2015 IEEE/ACM Information Technology Professional Conference at TCF

Platform as a Service (PaaS)
Infrastructure as a Service (IaaS)

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Outline

- My Intro

- Background of Cloud.

- PaaS (Intro. , Leaders &Trends)

- IaaS (Intro. , Leaders & Trends)

- Demo (If time Allows)

- Q&A

Biography

- IT Manager at a leading financial service company in the Philadelphia Region.
- Over Ten years experience in IT within the Financial Services Industry.
- Board of Directors Junior Achievement of New Jersey.

Education:

- PhD Student, Technology Management; Indiana State University,
- MBA; University of Massachusetts Amherst
- M.S., Management of Technology; New Jersey Institute of Technology
- B.S., Engineering Technology; New Jersey Institute of Technology

Research Interests: Cloud Computing, Cloud Risk Assessment.

Cloud Background(History repeats Itself)

Evolution of Cloud Computing (The Defense Science Board)
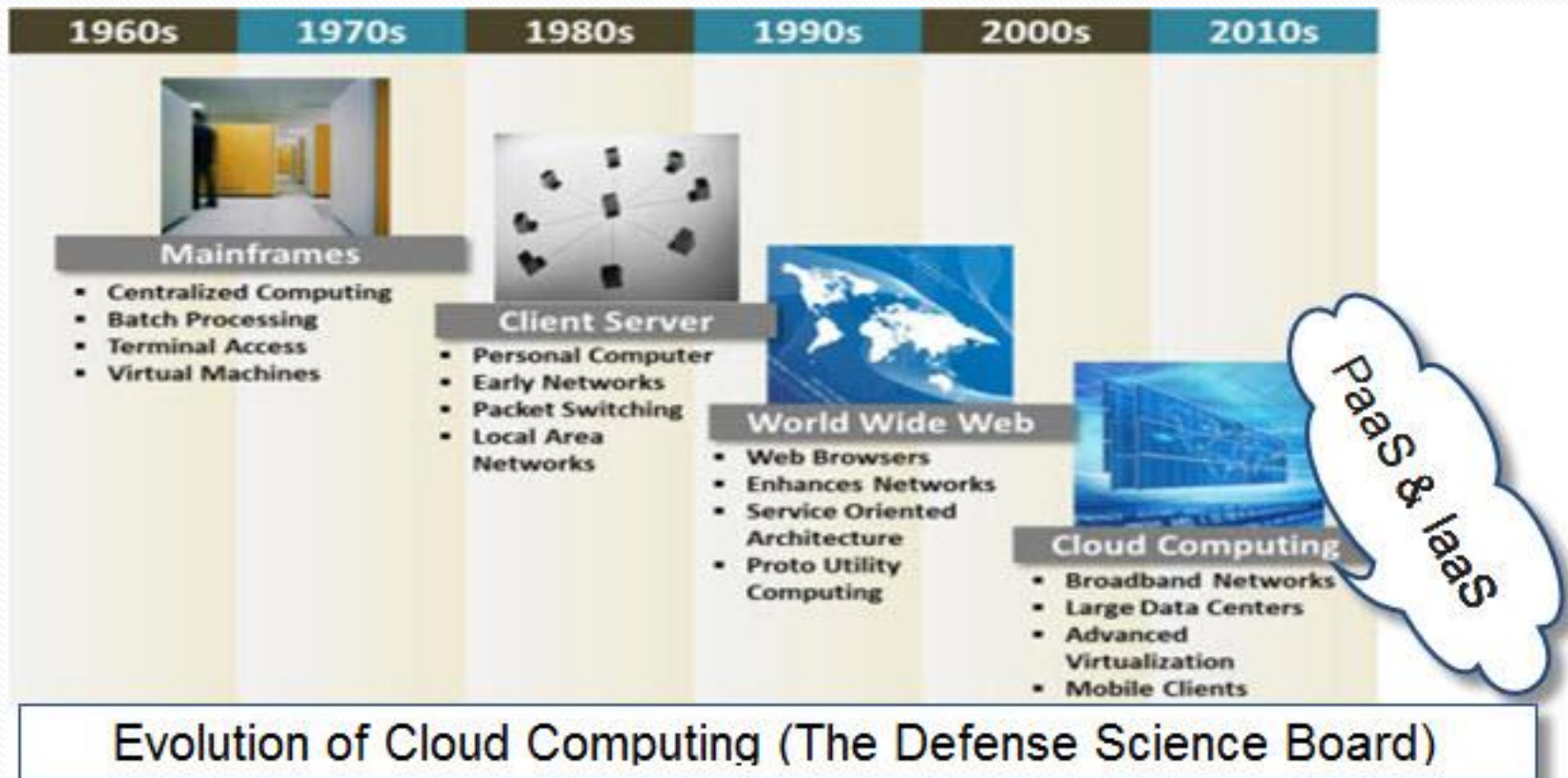
Cloud Background(HyperCycle)
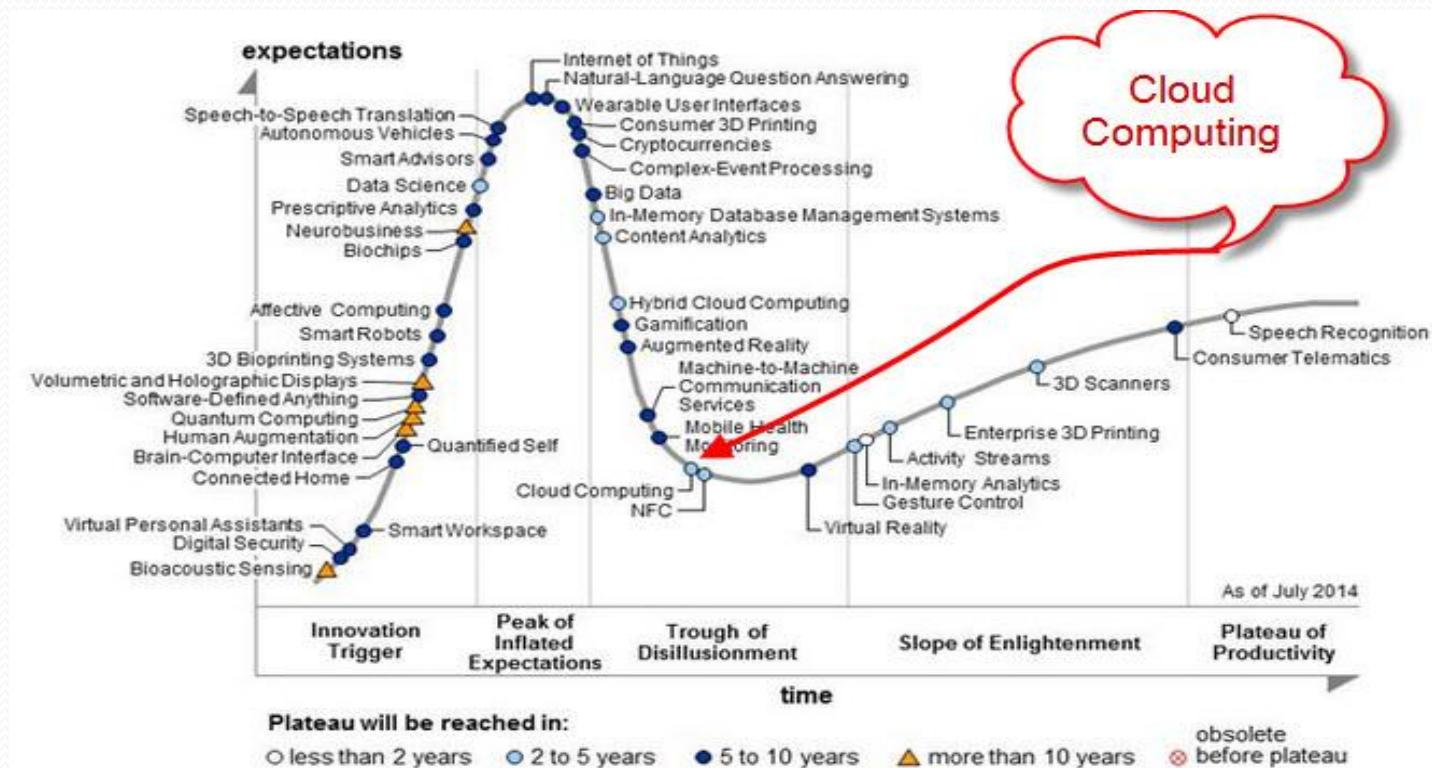
Source: Gartner (August 2014)

Cloud Background(PaaS & IaaS)

-Delivery of needed computing resources over the Internet.

Cloud Service Models:

- **Platform as a Service (PaaS)**

- **Infrastructure as a Service (IaaS)**

- **Software as a Service (IaaS)**

PaaS ?

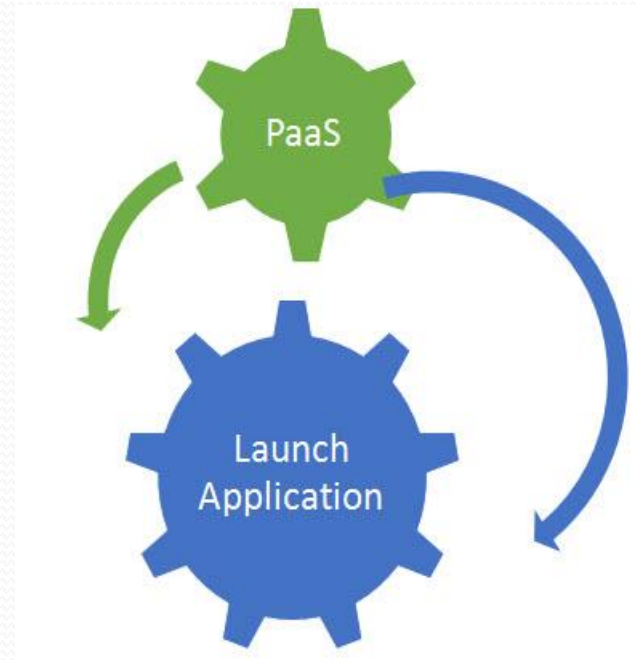Traditional computing System = PaaS via Internet (Build on it/ "Cars-Carry" on it)

Provides:

- Develop Apps.

- Test Apps.

- Deploy Apps.

Source: IBM
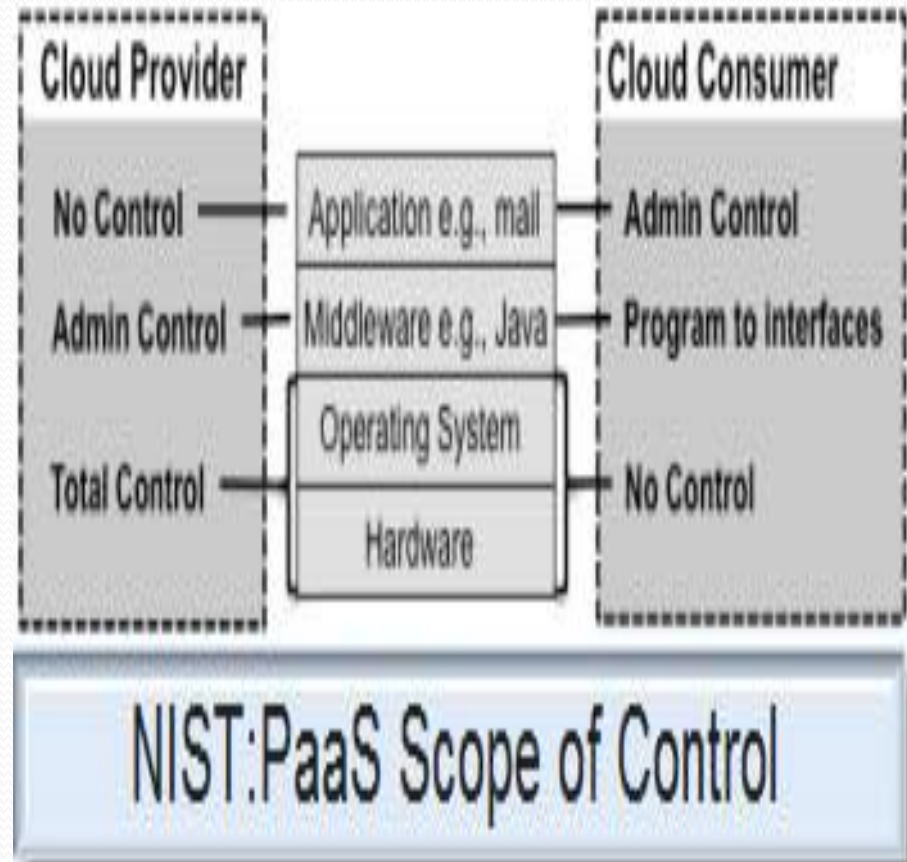
PaaS ?

None PaaS Steps to Deploy: PaaS Steps to Deploy:

PaaS Provider & Consumer Control

Cloud Provider

- Total Control O/S & Hardware.

Cloud Consumer

- Total App. Admin control

Cloud Provider		Cloud Consumer
No Control	Application e.g., mail	Admin Control
Admin Control	Middleware e.g., Java	Program to interfaces
Total Control	Operating System	No Control
	Hardware	

NIST:PaaS Scope of Control

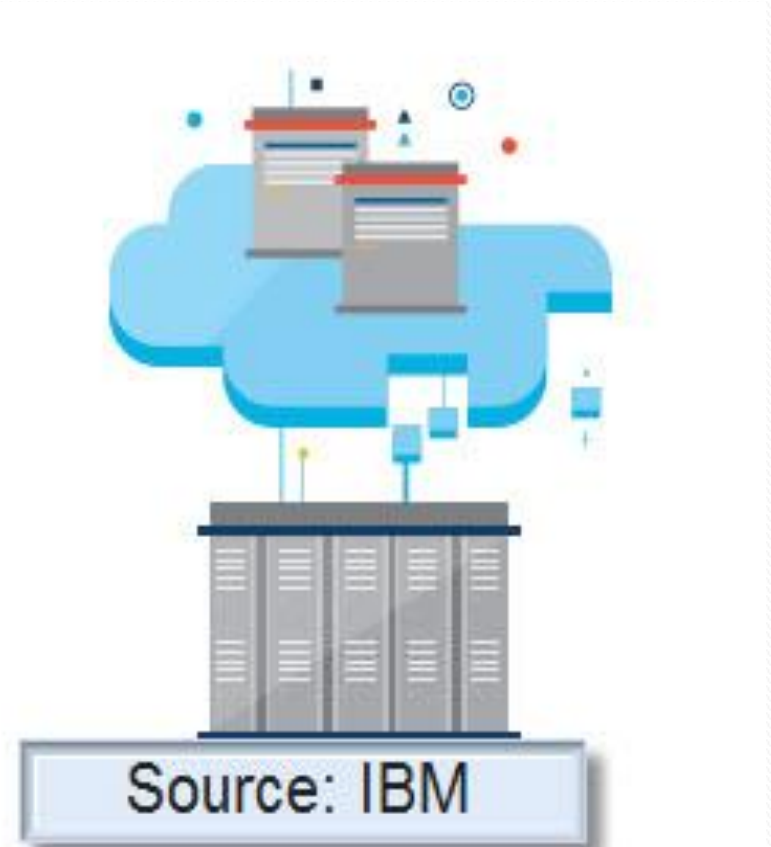# PaaS Vendors (Source:Clouds360.com)

Top 20 PaaS Providers/Vendors

IaaS ?

Hardware = IaaS via Internet (Migrate to it / "Interstate" Drive on)

Access to:

- Virtual Computers.

- Storage .

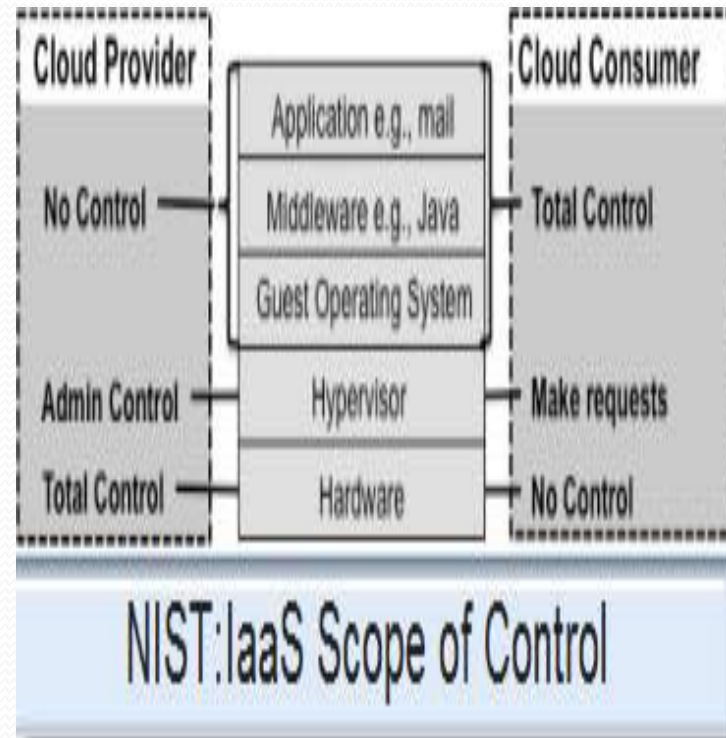- Network components (Firewalls, switches, Routers).

Source: IBM

IaaS Provider &Consumer Control

Cloud Provider

- Total Control hardware.
- Admin Control VM's

Cloud Consumer

- Total control of App. & Guest O/S.

NIST:IaaS Scope of Control

IaaS Vendors (Source:Clouds360.com)

Top 20 IaaS Providers/Vendors

Paas and IaaS Levels of Control

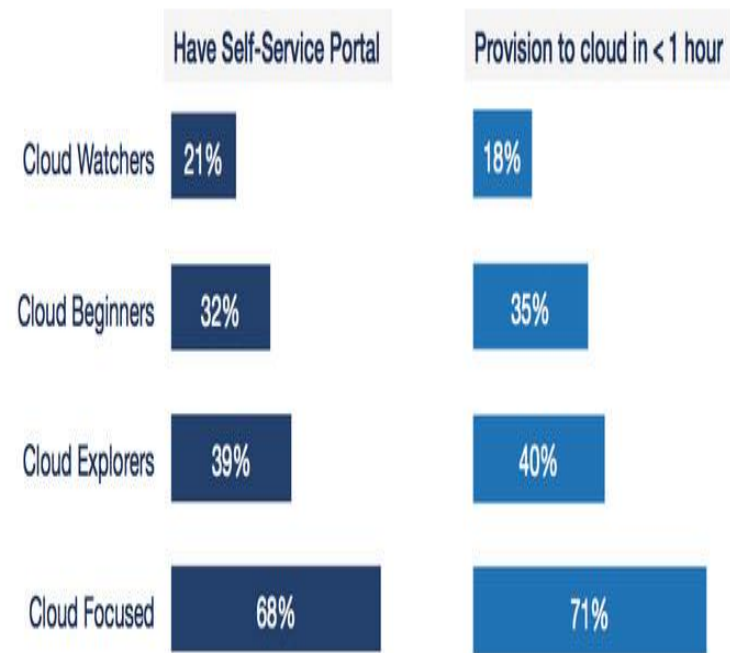Levels of Control by Cloud Service Delivery Model

COSO: Cloud Levels of Control

Cloud Market Trends 2014
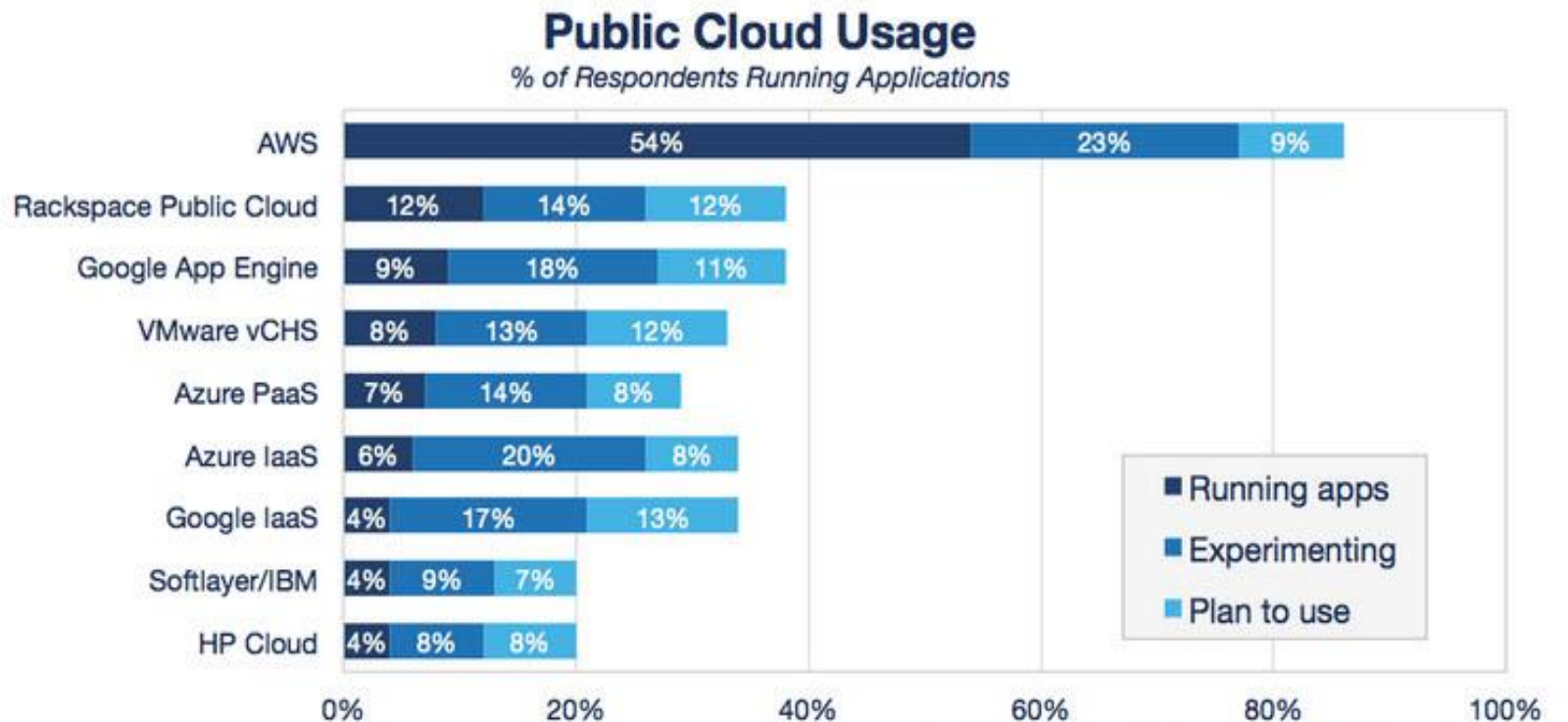
Per Right Scale Adoption Level:

- **Cloud Watchers** developing cloud strategies.

- **Cloud Beginners** working on POC

- **Cloud Explorers** multiple projects & apps. deployed.

- **Cloud Focused** heavily using cloud infrastructure.

Enterprise Self-Service Capabilities Increase with Cloud Maturity

	Have Self-Service Portal	Provision to cloud in < 1 hour
Cloud Watchers	21%	18%
Cloud Beginners	32%	35%
Cloud Explorers	39%	40%
Cloud Focused	68%	71%

Source: RightScale 2014 State of the Cloud Report

Cloud Market Trends 2014

Public Cloud Usage
% of Respondents Running Applications

	Running apps	Experimenting	Plan to use
AWS	54%	23%	9%
Rackspace Public Cloud	12%	14%	12%
Google App Engine	9%	18%	11%
VMware vCHS	8%	13%	12%
Azure PaaS	7%	14%	8%
Azure IaaS	6%	20%	8%
Google IaaS	4%	17%	13%
Softlayer/IBM	4%	9%	7%
HP Cloud	4%	8%	8%

Source: RightScale 2014 State of the Cloud Report

Cloud Market Trends 2014

Top 5 Challenges Change with Cloud Maturity

Place	Cloud Beginners	Cloud Focused
#1	**Security (31%)**	Compliance (18%)
#2	Compliance (30%)	Cost (17%)
#3	Managing multiple cloud services (28%)	Performance (15%)
#4	Integration to internal systems (28%)	Managing multiple cloud services (13%)
#5	Governance/Control (26%)	**Security (13%)**

Source: RightScale 2014 State of the Cloud Report

Time for Demo ?

https://aws.amazon.com

The End