Integrated Service Management across System z and Cloud

Jamie Thomas, Vice President
Tivoli Strategy and Development
IBM Software Group
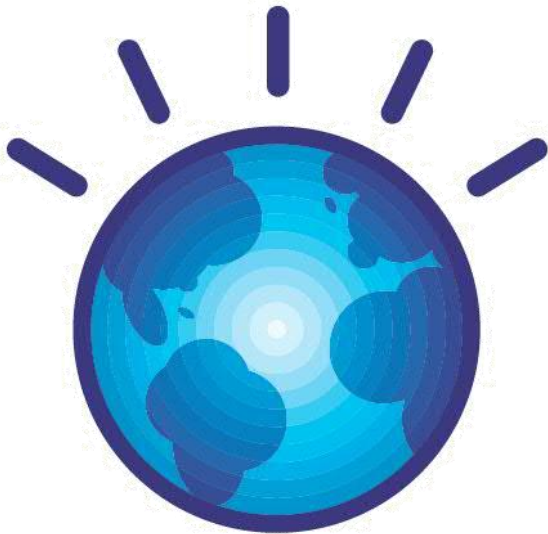
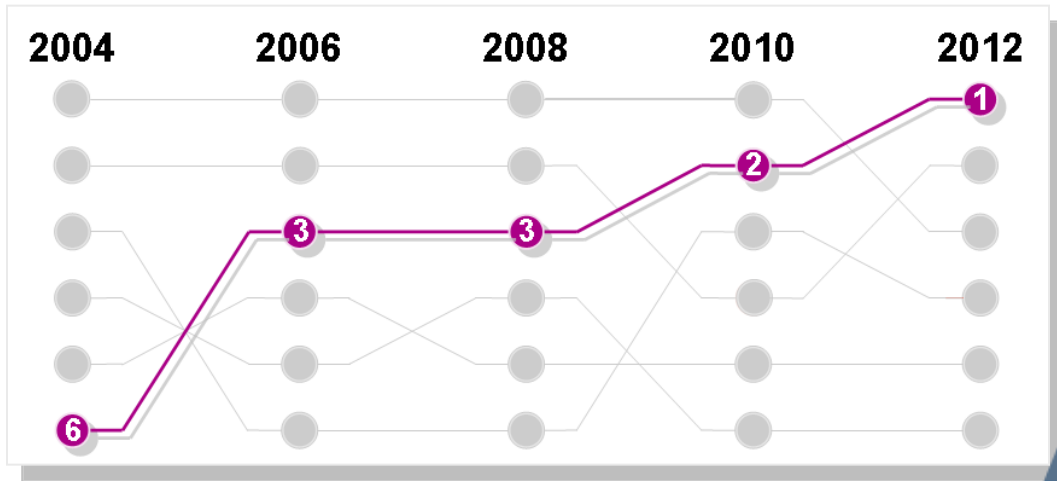# In this new world everything is changing….

INSTRUMENTED **INTERCONNECTED** **INTELLIGENT**

80%

CEOs anticipate turbulent change and bold moves ahead.

Technology will play a critical role…

2004   2006   2008   2010   2012

Factors impacting organizations:

1. Technology factors
2. People skills
3. Market factors
4. Macro-economic factors
5. Regulatory concerns
6. Globalization
7. Socio-economic factors
8. Environmental issues
9. Geopolitical factors

Faster Delivery

90%

view cloud as
critical to their plans

Improved Reach

1Billion

Smartphones and 1.2 billion
mobile employees by 2014

Responsive Operations

20B+

Intelligent
business assets

New Insights

2.7ZB

of digital content in 2012,
a 50% increase from 2011

Market Transformation Is Impacting Your Businesses

Cloud Computing drives IT and service innovation

Smarter Physical Infrastructure enables new business models

Enterprise Mobility expands client reach

A Smarter Planet requires a new approach to **Security**

Integrated service management evolving to support new technologies

VISIBILITY
See and understand your business in real-time

CONTROL
Transform and adopt while limiting risk

AUTOMATION
Achieve greater efficiency & quality by standardizing best practices

Business Services & Assets

Transitioning to Smarter, flexible infrastructures

Converging Digital & Physical Assets

Leveraging Mobile & Web Endpoints

Addressing data growth, threats, & compliance

oration

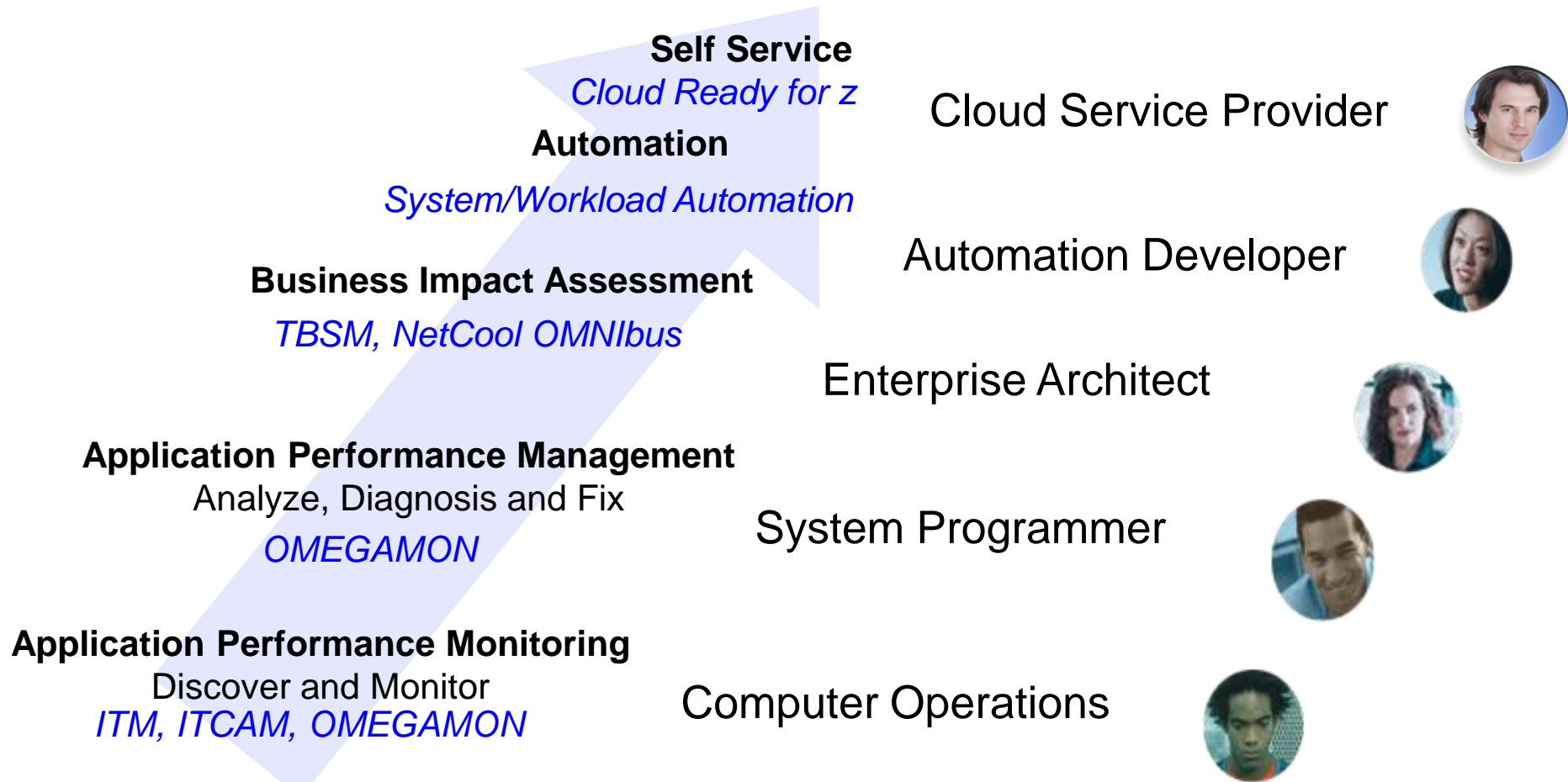# IBM System z Service Management focuses on addressing customer's today and future requirements

1. Reduce costs, manage risk and improve service with enhanced Visibility, Control and Automation

2. Enhance Business Resilience capability for your current environment with Business Service Management and Cloud and IT Optimization

3. Taking advantage of Dynamic Infrastructure Business and IT Asset Management to save money and resources

Integrated Service Management capabilities provide integrated, hierarchical solution across System z

Cross-Platform collaboration across an Enterprise

Self Service
Cloud Ready for z

Cloud Service Provider

Automation

System/Workload Automation

Automation Developer

Business Impact Assessment

TBSM, NetCool OMNIbus

Enterprise Architect

Application Performance Management
Analyze, Diagnosis and Fix
OMEGAMON

System Programmer

Application Performance Monitoring
Discover and Monitor
ITM, ITCAM, OMEGAMON

Computer Operations

TBSM – Tivoli Business Service Manager
TADz – Tivoli Asset Discovery

ITM – IBM Tivoli Monitoring
ITCAM – IBM Tivoli Composite Application Manager

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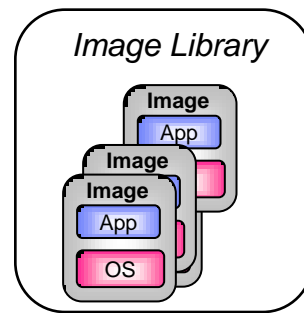A Smarter Planet requires a new approach to **Security**

Moving to Cloud drives Business and IT Optimization to gain significant business value quickly

Orchestrate and Optimize

Manage and Automate

Image Library

Image
App

Image
App
OS

Consolidate and Virtualize
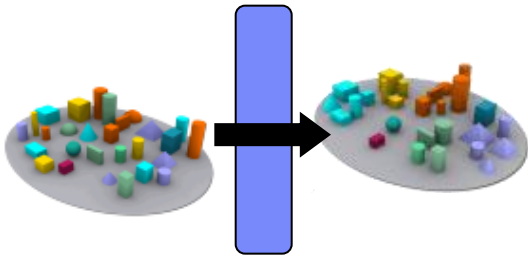
- Automatic discovery of virtualized resources
- Monitor and manage virtualized environment

- Automated provisioning / de-provisioning
- Standardized virtualized building blocks
- Plug-and-play capacity
- Capture and catalog images

- Integrated virtualization management
- Self-service provisioning
- Simplified deployment
- Pay by usage

IBM Smart**Cloud** Foundation

Build and scale cloud environments with unparalleled time to market

IBMSmart**Cloud** Foundation

Platform as a Service Technologies

Application Lifecycle	Application Resources	Application Environments	Application Management	Integration

Infrastructure as a Service Technologies

Infrastructure Platform	Management and Administration	Availability and Performance	Security and Compliance	Usage and Accounting

Visibility

- Improved visibility into the cloud
- Health analytics for capacity planning
- Secure the Cloud

Control

- End-to-end IT process integration
- Simplified cloud administration
- Lower costs and improve performance

Automation

- Collaborative development
- Customize workload patterns
- Cloud lifecycle management

Deliver a highly reliable, scalable, elastic Cloud with "Cloud Ready for Linux on System z"

Manage virtual resources from a highly reliable, scalable, elastic, and cost efficient cloud leveraging the power of System z for cloud services

Respond dynamically to business demands with automated provisioning of IT resources and dynamic resource allocation

Turn insight into action with visibility into the performance of all infrastructure and application components

Maximize resource utilization with a "shared everything", virtualized architecture that consolidates workloads and lowers costs by maximizing resource utilization and staff productivity

Increase efficiencies and conserve resources with data de-duplication and a hierarchy of storage

Eliminate downtime with high availability and disaster recovery
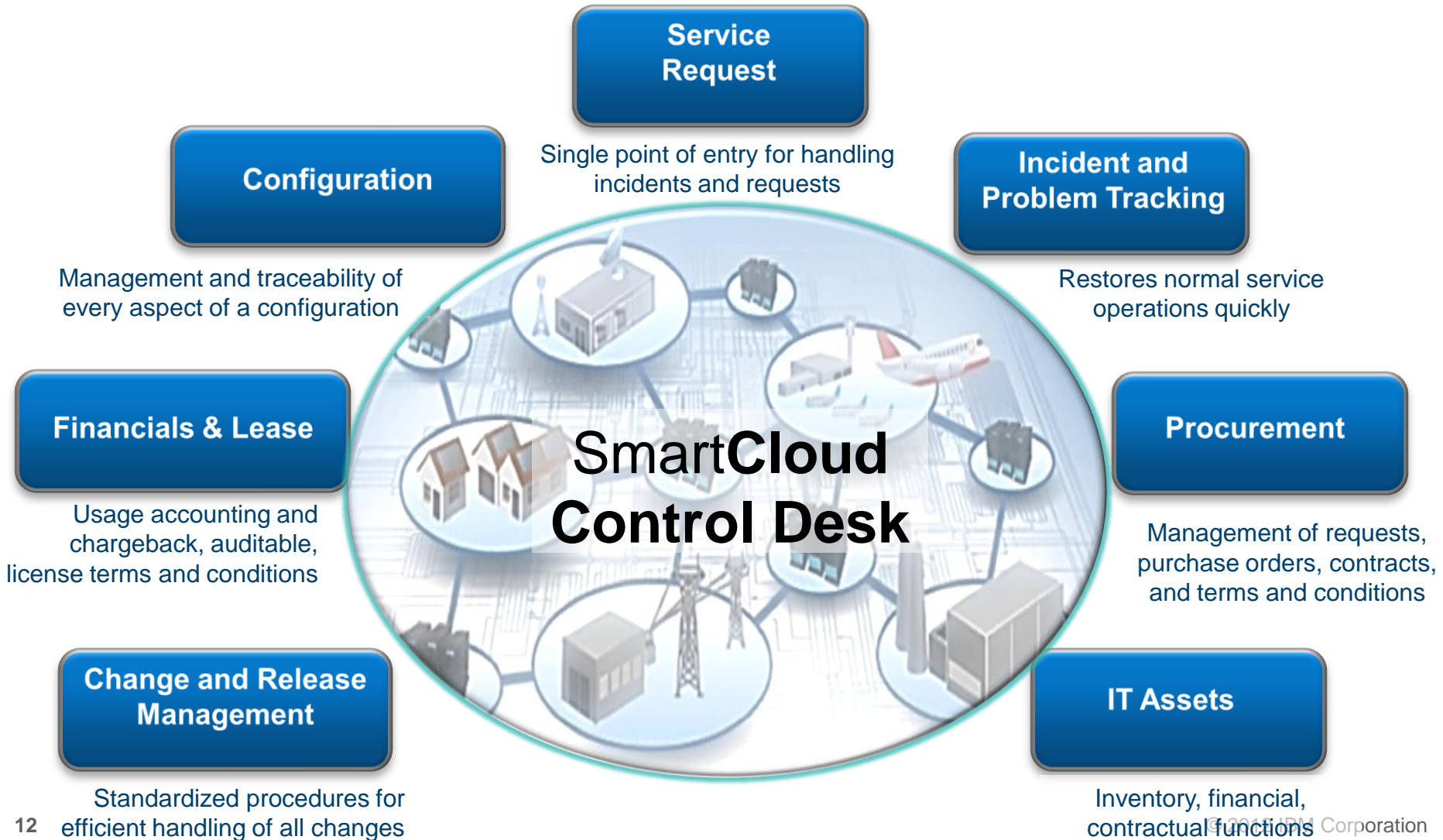
| *Control Desk* | *Monitoring* | *Provisioning* | *Storage* | *Resilience* |

IBM Smart**Cloud** Control Desk

Holistically govern complex service management processes…

Service Request

Single point of entry for handling incidents and requests

Configuration

Management and traceability of every aspect of a configuration

Incident and Problem Tracking

Restores normal service operations quickly

Financials & Lease

Usage accounting and chargeback, auditable, license terms and conditions

SmartCloud Control Desk

Procurement

Management of requests, purchase orders, contracts, and terms and conditions

Change and Release Management

Standardized procedures for efficient handling of all changes

IT Assets

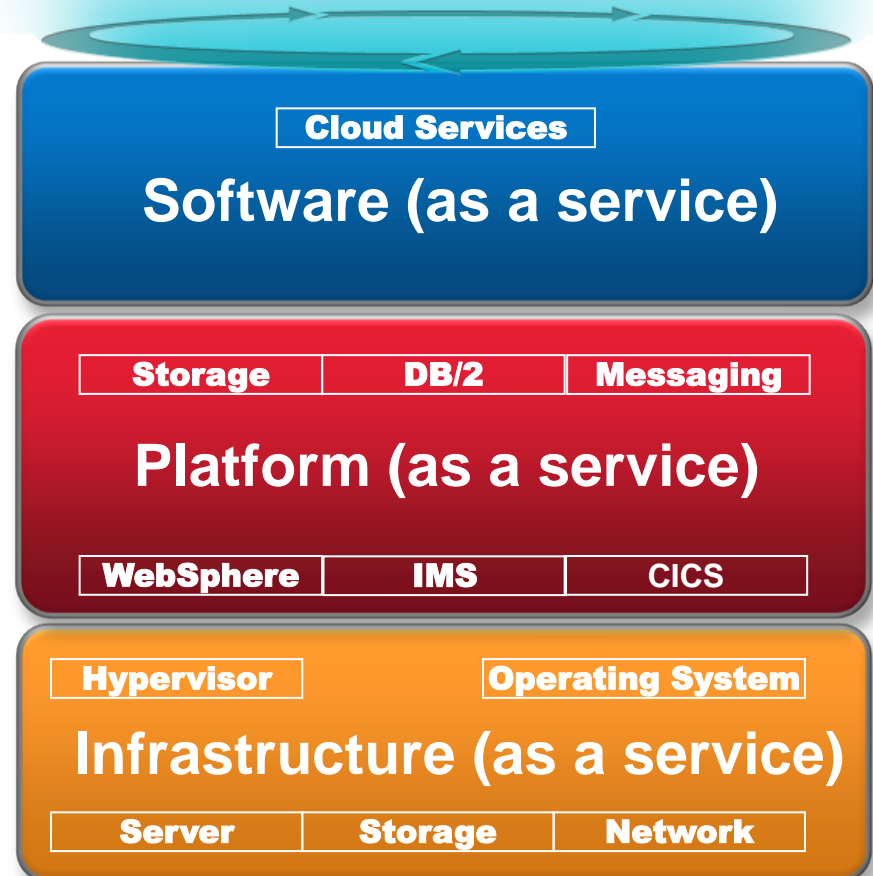Inventory, financial, contractual functions

OMEGAMON Family of Products provide the performance and availability required for System z

- Provides new levels of visibility into the entire IT environment across z/OS and subsystems

- Reduced costs with decreased resource usage with hardware optimization and additional zIIP exploitation

- Increased System Availability with faster problem resolution providing end-to-end visibility across z Enterprise

- Save up to 75% of time needed to find problems
- Up to 73% of CICS SLA processing off-loaded
- Reduce fix times from 90 minutes to 2 minutes

OMEGAMON V5.1

Cloud Services

Software (as a service)

Storage	DB/2	Messaging

Platform (as a service)

WebSphere	IMS	CICS

Hypervisor	Operating System

Infrastructure (as a service)

Server	Storage	Network

Bank of Russia: OMEGAMON enabled smooth migration for consolidation of MQ workloads onto System z

The need

Needed to centralize the distributed processing of payment transactions which ran across 200 distributed servers in 74 data centers

The solution

Consolidated more than 200 distributed servers to just four IBM System z9 mainframes leveraging **Omegamon** for assurance and availability

The benefit

Consolidation of payment processing has reduced costs by 95 percent, saving US $400 million per year and increased staff efficiency by 85 percent

IBM Smart**Cloud** Provisioning and Monitoring
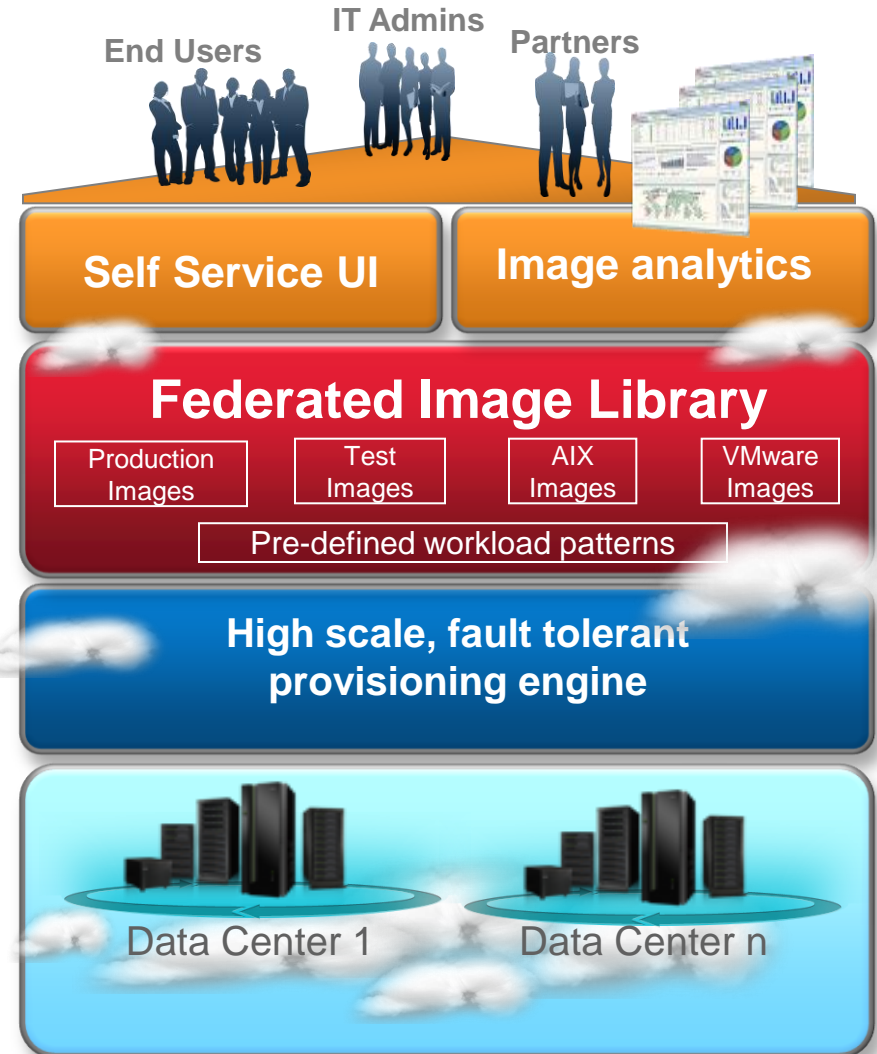*Optimize IT Infrastructures and workloads*

Smart**Cloud** Provisioning

- **Highly resilient cloud manager**
- **Hypervisor agnostic platform**
- **Advanced image management**
- **Image lifecycle composition**

Smart**Cloud** Monitoring

- **End-to-end element visibility**
- **Proactive problem analysis**
- **Intelligent workload placement**
- **License optimization**
- **Capacity planning**

- Start small and scale up
- Real-time capacity on-demand
- Analytics based optimization

End Users   **IT Admins**   **Partners**

Self Service UI   **Image analytics**

Federated Image Library

| Production Images | Test Images | AIX Images | VMware Images |

Pre-defined workload patterns

High scale, fault tolerant provisioning engine

Data Center 1   Data Center n

Enhanced Data Protection and Resiliency

**Backup and restore applications, data and VMs for your System z**

- Simplify the **protection and management** of data, even as it continues to grow exponentially
- Ensure business continuity and maximize application availability with advanced *data recovery management*
- *Minimize service disruptions* and speed restorations and backups
- Increase efficiencies and conserve resources with *data de-duplication and a hierarchy of storage*
- *Enhance data security* with advanced access and encryption features
- *Flexible reporting* options & *analytics*

Business Resilience and high availability on System z with GDPS

Communications, automation, and monitoring components
of GDPS continuous availability solution

Multi-site

Synchronisation

Data Center 1

Data Center 2
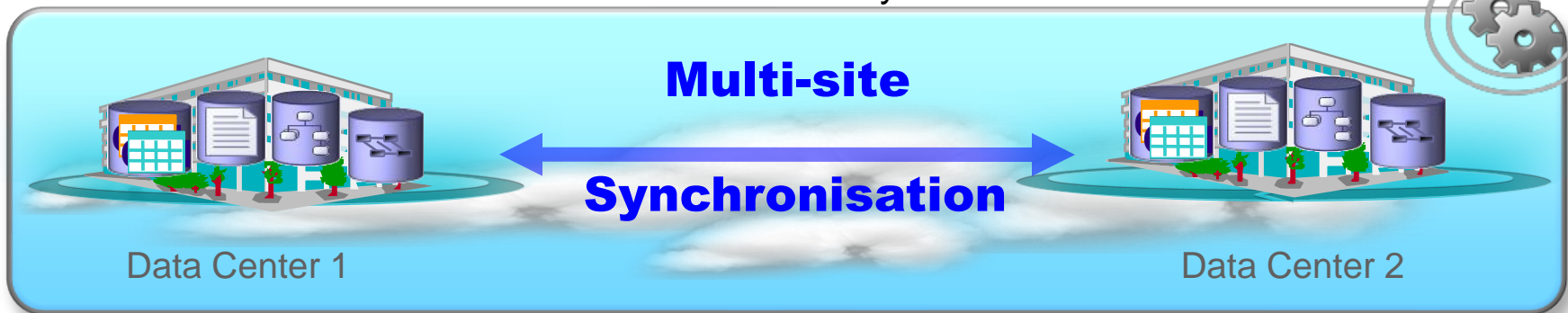
Business Value

Ensure resiliency and availability of critical business operations with recovery time objective of less than one minute

GDPS Support

Maintain business operations with improved disaster recovery, maintenance, and system outage with active synchronization to external site

- IBM NetView for z/OS V6.1
- Tivoli System Automation for z/OS V3

New!

FIDUCIA IT AG: System Automation to increase availability System z

The need
Improve availability and reduce the risk of unplanned outages while eliminating the need for manual recovery and maintenance

The solution
Tivoli System Automation for z/OS provided a policy based automation solution that enabled System z to run almost completely unattended

The benefit
Highly resilient, fault tolerant system that significantly reduces the risk of unplanned outages while centralizing system administration

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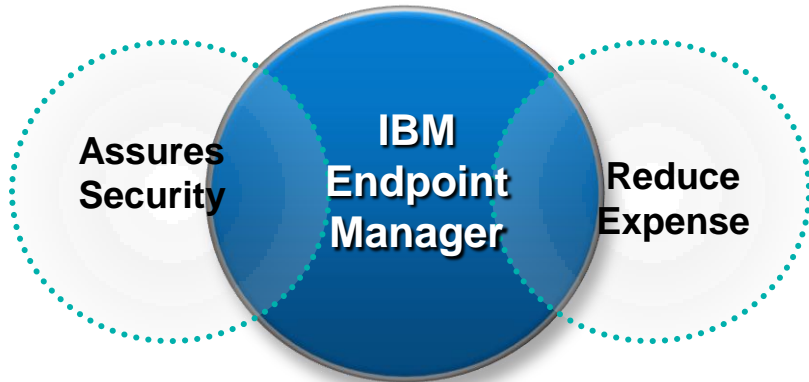# Mobile is a mandatory transformation

10 Billion devices by 2020

61% of CIOs put mobile as priority

45% increased productivity with mobile apps

IBM EndPoint Manager helps deal with the explosion of endpoints across and beyond the data center

IBM Endpoint Manager

Assures Security · Reduce Expense

- Delivering best-of-breed management (life-cycle, patch, power, license) for notebooks, desktops, servers and mobile devices

- Built on a unified systems and security management solution for all enterprise devices allowing for fast time-to-value

- Real-time visibility into all endpoints helping to rapidly assure compliance by leveraging a light-weight, policy-based architecture

IBM — **Extends 550,000+ endpoints**

Enterprise Servers, Desktop and *now* **Mobile**

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Smarter Infrastructure Enable New Business Opportunities Driving the Need for End-to-End Process Integration
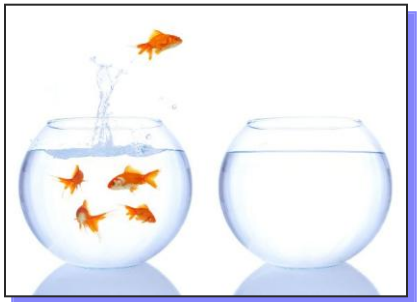
- **Digitization & connectivity**
  - *All things "analog" and "physical" are becoming "digital" and "connected" – e.g. Automotive & Mining in GMUs.*

- **Collaboration & convergence**
  - *New buyers driving "front" and "back-office" integration for betters decision, while system complexity increases as unlinked operations transition to integrated systems*

- **New markets & delivery models**
  - *Traditional systems use minimized in some markets, while adoption of integrated system offerings and alternative deliveries is increasing*

Maximo provides enterprise level visibility across functional departments

IT Managers

Software Asset Managers

Financial Managers

Compliance Risk Governance

Contract Managers

Maintenance Managers

Hardware Asset Managers

Purchasing Managers

Facilities Managers

Service Desk Technicians

Operations Managers

Large US Government Agency: Avoided cost and protected existing investment with Maximo on System z

The need
Needed better overall availability, security, and disaster recovery solution while managing cost and reducing risk
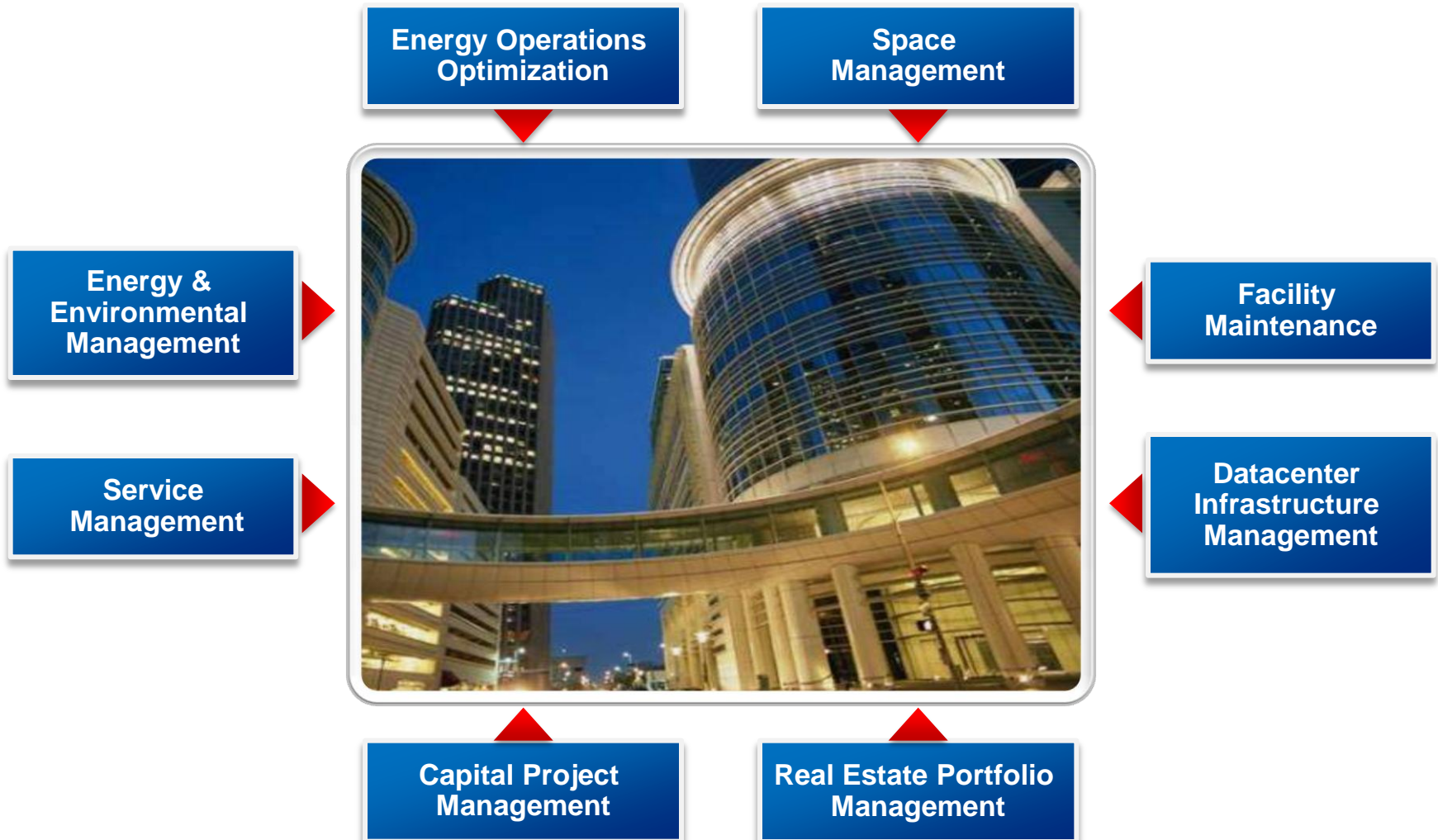
The solution
Leveraged existing System z10s for the Maximo application servers and database servers requiring no additional floor space, cooling or electricity

The benefit
Reduced cost of deployment by over a million dollars less than an x86 server environment

Rapidly deployable solution that can accommodate future growth using the same footprint

IBM Visibility Control Automation recognized as industry leading approach to Service Management on System z

VISIBILITY

See your business services

CONTROL

Manage service risk and compliance

AUTOMATION

Optimize business service delivery

#1 Overall in Systems / Network Management

#1 in Overall Performance and Availability Mgt.

#1 Performance Management

#1 Event Automation

#1 Network Management

#1 Output Management

#1 Archiving

#1 Identity and Access Management

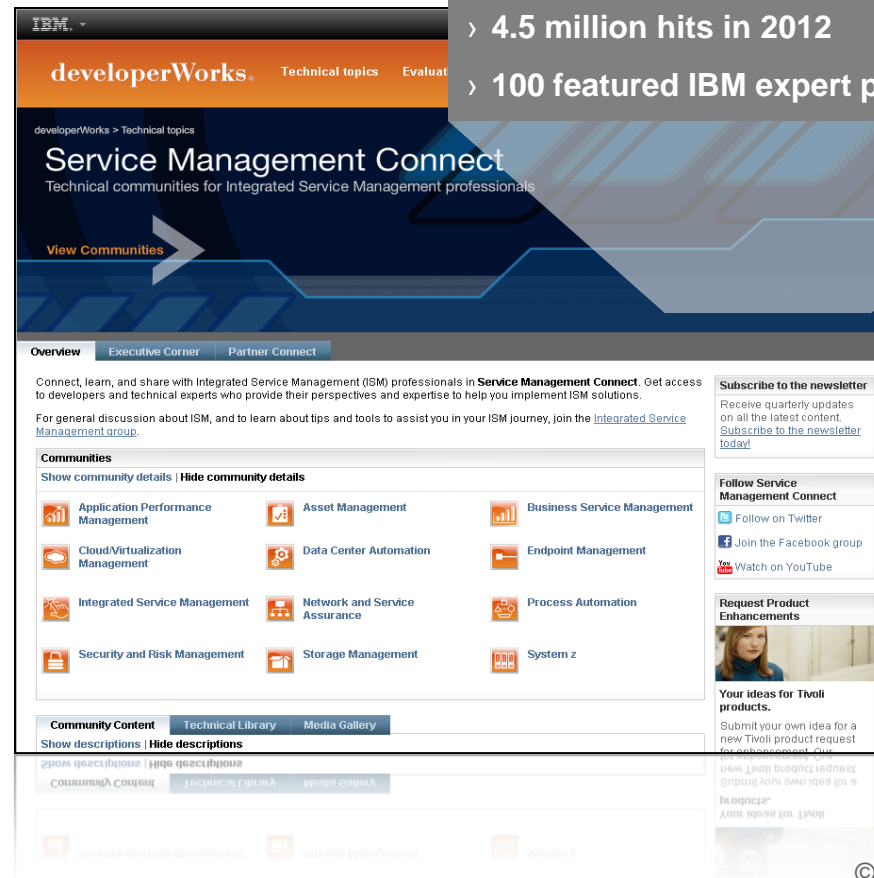#1 Security and Vulnerability Management

#1 Enterprise Asset Management

IDC Market Share rankings

Service Management Connect

Connecting you to the future of service management

- Transparent development

- Product roadmaps

- Code downloads and demos

- Access to the System z experts

  – Forums

  – Blogs

  – Wikis

- Best practices

- Submit requirements

> › **250+ System z blog entries from the IBM experts**
>
> › **4.5 million hits in 2012**
>
> › **100 featured IBM expert profiles**