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
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*
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_eIWB61Zk
1. Why Cloud? It’s a Growth Engine for Business Innovate while managing rapid change

- **Smarter Physical Assets**: 200 Billion Physical assets with IT intelligence
- **Boundless Infrastructures**: Consumers will have SmartPhones 1.2 Billion
- **Unpredictable Data Flows**: of IT traffic will be Cloud-based 67%
- **Expanding risk & cost**: Expanding risk & cost

80% of new applications will be developed with Cloud characteristics

Cloud computing provides the foundation to effectively manage hybrid technologies
Why Cloud? New models of product & service innovation emerging
Rapidly connect “old legacy” with “new” channels of revenue

~70% of enterprises to pursue hybrid cloud computing by 2015*

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
Why Cloud? Enabling The Next Generation of Enterprise Mobility

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)

“Good design is good business.”

THOMAS WATSON, JR.
Why IBM Cloud? Leapfrog the Competition
Illustrative Use Cases for Banking & Financial Markets

• **Cloud for Growth & Innovation:** Brazil’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 million OnLineBanking clients.
### Why Cloud? Case Study: IBM’s Internal Cloud Results

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

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<th>Storage</th>
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<td>Develop/Test Cloud</td>
<td>Workplace Cloud</td>
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<td>- 300,000 users, 500 ported applications</td>
<td>- 85% of web conference minutes</td>
<td>- Server setup from 5 days to 1 hour</td>
<td>- 2,000 users China Develop Lab</td>
<td>- File storage cloud used by &gt; 130K users &amp; applications</td>
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<td>- Predictive modelling (SPSS) and data mgmt</td>
<td>- &gt; 275M meeting minutes in just six months. . .</td>
<td>- &gt; 90% of new server reqs via this cloud</td>
<td>- 200 user pilot SBDC on the IBM Cloud</td>
<td>- First applications migrated and operating</td>
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<td>- Expanded deployments &amp; user base</td>
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<td>- Block storage cloud w/ automated tiering w/ 50% reduction $/GB</td>
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2. “Hype” vs. realities: Common “hype” About Cloud Computing

Cloud:
• Rent vs. own computing
• Drives growth while saving money

Cost Savings

Easy

Unlimited Computing Power

Fast results

Turnkey

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

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

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.

Global Annual Server Spending (IEC)

- Power and cooling costs
- Management and admin costs
- New system spend

Uncontrolled management and energy costs

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

Cloud’s Six potentially “game-changing” business enablers

**Cost Flexibility**
- Shifts fixed to variable cost
- Pay as and when needed

**Business Scalability**
- Provides limitless, cost-effective computing capacity to support growth

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

**Mobile Banking & Ecosystem Connectivity**
- New value nets
- Potential new businesses
- Enables rapid simulation and development

**Simple Self Service**
- Hides IT complexity

**Context-driven Variability**
- User-defined experiences
- Increases relevance

**Social Media**

**Hyper-connectivity**

**Big Data**

**Mobility**

Source: IBV Analysis

Page 11
Cloud’s Impact on my overall strategy? Disruptive Leapfrogging: Cloud’s Strategic Impact

Cloud Enablement Framework


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)
Cloud’s Impact on my *Ecosystem* Strategy:
“Think like a Retailer. Act like a Manufacturer. Operate as One Bank. Integrate Risk”

### Enabling business transformation
- Smarter Commerce
- Smarter Workforce

### Marketplace of high value consumable business applications
- Smarter Cities
- Software Solutions

### Composable and integrated application development platform
- Bluemix
- Infrastructure Solutions

### Enterprise class, optimized infrastructure
- Cloud Managed Services
IBM Cloud Data Centers
Global footprint – with 2014 Roadmap

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

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

*IBM Cloud: Think it. Build it. Tap into it.
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.
Cloud risks and “hidden costs”: Projects can fail for many reasons

- Underdeveloped Transformation Strategy
- Unrealistic Expectations
- Performance Issues
- Security, Data Protection, Migration, Governance...
- Business Case
- Poor Due Diligence

. . . . . . How do I mitigate Cloud risks?
Cloud’s risks and “hidden costs”? Cloud Strategy is Important

The “right” Cloud Strategy drives your cloud transformation 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

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

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

Enabling innovation and highly competitive market moves to drive business growth

Innovate and Integrate

Innovate and Integrate

Driving agility and productivity to accelerate service delivery for the business

Performance Impact

Providing tools, scalable & highly available resources to run the enterprise

Innovate and Integrate

Enabling well-reported business intelligence to manage the enterprise

High Touch

High Tech

High Biz
New!

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.

IBM’s Ecosystem approach to standards

OpenStack Open Source Reference

IBM’s Cloud Computing Reference Architecture (CCRA)
IBM Cloud: Think it. Build it. Tap into it.

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

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

2013 IBM CISO Survey

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

2012 ESG Research

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Average U.S. breach cost

$5.9 million+

2014 Cost of Data Breach study
Ponemon Institute

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Mobile malware grew

614% in one year

from March 2012 to March 2013

2013 Juniper Mobile Threat Report

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85 tools from

45 vendors

IBM client example
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.
Security Intelligence Must Be Integrated: 5 key takeaways

1. Smarter Prevention
   - Trusteer Apex Endpoint Malware Protection
     - Java Lockdown Protection - granular control of untrusted code, cloud-based file inspection, and QRadar integration
   - IBM Security Network Protection XGS
     - Advanced Threat Quarantine integration from QRadar and third-party products, inclusion of Trusteer intelligence into XGS

2. Security Intelligence
   - IBM Security QRadar Security Intelligence
     - Data Node appliance, new flow and event APIs, and vulnerability management improvements
   - Threat Monitoring and Intelligence Services
     - Managed SIEM enhancements, new cyber threat intelligence

3. Continuous Response
   - IBM Security QRadar Incident Forensics
     - Integrated forensics module with full packet search and visual reconstruction of threat actor relationships
   - IBM Emergency Response Services
     - Increased global coverage and expertise related to malware analysis and forensics

4. Global Threat Intelligence
   - IBM X-Force Threat Intelligence
     - New virtual real-time sharing of Trusteer threat intelligence from 100M+ endpoints with X-Force

5. Open Integrations
   - Ready for IBM Security Intelligence Ecosystem
     - New functionality from partners including FireEye, TrendMicro, Damballa and other protection vendors
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

Strategy
- Rebuild candidates
- Transformation candidates

Design, Development and Integration
- Migration candidates

Migration / Deployment

Analysis / Implementation Planning
- Design
- Transform

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

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

Key Takeaway: Not all workloads may be suited for Cloud

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

@alonsoph