



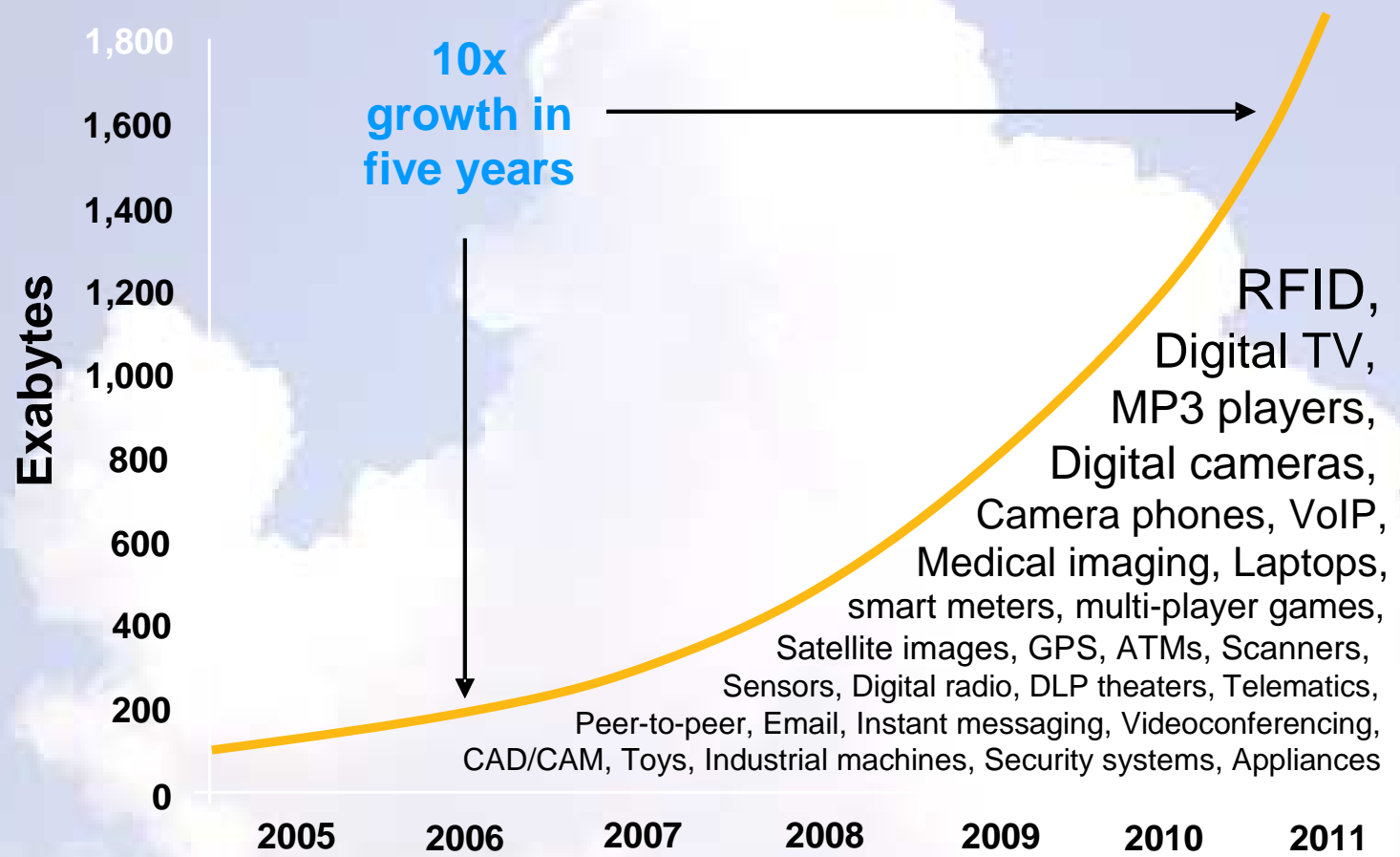
## IBM Software Delivery Services for the Cloud

*Leveraging the Cloud to Transform Software Delivery*

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**Rational.** software

By 2011, the world will be 10 times more instrumented than it was in 2006.  
 Internet connected devices will leap from 500M to 1 Trillion.



Approximately 70% of the digital universe is created by individuals, **but enterprises are responsible for 85% of the security, privacy, reliability, and compliance.**



# As the world gets smarter, demands on IT will continue to grow



Smart traffic systems



Intelligent oil field technologies



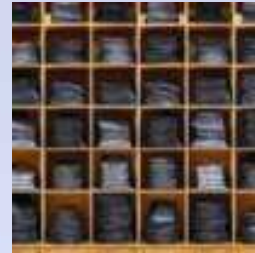
Smart food systems



Smart healthcare



Smart energy grids



Smart retail



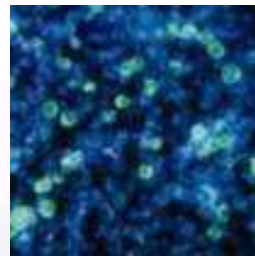
Smart water management



Smart supply chains



Smart countries



Smart weather



Smart regions



Smart cities

# As a result IT infrastructure will soon reach a breaking point

**85% idle**

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

**1.5x**

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

**70¢ per \$1**

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

**\$40 billion**

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

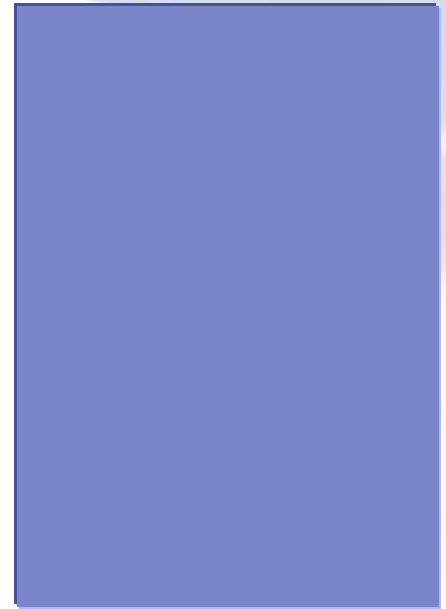
**33%**

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

It's time to start thinking differently  
about infrastructure.

## History of the Electrical Power Market

- **1880 – 1890: Electric power market dominated by independent generators and distributors competing for customers**
- **Streets turn into a jungle of power lines**
- **1890 - 1900: Municipally owned utilities supply street lighting and trolley services**
  - Reached peak share of total generation, about 8 percent.
  - Privately owned multiservice utilities controlled the rest of the industry, aggressively competing for central city markets
  - Competition and technological improvements served to lower prices steadily
- **1901 – 1932: Economies of scale quicken growth and confusion gives way to consolidation in the electric utility industry**



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.

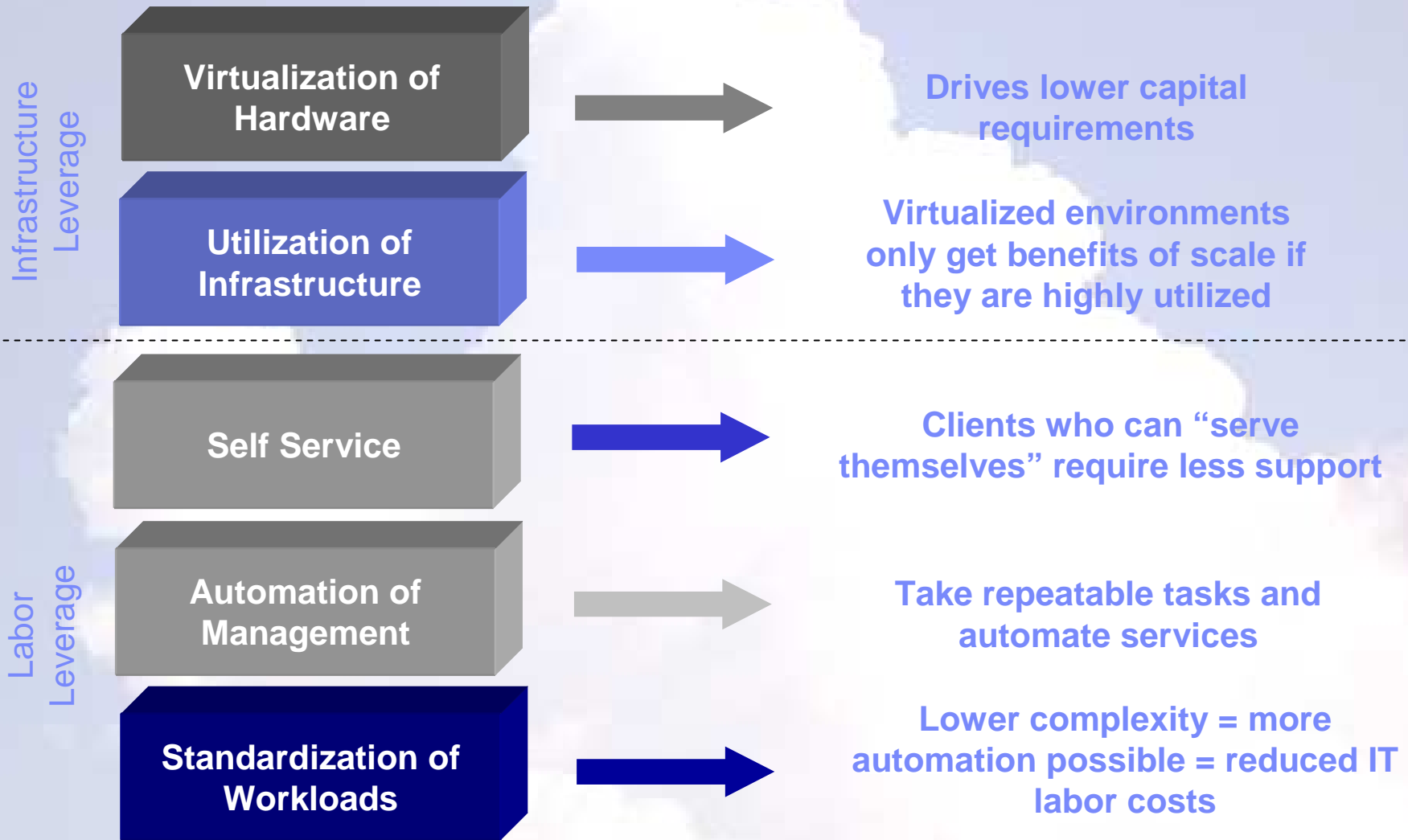
Cloud Computing is built on a Dynamic Infrastructure to meet today's challenges...highly optimized to achieve more with less....



...leveraging virtualization, standardization and automation to free up operational budget for new investments.

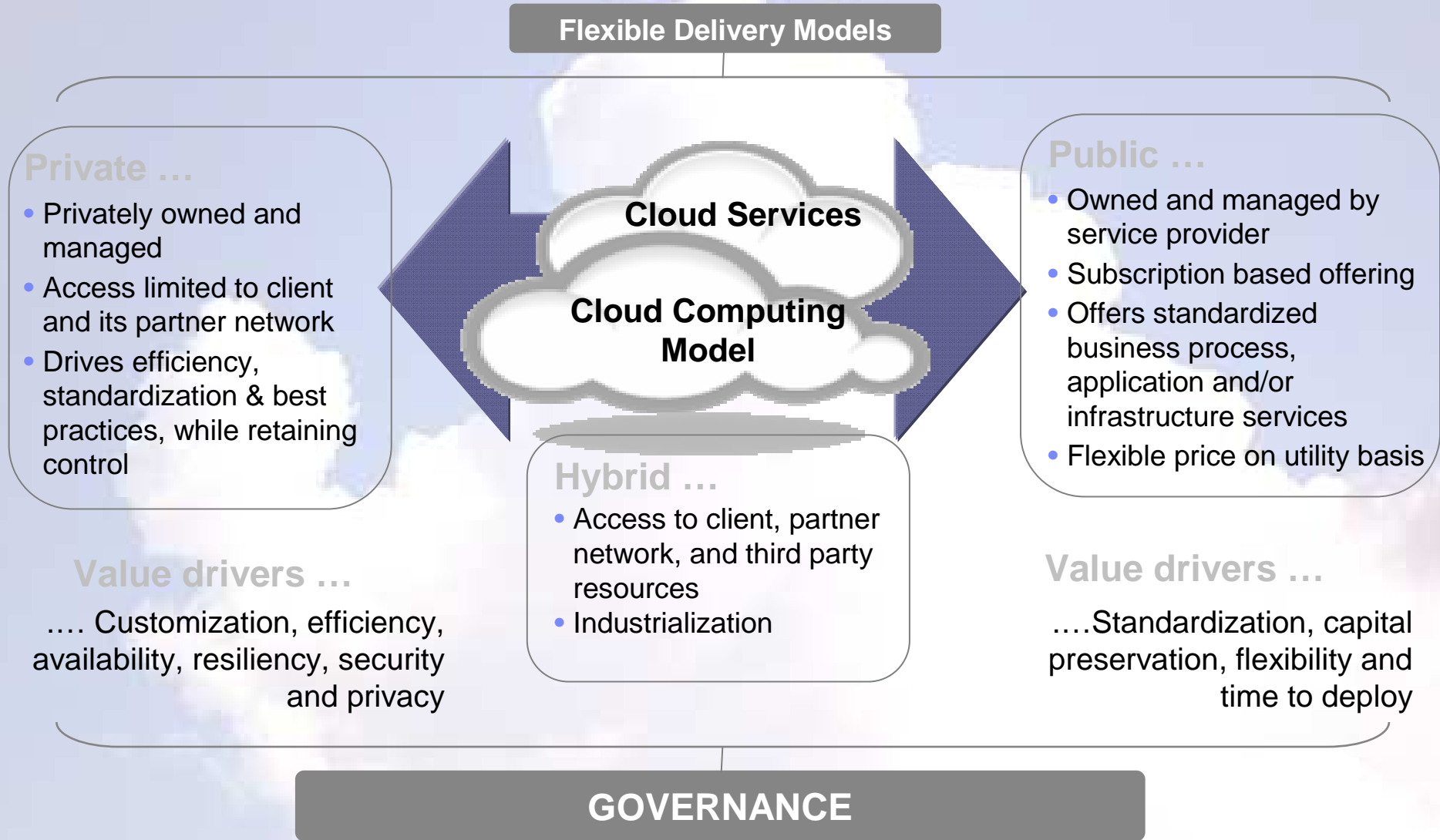


# Economics is also a major factor driving cloud computing adoption



It's time to start thinking differently  
about delivery models.

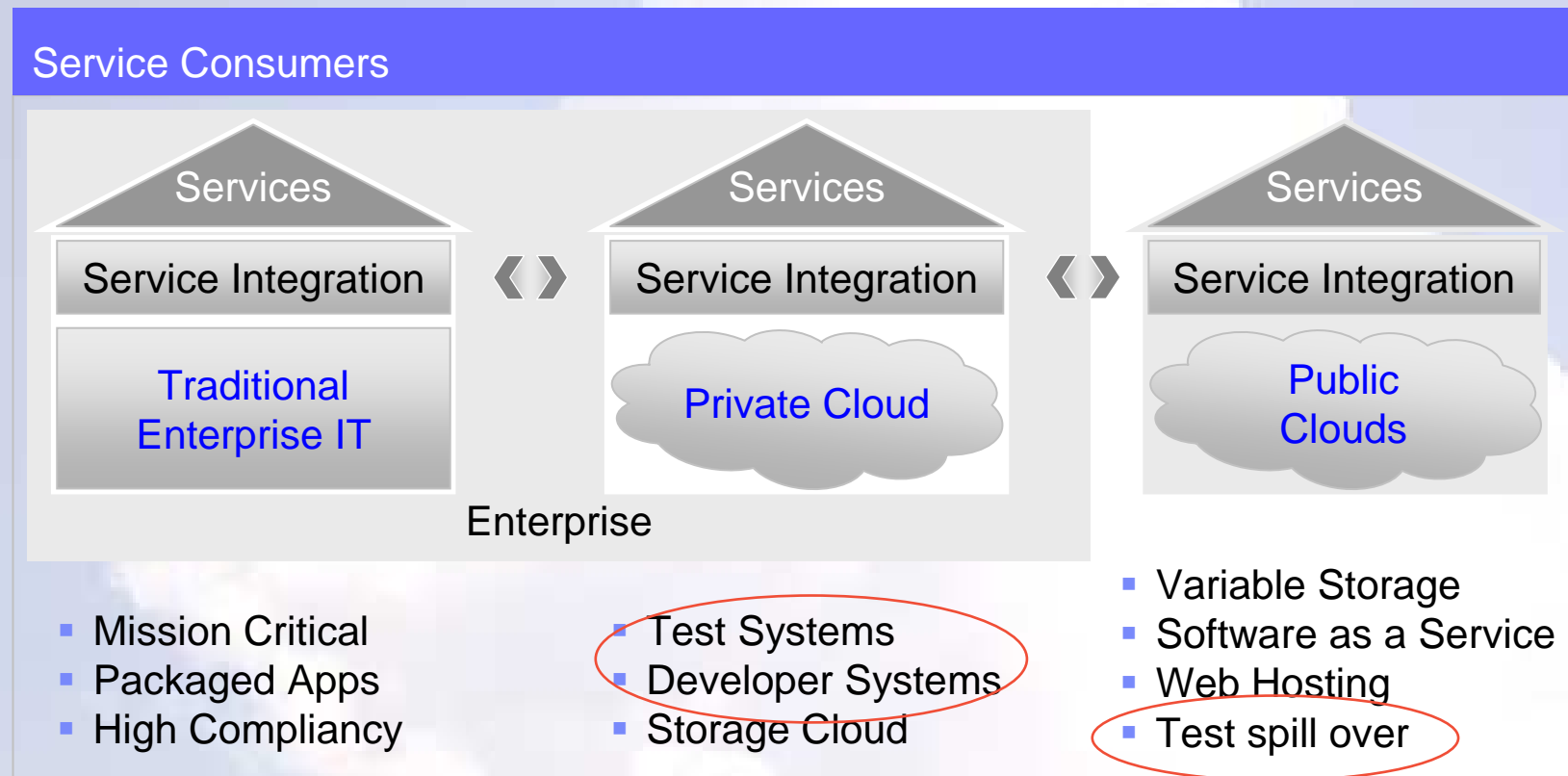
# Cloud provides news consumption and delivery models for greater business flexibility



# In the future: Three co-existing delivery models

Over time, IT workloads will move to Cloud delivery models as applicable for the client.

## Examples:



It's time to start thinking smarter...  
making new choices

# IBM has invested to help customers achieve insight, innovation and breakthrough solutions

## IBM transformation

- 155 data centers to five
- 16,000 applications to 4,500
- \$1.5 Billion savings
- Technology Adoption Program “TAP cloud” for 110,000 employees

## “Project Blue Cloud”

- Hundreds of client engagements
- 20 Cloud centers
- Proof-of-concepts
- IBM Research/ Client collaborations

## Academic Alliance

- Global collaboration
- 27 Universities
- 800+ students
- NSF grants to 14 schools



iTricity  
Netherlands



Wuxi  
China



VNTT  
Vietnam



NedBank  
South Africa



Carnegie Mellon  
Qatar - Middle East

**Client Success Stories:** <http://www.youtube.com/ibmcloud>

# IBM's new cloud delivery models for greater efficiency, productivity and control

	Analytics	Collaboration	Development and Test	Desktop and Devices	Infrastructure (compute / storage)	Business Services
<b>Smart Business on the IBM Cloud</b> Standardized services on the IBM Cloud		Lotus Live	Rational Smart Business Development & Test on the IBM Cloud	Smart Business Desktop on the IBM Cloud	Information Protection Services; Computing on Demand	
<b>Smart Business Cloud</b> Private cloud services, behind your firewall, built and/or managed by IBM	Smart Analytics System Powered by Infosphere		Smart Business Test Cloud	Smart Business Desktop Cloud	Scale out File Services	
<b>Smart Business Systems</b> Pre-integrated, workload optimized systems	Smart Analytics Accelerator Powered by Infosphere		IBM CloudBurst w/Quickstart Svcs		IBM CloudBurst w/Quickstart Svcs	Smart Business for SMB (backed by the IBM cloud)

Announced on Jun 16, 2009

Available
 Future

# Why cloud is important to development and test

**30% to 50% of all servers within a typical IT environment are dedicated to test**

**Most test servers run at less than 10% utilization, if they are running at all!**

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

***Silos of people,  
process, and projects***

## Complex Infrastructure

- Lengthy on-boarding
- Acquiring, installing, configuring and managing environments

## High Costs

- Low utilization rates
- Cost inefficiencies
- Poor LOB oversight

## Chaos

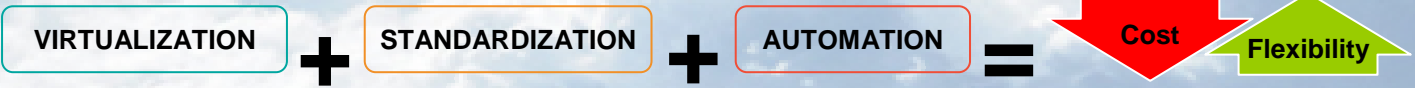
- Weak project governance
- Lack of domain expertise
- Inflexible tooling integration
- Incompatible tools / repositories



# IBM Rational Software Delivery Services for Cloud Computing

Optimize investments → Lower costs with dynamic provisioning → Enabling IBM agility@scale → Collaboration & governance in cloud delivery

**Rational** software BETA 700+ registered users  
 IBM Smart Business Dev & Test on the IBM Cloud  
 IBM Rational Software Delivery for the Cloud  
 Rational Beta Kickoff 5 Clients



**IBM** Strategy & Change Consulting for Cloud  
 Testing Services for Cloud  
**Global Business Services**

**IBM** IBM Smart Business  
 Test Cloud Services  
**Global Technology Services**

An evolution of *Jazz*™ in the Cloud

Software Delivery Processes



# Comprehensive services providing everything needed to develop and test in a public or private cloud

## IBM Rational Software Delivery Services

- Agile Development Services to enable collaborative development and test
- An integrated set of services for Test Management, Test Planning, Test lab management
- Automation Services to automate the deployment of software delivery in the Cloud
- Tools to help develop for the cloud
- Best practices for developing software for the cloud

## Tivoli services for infrastructure management

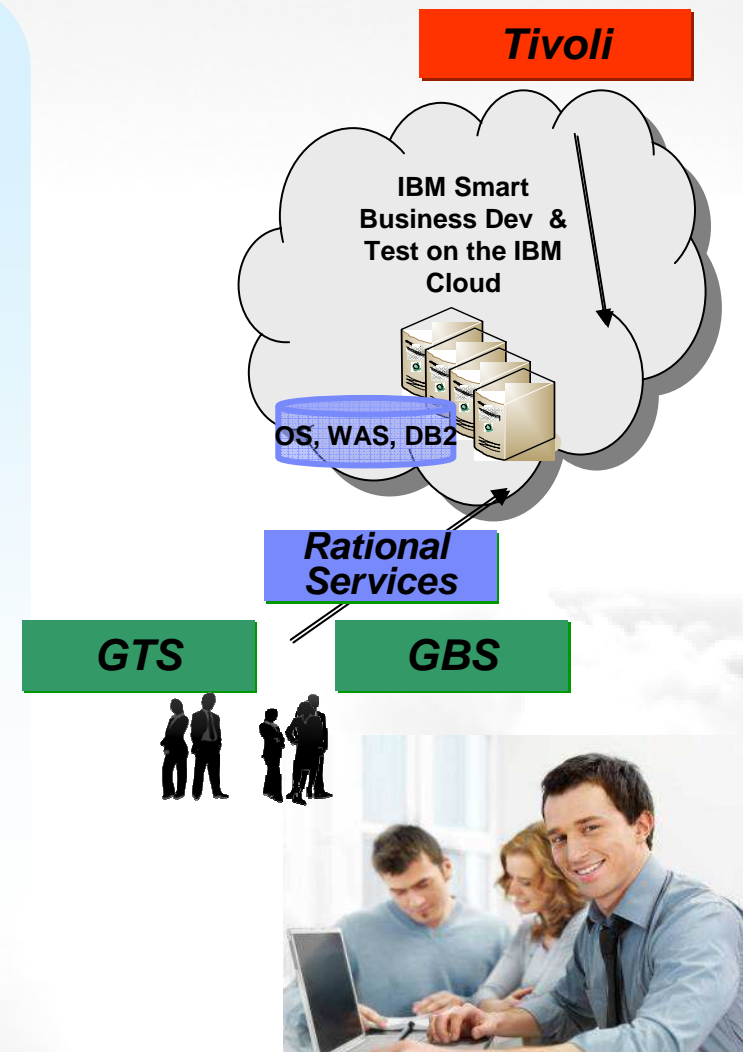
- Manage OS, hardware, app servers, databases, portals

## GTS Private Test Cloud Implementation Services

- Best Practices, Configure Tools, Scripts

## GBS Test Consulting Services

- Design and execute testing programs



# Cloud Benefits for Software Delivery Process

## Real improvements from customer implementations

Capability	From		To
Server/Storage Utilization	10-20%	<p><i>Cloud accelerates business value across a wide variety of domains.</i></p>	70-90%
Self service	None		Unlimited
Test Provisioning	Weeks		Minutes
Change Management	Months		Days/Hours
Release Management	Weeks		Minutes
Metering/Billing	Fixed cost model		Term/value based
Payback period for new services	Years		Months

Legacy environments

Cloud enabled enterprise



# Delivering unmatched value for software delivery in the cloud

**Rational** software

**IBM Rational Software Delivery Services for Cloud Computing**

**BETA**



**Tivoli** software

**Rational** software

**Service Lifecycle Management Integrations**

**IBM Global Technology Services**

**IBM Smart Business Test Cloud**

**IBM Global Business Services**

**IBM Strategy and Change Services for Cloud Adoption  
IBM Testing Services for Cloud**

**Rational** software

**New Enterprise Architecture capabilities**

**Rational** software

**New C/ALM & Quality Management capabilities**

**Rational** software

**New Rational capabilities for System z**

**IBM**

**IBM Smart Business Develop and Test on the IBM Cloud**

**BETA**

*Rational Software Delivery Platform*



## Resources

- [www.ibm.com/ibm/cloud/](http://www.ibm.com/ibm/cloud/)
- [www.ibm.com/systems/information\\_infrastructure/resources/cloud/](http://www.ibm.com/systems/information_infrastructure/resources/cloud/)
- [www.ibm.com/developerworks/offers/techbriefings/details/cloudcomputing.html](http://www.ibm.com/developerworks/offers/techbriefings/details/cloudcomputing.html)
- [www.ibm.com/developerworks/spaces/cloud](http://www.ibm.com/developerworks/spaces/cloud)



Leverage the cloud  
to transform software delivery

# Questions



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