

BusinessConnect and SolutionsConnect

It's time to make bold moves.

Steps to Cloud Nine

The Cloud Transformation Journey

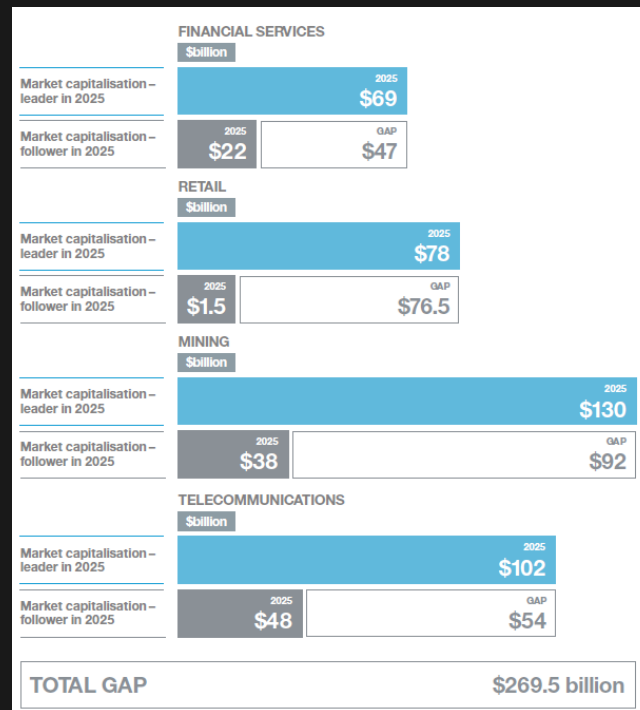
Martin Stubbs-Race, IBM Cloud Business Advisor
Steve Godbee, IBM ANZ CIO



The Cloud Transformation Journey



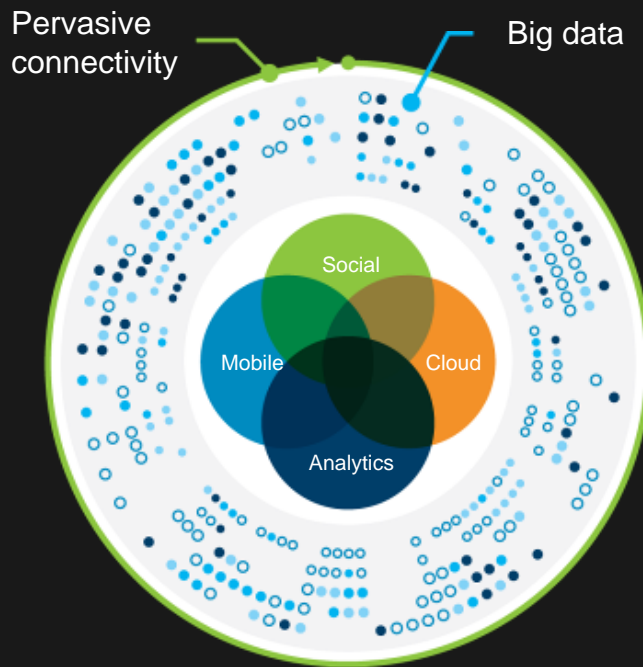
Differences in market capitalisation for sample leaders and followers by 2025.



Over the Next 12 Years the Digital Economy will become the Economy

-  **Customers become more connected**
 -  **Consumers and employees will demand more**
 -  **Organisations will get flatter and more agile**
 -  **Enterprises will make faster, more-data-base decisions**
 -  **Enterprises will face more sources of competition**
- Underpinned by a heavy reliance on digital**

Digital transformation forces



These Trends are Reshaping Industries

Who are your developers?
Anyone

What is an application?
Anything

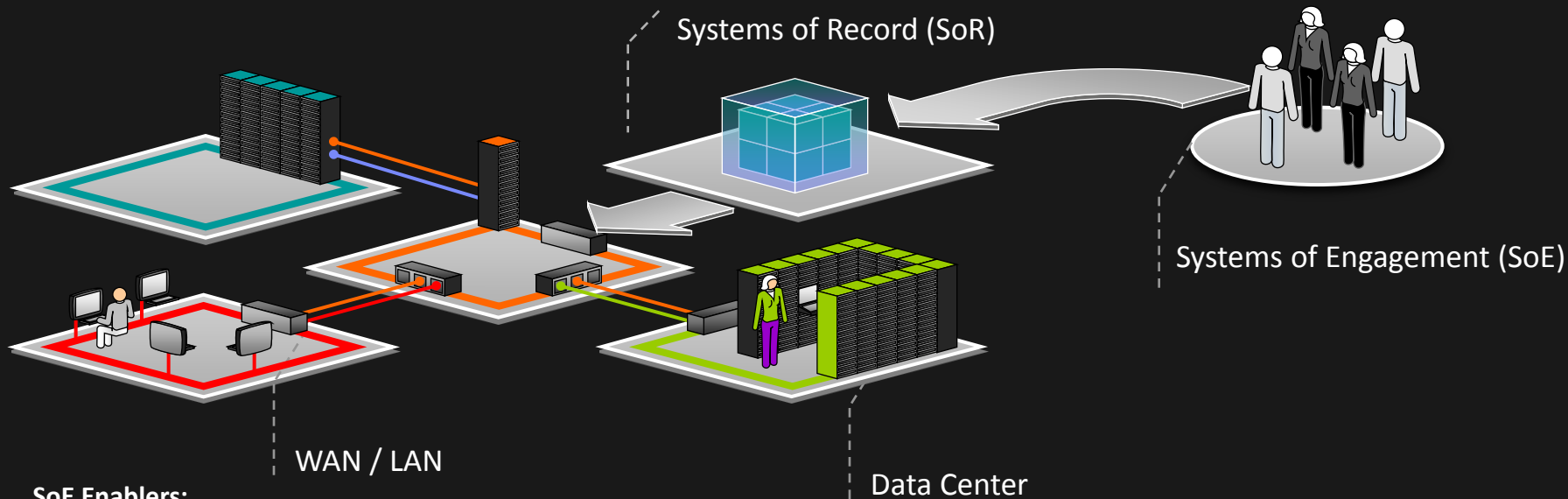
Who can access your information?
Everyone

Who is influencing your business?
Anyone

Where do transactions happen?
Everywhere

Moving to a New World

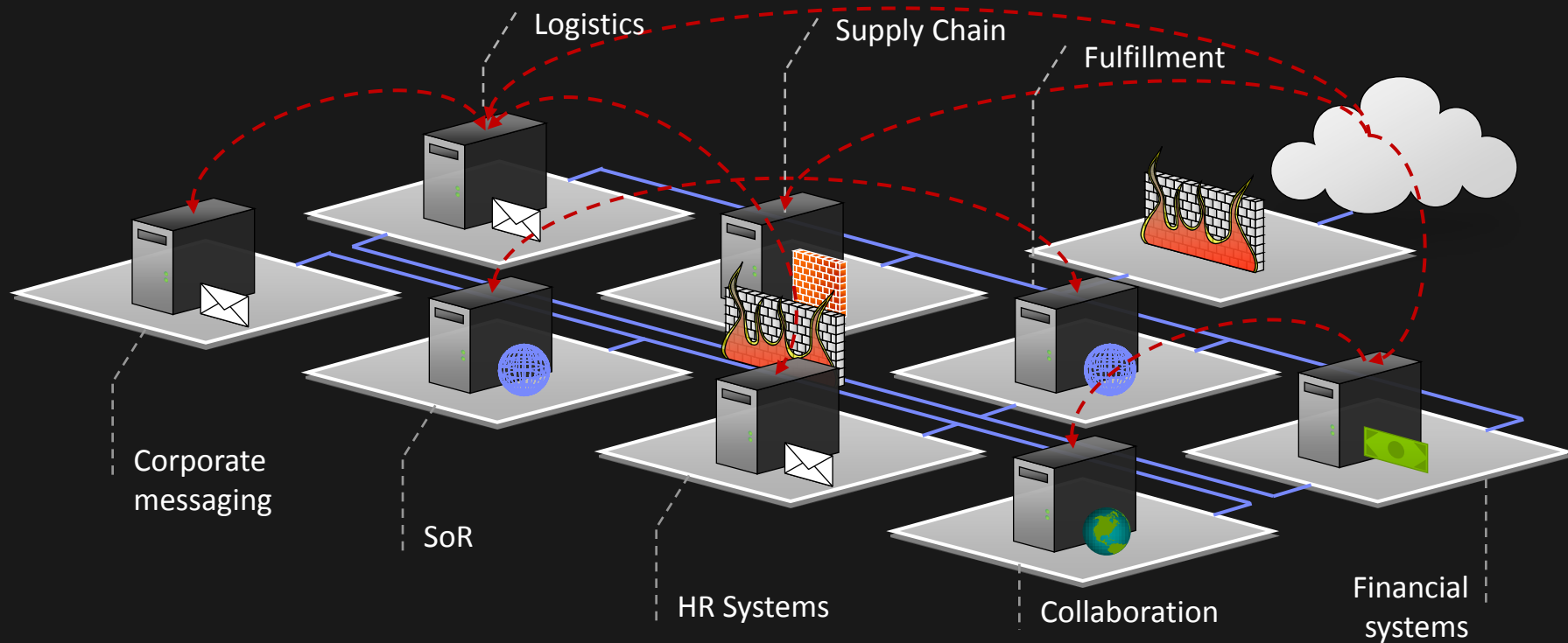
Systems of Engagement are delivering user-centric services into the enterprise



SoE Enablers:

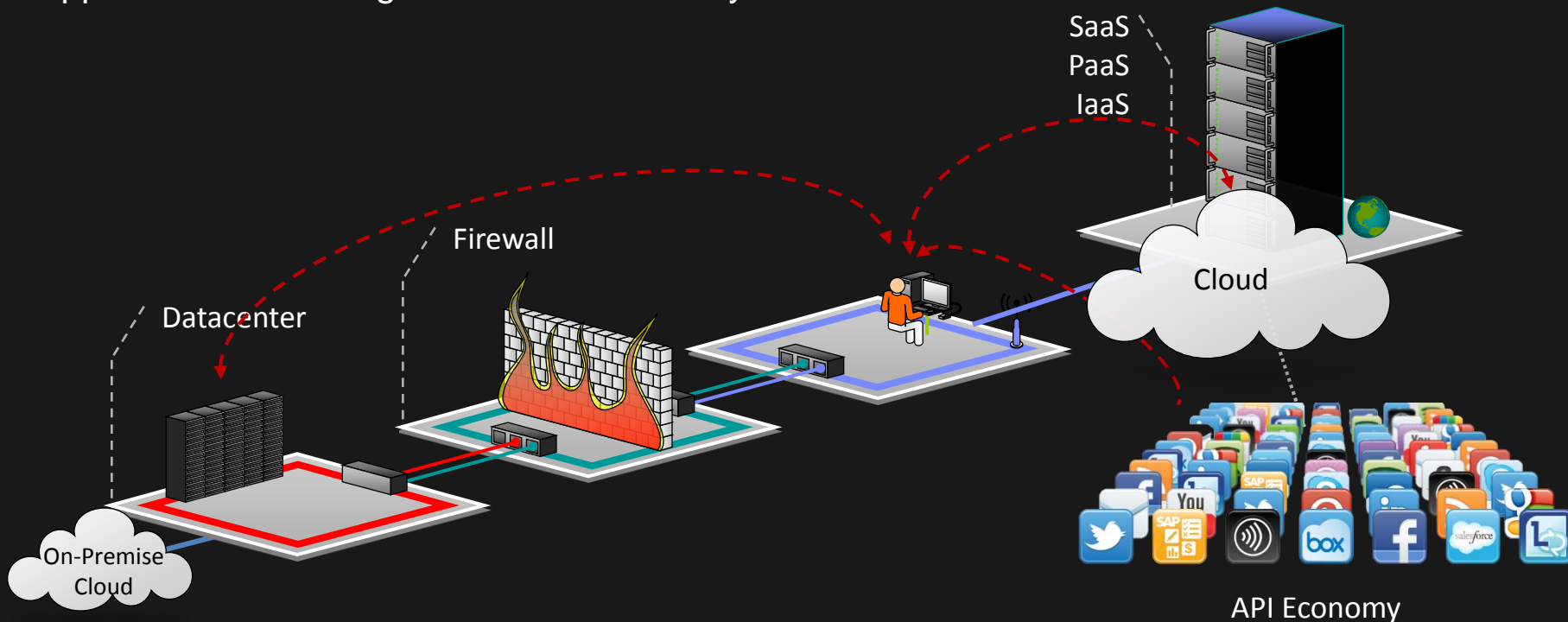
- **Social** drives agility
- **Mobile** enables a 24x7 connected, engaged workforce
- **Analytics** enable data-driven insights for faster, smarter decision making
- **Cloud** enables ubiquitous access to resources and applications, and workload flexibility

But the Reality is we Have Legacy Apps to Deal With...



Cloud Offers A New Way To Bring In User-Centric, SoE Services

A Cloud Operating Environment allows us to construct apps from APIs ... regardless of where they reside



IBM's Transformation: An Ongoing Journey

- Keep company together & **stabilize business**
- Move to **integrated solutions**
- Dramatic **growth in services**

Gerstner
('93 thru 2002)



- Focus on open technologies and **high value solutions**
- Become the premier **Globally Integrated Enterprise**
- Move to **Values-based culture**

Palmisano ('03 thru 2011)



- Delivering **signature IBM client experience** with an **engaged workforce**
- Building a **Smarter enterprise** with data, cloud and systems of engagement
- Making **IBM essential** to clients, partners, investors and communities

Rometty
('12 to present)



1993



2003



2012



Watson

Scale of Computing at IBM

470,000
Employees located in
170 countries

92%
Strategic servers
virtualized

48 %
System z

12 %
System x






40 %
Power




50M
Instant
Messages
per day

833M
Cloud Meeting
Minutes/year




-  **1.3M Workstations**
Endpoint Security Managed
-  **3600 Terabytes**
WAN traffic/month
-  **360,000+**
Wireless Subscribers
-  **100,000+**
BYOD Devices
-  **1.9M**
Annual Help Desk Calls

 **1,463**
Mail / Traveler
Servers Worldwide

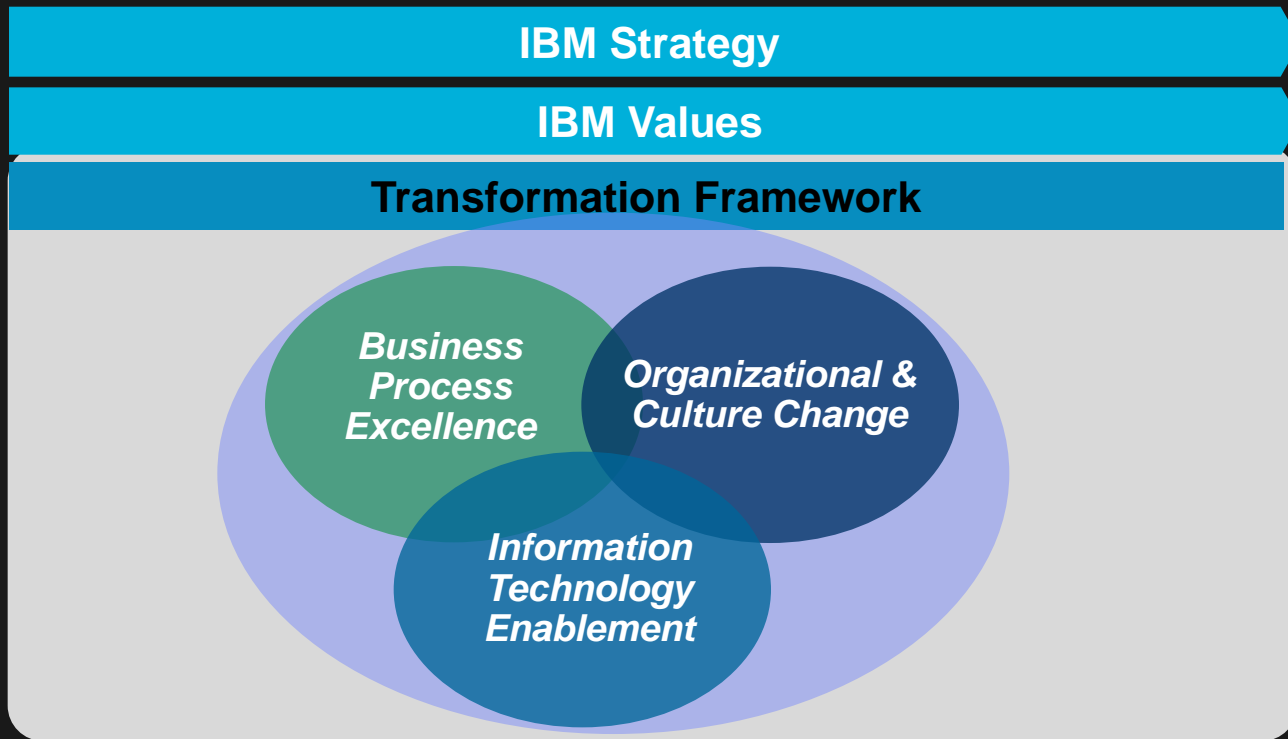
 **11,579**
Logical Servers
1.2M zMIPS with 750K on Linux

 **110**
Petabytes of
Storage

  **570,000**
IBM Notes Clients

 **350,000**
Remote
Access
Users

IBM's approach to transformation



5 Principles of Smarter Transformation



Create a movement



Build a platform for continuous improvement



Pursue growth as well as productivity



Apply technology for smarter transformation



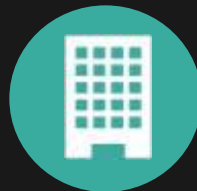
Establish an enterprise change capability

Technology: a catalyst for innovation and growth

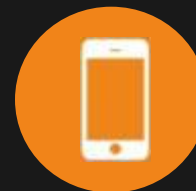
The transformation of IBM's IT Organization Pervasive Consolidation



CIOs
128 to 1

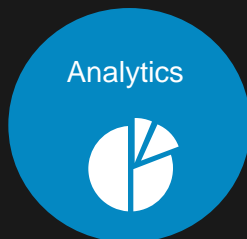


Data Centers
155 to 5



Applications
16000 to 3800

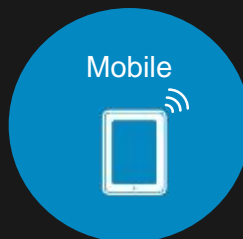
More than **\$1.5B in IT savings** since 2005. Now we're reinvesting these savings in our future.
Using IT not just as a productivity tool, but as a catalyst for innovation and growth



Projecting savings of
\$100M+



Supports
428,000 bloggers
86,000 public comm



Over 185,000
mobile devices









Reduced server
provisioning from 5
days to one hour



Helps contact center
agents answer client
questions

IBM CIO has established a base of cloud computing which continues to expand and mature ...

Analytics	Develop/Test	Collaboration	Storage	Prod Support	Self-Service
 <p>Blue Insight</p> <ul style="list-style-type: none"> Standardized BI/analytics capabilities 300K users, 500 ported/ boarded apps Predictive modeling (SPSS) and data mgmt 50K peak reports/day 	 <p>Develop/ Test Cloud</p> <ul style="list-style-type: none"> Server setup from 5 days to 1 hour 95% of new server reqs via this cloud 13,000 VMs provisioned for 2,100 users 	 <p>SmartCloud Meetings</p> <ul style="list-style-type: none"> 85% of web conference minutes > 50M meeting minutes per month 	 <p>Storage Cloud</p> <ul style="list-style-type: none"> File storage cloud used by > 130K users & applications Block storage cloud w/ automated tiering (50% reduction \$/GB) 	 <p>Production Cloud</p> <ul style="list-style-type: none"> Private cloud for lower tier/ departmental applications First apps migrated and operating Refining platform, expanding use on best fit basis 	 <p>Self-Service App Env</p> <ul style="list-style-type: none"> Platform for composite app development and execution Programmer-less app development Example: >200 forms-based internal process apps
SaaS	IaaS	SaaS	IaaS	IaaS	PaaS

Ready for cloud

New growth workloads made possible by cloud

Analytics

Collaborative Care

Healthcare Payments

Infrastructure Storage

Banking & Financial Markets Solutions

Wealth Management

Information intensive

Isolated workloads

Collaboration

Risk Management

Sensitive Data

Highly customized

Mature workloads

Workplace, Mobile, Desktop & Devices

Not yet virtualized 3rd party SW

Pre-production systems

Business Processes

Disaster Recovery

Evaluate: May . . . or may not. . . be ready for Cloud based on their attributes or maturity

Complex processes & transactions

Batch processing

Development & Test

Regulation sensitive

Infrastructure Compute

Identifying the Most Appropriate Cloud Service Model

The Right Cloud for the Right Workload

Will out of the box functionality work for your business/process?

SaaS

- Software as a Service (SaaS) provides On-Demand software
- All users will have the same version of software
- Application level multi-tenancy
- Shared physical infrastructure

Can your workload function with a given PaaS stack's standard offering?

PaaS

- Platform as a Service (PaaS) is a way to rent hardware, operating systems, storage and network capacity over the Internet.
- Shared platform
- Shared phys infrastructure
- Access limited to platform software

Will your operating environment need to rapidly change or require ongoing customization?

IaaS

- Foundation of Cloud computing
- sometimes referred to as Hardware as a Service (HaaS)
- service provider owns & runs the equipment. Client typically pays on a per-use basis.
- Dynamic scaling
- Shared or dedicated physical infrastructure

Overview & considerations

Cloud offers a new path forward

- Brings a new model of utility computing that delivers **agility**, **flexibility**, & potential **cost savings** to the enterprise
- Pairing each **workload** with the **right cloud** architecture is a critical step; public, private or hybrid? IaaS, PaaS, SaaS?
- **Legacy** applications may not always be a good fit for Cloud
- “**Born on the cloud**” -- enables us to realize the true benefit of cloud



The IBM CIO cloud experience

Key lessons learned

- **Cloud adoption comes with benefits and risks**
 - Benefits of Cloud are real, but require careful planning & execution
 - Cloud providers are at various states of readiness and maturity – technologically and otherwise.
 - Security & service levels need to be well understood by IT and the business.

- **Private cloud is a viable first step**
 - Agility is biggest benefit and driver
 - Presents an opportunity to transform internal processes and organization for increased efficiency

- **Think small & targeted**
 - Small steps with tactical/point solutions, not sweeping infrastructure change
 - Application portfolio-led perspective works best

- **Enabling Self Service for IBM'ers creates new work for existing roles and requires new roles to be created**
 - System Integration skills and roles are critical

Where to from here: Cloud computing enables transformation in three ways. IBM's own use will increasingly reflect that.

Transform how IT is delivered to support the business

Use cloud computing to evolve the delivery IT resources with greater speed, quality and flexibility with higher value.

Transform how a business is managed

Manage the organization more efficiently through cloud computing with IBM's analytics, business process and BPM solutions

Transform how business is conducted

Drive business transformation, leveraging IBM's deep industry expertise, assets and cloud capabilities



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