Optimizing the World's Infrastructure

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Business without **LIMITS 2012**   [**13th September 2012, Mumbai**]
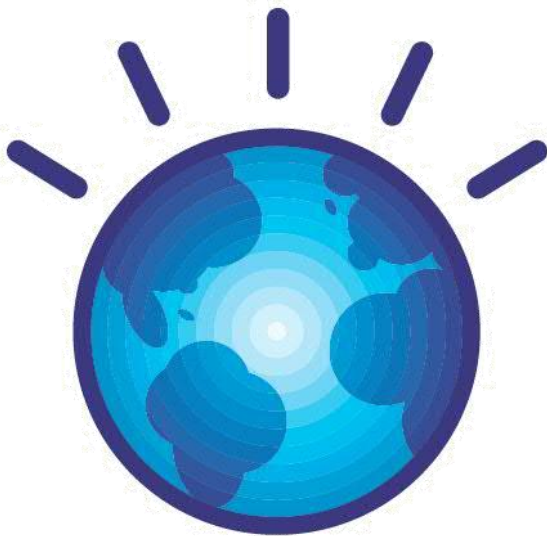
In this new world everything is changing….

INSTRUMENTED
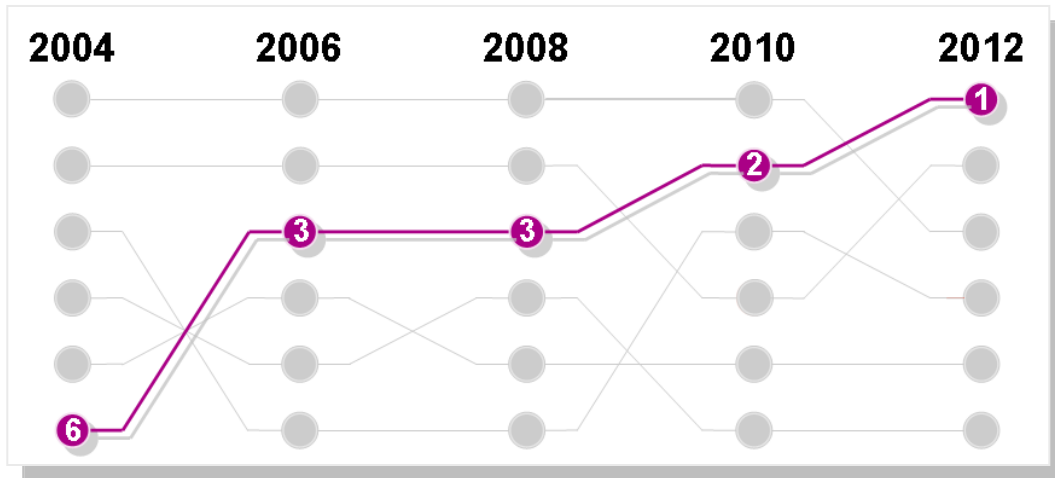

INTERCONNECTED

INTELLIGENT

80%
CEOs anticipate turbulent change and bold moves ahead.

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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

Smart phones 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

Success is driven through a holistic approach to delivering and managing services that adapts to changing business priorities…

VISIBILITY

See and understand your business in real time

CONTROL

Transform and adapt while limiting risks

AUTOMATION

Standardize best practices and achieve greater efficiency

VISIBILITY

Bharti Infratel

Monitor 32,000 cell towers, savings in diesel & electiricity. ROI of months. Reducing ~ 4.4M kgs of CO2 emissions pa. Improved service levels.

Bharti Infratel Limited

CONTROL

Schiphol Airport

Handling – 70M pieces of luggage/year, up 40% or 20M

80% increase in hourly peak capacity to 9000 bags

Error rate down 80%

Schiphol
Amsterdam Airport

AUTOMATION

China Great Wall Computer Shenzen

Cloud based Data Centre: Save US$8.6M pa in energy usage
Shortened provision & configuration times by 99%
Increased HW virtualization by 79%, and reducing server usage by 30%.

Great Wall

IBM is helping organizations embrace bold strategies to **Rethink IT**, and **Reinvent Business** services, processes, & relationships…

Optimize with Cloud	**Extend to Mobile Devices**	**Deploy Smarter Physical Infrastructures**	**Protect & Manage Data**

Speeding service delivery from 45 days to 20 minutes

Increasing sales with new promotions from 15% to 75%

Recognizing & repairing over 50% of issues before operations impact

Reducing the time it takes to backup critical data by 80%
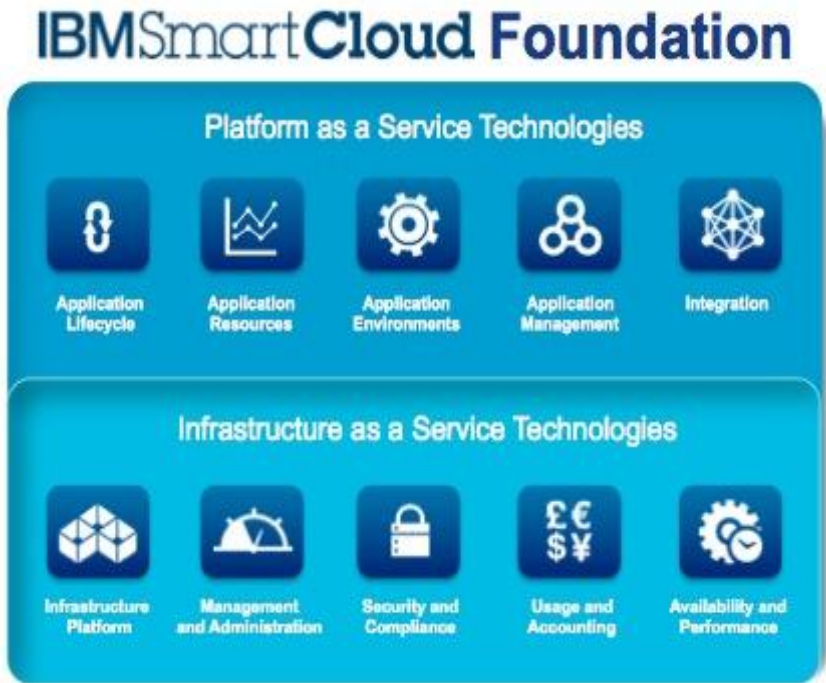
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Optimize with Cloud

Nearly 90% of CIOs view cloud computing as critical

- **Resilient** to the velocity of changing business needs

- Enables **choice & flexibility** in hybrid environments

- Provides **enterprise-class**, workload-aware services

- Built-in **analytics** for improved insight and decision making

IBMSmartCloud 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 | Security and Compliance | Usage and Accounting | Availability and Performance |

4,000 successful cloud projects

200M+ daily cloud transactions

1M+ managed virtual machines

citi

- Speed infrastructure delivery from 45 days to 20 minutes
- Improve server to administrator ratio from 10:1 to 100:1

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Optimize with Cloud

Value delivered	From traditional	To cloud
Design and release applications	Months	Weeks/Days
Test provisioning	Weeks	20 minutes
Change management	Months	Days or hours
Install database	1 day	12 minutes
Install of operating system	1 day	30-60 minutes
Service provisioning	Weeks/Days	Hours/Minutes

ROI analysis example – *Banking*

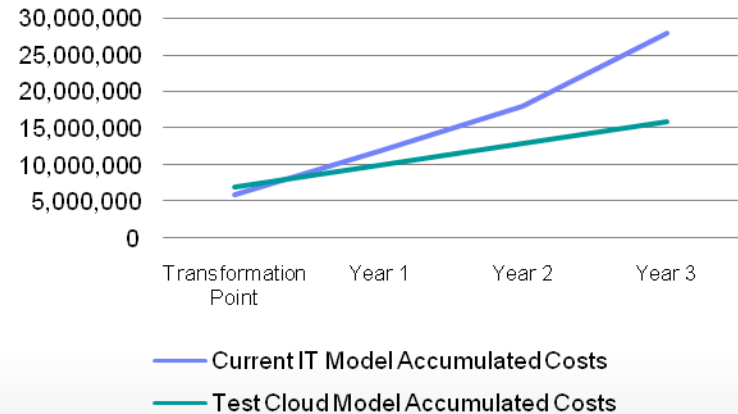|	
Payback Period (months)	*4.85*
Total Initial Investment for Test Cloud	$1,313,985.33
Net Present Value (NPV)	*$6,172,325.64*
Estimated ROI over 3 years	469.74%
Estimated avg. annual ROI	156.58%

Year 1 Savings by Category
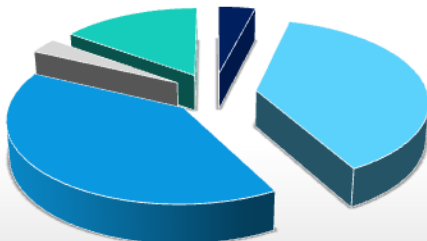
Service Management driven sales

- ■ Testing Productivity
- ■ Provisioning Cost
- ■ Sys. Admin Cost
- ■ Software
- ■ Hardware

Cumulative Cost Comparison – With and without Cloud

- Current IT Model Accumulated Costs
- Test Cloud Model Accumulated Costs

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Optimize with Cloud

New

New capabilities help organizations move beyond virtualization to on-demand, cost-effective service delivery…

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 | Security and Compliance | Usage and Accounting | Availability and Performance |

What's new:

- SmartCloud Control Desk

- SmartCloud Monitoring

- SmartCloud Provisioning

- SmartCloud Application Performance Manager

- SmartCloud Continuous Delivery

- SmartCloud Virtual Storage Center

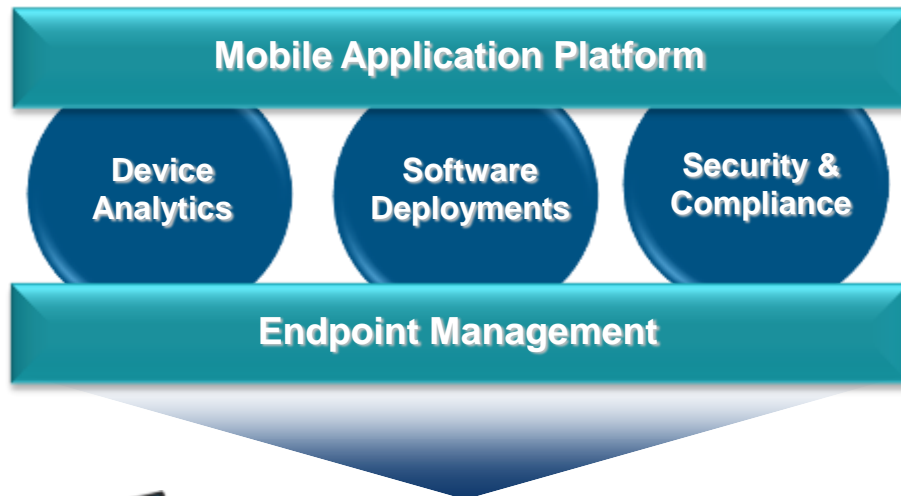- Service Management extensions for Hybrid Cloud

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Extend to Mobile Devices

Nearly ½ of devices accessing applications will be mobile

- Build applications **optimized** for mobile

- Deploy software apps **worldwide** in days.

- Find **all assets** on your network – NOW!

- **Patch** anywhere, anytime over any network.

- Continuously **enforce security** for mobile and off-network devices.

Mobile Application Platform

Device Analytics

Software Deployments

Security & Compliance

Endpoint Management

Desktops / laptops / servers

Mobile endpoints

Purpose-specific endpoints

- Search for store
- Order and pay while walking
- Collect & consume

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Extend to Mobile Devices – IBM Endpoint Manager

Extending Enterprise endpoint management to Mobile

New

Assures Security — **IBM Endpoint Manager** — **Reduce Expense**
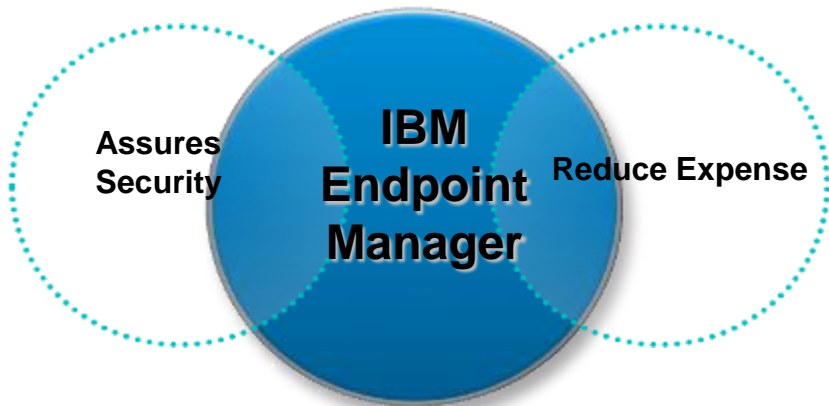
- Mobile Lifecycle Management
- Security threat detection and automated remediation
- Advanced management for iOS, Android, Symbian, Windows Phone

IBM **Extends IBM's existing 550,000 endpoint deployment**
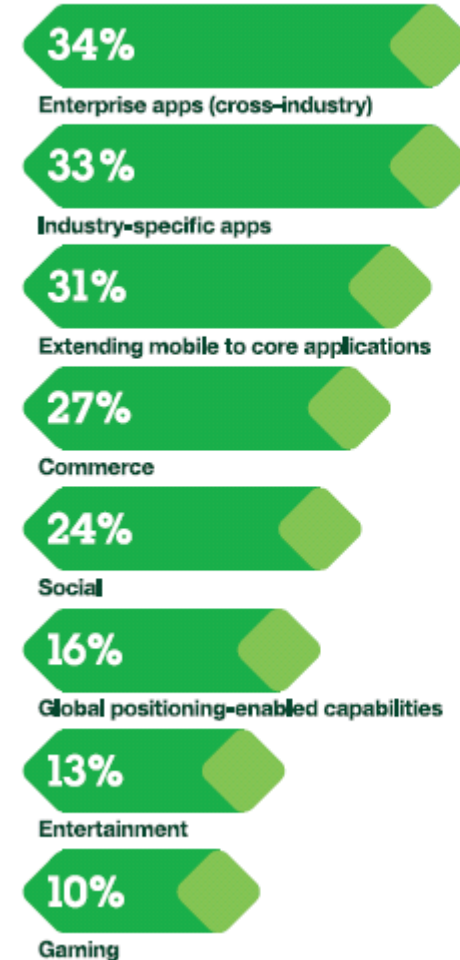
Enterprise Servers, Desktop and *now* **Mobile**

Extend to Mobile Devices - Focus: Platform & Usage Model

Planned mobile development platforms (n=2920)

Android 70%
iOS (iPhone/iPad) 49%
Windows 7 35%
Blackberry OS 25%
Embedded (any) 14%
Web OS 9%

Focus areas for mobile computing adoption (n=3885)

34% Enterprise apps (cross-industry)

33% Industry-specific apps

31% Extending mobile to core applications

27% Commerce

24% Social

16% Global positioning-enabled capabilities

13% Entertainment

10% Gaming

Extend to Mobile Devices

IBM Endpoint Manager delivers a unified systems and security management solution for all enterprise devices

Unix / Linux Servers

Android / iOS / Symbian / Windows Phone devices

Windows & Mac Desktops/Laptops

Windows Mobile / Kiosks / POS devices

Supporting more devices…

…and more capabilities.

Device Inventory   Endpoint Protection   S/W Use Analysis

Patch Mgmt   Power Mgmt   Security Config Mgmt   Mobile Device Mgmt

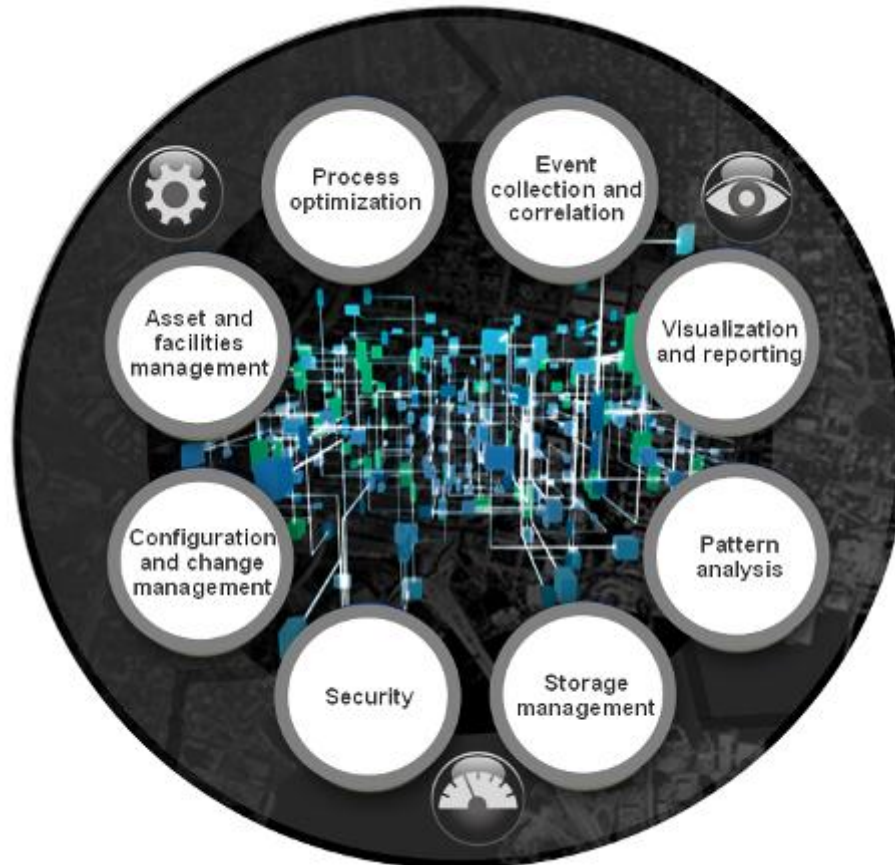Configuration Mgmt   Remote Control   OS Deployment

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Deploy Smarter Physical Infrastructures

Over 20B machine-centric intelligent devices

- **Predictively** manage the asset lifecycle

- Monitor the **health** of smart infrastructures

- Understand the **impact** of problems on service

- Optimize **workflow** across business & IT operations

- Track key **performance** indicators

Process optimization

Event collection and correlation

Asset and facilities management

Visualization and reporting

Configuration and change management

Pattern analysis

Security

Storage management

GM

- Operational excellence & performance at 100 plants world wide
- Visibility into inventory & demand across sites = huge cost savings

Deploy Smarter Physical Infrastructures

IBM Maximo®

Innovating to reach new heights of infrastructure performance and reliability

New and Enhanced

- **Health, Safety and Environment Management**
  - Improve employee and public safety, reduce risk to the environment and manage regulatory compliance

- **Supply Chain Management**
  - Greater control over critical procurement to improve operations and optimize enterprise inventory

- **Comprehensive Industry Solutions**
  - Transportation, Nuclear, Oil and Gas

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Deploy Smarter Physical Infrastructures

New and Enhanced

IBM Smarter Buildings

Tririga® enables a complete solution for facilities optimization

Energy Operations Optimization

Energy & Environmental Management

Space Management

Service Management

Facility Maintenance

Capital Project Management

Real Estate Portfolio Management

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Protect & Manage Data

2.7ZB of digital content, a 50% increase from 2011

- **Data Protection** reducing the amount of data at risk between backups by 90%

- **Unified Recovery Management** to configure, monitor and execute all backup/recovery operations

- **Storage Virtualization** to improve storage utilization by 30% or more

- **Advanced Storage Resource Management** to effectively monitor, manage and troubleshoot

- **Integrated reporting and monitoring** to provide visibility, control and automation

Insights

Recommendations

Performance

Optimization

OhioHealth

- Perform nightly and full image backups within 8 hours
- Resolve environmental issues
- Increases backup success by 9%

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Protect & Manage Data

IBM SmartCloud Virtual Storage Center & Tivoli Storage Management Suite

Intelligently controls and optimizes Cloud Storage with pay as you go pricing
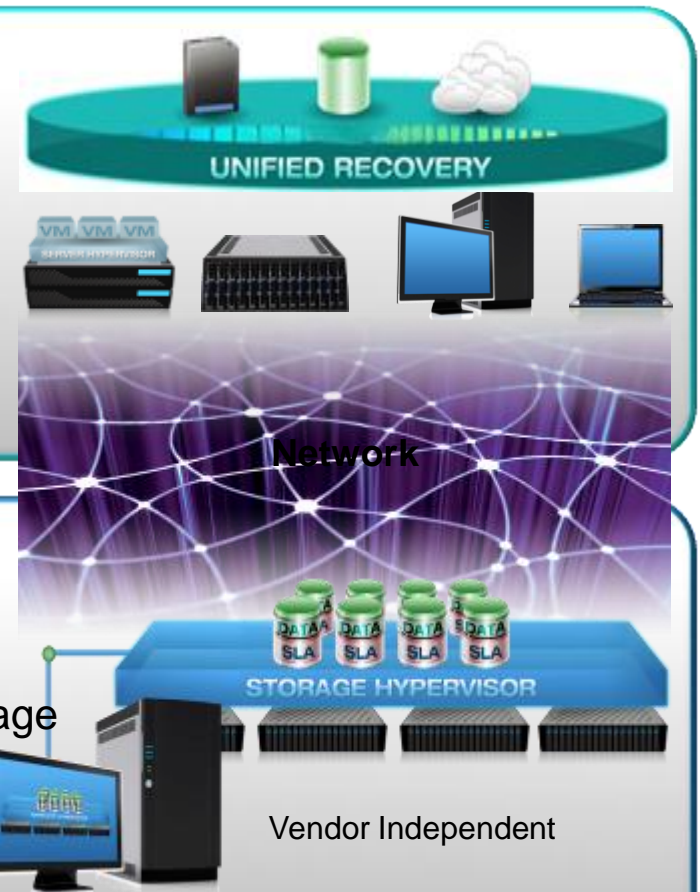
New

Tivoli Storage Management Suite

- Data reduction for recovery and retention
- Always on recovery service
- Instant recovery for virtual environments and applications

Early Experience Program

SmartCloud Virtual Storage Center

- Virtualize physical storage resources
- Flexible management of heterogeneous storage
- Central management of virtual storage

UNIFIED RECOVERY

Network

STORAGE HYPERVISOR

Vendor Independent

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IBM Netcool Network Analytics (NNA)

New

IBM Netcool Network Analytics:

- Is an all-IBM network analytics solution providing wireless CSPs intelligence to manage the network resources in combination with their customers' experience
- Provides end to end detailed/historical analytics that map customer to network to services to devices
- Delivers insights to key NOC and Customer Care Centers, breaking down organizational information silos, and enabling proactive business decisions based on real time data
- LOB business case – CMO
- Convert the NOC to SOC!

IBM Netcool Network Analytics is composed of industry leading technologies including:

- DataStage to collect and mediate the exploding number of data sources
- Netezza Data Mart to ingest and store Terabytes to Petabytes of data at the highest speeds possible
- IBM Netcool proven network domain and analytics experience
- Cognos visualization for dashboards and reporting

IBM Netcool

InfoSphere DataStage

NETEZZA
an IBM Company

IBM Cognos
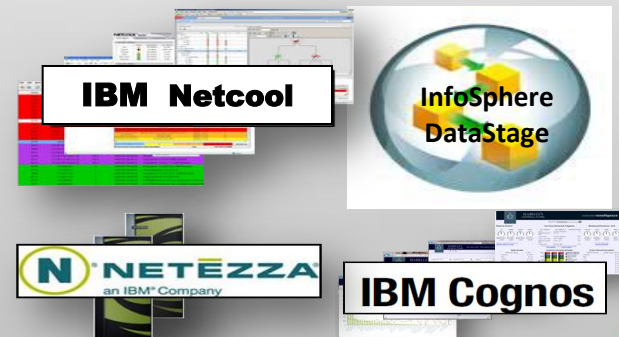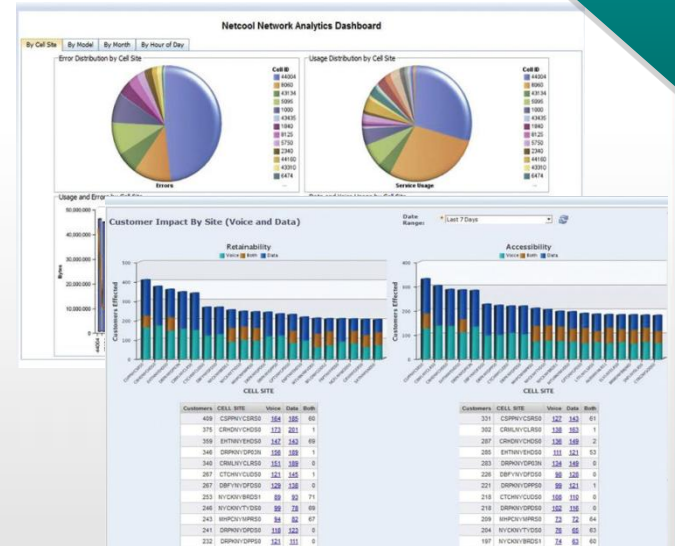
IBM provides the visibility, control and automation needed to respond to changing priorities and realize the potential of your business…

VISIBILITY

CONTROL

AUTOMATION

React with agility to competitive landscape

Execute with reduced risk & cost

Achieve desired business outcomes
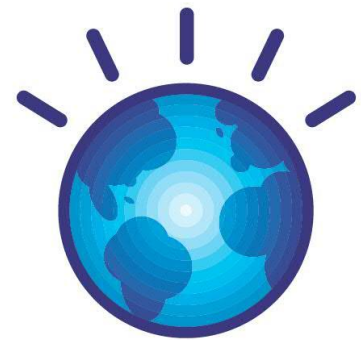
Optimizing the World's Infrastructure

THANK YOU!

Rethink IT.

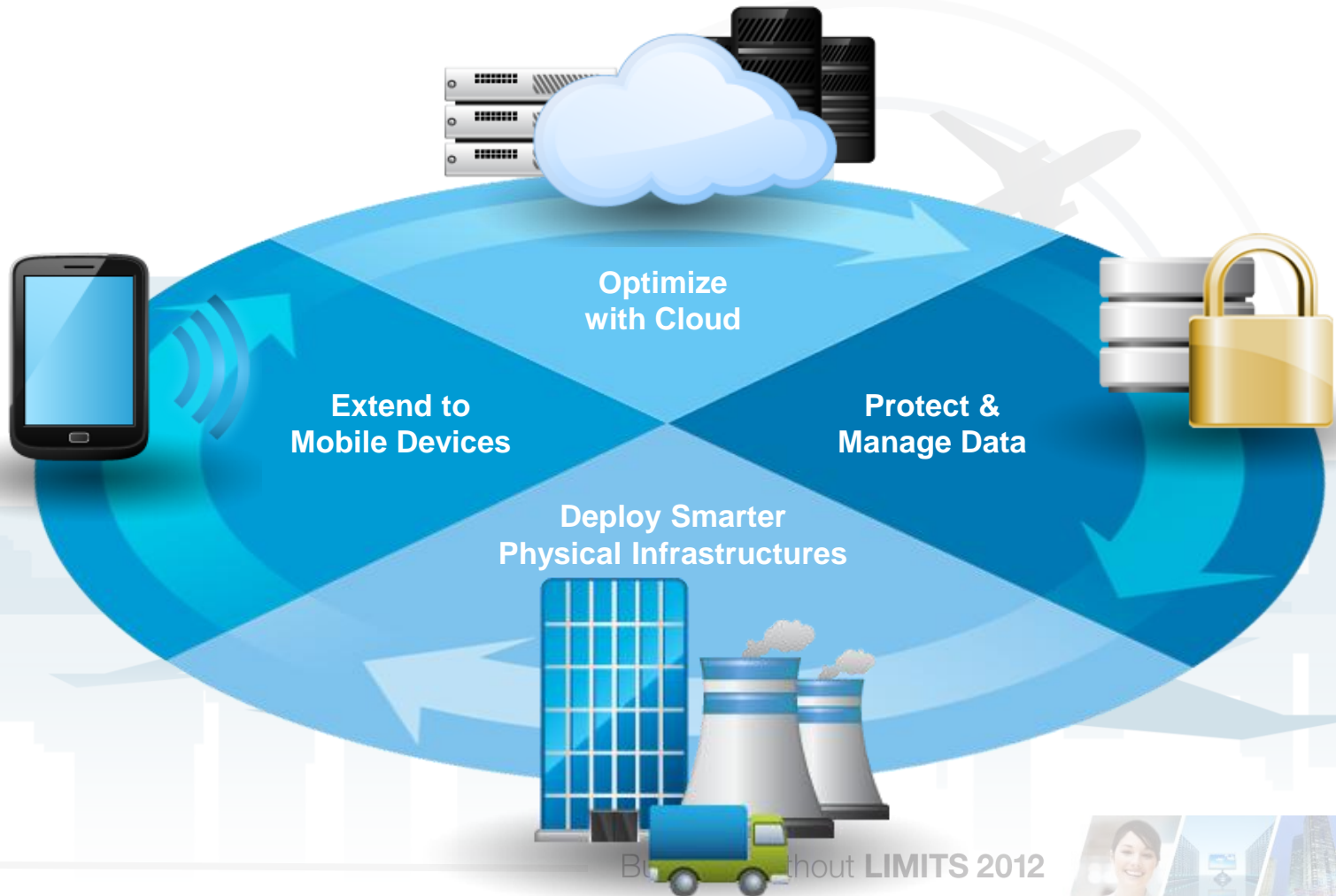- Speed delivery
- Improve economics
- Drive innovation

Reinvent business.

- Improve operating dexterity
- Redesign client relationships
- Uncover new profit opportunities

IBM's integrated service delivery & management platform offers the proven capabilities and best practices needed for success.

Service Delivery & Management Capabilities

Optimize with Cloud

Extend to Mobile Devices

Protect & Manage Data

Deploy Smarter Physical Infrastructures

IBM has announced NEW Capabilities to help you meet change head on…

Cloud Computing
drive service innovation

Smarter Physical Infrastructure
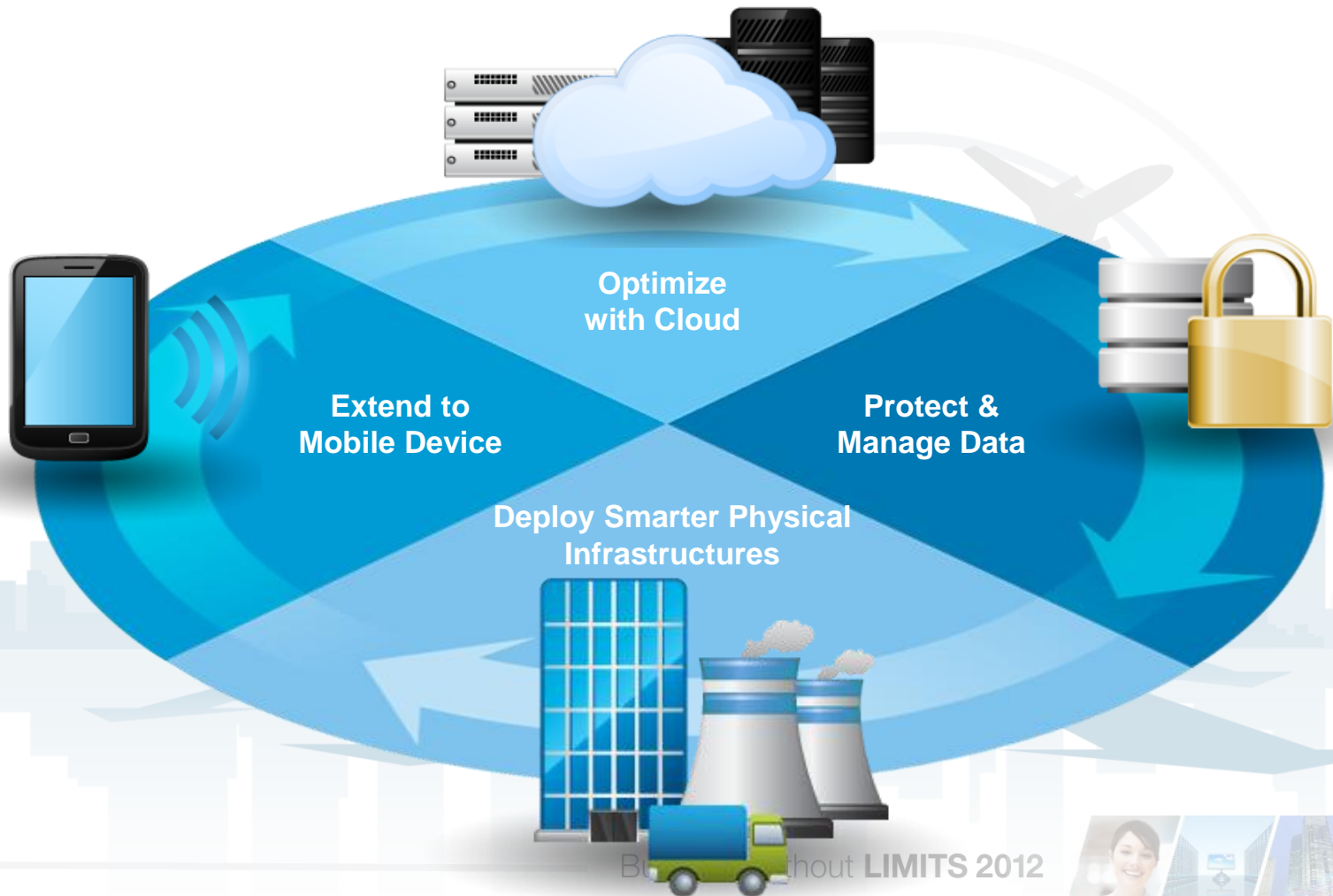enable new business models

Mobile
expand client reach

Data Protection & Storage
assure data for insight

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Only IBM brings these capabilities together to enable integrated delivery of business services **across complex, interconnected infrastructures…**

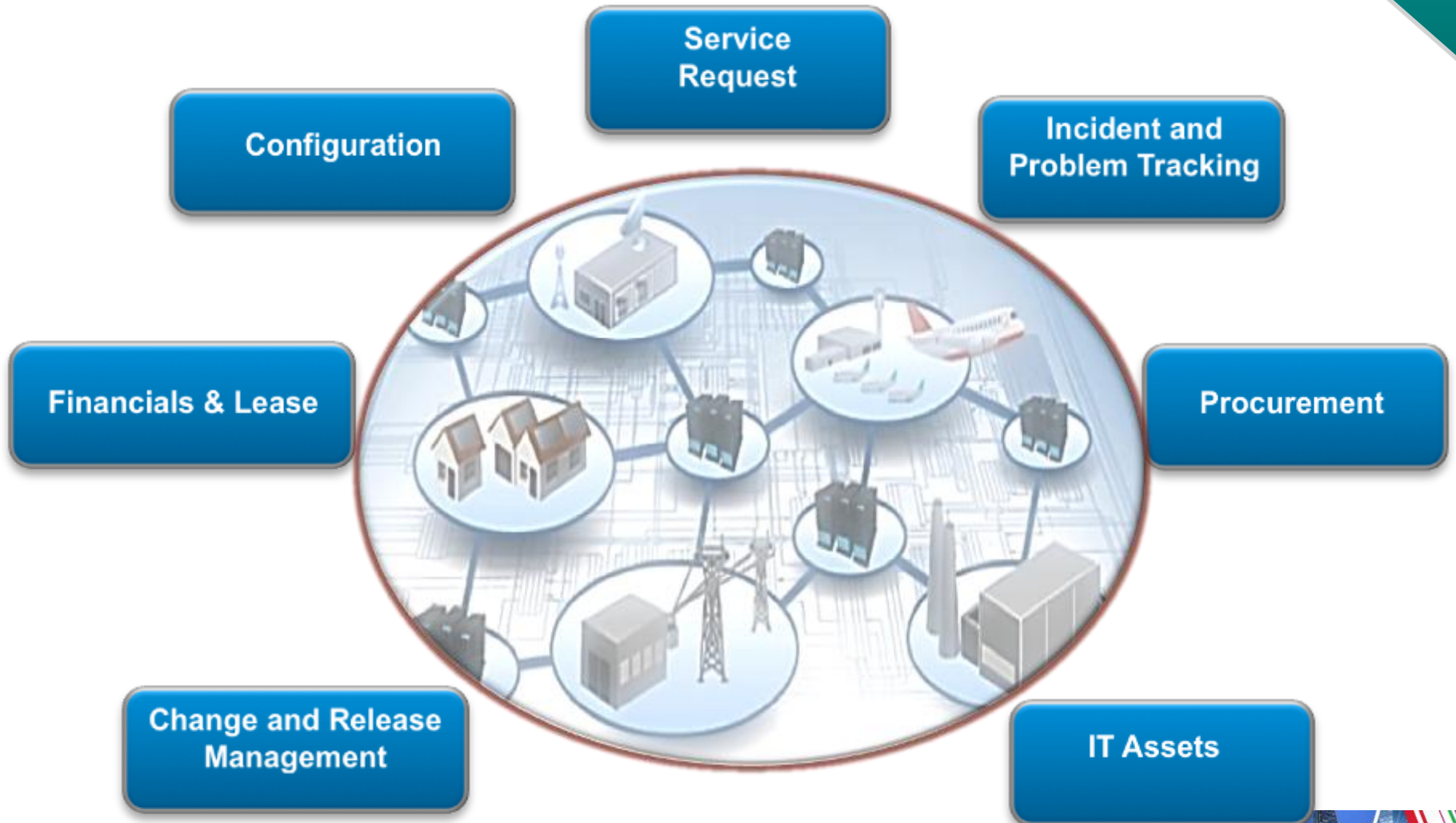## Service Delivery & Management Capabilities

Optimize with Cloud

Extend to Mobile Device

Protect & Manage Data

Deploy Smarter Physical Infrastructures

Bu___ _____hout **LIMITS** 2012

IBM SmartCloud Control Desk

Holistically controls complex service management processes

New

Service Request

Configuration

Incident and Problem Tracking

Financials & Lease

Procurement

Change and Release Management

IT Assets

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IBM SmartCloud Monitoring & Provisioning

Visibility and Control of Optimized IT Infrastructures and workloads

New and Enhanced

IBMSmart**Cloud** Monitoring

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

IBMSmart**Cloud** Provisioning

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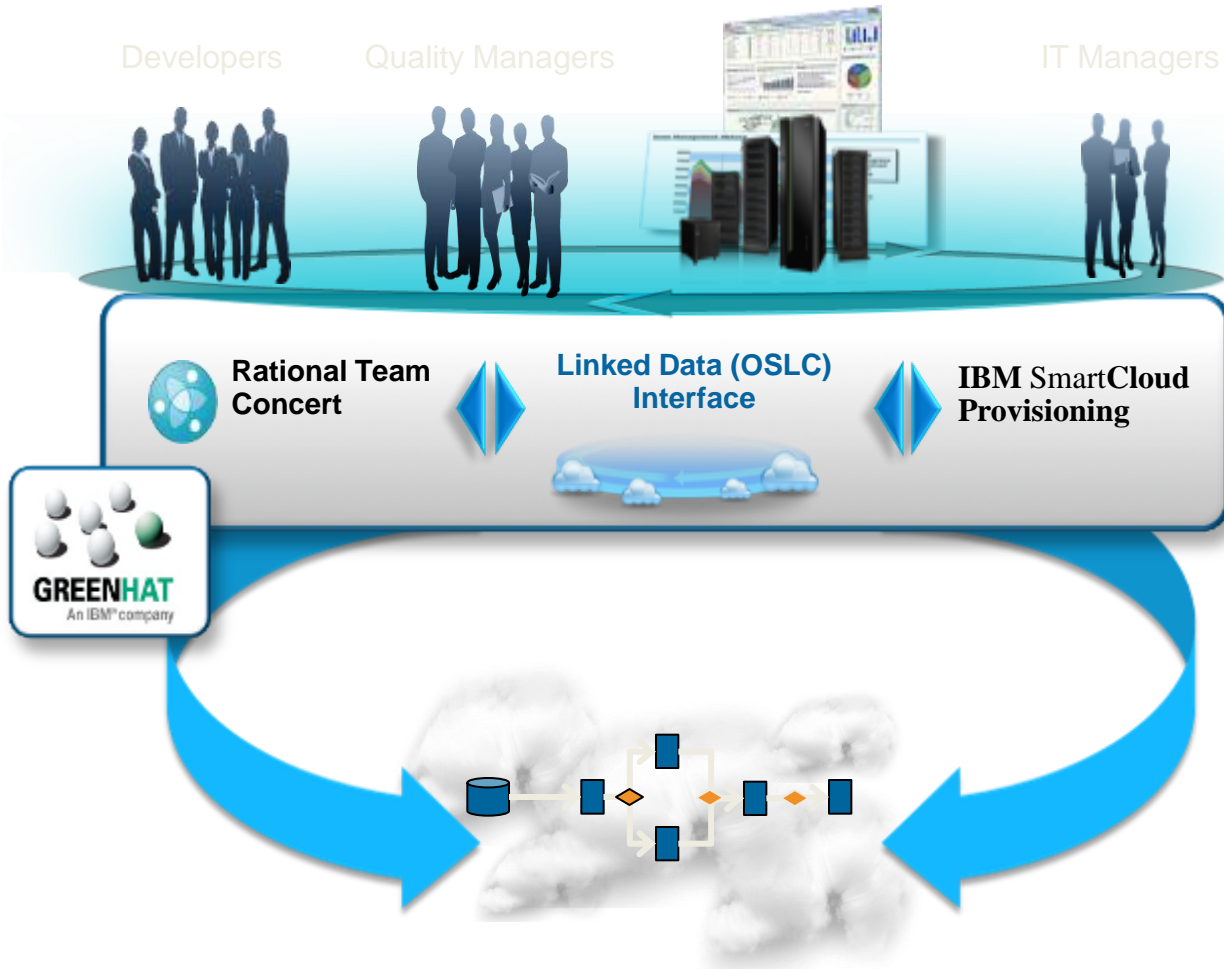- **Advanced image management**
- **Image lifecycle composition**

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

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IBM SmartCloud Continuous Delivery
A simple approach to lifecycle agility

New

Developers   Quality Managers   IT Managers

Rational Team Concert   **Linked Data (OSLC) Interface**   **IBM SmartCloud Provisioning**

GREENHAT An IBM company

- Accelerate delivery
- Self-service
- Reduce risk
- Improve quality
- Manage change
- Optimize Workload Patterns

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IBM SmartCloud Application Performance Manager

New

Optimize end user performance and prevent outages

See Value Quickly

Comprehensive Coverage

Leverage IBM Expertise

NEW! Out-of-the-box **dashboards** provide at-a-glance KPI readouts from anywhere

NEW! Get SmartCloud APM up and running quickly in your environment with new **agentless** transaction tracking technology

NEW! Supports the latest IBM and non-IBM middleware. Updated support for **DataPower**, **DB2, WAS, SAP and more**

NEW! Monitor both traditional and cloud-based applications.
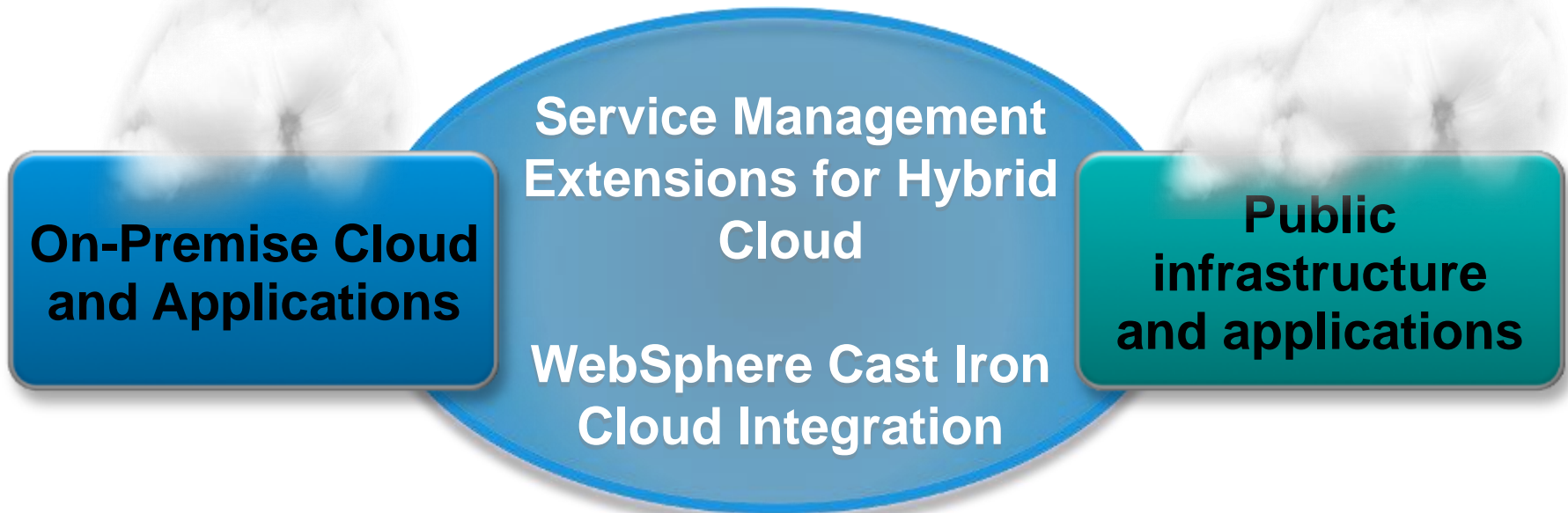
NEW! Built-in **IBM expert advice** guides operators to possible root causes and recommended actions.

NEW! Impact analysis dashboards allow you to easily pinpoint which parts of your user base are being

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Service Management Extensions for Hybrid Cloud

New

Integrate clouds with centralized monitoring, security and automation

Service Management Extensions for Hybrid Cloud

WebSphere Cast Iron Cloud Integration

On-Premise Cloud and Applications

Public infrastructure and applications

- Visibility across all resources
- Control system and security management
- Automate workload flows across clouds

Only IBM brings these capabilities together to enable **integrated delivery of business services** across complex, interconnected infrastructures…

- **Transformed supply chain across**
  5k stores & 54 countries

- **Reduced backorders 85%**

- **Increased water leak detection eightfold for participating citizens**

- **Decreased water utilization during pilot 6.6 percent**

- **Handling 70 million pieces of luggage/year**

- **Increased capacity by 20 million**