Stephen Atkins - Product Manager, UKI
June 2009

IBM

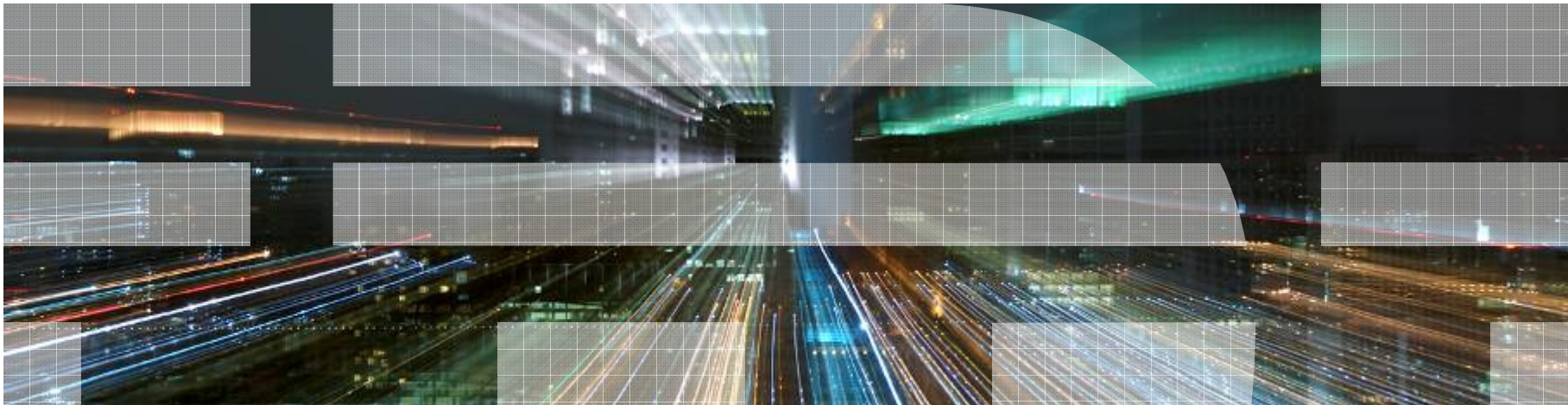# DYNAMIC INFRASTRUCTURE:
Helping build a smarter planet

Globally, systems and infrastructure are reaching a breaking point.

- Explosion of data, transactions, and digitally-aware devices strains IT infrastructure and operations.
- 2B people using the web by 2011
- Exponential growth in communications subscribers and services exposes bandwidth limitations.
- 3.3B mobile phones in 2007
- Supply inefficiencies and demand spikes tax energy and utility systems.
- Networks, supply chains, and borders face a proliferation of new risks and threats.

Meanwhile, customer expectations and competitive pressures are increasing.

IBM

The need for progress is clear.

85% idle

In distributed computing environments, up to 85% of computing capacity sits idle.

40 billion

Consumer product and retail industries lose about $40 billion annually, or 3.5 percent of their sales, due to supply chain inefficiencies.

70p per £1

70% on average is spent on maintaining current IT infrastructures versus adding new capabilities.

1.54x

Explosion of information driving 54% growth in storage shipments every year.

33%

33% of consumers notified of a security breach will terminate their relationship with the company they perceive as responsible.

IBM

We must move past today's challenges to seize tomorrow's opportunities.

HOW CAN WE ADDRESS …	WHILE ALSO LAYING A FOUNDATION FOR …

HIGHER SERVICE EXPECTATIONS
Internet-savvy consumers and employees expect 24x7 access to quality services.

RISING COST PRESSURES
Staggering levels of complexity and inefficiency drive up cost and stifle innovation.

NEW RISKS & THREATS
The connected, collaborative world is also a more vulnerable world.

BREAKTHOUGH PRODUCTIVITY
Almost any person, object, or service can become digitally aware and connected creating new possibilities for change.

ACCELERATED VALUE CREATION
More adaptive capabilities like cloud computing create new opportunities.

INCREASED VELOCITY
The faster pace of business and society demands a more responsive, agile infrastructure.

IBM

In this smarter world, we need our infrastructure to propel us forward, not hold us back.

Infrastructure that is instrumented, interconnected and intelligent.
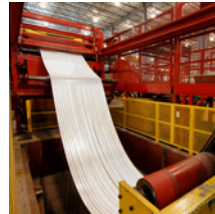**Infrastructure that brings together business and IT to create new possibilities.**
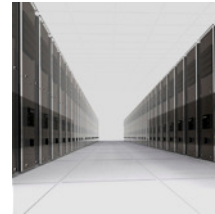
Mobility Infrastructure
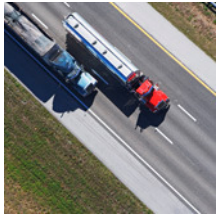
+

Facilities Infrastructure

+

Production Infrastructure

+

Technology Infrastructure

+

Communications Infrastructure
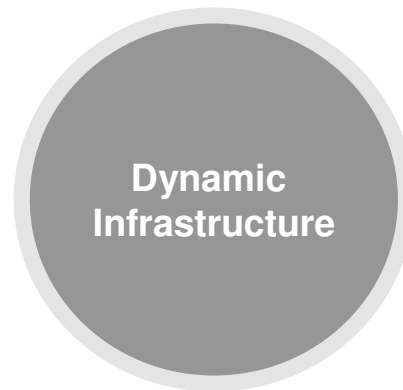
We need a *dynamic* infrastructure.

IBM

Dynamic Infrastructure: Addressing today's challenges *and* tomorrow's opportunities.

IMPROVE SERVICE

Not only ensuring high availability and quality of existing services, but also meeting customer expectations for real-time, dynamic access to innovative *new* services.

REDUCE COST

Not just containing operational cost and complexity, but achieving *breakthrough* productivity gains through virtualization, optimization, energy stewardship, and flexible sourcing.

Dynamic Infrastructure

MANAGE RISK

Not only addressing today's security, resiliency, and compliance challenges, but also preparing for the new risks posed by an even more *connected* and *collaborative* world.

5

Dynamic Infrastructure
Smart is: Improving Service

SMART IS
Winning industry recognition for
excellent service.

SKY: Network and service assurance solution
monitoring 1000s of network devices and
application services at over 1,200 exchanges,
24x7 availability to more than 1.6 million
broadband customers.

SMART IS
Increasing utilization of critical business
assets while maximizing ROI.

BP Angola: Improves production efficiency
through improved uptime, improves employee and
environmental safety, to position BP for maximum
efficiency and safety; shorter time to investment
recovery.

IBM

Dynamic Infrastructure
Smart is: Reducing Cost

SMART IS

Reducing operating costs by reducing physical servers up to 70%.

University of Pittsburgh Medical Center: Sought to lower the cost and complexity of IT infrastructure to enable the continued investment in next generation clinical systems and to lay the foundation for the best possible patient care. **Reducing capital and operating costs by up to $30M, floor space by 40%, physical servers by 67% while increasing processing capacity by 150%**

SMART IS

95% reduction in cost per transaction.

Bank of Russia: With a variety of local payment processing systems running on more than 200 distributed servers in 74 data centers across 11 time zones, Bank of Russia faced significant challenges in terms of operational efficiency, technical support, and security.

Working with IBM, the Bank simplified and consolidated its entire infrastructure to two data centers.

IBM

Dynamic Infrastructure
Smart is: Managing Risk

SMART IS

Connecting to the world securely with 100% availability.

Australian Open: Saw almost 7.5 million unique users visit the Official Australia Open website through a highly flexible and secure infrastructure than grows and shrinks based on the demand of the organization. On the first day of the 2008 tournament, IBM blocked more than 12,000 attempts by unauthorized users to access the site.

SMART IS

Protecting your customer... and your brand with no loss of data.

Bank of Montreal: Providing a recovery point of zero and a recovery time of 2 hours – over a distance of 100km - helps reduce operational risk, increase client trust, improve availability, and meet stringent regulatory compliance requirements.

IBM

IBM's own smart transformation has delivered results.

		1997	Today
IBM IT Transformation	▪ From 2002 through 2007, IBM's own IT investments delivered a cumulative benefit yield of approximately $4 billion. For every dollar invested, we saw a $4 cumulative benefit.		

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

Data Center Efficiencies Achieved

▪ Consolidation and virtualization - 3900 servers onto approximately 30 IBM System z™ mainframes running Linux.

▪ Additional virtualization leveraging System p, System x and storage across enterprise.

▪ Substantial savings being achieved in multiple dimensions: energy, software and system management and 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.

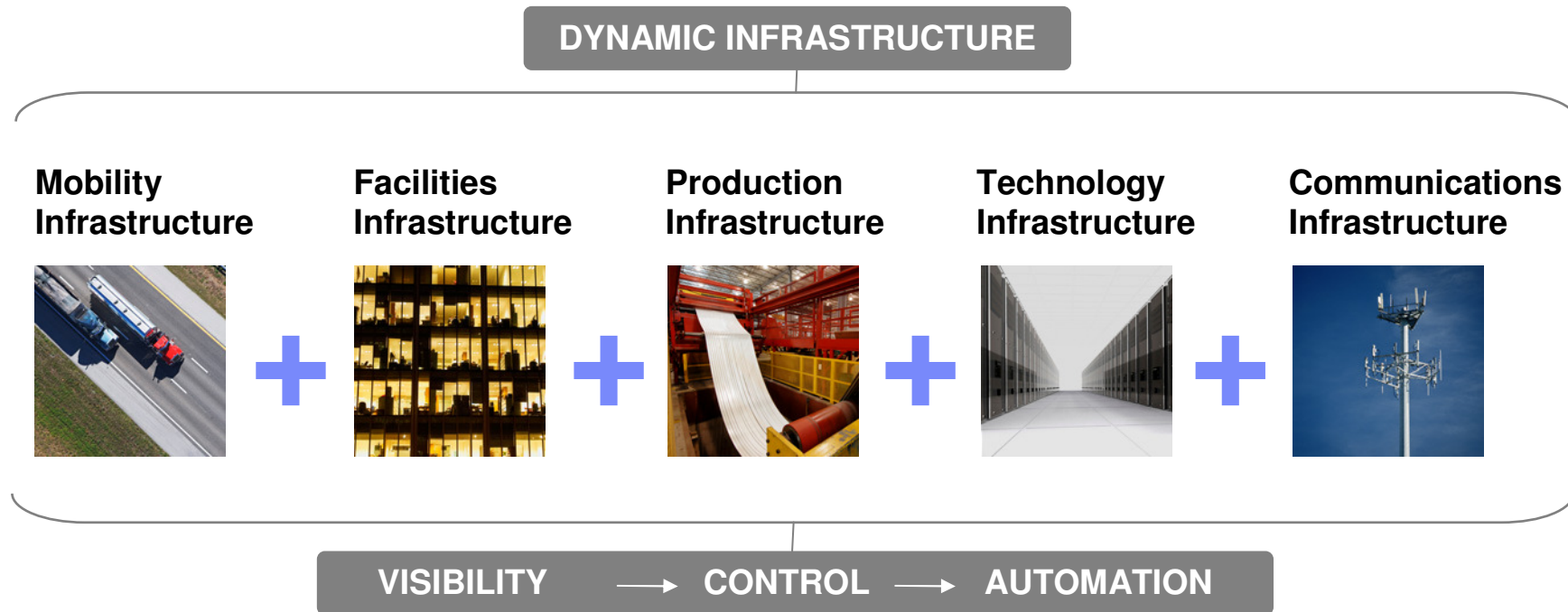▪ Real time integration of information and business services.

How do we build a more dynamic infrastructure?

- By evolution – not rip and replace

- Address today's operational challenges to free up resources for new investments.

- Converge business *and* IT infrastructure to work in concert, achieving breakthrough productivity and greater business value.

- Utilize alternative sourcing approaches, like cloud computing, to deliver new services with agility and speed.
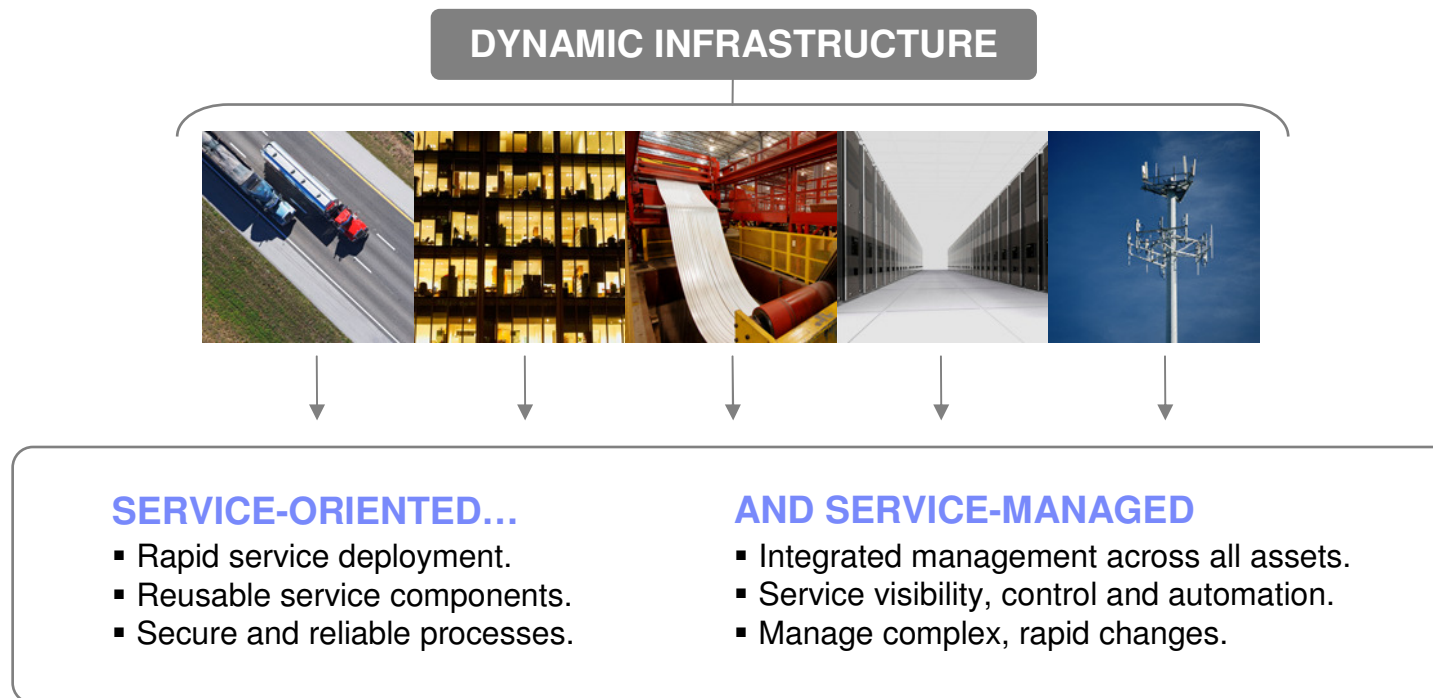
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Dynamic Infrastructure:
Enabling visibility, control and automation across all business and IT assets….

DYNAMIC INFRASTRUCTURE

| Mobility Infrastructure | Facilities Infrastructure | Production Infrastructure | Technology Infrastructure | Communications Infrastructure |

VISIBILITY ⟶ CONTROL ⟶ AUTOMATION

…supporting converged management to deliver smarter business outcomes.

IBM

Dynamic Infrastructure:
Transforming these assets into higher value services….

DYNAMIC INFRASTRUCTURE

SERVICE-ORIENTED…
- Rapid service deployment.
- Reusable service components.
- Secure and reliable processes.

AND SERVICE-MANAGED
- Integrated management across all assets.
- Service visibility, control and automation.
- Manage complex, rapid changes.

…implementing a service-oriented, service-managed approach to rapidly and dynamically deliver business and IT services.
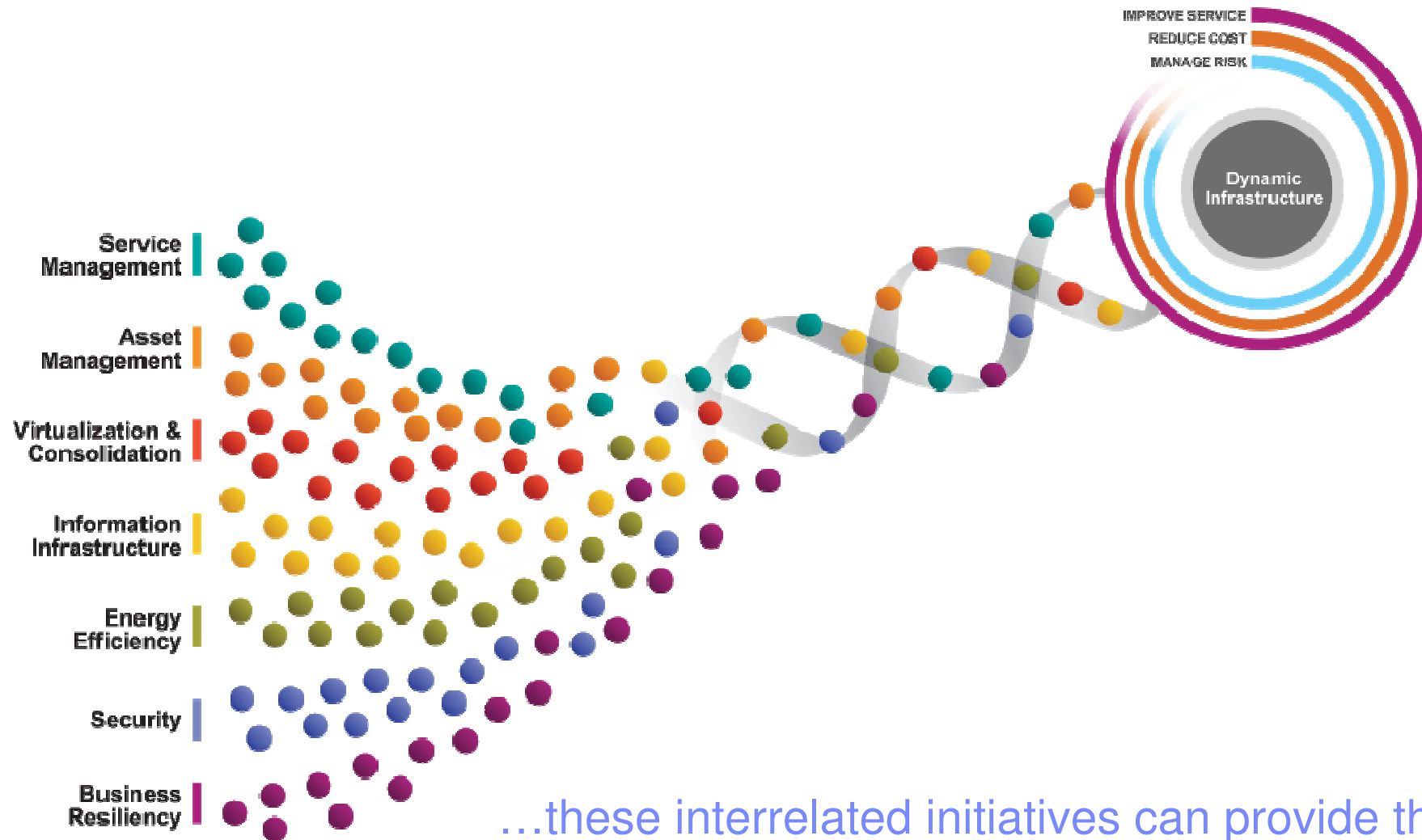
Dynamic Infrastructure:
Is highly optimized to achieve more with less….

CLOUD COMPUTING

| VIRTUALIZATION | **+** | ENERGY EFFICIENCY | **+** | STANDARDIZATION | **+** | AUTOMATION | **=** | Reduced Cost |
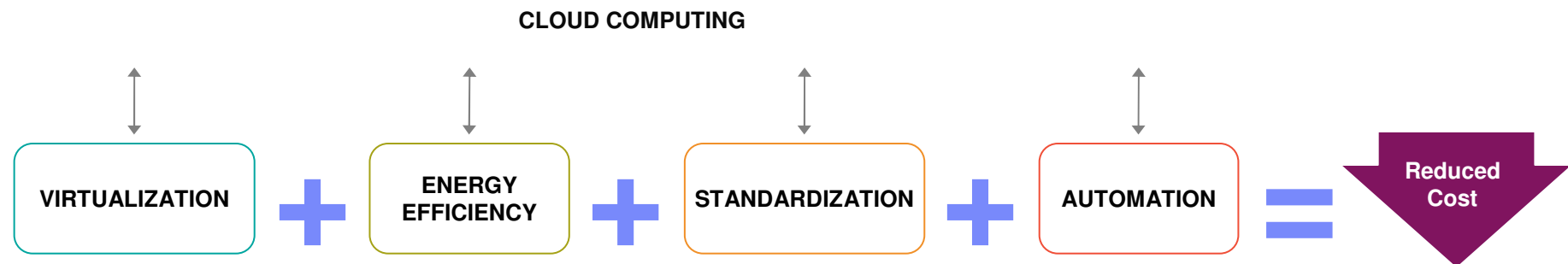
…leveraging virtualization, energy efficiency, standardization and automation to free up operational budget for new investment.

IBM

A dynamic infrastructure is a journey…

IMPROVE SERVICE
REDUCE COST
MANAGE RISK

Dynamic Infrastructure

Service Management

Asset Management

Virtualization & Consolidation

Information Infrastructure

Energy Efficiency

Security

Business Resiliency

…these interrelated initiatives can provide the DNA needed to thrive in a smarter planet.

IBM

Our focus is on enabling clients to get the value of a "Shared" infrastructure
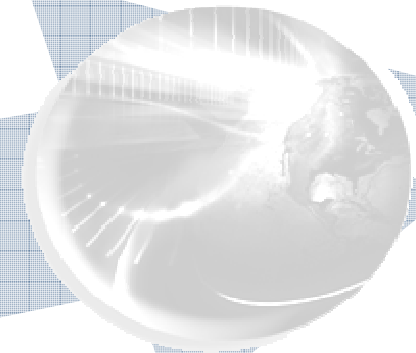

Simplified

Shared

Dynamic

- Physical consolidation
- Virtualization of individual systems
- Systems, network and energy management

- Highly virtualized resource pools for mobility
- Integrated IT service management
- Green by design

- Virtualisation of IT as a service - "cloud"
- Business-driven service management
- Service oriented delivery of IT

IBM

How to get started?

What does IBM have to offer?

Assess potential benefits.

- Proven tools, assessments and workshops by key initiatives to measure business impact.

Collaborate to build the right blueprint for success.

- Deep business architecture, strategy and change and data center strategy expertise.
- Open standards based approach with a supporting ecosystem of partners.
- Experience from thousands of client engagements.
- Structured architecture approach based on industry best practices.
- Award-winning implementation blueprints and patterns.
- Experiences from our own transformation.
- The broadest systems, storage, software and services portfolio in the industry to find the right fit for your business.
- Access to capital to help create a funding and IT asset disposal strategy.
- Unparalleled research organization and extensive patent leadership.

Dynamic Infrastructure…

IMPROVE SERVICE
REDUCE COST
MANAGE RISK

Dynamic Infrastructure
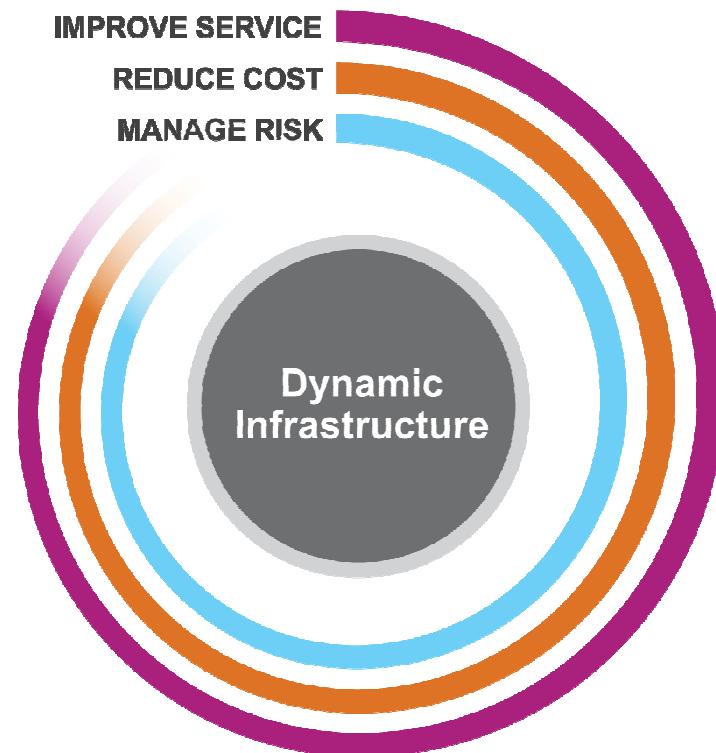
- Enables visibility, control, and automation across all business and IT assets.

- Transforms assets into higher value services.

- Is highly optimized to achieve more with less.

- Addresses the information challenge.

- Leverages flexible sourcing like clouds.

- Manages and mitigates risks.

…delivers superior business and IT services with agility and speed.