Five Cloud Essentials for the Boardroom Optimizers, Innovators & Disruptors

What Today's Executives Need To Know About Cloud Computing

David Zimmerman
Global Solutions Executive, WW Cloud Leader
IBM Banking and Financial Markets
davidzim@us.ibm.com

Alonso Perez-Luna
Cloud Leader
IBM Spanish South America
perezl@pe.ibm.com

© 2014 IBM Corporation

Key Takeaways:

1. Complexity is Multiplying. Bankers need agility. Skilled non-bank competitors are moving very fast to leapfrog traditional players, thanks in part to IBM's Cloud + Security assets & accelerators. Banks must move much faster.
2. What You Need to Know: Cloud is driving business-model transformation, not just cost savings.
3. 30,000 worldwide clients, including 24 of the top 25 Fortune 500 organizations, are relying on IBM Cloud via a network of 40* global cloud delivery centers.
4. Advanced threat protection Security *Intelligence* is Important: IBM daily monitors 15 Billion security events daily in 130+ countries protecting people, data, applications and infrastructure.
5. Regulatory & Cloud: Today, Cloud is supporting many banks' regulatory-driven workloads.

*year-end 2014

© 2014 IBM Corporation

Five Cloud Essentials for the Boardroom

Cloud is “computing as a service over the internet”

1. Why Cloud?

2. Cloud hype vs. Cloud realities?

3. Cloud “feels” like IT plumbing, very tactical. . .
   - Impact on my overall strategy?

4. What about Cloud security, risks and “hidden costs”?

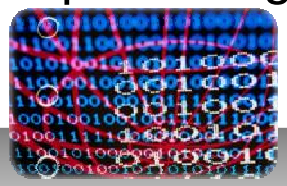
5. Cloud economics: What’s the business case for Cloud?

Five Executives discuss Cloud’s disruptive leapfrogging…Click:
http://www.youtube.com/watch?v=CD_elWBD1Zk

© 2014 IBM Corporation

1.Why Cloud? It's a Growth Engine for Business

Innovate while managing rapid change



80%
of new applications will be developed with Cloud characteristics

Smarter Physical Assets

Physical assets with IT intelligence

200 Billion

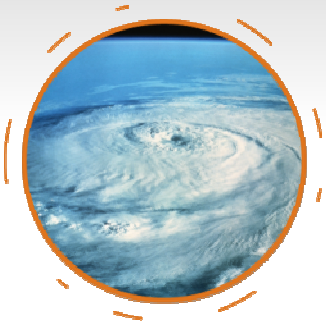
Boundless Infrastructures

25+
average # of mobility applications to be deployed by CIOs in next 2 years

Consumers will have SmartPhones

1.2 Billion

Unpredictable Data Flows



of IT traffic will be Cloud-based

67%

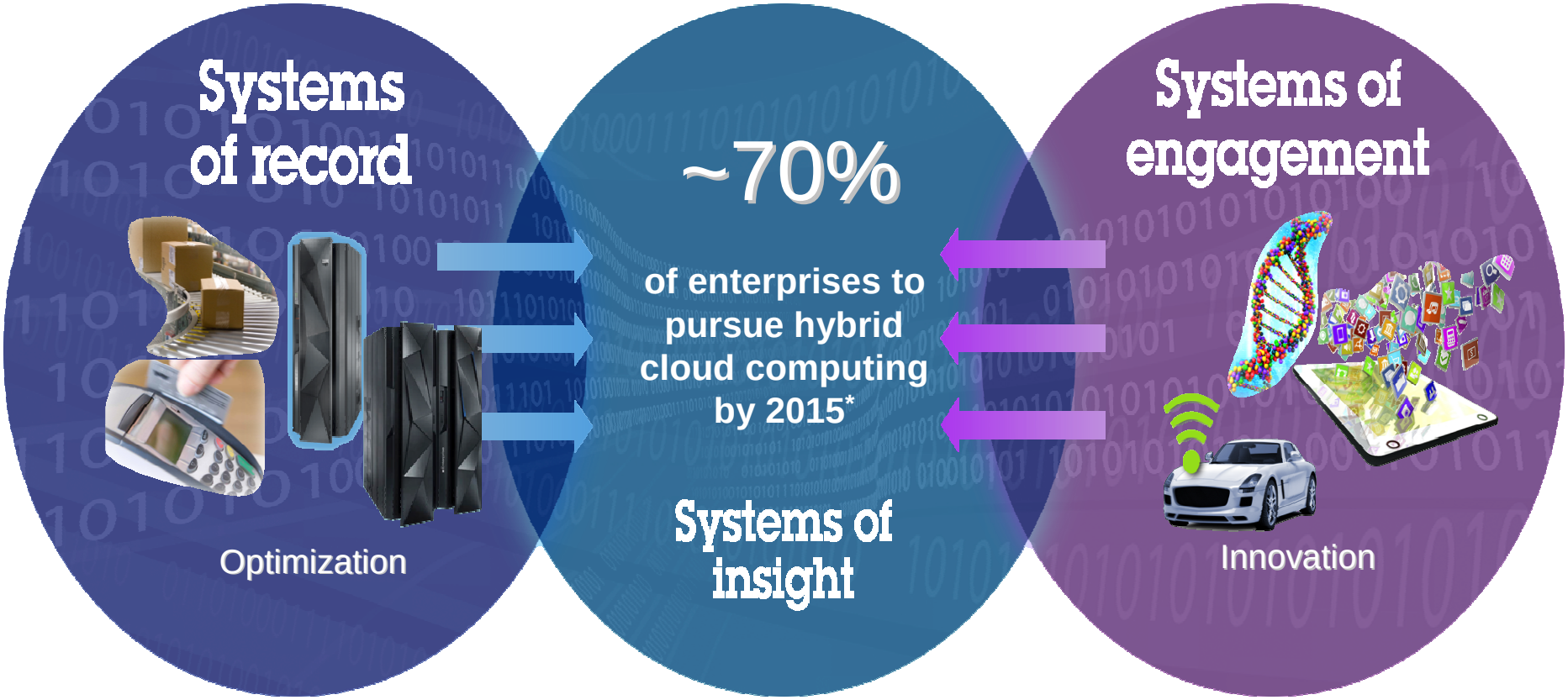
Expanding risk & cost

. . .Millions

Cloud computing provides the foundation to effectively manage hybrid technologies

© 2014 IBM Corporation

Why Cloud? New models of product & service innovation emerging
Rapidly connect “old legacy” with “new” channels of revenue

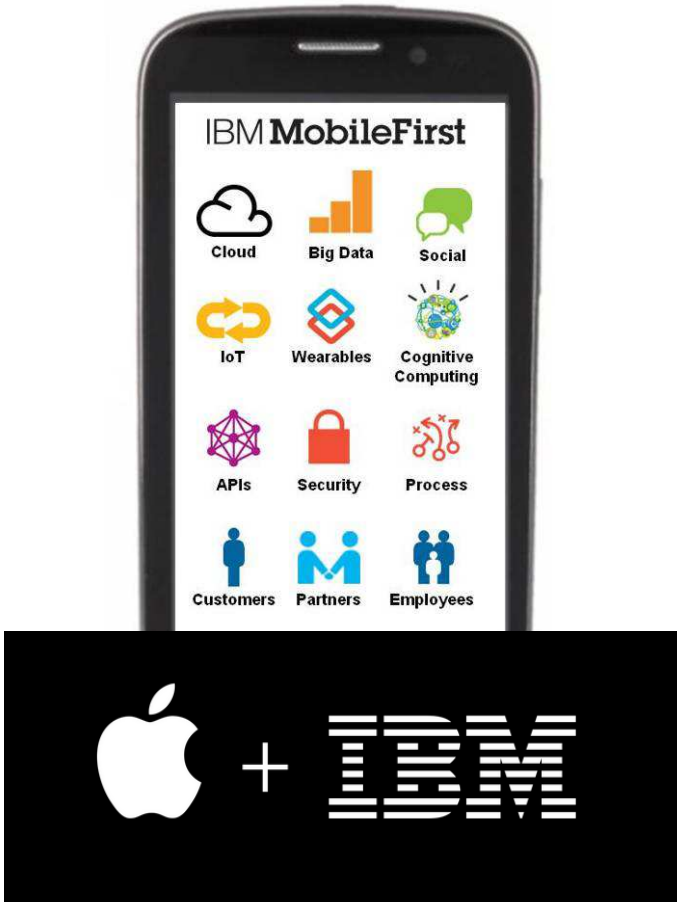


The highest value is derived when we bring the Systems of Record and Systems of Engagement data together to generate the insights

*Source: Gartner, p.6, Private Cloud Matures, Hybrid Cloud is Next, Gartner G00255302, Sept 6, 2013

© 2014 IBM Corporation

Why Cloud? Enabling The Next Generation of Enterprise Mobility



"Good design is good business."

THOMAS WATSON, Jr.

Cloud is driving business-model transformation

***More Innovation**:*
Develop new mobile enabled business models

More Experience:
Create more systems of engagement

***More Productivity**:*
Increase employee responsiveness and decision-making speed

***More Responsive**:*
Improve access and service levels

***More Revenue**:*
Increase revenue through sales engagements

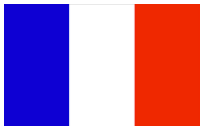
More Functionality:
Extend existing applications to mobile workers and customers

***More Cost Savings**:*
Reduce operating costs (e.g., mobile check deposit) as well as personnel costs (e.g, utilizing personal-owned instead of corporate-issued devices)

© 2014 IBM Corporation

Why IBM Cloud? Leapfrog the Competition
Illustrative Use Cases for Banking & Financial Markets

- Cloud for Growth & Innovation: *Braz*il's *Largest Credit Union System.* Problem*:* Managing rapid growth for 529 Credit Unions. Solution*:* Created a Private Cloud. Results: Grew 600% in mobile, 200% in internet, and 60% in in-branch transactions; Saved $1.5 million in annual electricity costs.



- Cloud Risk Management: *French Client*. Problem: Adapting to Regulatory & Compliance requirements. Solution: Client implemented IBM's Algo FIRST on Cloud, with easy access to 11,000+ operational risk loss events to support regulatory compliance improvements.

- Cloud Supply Chain Efficiency: *Swiss Investment Banking Client*. *Problem*: Needed to streamline & automate their sourcing, contracting, risk & compliance processes. Cloud Solution: IBM's Cloud-enabled Emptoris SaaS solution. Estimated savings: $159M.

- Cloud Desktop, Security & Business Continuity: *Japanese Client.* Problem*: risks in security and business continuity* if Asian Flu virus were to spread to pandemic levels. Cloud Solution: This 34,000-employee client deployed an IBM private cloud to centralize management of desktops via an enterprise-class data center rather than at the user stations, allowing for greater remote flexibility without sacrificing control.

- Cloud Payments Transformation. *US zEnterprise Client*. Problem: New Business initiative. Solution: Reinvents Business-to-Business financial transactions for small to midsized Global Corporate clients @ <10% the cost of traditional services.

- Cloud Web Fraud Prevention: Client with branches in Venezuela and other countries. Problem: Malware and Phishing attacks. Infected clients access. Solution: Trusteer endpoint cybercrime prevention. Cybercrime risk reduction. Protects 3 millon OnLineBanking clients.

© 2014 IBM Corporation

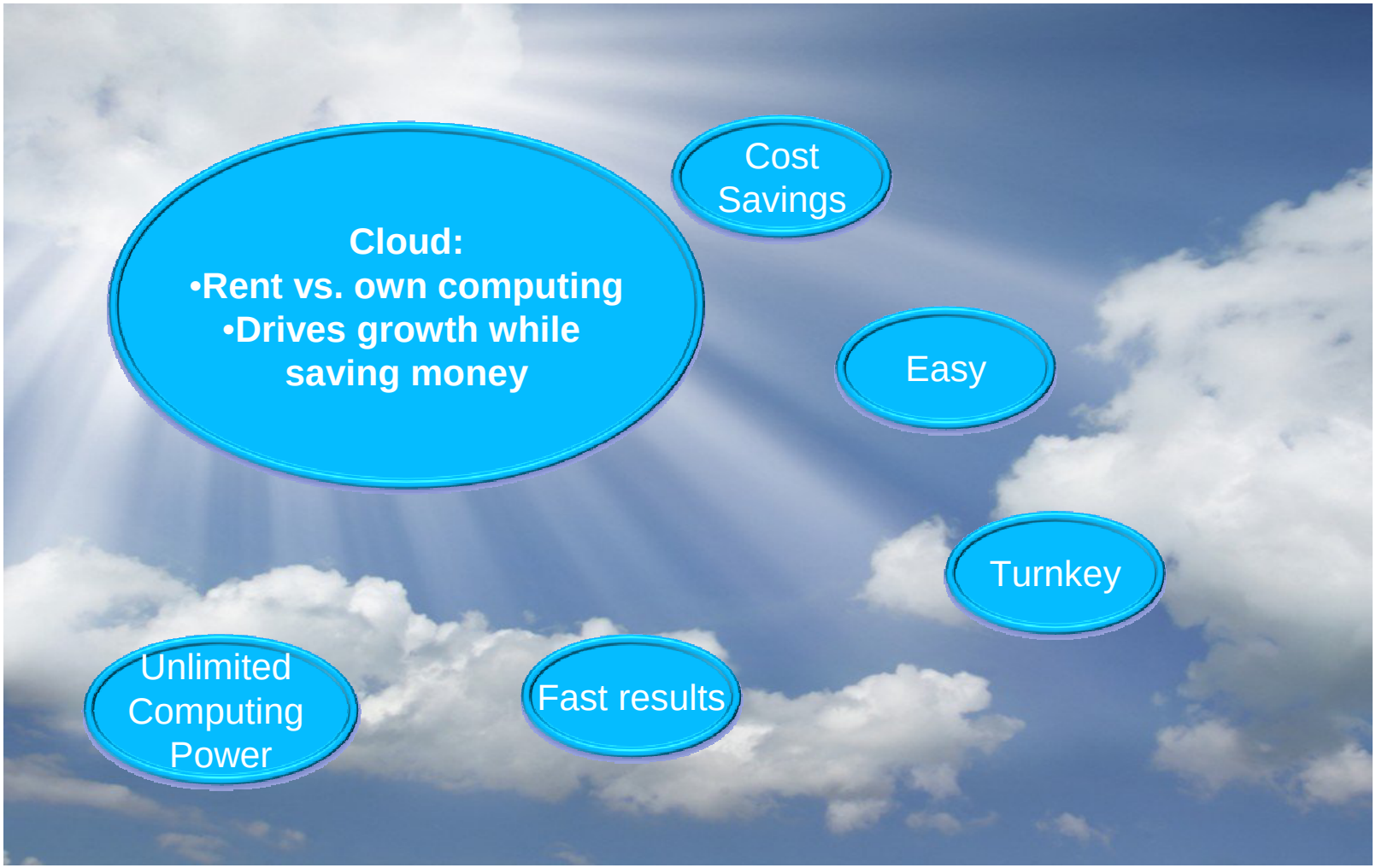
Why Cloud? Case Study: IBM's Internal Cloud Results

300,000+ IBMers rely on IBM Cloud to drive business-model transformation

Analytics	Collaboration	Develop/Test	Desktop	Storage	Product Support
Blue Insight	Social	Develop/ Test Cloud	Workplace Cloud	Storage Cloud	Production Cloud
• 300,000 users, 500 ported applications • Predictive modelling (SPSS) and data mgmt	• 85% of web conference minutes • > 275M meeting minutes in just six months. . .	• Server setup from 5 days to 1 hour • > 90% of new server reqs via this cloud • Expanded deployments & user base	• 2,000 users China Develop Lab • 200 user pilot SBDC on the IBM Cloud	• File storage cloud used by > 130K users & applications • Block storage cloud w/ automated tiering w/ 50% reduction $/GB	• Private instance up & running • First applications migrated and operating • Refining platform, expanding use
SaaS	SaaS	IaaS	IaaS	IaaS	IaaS

© 2014 IBM Corporation

2. “Hype” vs. realities: Common “hype” About Cloud Computing



. . . . . Can be true – IF you set it up that way

© 2014 IBM Corporation

Cloud realities: Cloud is already solving many of today's typical Enterprise challenges

- IT budgets have been frozen or reduced
- Higher operating costs for IT
- A large part of the IT budget is spent on maintaining existing equipment
- Assurance of service quality despite budget reductions

Costs

Agility and Flexibility

- Changes to processes require more flexible IT
- "IT-to-market" takes place at increasingly shorter intervals

Latin America Financial Services Client offers Corporate Customers access to 60,000 merchants servicing 3 million Prepaid "digital cash" cards.

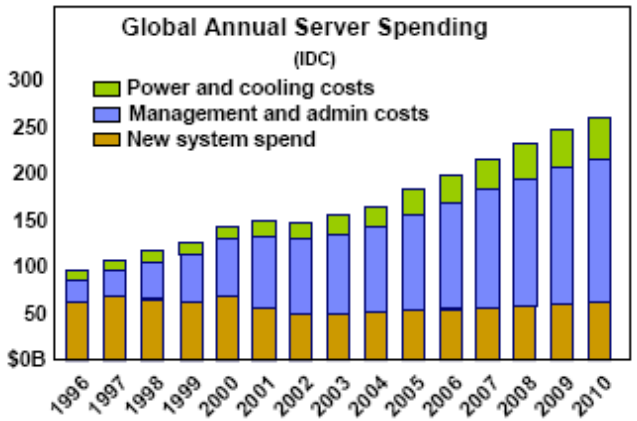
Problem: grow revenue, slash costs while servicing 200,000+ daily transactions.

Cloud Solution: Slashed operational costs -30% while supporting double-digit revenue growth.

10 weeks: The mean time to deliver a new (or expanded) IT Service from the time of request. Nearly 40% take more than 90 days

70% of IT budgets are Maintenance (vs. new)

2/3's of companies miss their original project/solution deployments



Uncontrolled management and energy costs

Steady CAPEX spend

© 2014 IBM Corporation

3. Cloud "feels" like IT plumbing, very tactical. Impact on my overall strategy?

Cloud's Six potentially "game-changing" business enablers

Business Scalability

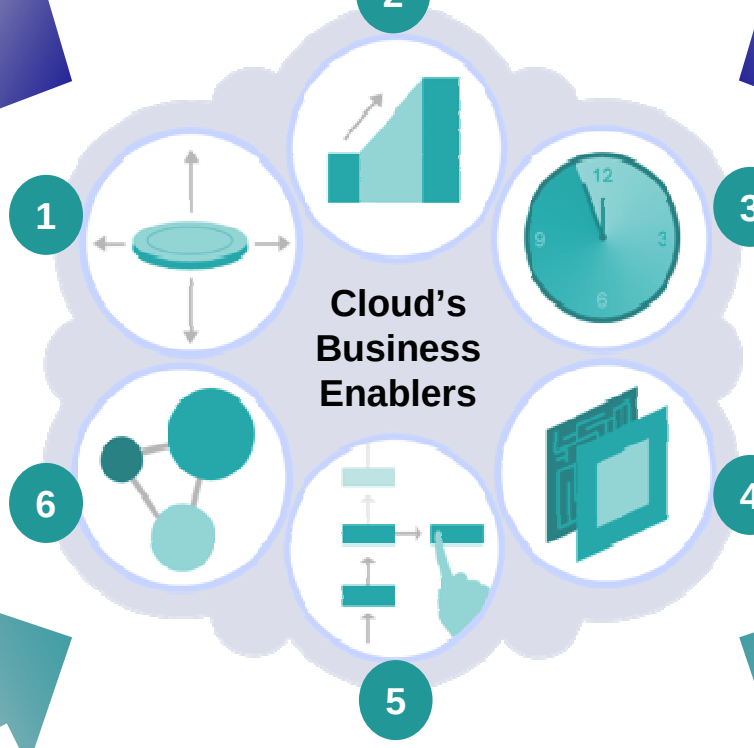
- Provides limitless, cost-effective computing capacity to support growth

Social Media

Hyper-connectivity

Cost Flexibility

- Shifts fixed to variable cost
- Pay as and when needed



Market Adaptability

- Faster time to market
- Quickly adapt to regulatory-driven changes
- Seasonal & special projects
- Rapid product, pricing and services innovation

Mobile Banking & Eco-system Connectivity

- New value nets
- Potential new businesses
- Enables rapid simulation and development

Simple Self Service

- Hides IT complexity

Mobility

Big Data

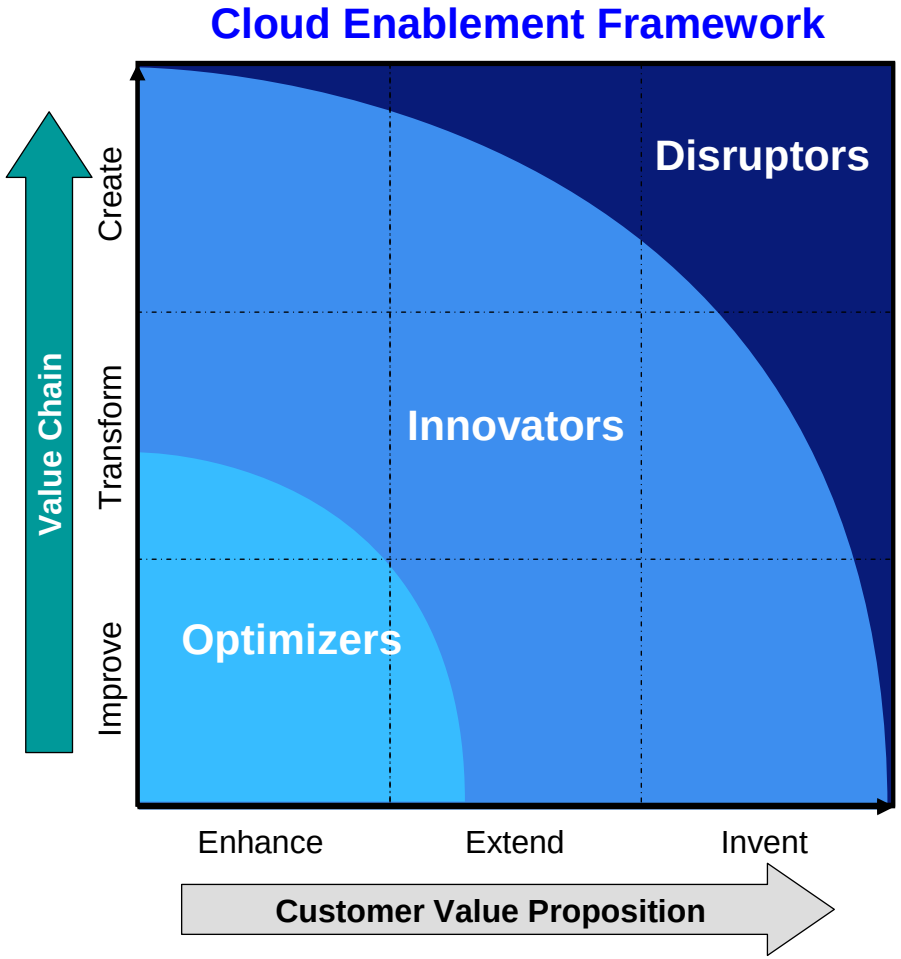
Context-driven Variability

- User-defined experiences
- Increases relevance

Source: IBV Analysis

© 2014 IBM Corporation

Cloud's Impact on my overall strategy?
Disruptive Leapfrogging: Cloud's Strategic Impact



1. Disruptors create radically different value propositions: Payments Cloud: 30K business customers. Daily: $2.8B in payments, 250K transactions.

2. Innovators significantly extend customer value proposition: New Mobile Banking provider implements Cloud plus 10,000 agents to accelerate growth.

3. Optimizers use the cloud to improve organizational efficiency: Cloud drives Bank's fast 6-month Return on Investment (ROI)

The Power of Cloud -- IBV PoV and Executive Report

© 2014 IBM Corporation

Cloud's Impact on my *Ecosystem* Strategy:

"Think like a Retailer. Act like a Manufacturer. Operate as One Bank. Integrate Risk"

Business Process as a Service — **Enabling business transformation**

- Smarter Commerce
- Smarter Workforce
- Smarter Analytics
- Watson Solutions

Software as a Service — **Marketplace of high value consumable business applications**

- Smarter Cities
- Software Solutions

Platform as a Service — **Composable and integrated application development platform**

- Bluemix

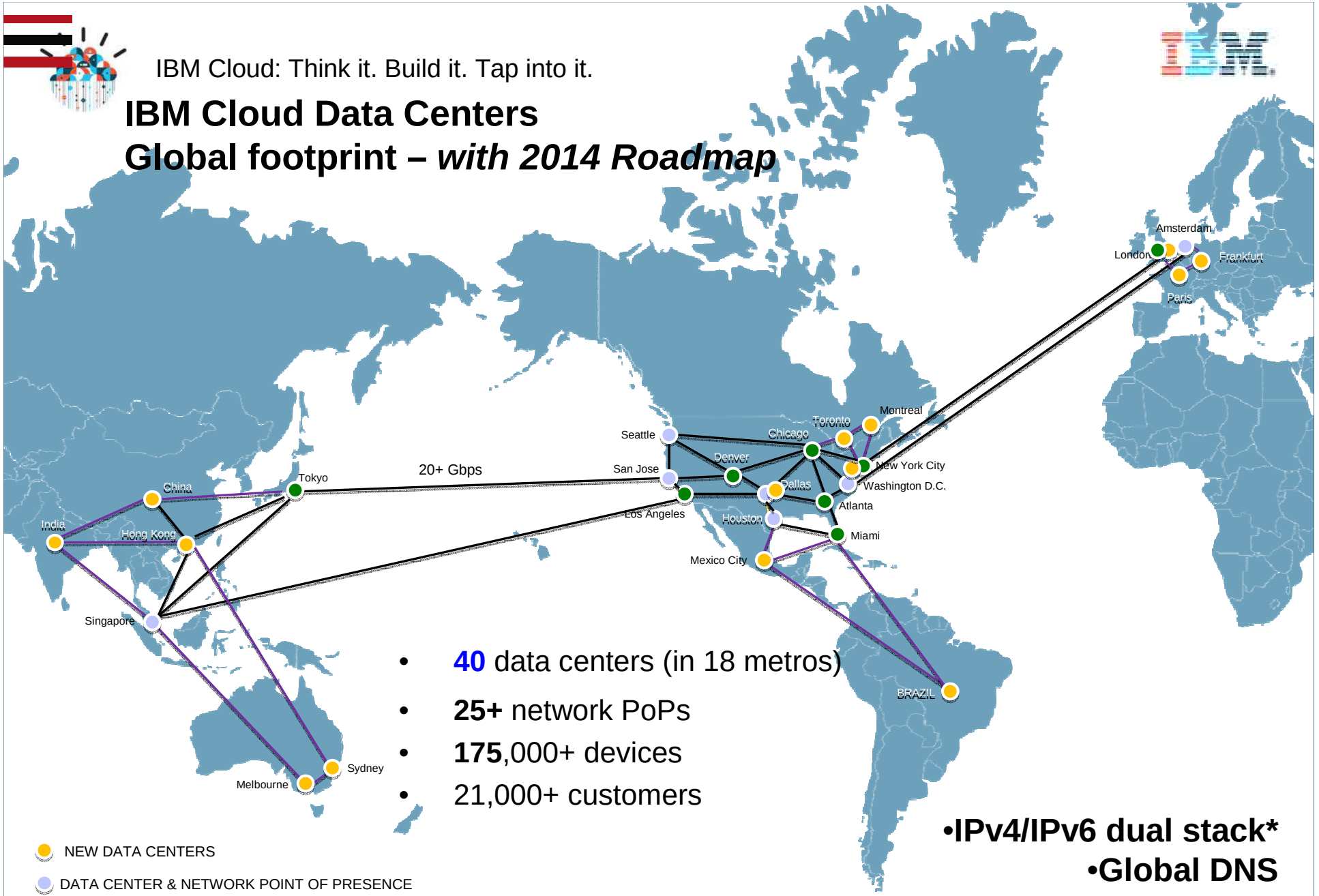
Infrastructure as a Service — **Enterprise class, optimized infrastructure**

- SOFTLAYER an IBM Company — Infrastructure Solutions
- Cloud Managed Services

Public. Private. Hybrid.

© 2014 IBM Corporation

IBM Cloud Data Centers
Global footprint – *with 2014 Roadmap*



- **40** data centers (in 18 metros)
- **25+** network PoPs
- **175**,000+ devices
- 21,000+ customers

NEW DATA CENTERS

DATA CENTER & NETWORK POINT OF PRESENCE

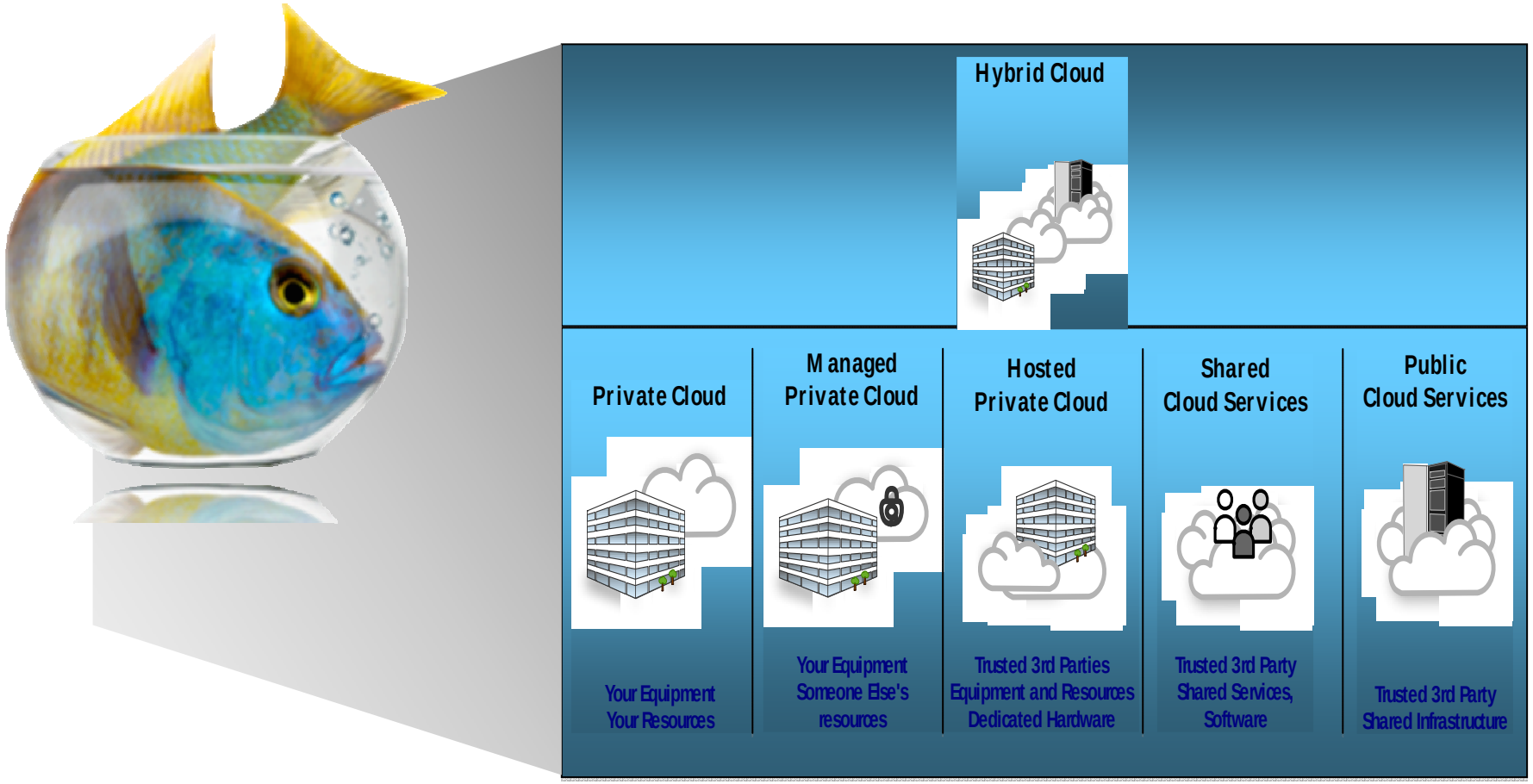
NETWORK POINT OF PRESENCE Only

•IPv4/IPv6 dual stack*
•Global DNS
•Global DDOS Mitigation
•Global Internet Exchanges & Peering

© 2014 IBM Corporation

4. What are Cloud's risks and "hidden costs"?

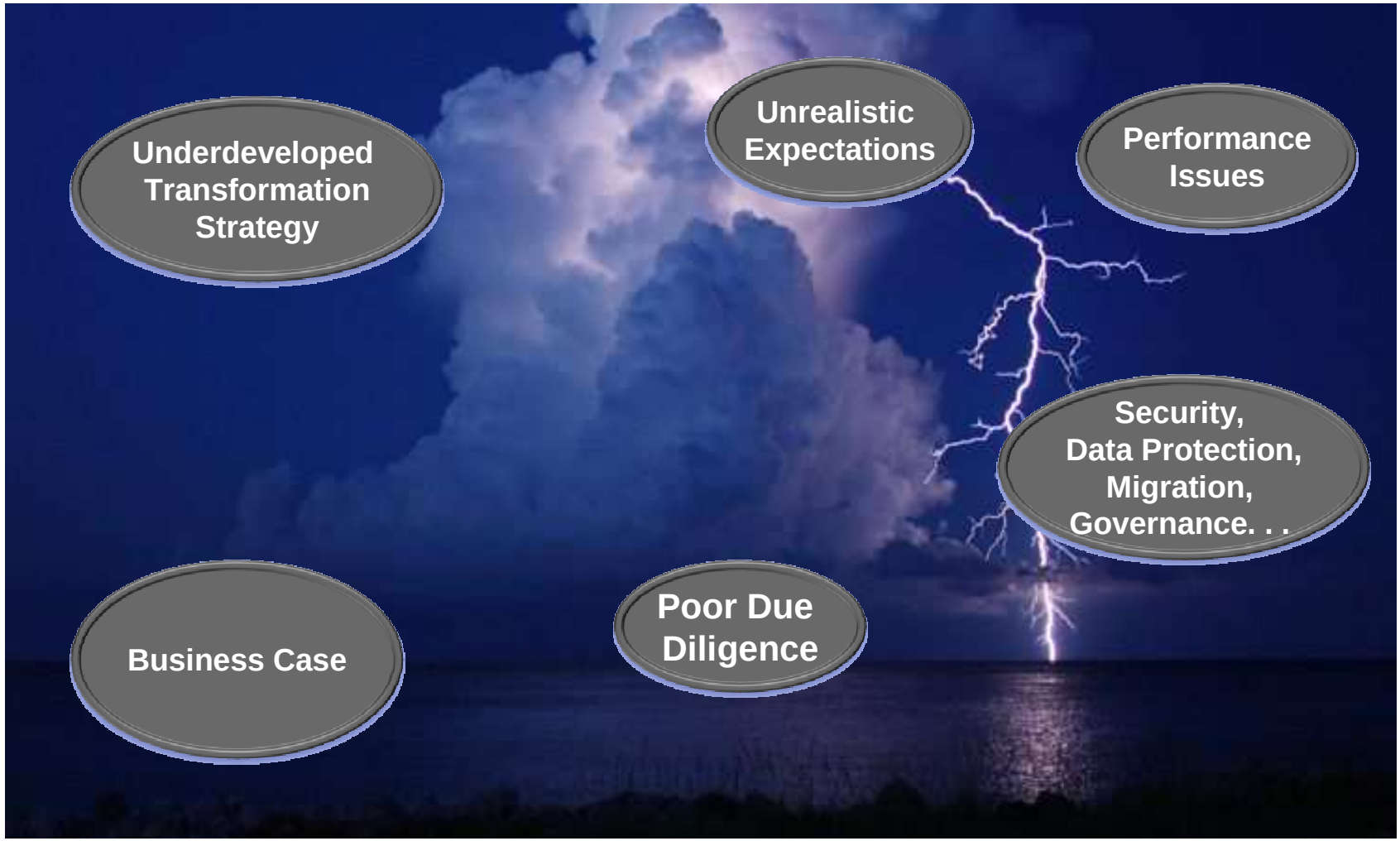
. . .For starters. . .one size does not fit all. . .



Key Takeaway: Cloud Service Level Agreements (SLA's) are very important. SLA's record a common understanding about services, availability, security, privacy, governance, data protection, disaster recovery, workloads, audit, priorities, responsibilities, exit strategies, etc.

© 2014 IBM Corporation

Cloud risks and “hidden costs”: Projects can fail for many reasons



. . . . . How do I mitigate Cloud risks?

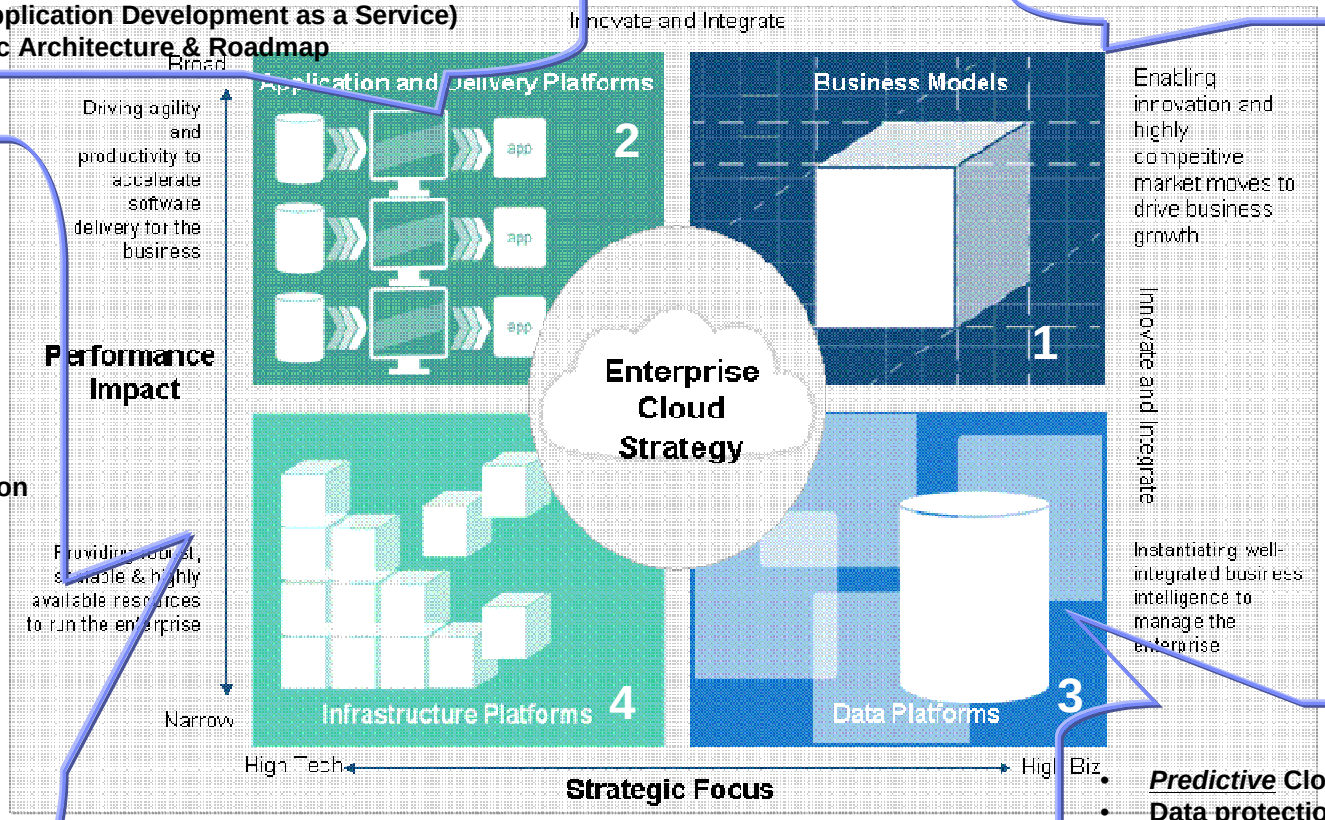
© 2014 IBM Corporation

Cloud's risks and "hidden costs"? Cloud Strategy is Important

The "right" Cloud Strategy drives your cloud transformation roadmap

- **Brutal Efficiency**
- **Testing & Development Services for Cloud**
- **Mobile Innovation in the Cloud**
- **Cloud Application Modernization**
- **ADaaS (Application Development as a Service)**
- **API Centric Architecture & Roadmap**

- **Profitable Growth**
- **Cloud business-model ecosystem: customers, partners, suppliers. . .**
- **Governance, Organization and Service impact of cloud**

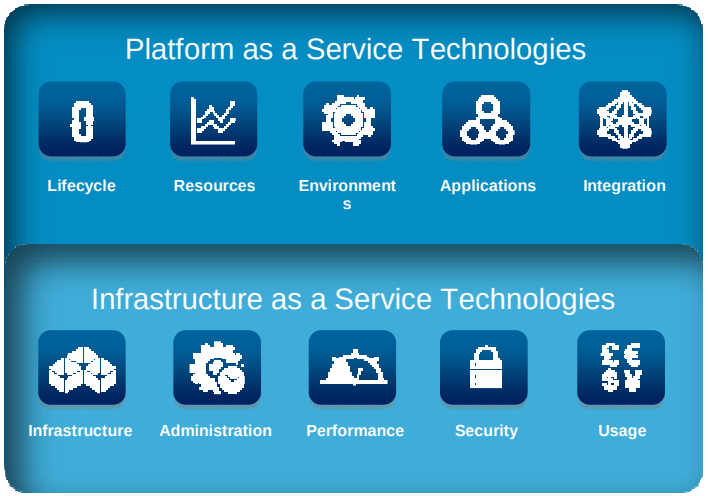


- **Roadmap**
- **Cloud Infrastructure Strategy and Design**
- **Workload Transformation Analysis**
- **Network Application and Infra Optimization for Cloud**
- **Security Assessment**
- **Security Roadmap**
- **Resiliency Planning**
- **Migration Services**
- **Private Cloud Implementation Services**

- ***Predictive* Cloud-enabled Analytics**
- **Data protection & Privacy**
- **Cloud disaster back-up & recovery**

© 2014 IBM Corporation

Cloud risks and "hidden costs"?: Architecture is Important



openstack™

Get it right, the first time. Cloud Architecture is Important:
IBM joins the launch of OpenStack and Cloud Foundry

CLOUD FOUNDRY™

Objectives

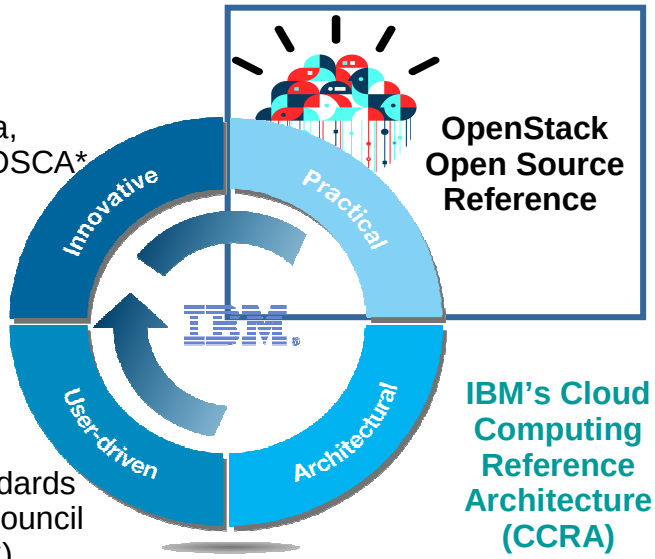
Contribute to open source projects and provide resources to help shape and promote the organization

Continues IBM strategy to **leverage standards** (LinkedData, CCRA, TOSCA, etc.) that accelerate clients' success with cloud

Work with 180 companies to focus the industry around an ubiquitous Infrastructure as a Service (IaaS) **open source cloud computing platform** for public and private clouds

Develop and sustain a **vibrant, innovative ecosystem** and become a platform of choice to build upon

LinkedData, OSLC*, TOSCA*



OpenStack Open Source Reference

IBM's Cloud Computing Reference Architecture (CCRA)

Cloud Standards Customer Council (CSCC)

IBM's Ecosystem approach to standards

* Open Services for Lifecycle Collaboration; Topology and Orchestration Specification for Cloud Applications

© 2014 IBM Corporation

Cloud Risks and "hidden costs"? Security is Important

61% of organizations say

Data theft and cybercrime are the greatest threats to their reputation

2012 IBM Global Reputational Risk & IT Study

Average U.S. breach cost

$5.9 million+

2014 Cost of Data Breach study
Ponemon Institute

70% of security execs are concerned about **cloud and mobile security**

2013 IBM CISO Survey

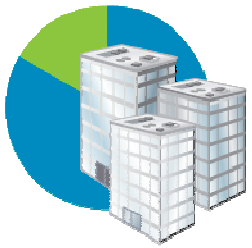
Mobile malware grew

614%

in one year

from March 2012 to March 2013

2013 Juniper Mobile Threat Report



83% of enterprises have difficulty finding the security skills they need

2012 ESG Research

85 tools from

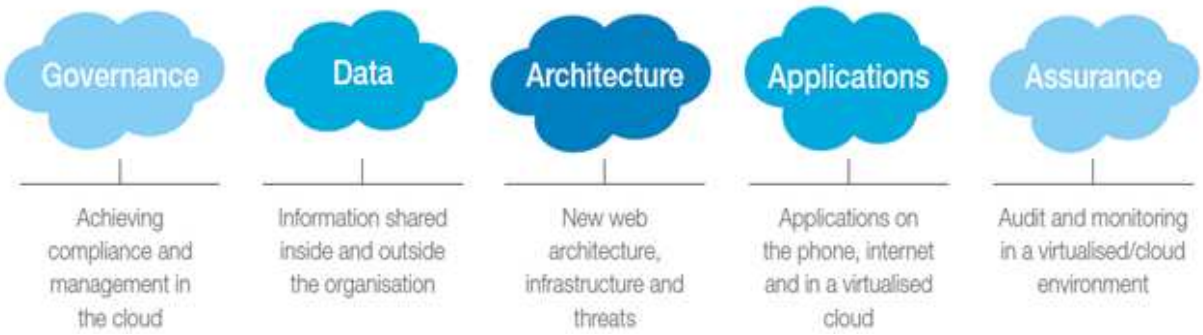
45 vendors

IBM client example

© 2014 IBM Corporation

What You Need to Know:
Advanced threat protection Security *Intelligence* is Important

- Define a cloud strategy with security in mind
  - Identify the different workloads and how they need to interact.
  - Which models are appropriate based on their security and trust requirements and the systems they need to interface to?
- Identify the security measures needed
  - Using a methodology such as the IBM Security Framework allows teams to measure what is needed in areas such as governance, architecture, applications and assurance.
- Enabling security for the cloud
  - Define the upfront set of assurance measures that must be taken.
  - Assess that the applications, infrastructure and other elements meet the security requirements, as well as operational security measures.



© 2014 IBM Corporation

Security *Intelligence* Must Be Integrated: 5 key takeaways

1 Smarter Prevention

Trusteer Apex Endpoint Malware Protection

NEW ***Java Lockdown Protection - granular control of untrusted code, cloud-based file inspection, and QRadar integration***

IBM Security Network Protection XGS

NEW ***Advanced Threat Quarantine integration from QRadar and third-party products, inclusion of Trusteer intelligence into XGS***

2 Security Intelligence

IBM Security QRadar Security Intelligence

NEW ***Data Node appliance, new flow and event APIs, and vulnerability management improvements***

Threat Monitoring and Intelligence Services

NEW ***Managed SIEM enhancements, new cyber threat intelligence***

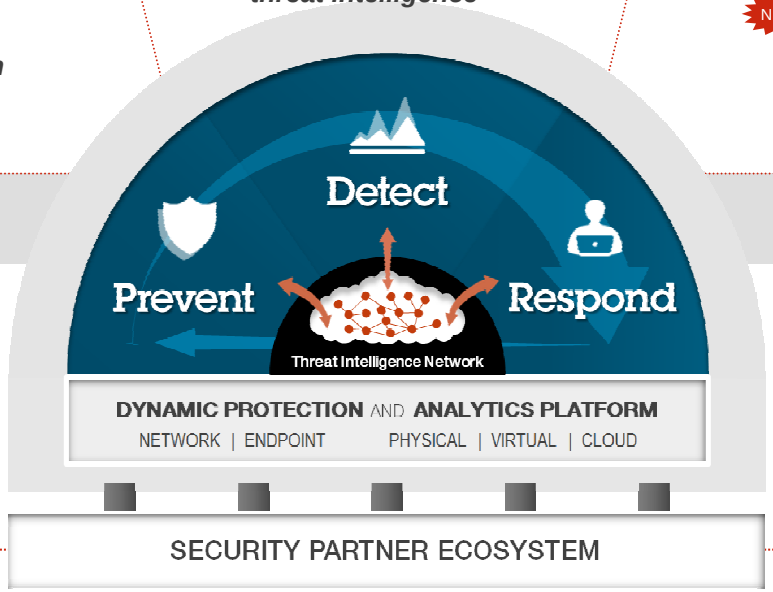
3 Continuous Response

IBM Security QRadar Incident Forensics

NEW ***Integrated forensics module with full packet search and visual reconstruction of threat actor relationships***

IBM Emergency Response Services

NEW ***Increased global coverage and expertise related to malware analysis and forensics***



5 Open Integrations

Ready for IBM Security Intelligence Ecosystem

NEW ***New functionality from partners including FireEye, TrendMicro, Damballa and other protection vendors***

4 Global Threat Intelligence

IBM X-Force Threat Intelligence

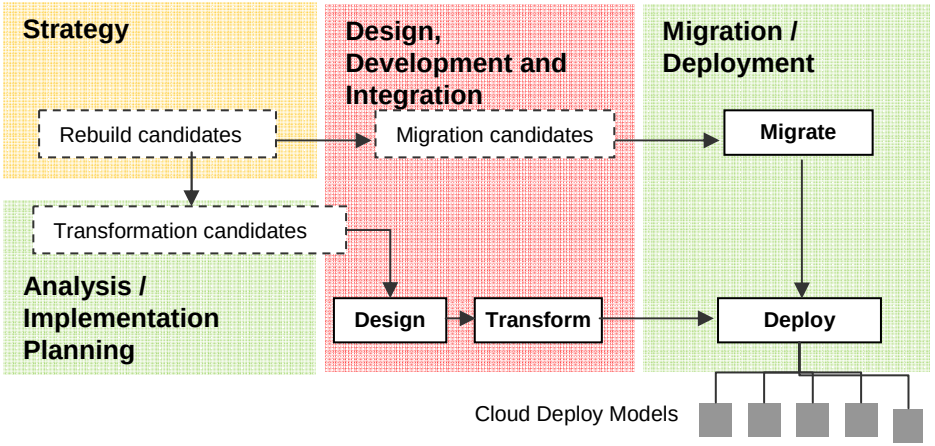
NEW ***New virtual real-time sharing of Trusteer threat intelligence from 100M+ endpoints with X-Force***

© 2014 IBM Corporation

Cloud risks and “hidden costs”?: Migration & Applications are Important

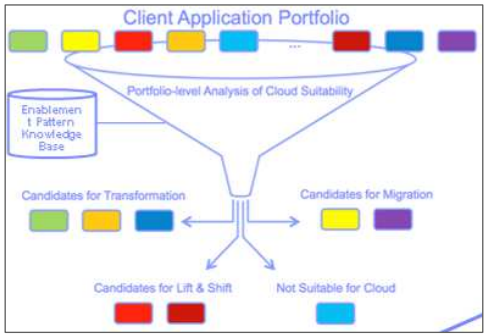
Cloud Application Modernization requires a factory model for migration/modernization of applications to Cloud. . .

Step 1: How to get there

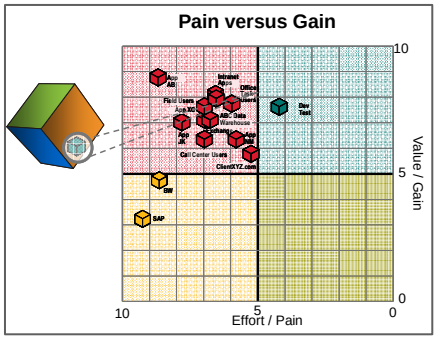


Step 2: Tools

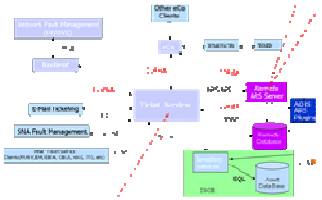
Cloud Transformation Tool



Workload Analysis Tool



Step 3: Tool Output

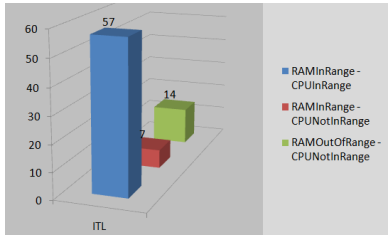


1. N-Tier loosely coupled architecture
2. Open standards based (JEE)
3. WebServices with SOAP protocols
4. Data communications through standard protocols (JDBC/ODBC)
5. Remedy latest version capable of running on Cloud / Virtualized Platform

Acronym	Linux	SunSolaris	Windows	Grand Total
ITL	52	26	9	87

	CPUInRange	CPUNotInRange	Grand Total
ITL	57	21	78

	RAMInRange	RAMOutOfRange	Grand Total
ITL	64	14	78

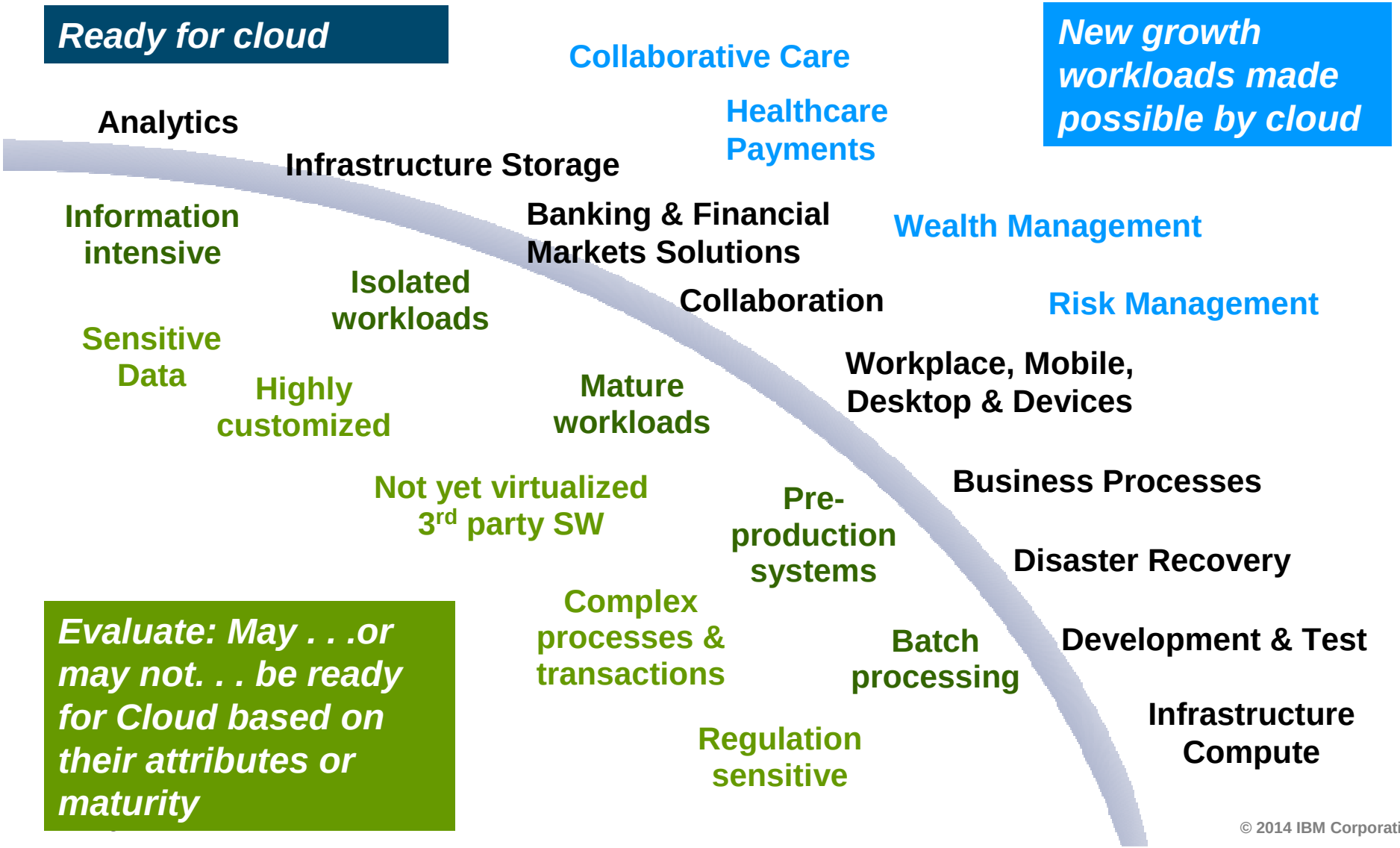


- An analytical & tool-based approach to decide on “cloudability” and API”s for modernization of applications.
- US Client ($170 Billion in assets). Problem: Relationship managers needed fast, easy access to accurate, enterprise information to better service their customers. Solution: Implemented IBM WebSphere®Cast Iron®Cloud Integration software. This helps client rapidly connect its legacy back-office enterprise applications and shared services to the cloud. Methods, processes and tools - allowing the scale of mass migration

© 2014 IBM Corporation

Cloud risks and “hidden costs”?: Workload is Important

Key Takeaway: Not all workloads may be suited for Cloud



© 2014 IBM Corporation

5. Cloud Economics: What's the Business* Case for Cloud?

Cloud is growing in strategic importance. These leading organizations:

- Are realizing 1.9x higher revenue growth and 2.4x higher gross profit growth
- **170% more likely to use analytics extensively via cloud to derive insights for better business decisions.**
- **136% more likely to use cloud to reinvent customer relationships.**
- **117% more likely to use cloud to enable data-driven decisions**
- **79% more likely to rely on cloud to locate and leverage expertise anywhere in the ecosystem for deeper collaboration**
- **74% more likely to use cloud to improve integration between IT development and operations (DevOps)**
- **66% are using cloud to strengthen the relationship between IT and lines of business and the majority are using cloud to integrate and apply mobile, social, analytics and big data technologies**

*IBM Center for Applied Insights surveyed of 802 cloud decision makers and users. **This survey of revealed that the cloud's strategic importance to decision-makers, such as CEOs, CMOs, finance, HR and procurement executives, is poised to double from 34 percent to 72 percent** – vaulting over their IT counterparts at 58 percent.

© 2014 IBM Corporation

Cloud Economics: Board-level Considerations

Pros:

- **Growth: How to reduce time to market for new products, services & segments. . .while *also* reducing Cost/Income ratio?**
- **Efficiency: How to reduce IT maintenance costs (~70% of total IT spend) while accelerating new solution development results?**
  - How to reduce infrastructure duplication?
  - How to simplify products and processes?
- **Resilience: How to build an evolutionary architectural framework that induces control and supports growth over the next ten years?**
- **Regulation: How to efficiently adapt to regulatory-driven change?**
- **Mobile & "Big Data" Analytics Innovation: How to differentiate? How to create a customer-centric view?**

Cons:

- **Lack of Compelling Event**
  - More pressing uses of capital
- **Difficult Business case**
  - ROI is not sufficient to justify the risk and cannot be realized quickly enough
  - Time-to-Market improvement is not sufficient to justify Business Case
  - Business Case relies on anticipated revenue growth projections rather than "hard" cost reductions
- **Transformation Risk**
  - Underdeveloped Business Transformation Roadmap
  - Inexperience with complex projects
- **Risk to Reputation**

© 2014 IBM Corporation

What should you do?

1. **Think big, start small, pilot fast**. Start by developing your business case. Remember that Cloud is delivering business model transformation not just cost savings.

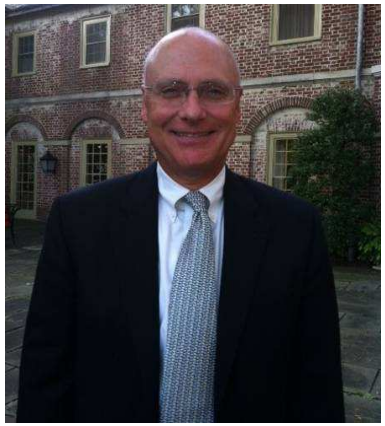
2. Identify a pilot project to better understand “how” transforming applications delivery can truly accelerate growth.

3. Remember that not all workloads are suited for Cloud.

4. Successful cloud ecosystem strategies will include both business and IT stakeholder team.

© 2014 IBM Corporation

About the Authors



- Dave Zimmerman is IBM's Global Solutions Executive & Worldwide Cloud Leader for Banking & Financial Markets. He specializes in business model transformation to help clients better compete and grow. He is accountable for IBM's Global Cloud strategy, industry solutions offerings, client support and partner development.

- Alonso Pérez-Luna leads the Cloud business for IBM in the Spanish South America region. He has 24 years in IBM. He has held leadership positions within Latin America and Europe in the Software, Services and Channels organizations. He has a M.Sc. degree in Operations Research from the Israel Institute of Technology.

@alonsoplh

© 2014 IBM Corporation