You Can’t Spell “Cloud” without “Compliance”

November 12, 2019
Tim Pascarella
Client Technical Professional - IBM
What is "The Cloud"

I was hoping for a slightly more detailed explanation of how cloud computing works than - "It's magic!"
<table>
<thead>
<tr>
<th>Traditional On-Premises</th>
<th>Infrastructure as a Service</th>
<th>Platform as a Service</th>
<th>Software as a Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dining Table</td>
<td>Dining Table</td>
<td>Dining Table</td>
<td>Dining Table</td>
</tr>
<tr>
<td>Soda</td>
<td>Soda</td>
<td>Soda</td>
<td>Soda</td>
</tr>
<tr>
<td>Electric / Gas</td>
<td>Electric / Gas</td>
<td>Electric / Gas</td>
<td>Electric / Gas</td>
</tr>
<tr>
<td>Oven</td>
<td>Oven</td>
<td>Oven</td>
<td>Oven</td>
</tr>
<tr>
<td>Fire</td>
<td>Fire</td>
<td>Fire</td>
<td>Fire</td>
</tr>
<tr>
<td>Pizza Dough</td>
<td>Pizza Dough</td>
<td>Pizza Dough</td>
<td>Pizza Dough</td>
</tr>
<tr>
<td>Tomato Sauce</td>
<td>Tomato Sauce</td>
<td>Tomato Sauce</td>
<td>Tomato Sauce</td>
</tr>
<tr>
<td>Cheese</td>
<td>Cheese</td>
<td>Cheese</td>
<td>Cheese</td>
</tr>
<tr>
<td>Toppings</td>
<td>Toppings</td>
<td>Toppings</td>
<td>Toppings</td>
</tr>
</tbody>
</table>

- You Manage
- Vendor Manages

- Made At Home
- Take And Bake
- Pizza Delivered
- Dined Out
Infrastructure Stack: Customization vs. Standardization

Customization; higher costs; slower time to value

Standardization; lower costs; faster time to value
Why Are So Many Companies Embracing Cloud?
Organizations are adopting Cloud

- **53%** Expect cloud to raise revenue in next two years
- **75%** Large organizations embracing or deploying cloud
- **80%** of enterprise IT organizations will commit to hybrid cloud by 2017
- **By 2018** At least half of IT spending will be cloud-based
- **Internal cloud** adoption has decreased in Europe

IDC 2016 Worldwide Predictions, Gartner, Forrester, UBS Equities, TBR
Speed and flexibility have surpassed cost savings as key benefits of Cloud...

Be aware of what your client is focused on

The Hidden Cost of IT

Why Cloud Computing for Professional Services Organizations?
Compared to On-Premise, the Cloud Offers Better ROI +
Shifts Fixed CAPEX to Variable OPEX

On-Premises

9%
Software Licenses

Customization & Implementation
Hardware
IT Personnel
Maintenance
Training

Cloud Computing

68%
Subscription Fee

Implementation, Customization, & Training

Ongoing Costs

On-Premises

• Apply Fixes, Patches, Upgrade
• Downtime
• Performance tuning
• Rewrite customizations
• Rewrite integrations
• Upgrade dependent applications

Cloud Computing

On-going burden on IT
• Maintain/upgrade hardware
• Maintain/upgrade network
• Maintain/upgrade security
• Maintain/upgrade database

• Subscription fee
• Training
• Configuration
Strategic drivers are leading clients to assess their cloud readiness and establish a cloud modernization strategy.

**Strategic Drivers**
- **Management Drivers**
  - Business Agility
  - Technical Modernization
- **Workload Drivers**
  - Migrate and modernize
    - Modernize and Lift & Shift any type of workload that is cloud hosted, cloud enabled or cloud native across environments.
  - Modernize
  - Lift & Shift
  - Modernize any type of workload that is cloud enabled or cloud native across environments.
- **Services Management Drivers**
  - Digital Transformation
  - Business Agility
  - Technical Modernization
  - Public Cloud
  - Private Cloud
  - Hybrid Cloud
  - Choice of Runtime Environments
  - Services Management
  - Brokerage
  - Data Governance
  - DevOps
  - Security

**Journey to Cloud**
- **Migrate and modernize**
  - Modernize and Lift & Shift any type of workload that is cloud hosted, cloud enabled or cloud native across environments.
- **Integrate, manage and optimize**
  - Manage workloads and infrastructure in cloud and on-premises.
  - Contain, Expose, and Extend applications for new business models.
- **Enable cloud native**
  - Deliver multi-vendor cloud services and Refactor applications to increase agility for cloud native innovation.
Journey to Cloud

Key customer value drivers that are driving cloud adoption in the market

1. Business Transformation: Shift cloud strategy from ‘Utilization & Cost Improvements’ to ‘Delivering Strategic Business Value’

2. Application Modernization: Add cloud services to the existing apps

3. IT Optimization: Optimize the IT that customers own & run

4. Big Data: Shift & scale big data from on-premise to cloud to exploit high value technologies like AI, IoT & Blockchain

5. Security: The modern day business workplace creates a new set of security constraints for the heritage data center

6. Ecosystem: Gain access to an ecosystem where data, apps, services, and IP can be expanded, leveraged, and shared
How Does This Impact Our Organization?

I need you to explain the concept of the hybrid cloud in simple terms.

A hybrid cloud is a technology you don’t understand combined with another one.
Cloud accelerates your digital transformation

- Innovate with the latest technology from any source
- Access more types of data, analytics and AI from anywhere
- Optimize on the right model and improve ROI
Yet only around 20% of enterprise workloads have moved to the cloud.¹

¹ McKinsey, IT as a service: From build to consume, September 2016
What’s preventing the remaining 80% from moving?

Unique workload and data needs
Compliance, security, location require choice

Multiple clouds and vendors
Hard to connect across clouds and the data center

Technology generation gap
Need to broker cloud-native and traditional
Successful enterprises accelerate their journey to cloud...

**Today**

**Unique workload and data needs**
Compliance, security, location require choice

**Multiple clouds and vendors**
Hard to connect across clouds and the data center

**Technology generation gap**
Need to broker cloud-native and traditional

**Tomorrow**

**Build once, deploy anywhere**
For optimized data and workload placement

**Open, secure, and integrated**
Visibility, governance, and secure data access

**Culture and skill transformation**
Best practices, proven methods, and tools
The journey to cloud requires clients to...

- **Move**: Migrate and modernize workloads, data, and applications
- **Build**: Build innovative applications and experiences
- **Manage**: Manage, govern and optimize hybrid multicloud environments
Today’s Hybrid, Multicloud reality presents new opportunities, as well as new challenges...

- **Share of enterprise customers using multiple clouds**: 94%
- **Share of enterprise customers using more than one public cloud provider**: 67%

### Movement between clouds
- 73% priority concern

### Connectivity between clouds
- 82% priority concern

### Consistency of management
- 67% priority concern

Source: IBM MD&I; :McKinsey research
Cloud Native & Legacy apps will co-exist for the next 10+ years

You are here

Co-existence between legacy and cloud-native

New features will be added to existing applications

Coexistence will involve new and legacy applications working together

Target – Microservices architecture fully exposed to new and legacy applications

Source: IBM

© 2019 IBM Corporation
Emphasis has been on simple migration & innovation…

Unforeseen challenge
Increased TCO / lock-in from lift & shift

Driver
Lower Capex

Modernize
Update using containers and microservices

#1 Priority for enterprise digital transformation
Modernize existing applications

Outcomes
Greater business agility
Access to data for insights

Unforeseen challenge
Integration, security, governance challenges

Driver
Building with new tech

Migrate
Lift & shift applications and workloads

Innovate
Build new cloud native applications

Manage
Integrate and manage, multicloud

Source: McKinsey study / Forrester Study
....but what about ILG?
Information Lifecycle Governance

ILG is the governance framework for managing information throughout its lifecycle – from the time it is created or ingested, then retained, until it reaches the end of its life, when the information is disposed of in a manner that is defensible in a court of law.

You may hear ILG also referenced now as InfoGov or IG
Data is Exploding

2.5 quintillion bytes of new data is created every day. AI technology now allows organization to make sense of their growing trove of structured and unstructured data.

The desire to retain and analyze all data creates new **cost, operational, legal**, and **security challenges**.

Customer Data Protection, Privacy Regulations and Policies

Frequent occurrence of scams and hacks stemming from abuse and misuse of PII have given rise to strict data privacy and protection regulations such as **GDPR** and **CCPA**.

Risk of Non-compliance to regulations can result in **substantial fines** and devastating blow to any organization’s **reputation**.

ILG can help ECM customers **categorize, archive, retain** and **dispose** of the right information, at the right time, in the right way.
Many different stakeholders will be impacted by the requirements but need to act in sync to lower organization risk and costs.

Privacy
Existing and pending global privacy compliance laws

Retention
Heritage retention and records-keeping requirements

Residency
Growing volume of regulations that include keep-in-country mandates

Reporting
Both compliance reporting and data breach obligations continue to grow
ILG Value & Opportunity

Progress has been slow everywhere, to do archiving and retention....

According to the 2018 report, most IG programs remain stuck at Level 1 or 2.

- **7%** Tools in place to categorize data and automate retention schedules, processes are integrated
- **29%** Some automated processes and tools in place, data may still exist in departmental silos
- **49%** People manually link discovery and regulatory obligations to IG practices
- **16%** No structural linkage of duties and value

In 2010, 98 percent of respondents identified defensible disposal of information as a desired benefit of an IG program, but only 22 percent had such a program. They also...
Key Questions to consider when moving applications to the Cloud

- Where will the data/content reside?
- If it will be synchronized, what is considered my record?
- Do I have data residency requirements?
- Do I have SEC 17a-4 or FINRA WORM (immutable storage) requirements?
- Are the appropriate disposal access rights given only to my records teams/tools?
- Are we retaining the audit logs for the cloud solutions?
- Do we intend to “hold in-place”?
- Is this cloud solution for the enterprise or LOB?

- Are there areas we can automate records management through integration with our existing tools?
- What processes need to be modified as our organization onboards a new cloud solution?
- How will the new cloud solution report?
- Will these reports satisfy compliance requirements?
- Does the new solution have retention capabilities built-in?
- Are there eDiscovery requirements with the new solution?