



PRIVATE CLOUDS

OXYMORON OR REAL BENEFITS



Ashwin Waknis

Head – Cloud Professional Services Business

Persistent Systems

Persistent at a Glance

Performance



- Publically listed company (BSE&NSE:PERSISTENT)
- 21 years in business
- 300+ customers
- 3000+ product releases in last 5 years
- USD \$ 170.2 million revenue for FY 2010-2011.

Advantage



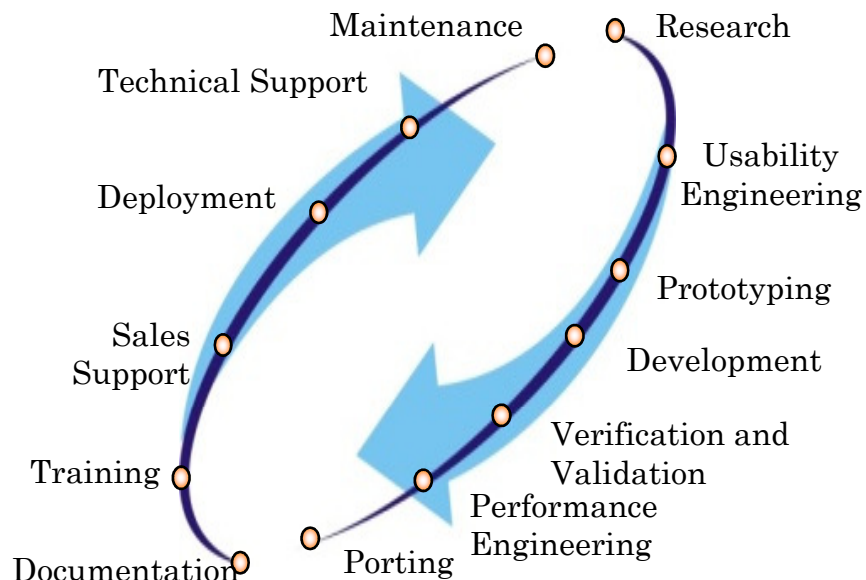
- Cutting edge Technologies
- Technology depth
- Long-term client relationships
- Focus on product development

People-Processes-Presence



- 6,300+ employees, 25 cities, 3 continents
- ISO 27001 facilities
- ISO 9001:2008 certified
- 35+ % hires through employee referrals

Persistent's Product Engineering Expertise



Investors

NVP
NORWEST VENTURE PARTNERS®



intel capital



GABRIEL
VENTURE PARTNERS

STABLE, GLOBAL AND EXPERIENCED MANAGEMENT TEAM

Board of Directors



Dr. Anand Deshpande
Chairman and
Managing Director



Suresh Deshpande
Non-Executive Director



Dr. Dinesh Keskar
Independent Director



P. B. Kulkarni
Independent
Director



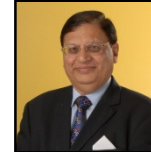
**Prof. Krithivasan
Ramamritham**
Independent
Director



Prakash Telang
Independent
Director



Kiran Umrootkar
Independent
Director



Key management



Nitin Kulkarni
Chief Operating Officer



Hari Haran
President- PSI



Rajesh Ghonasgi
Chief Financial Officer



Dr Hemant Pande
Chief – Chief Planning Officer



Dr Srikanth Sundararajan
Global Head-Corporate Strategy



Ranganath Puranik,
EVP New Business Initiative and Po



**Dr. R.
Venkateswaran**
VP Operations



Vivek Sadhale
Company Secretary and
Head – Legal



Amrita Joshi
Chief Marketing Officer



T M Vijayaraman
Head Persistent Labs



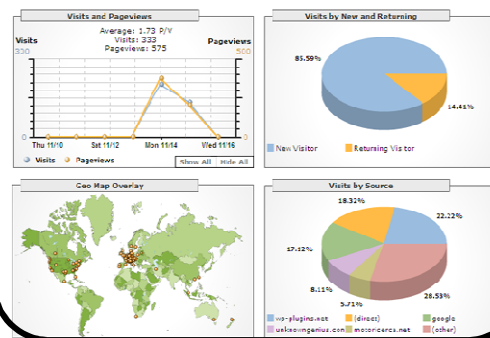
Mike Kerr
Senior Vice President- Sales

Continuing investment in key thrust areas

Telecom and Mobility



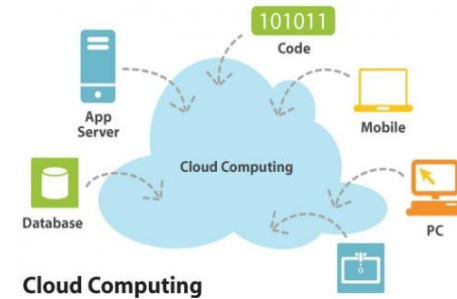
Business Intelligence & Analytics



Web 2.0 and Enterprise Collaboration

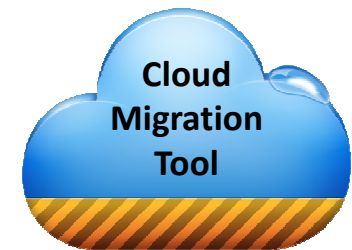


SaaS and Cloud Computing



CLOUD IN PERSISTENT

- Early investors in Cloud; Developed first application in **early 2005**
- **700+** consultants strong Cloud practice
- **30+** Cloud implementations; **1000+** man years experience
- **Custom IP and Solution accelerators** for faster time to market
- **Expertise** in Security, Multi-tenancy, Auto-scaling & Provisioning



OXYMORON

figure of speech
that combines
contradictory terms



POINTS FOR DEBATE

- Oxymoron - If its Private its not a cloud
- Private cloud = virtualization
- Private cloud has no ROI
- With Private Clouds, CIOs are trying to save their jobs



START WITH BASICS



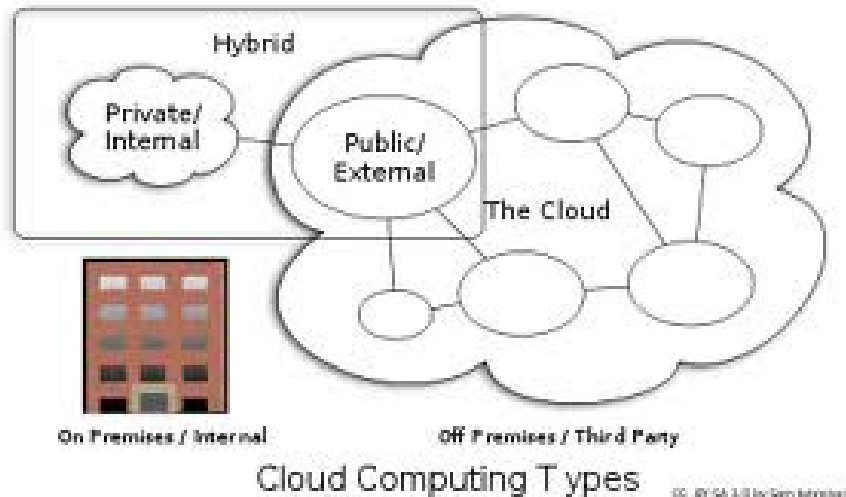
What is Cloud Computing?

Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

- National Institute of Standards and Technology



START WITH BASICS




What is a Private Cloud?

A cloud environment that creates a pool of resources behind a company's firewall and includes resource management, dynamic allocation, charge-back and support for virtualization



KEY CHARACTERISTICS OF CLOUD

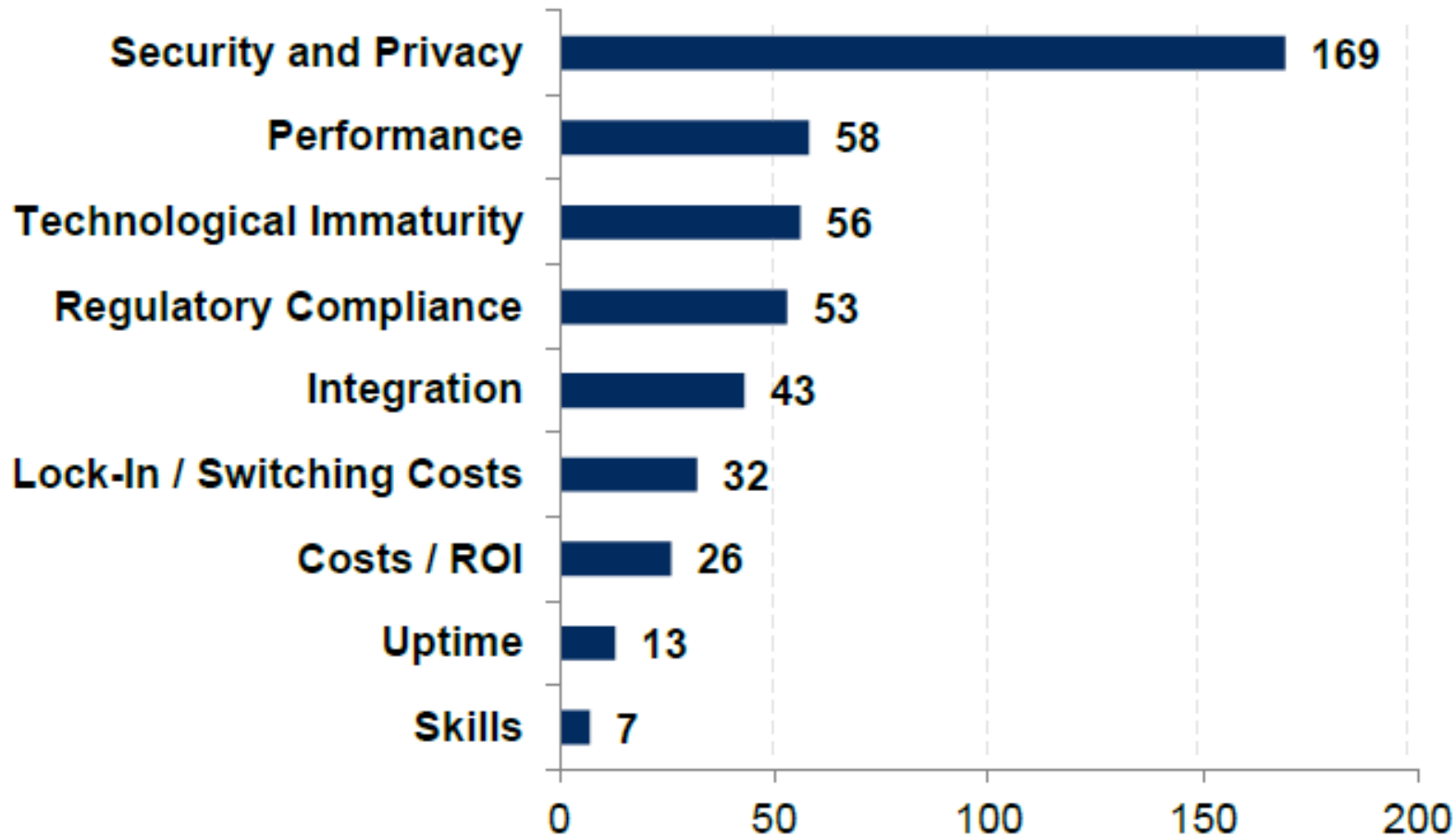
Characteristic	Public Cloud	Private Cloud
Elasticity	✓	
Scalability	✓	
On demand	✓	
Self Service	✓	
Automated	✓	
Service Catalog	✓	
Metering/Billing	✓	
Pay-Per-Use	✓	





WHY ARE CIOs AFRAID OF PUBLIC CLOUD?

PUBLIC CLOUD CONCERNS



Source: Gartner CIO survey



PUBLIC CLOUD CONCERNS



Privacy



Compliance



Legal



**Existing
Infrastructure**



**Open
standards**



Security



**Availability and
performance**



Migration Cost



COMPLIANCE CONCERNS



- Does the cloud meet all my compliance requirements? – HIPPA, PCI, SOX
- What information is stored on the systems?
- Where is it stored?
- Who can access that information?
- What can they access? Is it appropriate?



OPEN STANDARDS CONCERNS



- Can I move my application and data out of the cloud when I want?
- How easy will it be to move?
- Will the cloud vendor provide tools to help access my data?
- Does the cloud vendor support open standards for interoperability with other cloud vendors?



MIGRATION COSTS

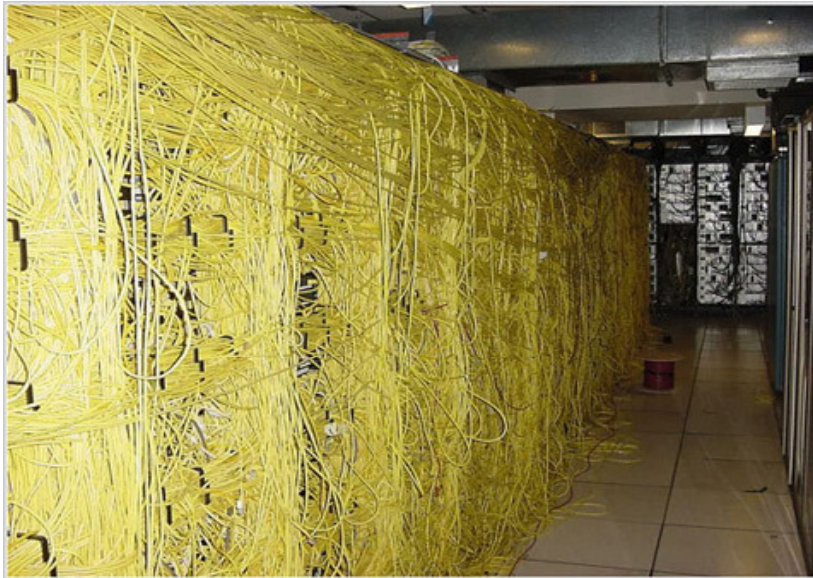


- How will I move this complex infra to cloud?
- How long will it take?
- What is the total cost of migration?
- Will it work as-is or better in the cloud?

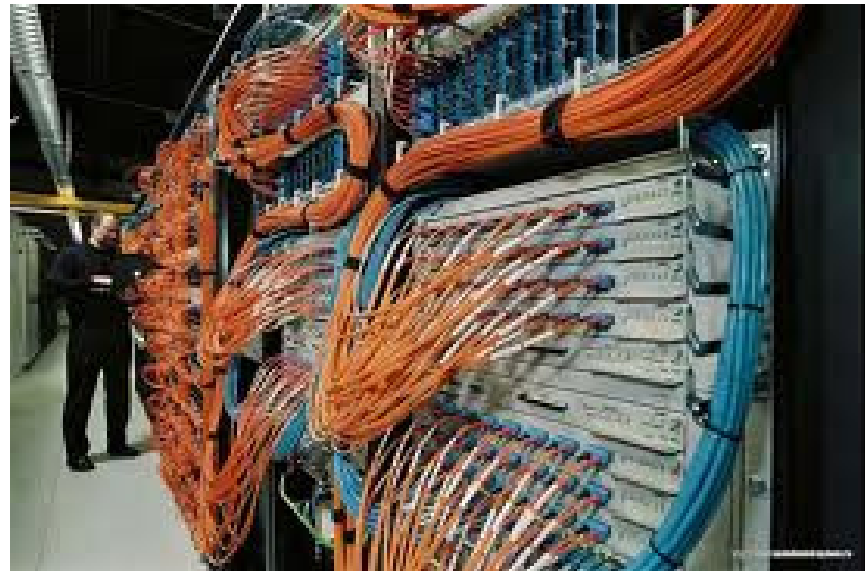


IF NOT PUBLIC CLOUD THEN ...

Continue old ways



OR Transform your data center



ENTER ... PRIVATE CLOUD

Automation

Faster and error free service

Pay Per Use

Operational expense to business users

Service Catalog

All IT services part of this catalog

Metering & Billing

Measure what is getting used, Account for the usage

IT as a Service, Run IT like a business

- * All IT capabilities are services provided to enterprise users
- * Service has a cost associated with it. One time and/or hourly, monthly
- * Services have an SLA
- * IT provides usage data for granular P&L
- * Extensive reporting and analytical data to business unit



POINTS FOR DEBATE

1. Private cloud is not really a cloud

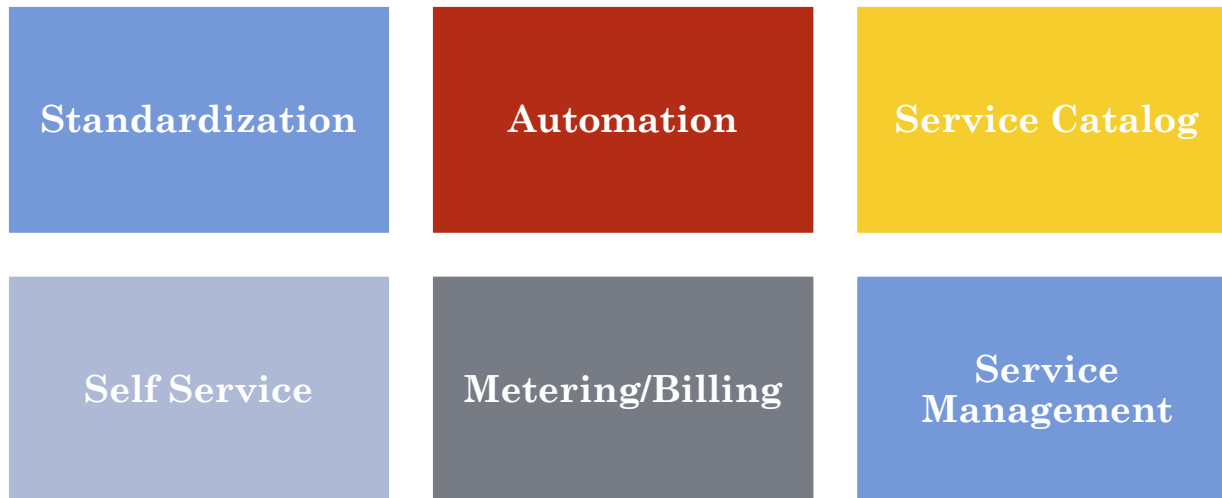
- Hmm...maybe. What makes cloud a cloud?
 - Seemingly infinite scalability?
 - Pay per use?
- Many public cloud providers today are smaller than Fortune 500 datacenters.
- How many applications really need rapid scalability/elasticity?
- Who pays for that premium?



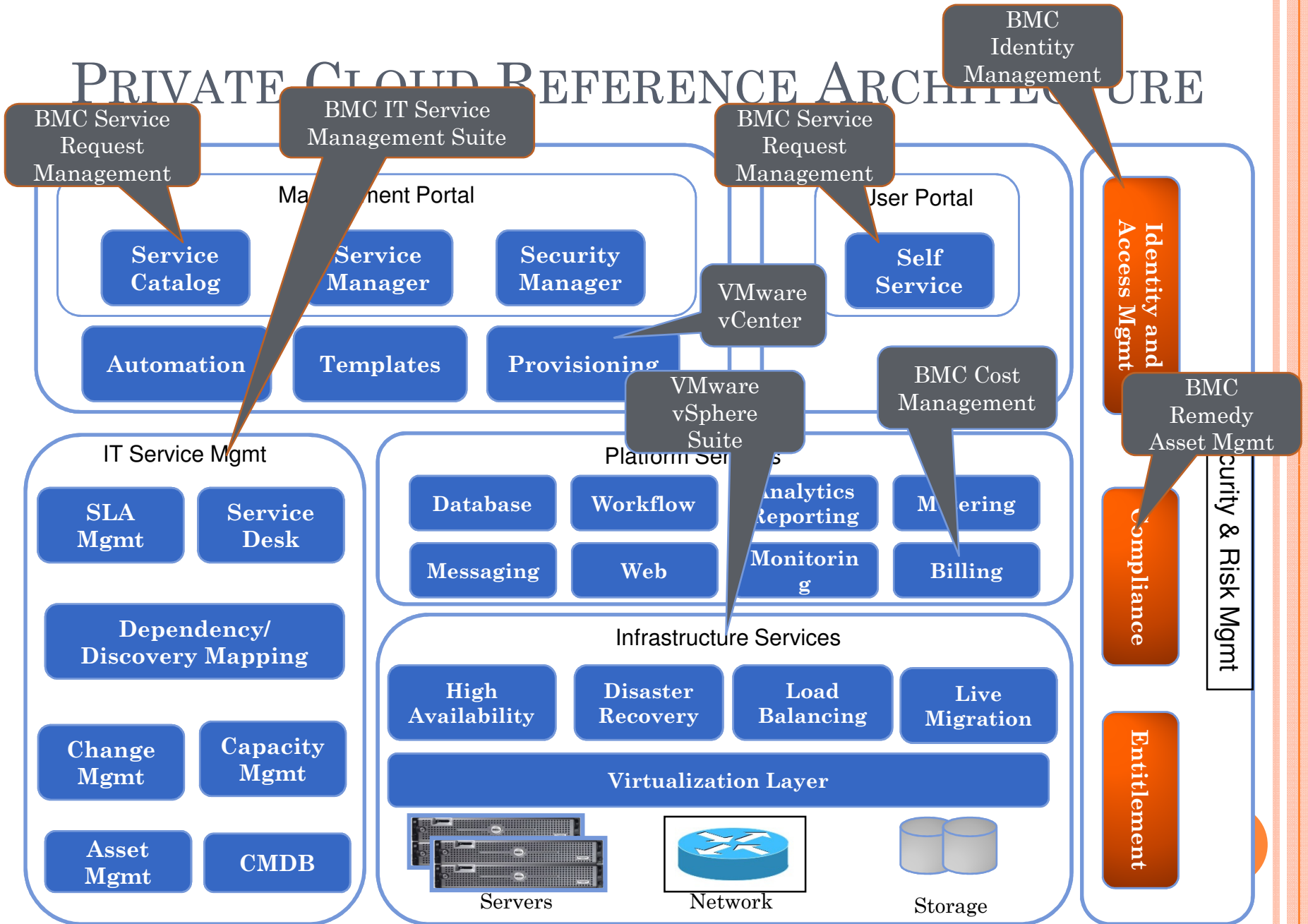
POINTS FOR DEBATE

2. Private cloud = virtualization

- ❖ Virtualization is the foundation for cloud particularly the private cloud
- ❖ Private cloud beyond virtualization:

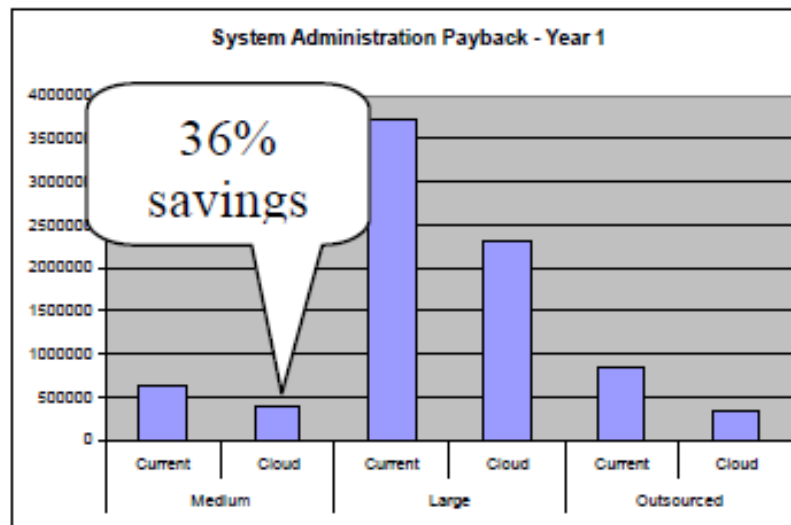
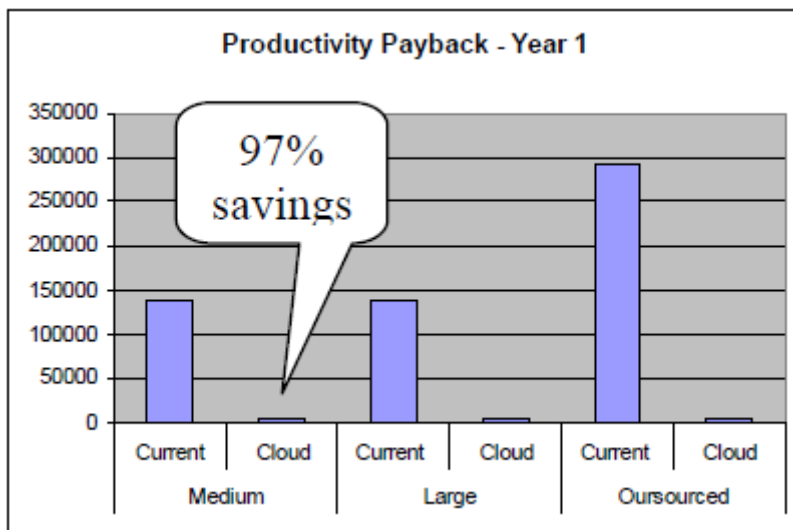
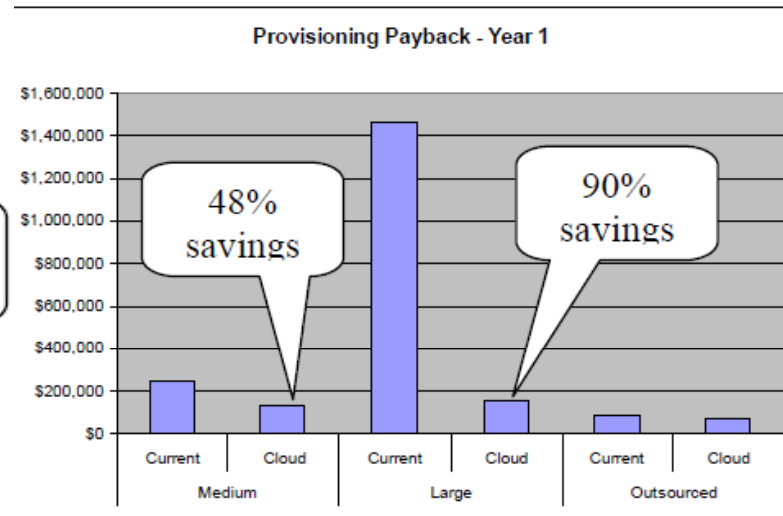
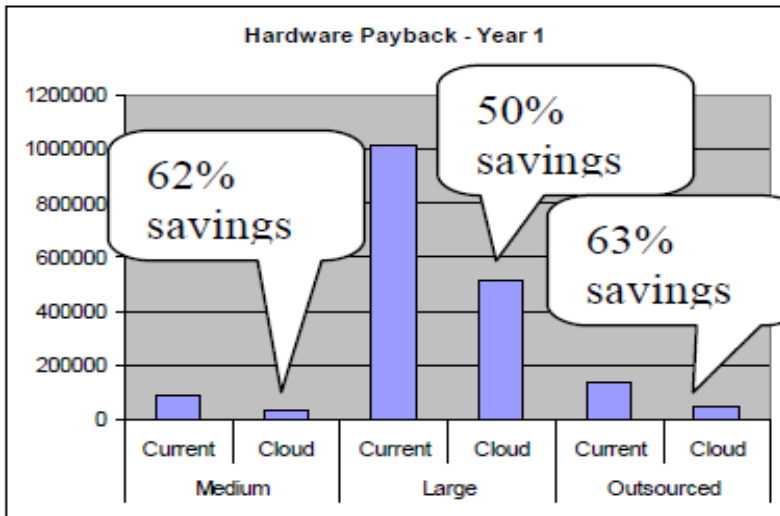


PRIVATE CLOUD REFERENCE ARCHITECTURE



POINTS FOR DEBATE

3. Private cloud has no ROI



POINTS FOR DEBATE

4. CIOs are trying to save their jobs

- Some could be ... others are dealing with real hurdles:



"Thank you gentlemen for voting me as chairman."

Shareholders



CIO



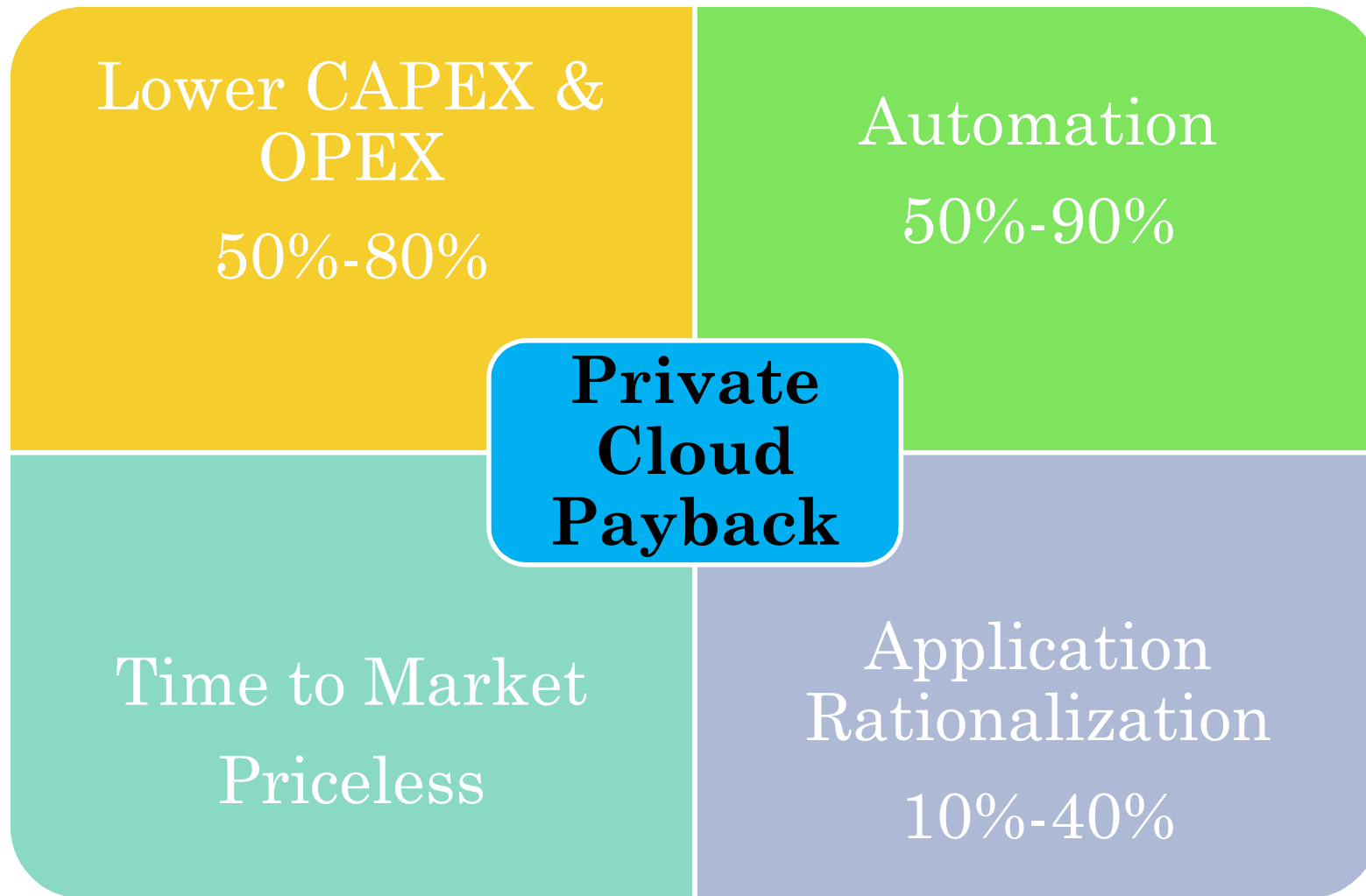
Millions of \$\$ of IT infrastructure



100s or 1000s of IT staff

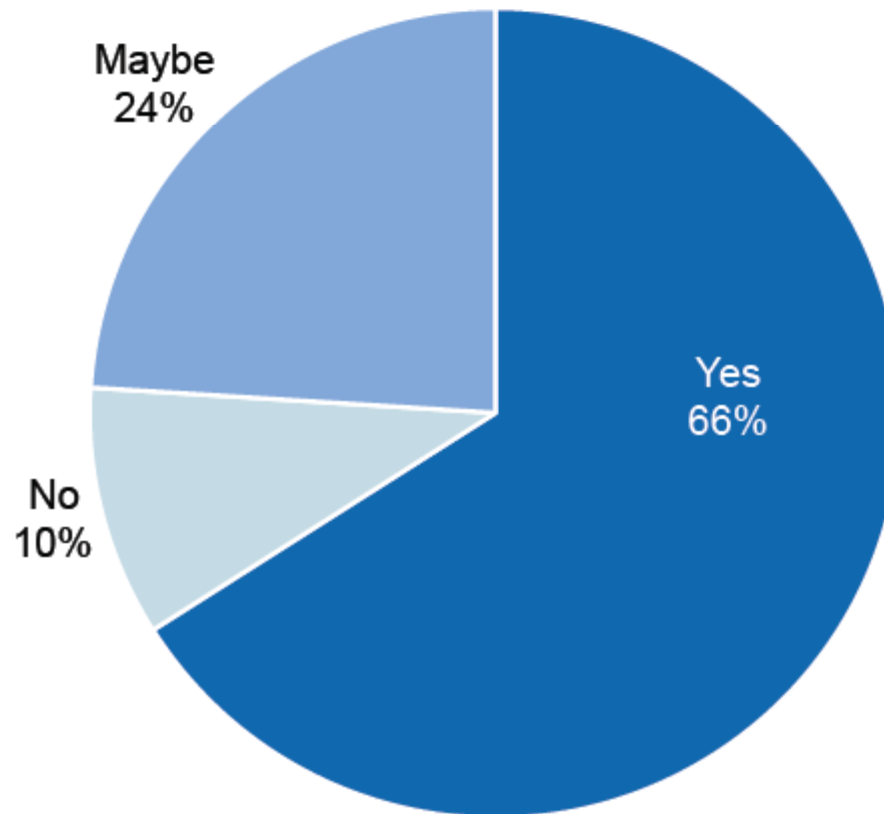


PRIVATE CLOUD PAYBACK - SUMMARY

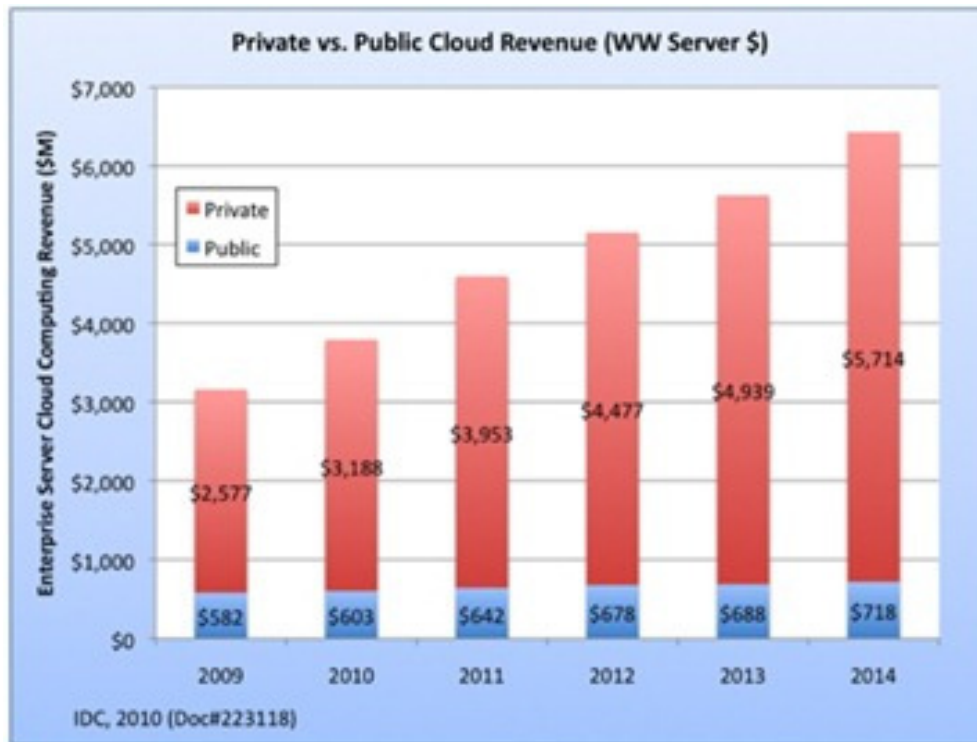


PRIVATE CLOUD AFFINITY THROUGH 2014

FIGURE 1: Gartner Data Center Poll on Private Cloud Directions Through 2014



IDC – SERVER MARKET THROUGH 2014



- Total cloud market – \$6.4 B
- Private – \$5.7 B vs. Public – \$718 M

IDC Findings

- “Public cloud seems less likely to be broadly adopted than private”
- “Public clouds will be less enterprise focused than private clouds”



KEY CHARACTERISTICS OF CLOUD

Characteristic	Public Cloud	Private Cloud
Elasticity	✓	✓
Scalability	✓	Very Limited
On demand	✓	✓
Self Service	✓	✓
Automated	✓	✓
Service Catalog	✓	✓
Metering/Billing	✓	✓
Pay-Per-Use	✓	Yes, for internal business customers



USE CASES FOR PUBLIC AND PRIVATE CLOUD



- Packaged ERP workloads
- Government regulated – Medical, Financial
- Tightly integrated systems
- Heavy OLTP & database applications
- Workloads which depend on sensitive data normally restricted to the enterprise
- Non critical IT applications
- Applications with no or loose coupling
- Isolated high latency workloads
- Content delivery and media distribution
- High performance computing, batch data processing, and large scale analytics



FINAL THOUGHTS...

- What's in the name? - NexGen Data Center, Dynamic Infrastructure
- Public cloud is great, just not right for everything
- CIOs still have significant challenges to overcome to move to public cloud
- Hybrid cloud is the future: Best of both worlds
- My 5-50-500 prediction!

In 5 years less than 50% of fortune 500 companies will be completely in public cloud!

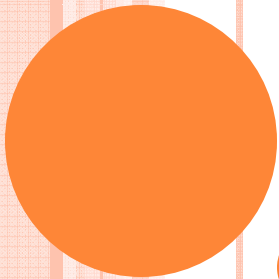






THANK YOU!

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BACKUP SLIDES

PRIVACY CONCERNS



- Who will have access to my application, data?
- Can I control the access policies for my data?
- Will my environment be shared with my competitors?
- Will I have access to all the audit information?



LEGAL CONCERNS



- Does the cloud meet all my regulatory requirements?
- Is my data guaranteed to be geographically in one place?
- Will my data be accessible to the government?
- Will I have access to all the audit reports?



SECURITY CONCERNS



- What security best practices are in place?
- Will I have the flexibility to put in additional security measures?
- In case of breach, will vendor be transparent about details?
- Will I have access to security audit details?



AVAILABILITY CONCERNS



- Will the vendor support SLA that I want?
- Will vendor be transparent with the SLA data?
- How do I resolve SLA disputes?



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OR Transform your data center

