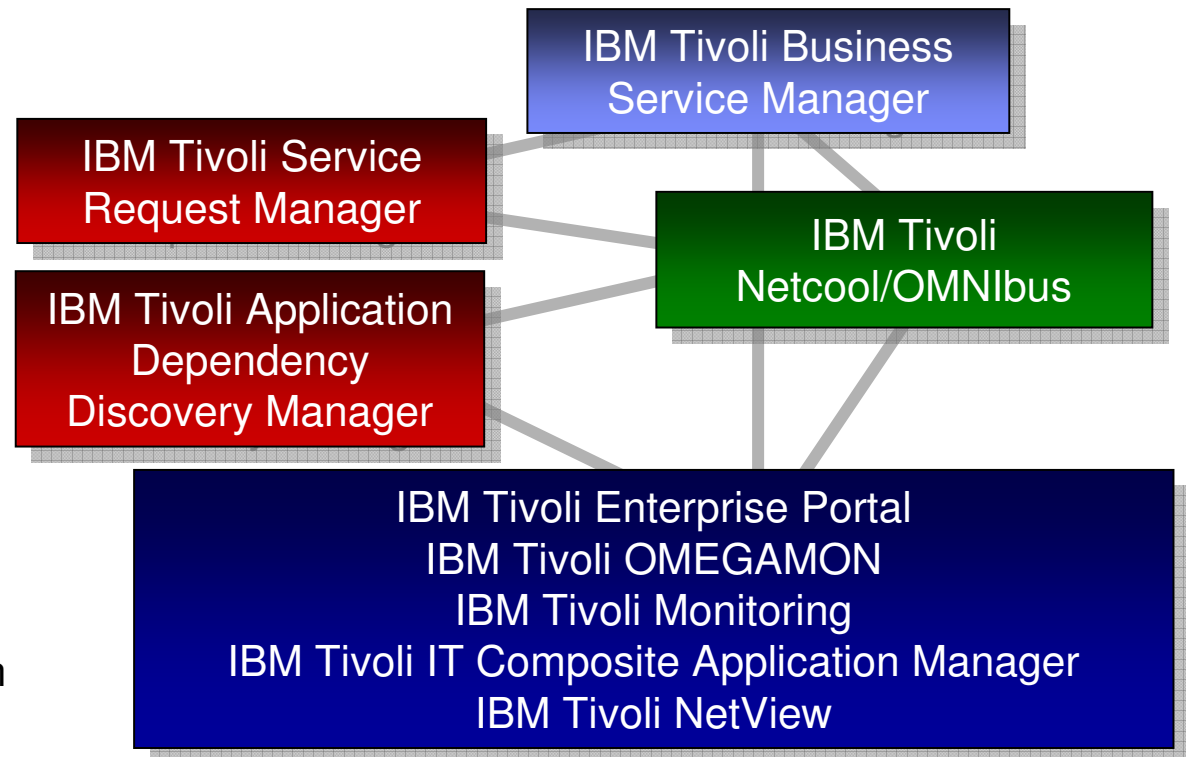
IBM's Own Data Center Transformation

- **IBM's IT Transformation**
  - *IBM's IT transformation continues: our own IT investments over the past 5 years have delivered a cumulative benefit yield of $4.1B*

- **Data Center Efficiencies Achieved**
  - *Consolidation and virtualization - thousands of servers onto approximately 30 IBM System z™ mainframes*

  - *Additional virtualization leveraging System p, System x and storage across enterprise*

  - *Substantial savings being achieved in multiple dimensions: energy, software and system support costs*

- **Project Big Green**
  - *The virtualized environment will use 80% less energy and 85% less floor space*

  - *2X existing capacity, no increase in consumption or impact by 2010*

- **Cloud-Enabled On Demand IT Delivery Solution**
  - *Self-service for 3,000 IBM researchers across 8 countries*

  - *Real time integration of information and business services*

	1997	Today
CIOs	128	1
Host data centers	155	7
Web hosting centers	80	5
Network	31	1
Applications	15,000	4,700

New Enterprise Data Center

Casas Bahia: Maximizing Marketing Dollars *and* Cutting IT Costs

Client Needs:

- Implement a sales reporting system to analyze trends and gauge success of specific marketing campaigns

- Consolidate application development on an enterprisewide platform to handle rapid growth while reducing IT costs

Solution:

- Centralize operations on two IBM zSeries 990 mainframes

- Establish a unified change management process using IBM Rational ClearCase and ClearQuest software

- Tivoli OMEGAMON XE on z/VM and Linux, Tivoli NetView, Tivoli Business Service Manager, Tivoli Monitor, and Tivoli Enterprise Console

Client Benefits:

- Improved reporting and development capabilities, while simplifying systems management and reducing IT costs

- Increased Infrastructure availability

- Lowered total cost of ownership for IT environment

Industry: *Retail*

Profile: *One of the largest household goods retailers in Brazil, Casas Bahia operates 500 stores targeting consumers in lower-income brackets. The retailer came to IBM for help in achieving its goal of increasing its customer base from 10 million to 14 million.*

German Tax and Finance Office: Monitoring a Diverse IT Environment from a Single Point of Control

Client Needs:

- Reduce monitoring costs and improve system availability, despite proliferation of different applications and platforms across the organization

Solution:

- Installed customized and updated Tivoli infrastructure monitoring applications and also provided staff training in using the Tivoli Enterprise Portal application

- Helped integrate the existing SA/390 automation installation into the monitoring solution

Client Benefits:

- Streamlined monitoring processes with single point of control

- Provided ability to see potential problems or issues sooner and address them faster for less system downtime

- Robust platform increases stability for mission-critical functions

Industry: Government

Profile: A regional finance and tax office in Germany had relied on IBM Tivoli OMEGAMON software to monitor its mainframe environment for years – but as new applications and platforms were added, staff had a harder time getting a clear picture of its IT operations.

Swiss Re: Reaching the Pinnacle of Mainframe Management

Client Needs:

- Maintain high availability of mainframe services while launching new Web services that greatly increase volume and complexity of transactions
- Provide agents with uninterrupted access to critical information to build customer service and sales

Solution:

- A mainframe management solution based on Tivoli OMEGAMON, Tivoli Monitoring, Tivoli System Automation, Tivoli Provisioning Manager, Tivoli Asset Management for IT, Tivoli Unified Process Composer, and Tivoli Change and Configuration Management Database working with Tivoli Enterprise Console
- Monitors mainframe and distributed environments, and automatically identifies and/or fixes performance issues

Client Benefits:

- Achieved 99.999% availability of IBM DB2 mainframe environment _while_ cutting operating costs
- Reduced problem resolution time from several days to less than one day
- Cut number of unsolved problems to virtually zero

Industry: *Insurance*

Profile: *Based in Zurich, Swiss Re is the world's largest health and life reinsurer. It operates through more than 70 offices in over 30 countries. More than 7.6 million database transactions are performed daily and over 10 terabytes of data are stored in its IBM DB2 Universal Database.*

Aviva – Norwich Union: Improving mainframe user management in a complex environment

Client Needs:

- Norwich Union needed to facilitate compliance with identity and access management initiatives by implementing preventative, detective and corrective controls within its IT environment

- With several RACF tools to maintain various RACF databases – most homegrown, Norwich Union needed a strategic, robust solution to keep up with high demand for security and audit reports, and with often-complex security requests

Solution:

- IBM Tivoli zSecure Admin, which enables efficient RACF administration with fewer resources

- IBM Tivoli zSecure Audit for RACF and ACF2, which automatically analyses and reports on security events and exposures

- IBM Tivoli zSecure Alert for RACF to enable quick response to RACF and z/OS events through real-time alerting

Client Benefits:

- Simplifies mainframe security administration tasks, improving efficiency and reducing errors

- Enables quick, proactive response to security events

- Supports robust audit and compliance reporting

- Helps maintain high levels of security automation for system security management

- Provides a consistent and uniform approach to security management across the System z environment

"IBM Tivoli zSecure software gives us a simple, powerful way to comply with identity and access management initiatives, and to assure auditors that preventative, detective and corrective controls are installed."

Phil Secker, Security Support Manager, Norwich Union

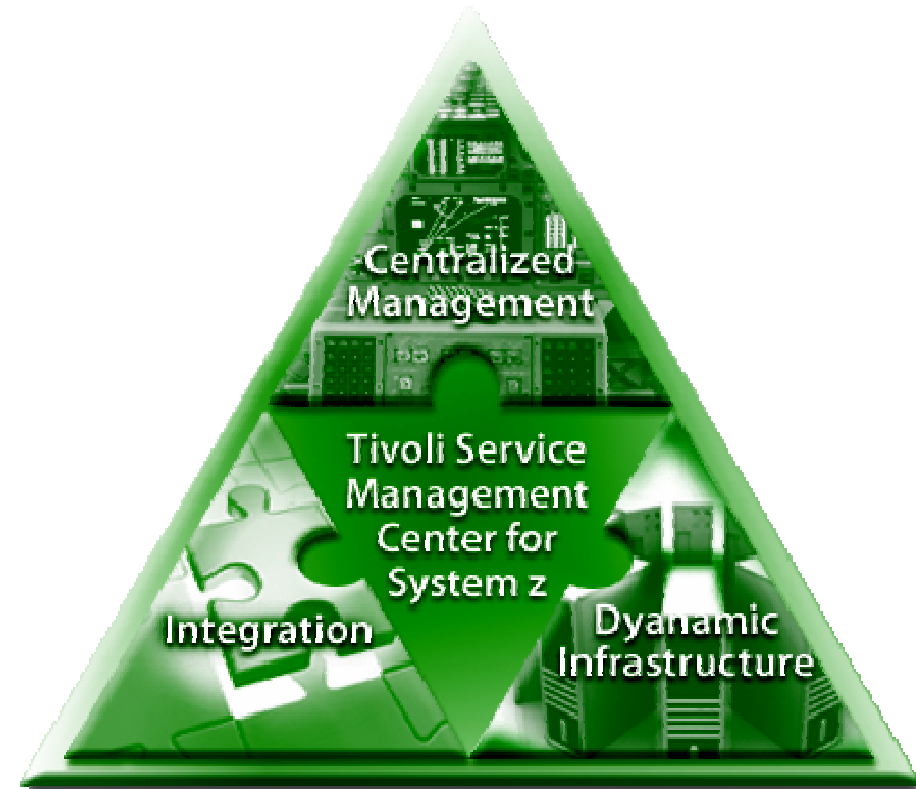**NORWICH UNION**
an AVIVA company

Industry: Insurance
Profile: Norwich Union is part of the Aviva group, a leading provider of life and pension products in Europe and one of the largest insurance groups in the world.

Summary: IBM Tivoli Service Management Center for System z

- **System z inclusive service management solutions**
  - Choice of platforms
  - End-to-end

- **Re-centralized and integrated service management for**
  - Scalability and consistency without having to add headcount
  - Collaboration and operational efficiency
  - End-to-end business process optimization
  - Lower cost per transaction

- **Dynamic optimization**
  - Proactively manage business services by exception
  - Increase IT responsiveness to changing business demands
  - Reduce outages and mean time to resolution