GOVERNMENT DEPLOYMENTS

- *Ross Freedman, DCIA*
- *Michael Biddick, Fusion PPT*
- *Doug Natal, Oracle*

Agenda

How is cloud computing being used to increase effectiveness, reduce costs, and/or improve efficiency in the public sector? What lessons can be learned from these deployments that will benefit Government agencies and professionals in this sector?

- Intro & Overview
- Goals, Obstacles and How Were They Overcome
- Key Takeaways
- Audience Q&A

Introduction

- Fusion PPT is a 40+ person cloud computing consulting and engineering firm

- Started in 2009, with a focus on supporting Government clients

- Strategy to execution services

- No provider/vendor reseller agreements or bias

- 60+ articles and a book on *Federal Cloud Computing* published

Introduction

- Data center consolidation combined with private cloud deployments

- "Experimentation" with public clouds

- Injection of Government acquisition procedures into cloud

- Integration of security, workflow, and approval into the cloud model

- Consideration of future cloud computing challenges

Overview

- As more agencies develop private clouds and seek low-cost commercial public clouds, portability and interoperability among different clouds are becoming increasingly important.

- Portability and interoperability are needed to reduce cloud provider lock-in and provide for resiliency in times of crisis.

- Contention: Pubic cloud providers have a financial interest to limit portability to create a reliance on their services.
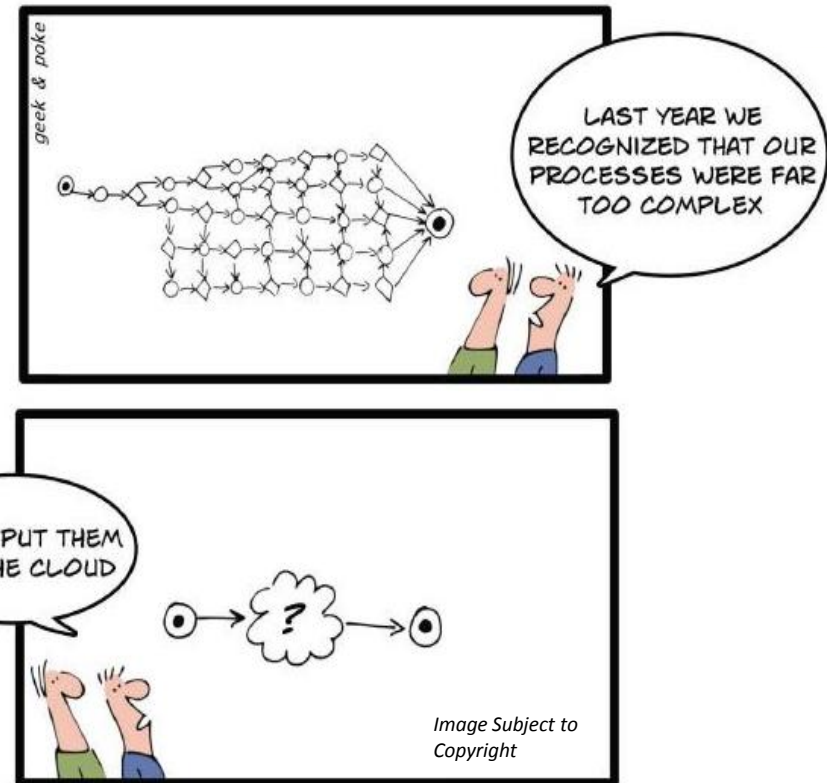
Image Subject to Copyright

Overview

- Interoperability: the ability of cloud consumers to use their data and services across multiple cloud providers with a unified management interface

- Portability: Allows the migration of a fully-stopped virtual machine instance or a machine image from one provider to another provider, or the migration of applications, services, and their contents from one service provider to another

NIST SP 500-292
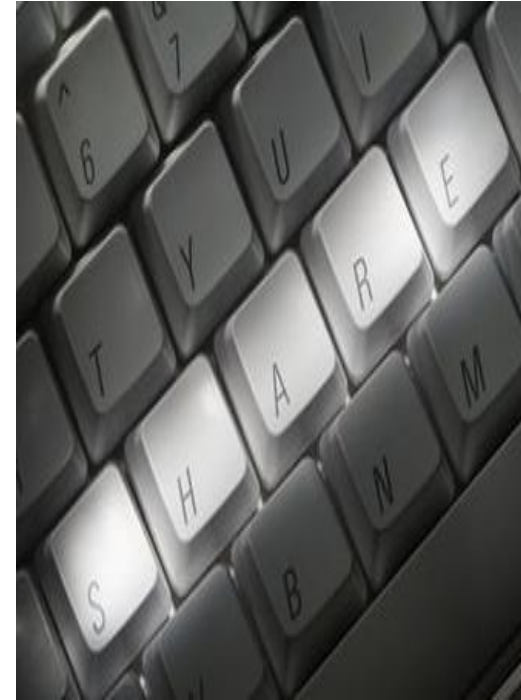
Project Goal

Develop an "actionable" technical framework *and a* reference architecture *that enable* cloud computing interoperability and portability

Approach

- Examined the state of emerging cloud computing standards.

- Explored cloud brokers and other management tools to enable portability and interoperability.

- Collected use cases and requirements across the existing cloud computing environments that define specific existing problems with portability and interoperability.

- Collaborated with NIST concerning their existing use cases (SAJACC).

Approach

- Analyzed twenty (20) cloud computing standards and specifications; most have emerged over the past two (2) years.

- Focused on more recent specifications that specifically address cloud computing portability and interoperability.

- Other mature standards such as AMQP, SOAP, XML, HTTP, WS, etc. were examined as well.

Approach

- Analyzed new vendors that enable portability and interoperability solutions.

- Focused on "cloud broker" products that connect multiple cloud providers through a seamless interface to the cloud consumer.

- Developed a detailed *reference architecture* using a combination of standards and functional tools (not vendors by name) to enable interoperability and portability.

Obstacles

- No universal portability and interoperability solution

- Standards are still immature and few vendors have implemented them

- Federated versus centralized cloud debate (standardization)

- Vendor products are fairly new and most only support narrow cloud services

Mitigation

- Develop long-term and short-term strategies (future-proof)

- Participate in standard development organizations

- Focus on IaaS, then PaaS and SaaS

- Remember original drivers to cloud computing

- Pilot environments with vendor products
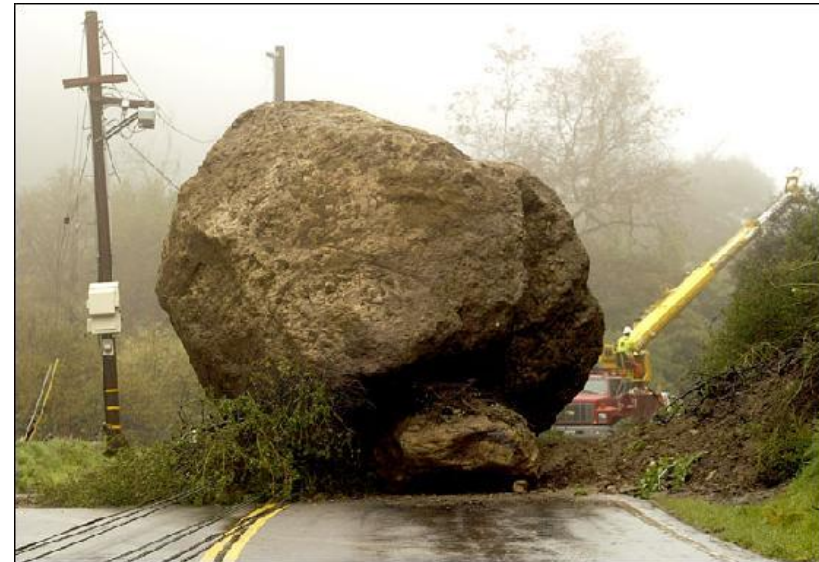
CLOUD COMPUTING
EAST 2013
Revolutionizing Business Processes in
Government, Healthcare & Financial Services
MAY 19-21, 2013
Boston Marriott Copley
Place, Boston MA

Takeaways

Takeaways

Cloud Computing is Ready for You…Are You Ready for It?

Douglas M. Natal, MBA
Director, Cloud Applications for Public Sector
May 20, 2013

Introduction

Douglas Natal

- Director Cloud Applications, Public Sector, Oracle
  - o 25 years of Public Sector Sales & Management
  - o Focused: Go To Market Strategies of Oracle's Cloud Acquisitions
  - o Scope: Across US and Canadian Public Sector

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- Introduction
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Cloud Terminology

Public Cloud?
Platform?
SaaS?
PaaS?
IaaS?
Private Cloud?
Cloud?
Hybrid?
Multi-Tenant?
Infrastructure?

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Why is it Called "The Cloud" Anyway?

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What is the "Cloud?"
NIST Definition

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

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Cloud Definition

Network Access	Rapid Elasticity	Measured Service	On-Demand Self-Service	Resource Pooling	**Essential Characteristics**

Software as a Service (SaaS)	Platform as a Service (PaaS)	Infrastructure as a Service (IaaS)	**Service Models**

Public	**Private**	**Community**	**Hybrid**	**Deployment Models**

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Cloud – the Essential Characteristics

Network Access	Rapid Elasticity	Measured Service	On-Demand Self-Service	Resource Pooling
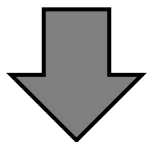
Anywhere, Anytime, Any Device	Grow and Shrink	Managed, Monitored Usage	User-Controlled Provisioning	Shared with Others
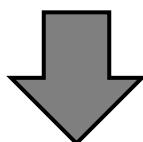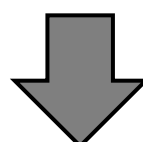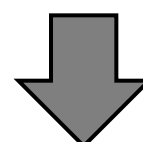
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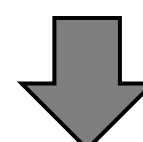
Cloud – the Service Models

Software as a Service (SaaS)	Platform as a Service (PaaS)	Infrastructure as a Service (IaaS)
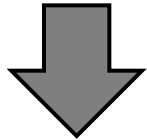
Applications for Business Users to Complete Tasks
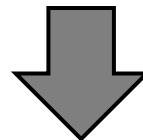
Environments for Developers to Deploy Applications
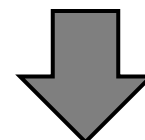
Resources for System Managers to Create Platforms

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Cloud – the Deployment Models
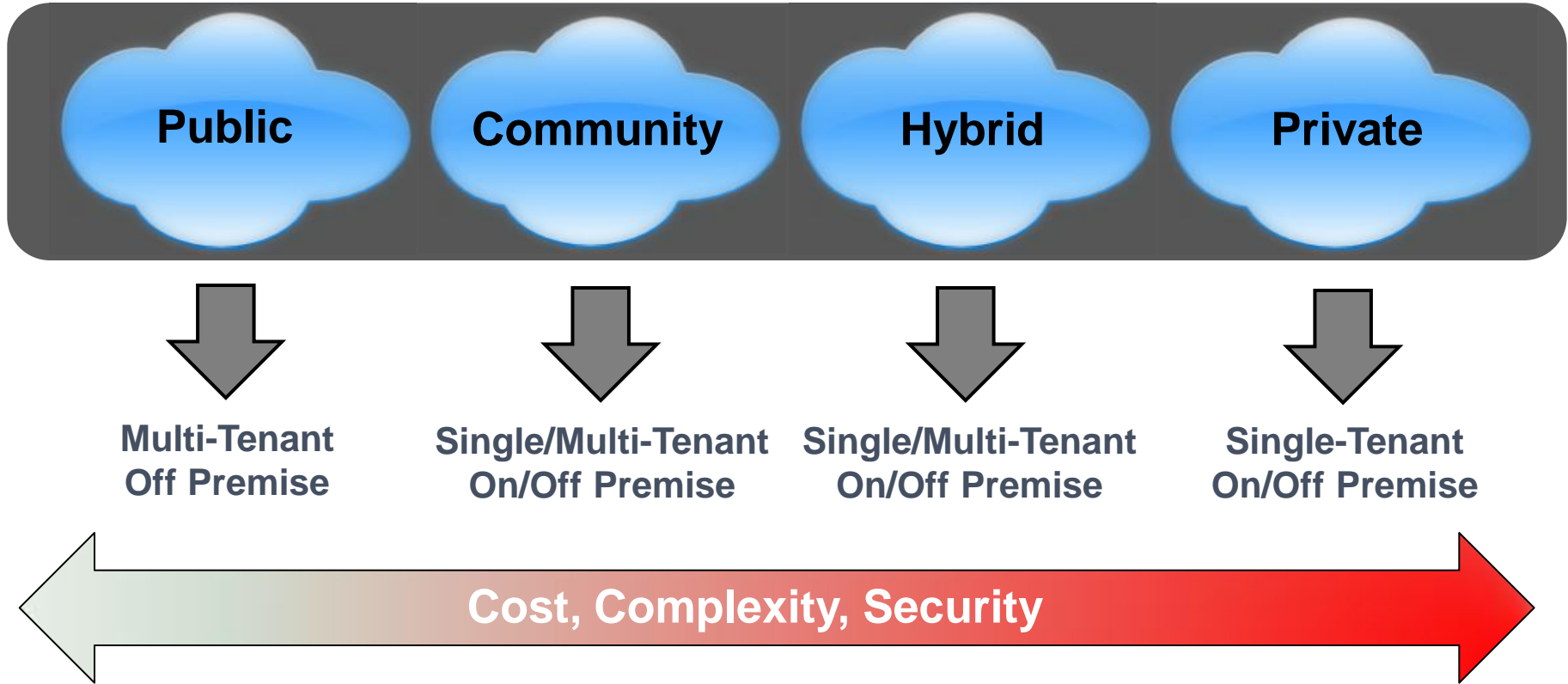
Public

Community

Hybrid

Private

Multi-Tenant Off Premise

Single/Multi-Tenant On/Off Premise

Single/Multi-Tenant On/Off Premise

Single-Tenant On/Off Premise

Cost, Complexity, Security
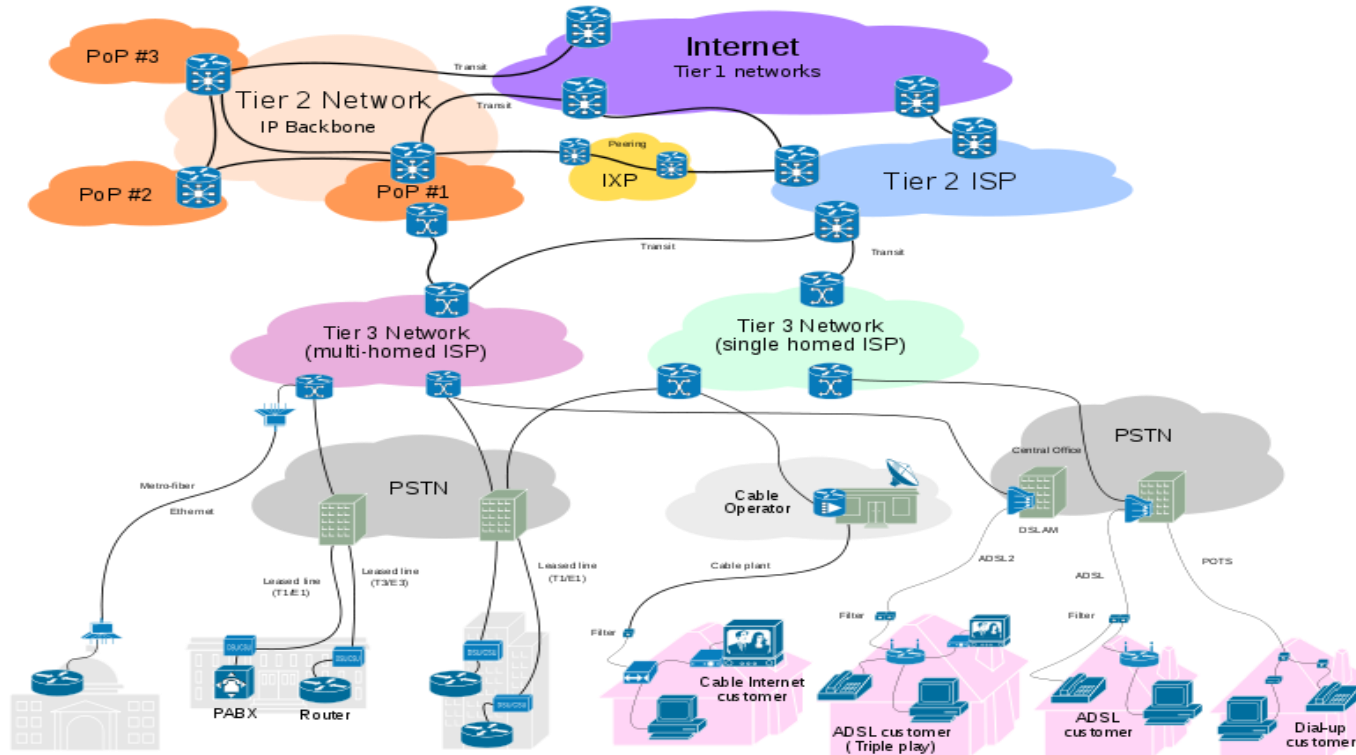
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What Do the Pundits Say?

"The emergence of cloud computing promises to have far reaching effects on the systems and networks of federal agencies and other organizations. Many of the features that make cloud computing attractive, however, can also be at odds with traditional security models and controls."
Source: NIST Guidelines on Security and Privacy in Public Cloud Computing, January 2011

SaaS deployment over all applications will continue to increase by 50% over all applications tracked.
Source: Cedar Crestone 2010-2011 HR Systems Survey, 13th Annual Edition

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Projected Cloud Computing Expenditure
2009-2020
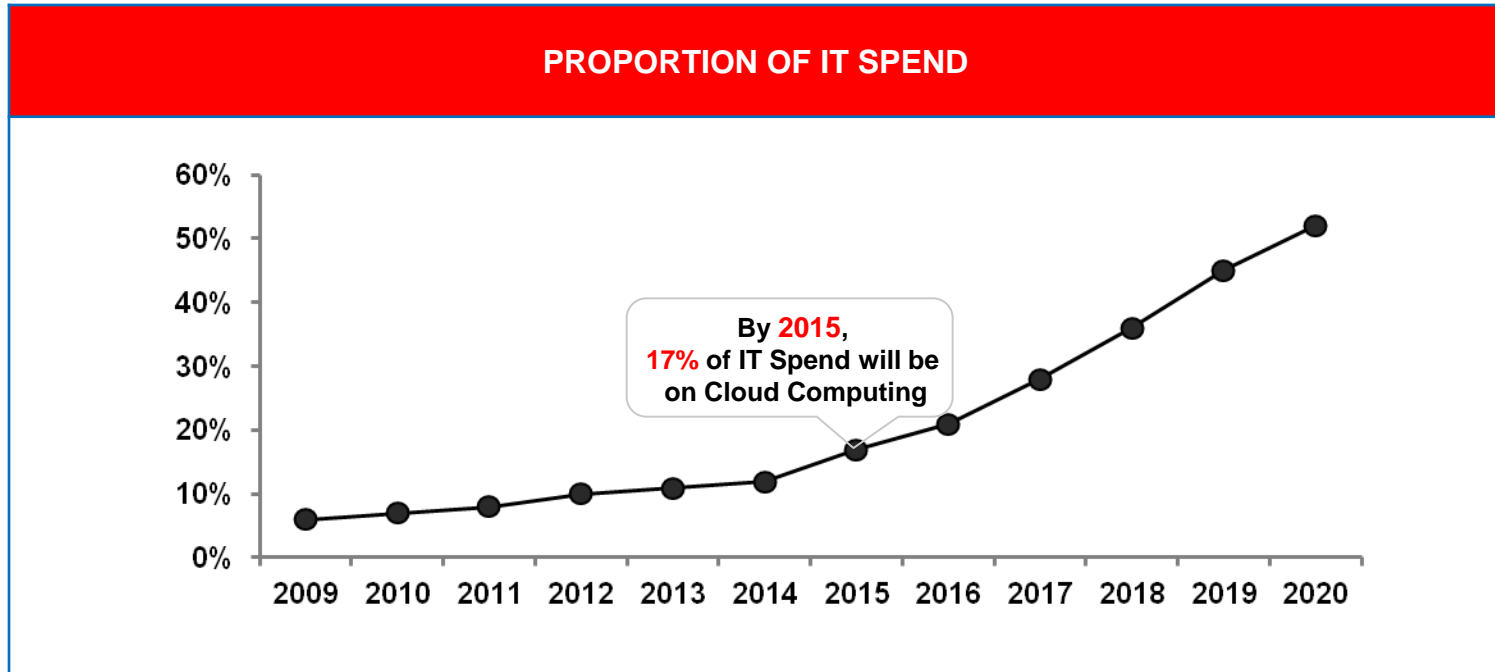
Source: Coda Research Consultancy Ltd 2009, Cloud computing: An assessment, p.49

CIO Technology Agenda
Cloud Computing is a High Priority

CIO technologies	Ranking of technologies CIOs selected as one of their top 3 priorities in 2012				
Ranking	2012	2011	2010	2009	2008
Analytics and business intelligence	1	5	5	1	1
Mobile technologies	2	3	6	12	12
Cloud computing (SaaS, IaaS, PaaS)	3	1	2	16	*
Collaboration technologies (workflow)	4	8	11	5	8
Virtualization	5	2	1	3	3
Legacy modernization	6	7	15	4	4
IT management	7	4	10	*	*
Customer relationship management	8	18	*	*	*
ERP applications	9	13	14	2	2
Security	10	12	9	8	5
Social media/Web 2.0	11	10	3	15	15

*Not an option that year

Source: 2012 Gartner CIO Agenda Report

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SaaS Deployment Momentum
Subscriptions on the Rise

Deployment Averages Across All Applications
% of respondents

Category	2010 In Use	2010 Forecast	Today	12 Months
Licensed software – on premise	44	41	42	38
Licensed software – hosted	16	16	17	17
SaaS – subscription based	12	18	18	27
Outsourced (process and software)	5	6	7	7
Other including in house/bespoke	24	19	16	11

50%

- 2010 In Use
- 2010 Forecast
- Today
- 12 Months
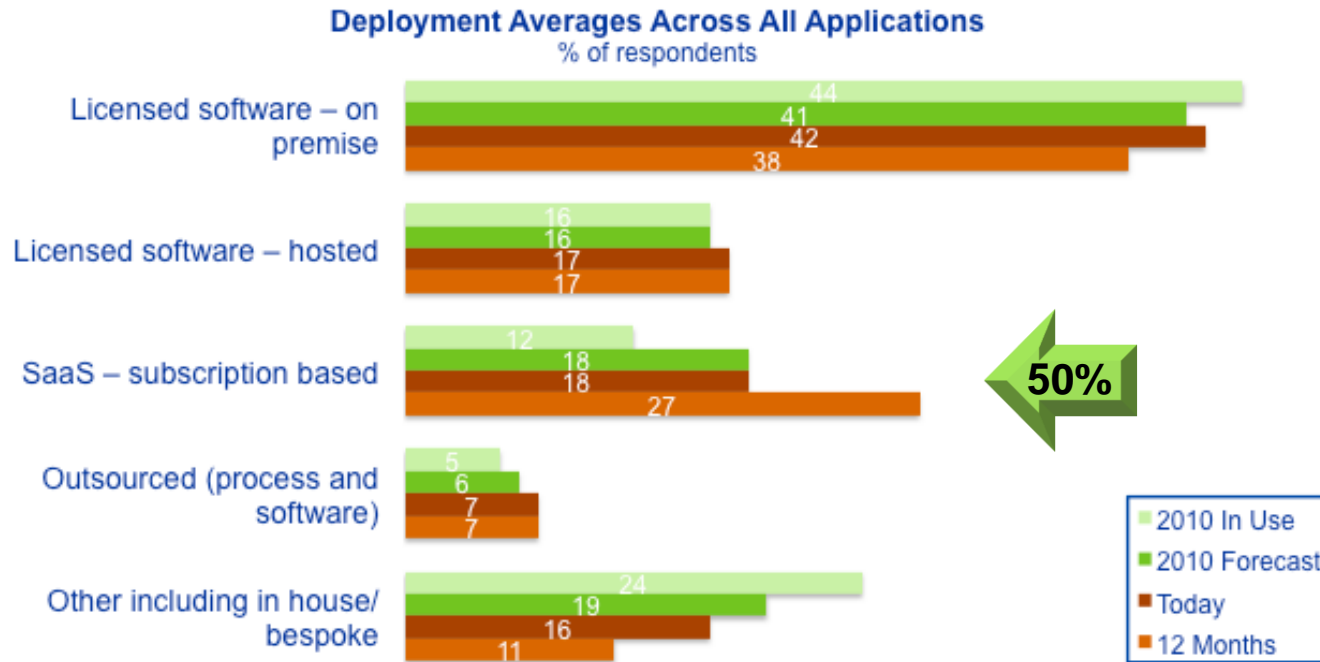
Source: Cedar Crestone 2011–2012 HR Systems Survey, 14th Annual Edition

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Cloud Rewards

Accelerated Deployment

Lower Initial Cost

Scalability

Extensibility

Reallocated Resources

Lower TCO

Resource Efficiency Gains

Technology Currency

Common Standards

Flexible Provisioning

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Concerns Your Peers Raise
Why Businesses Resist SaaS

Concern	Percentage
Security concerns	40%
Integration challenges	32%
Lack of customization	23%
Can't find needed application	23%
Difficulty & risk of migration	22%
Application performance	19%

Source: Forrester Research, Forrsights Budgets And Priorities Tracker Survey, Q2 2010

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Cloud Risks

Security

Vendor Viability

Loss of Control

Interfaces

Change Management

Data Migration

Extensibility

Vendor Lock-In

Vendor Reliability

Budget

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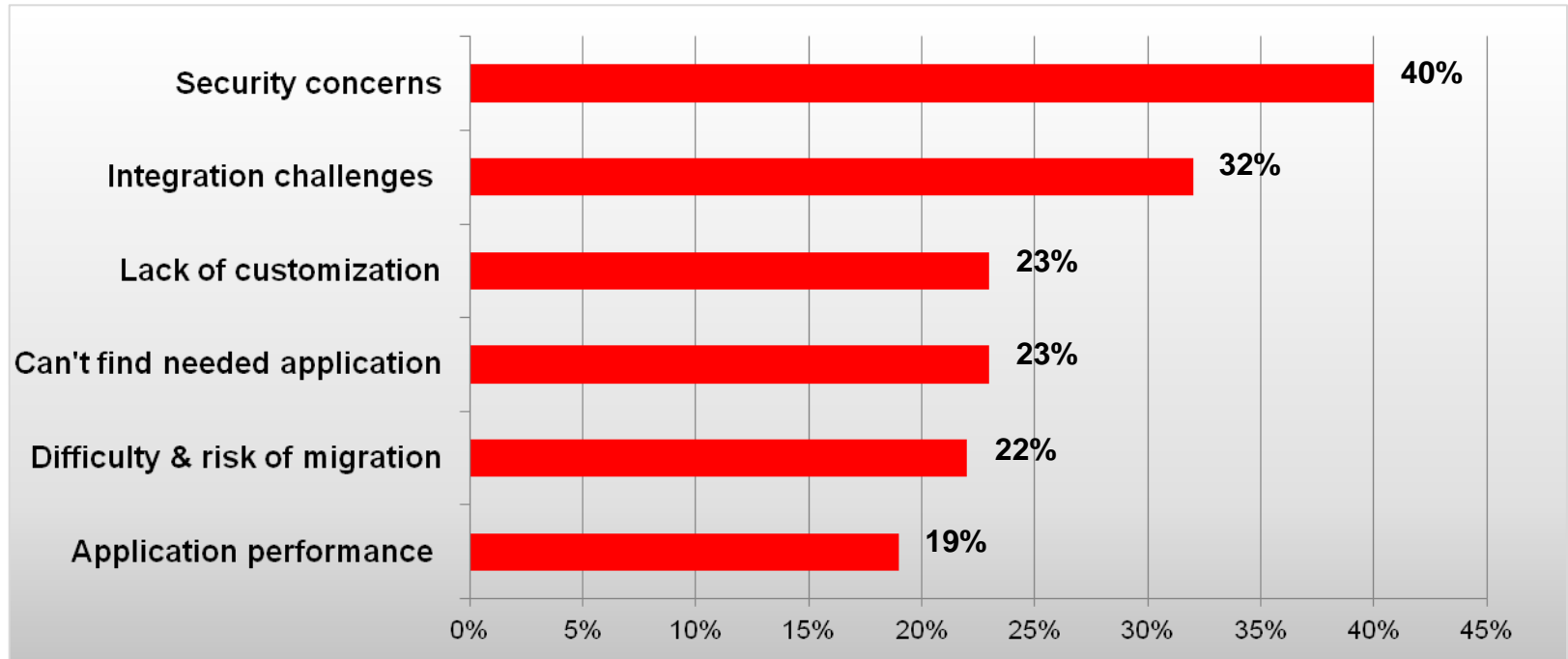
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A Kinder, Gentler Vendor?

"SaaS vendors in HCM have successfully spun the myth that they are kinder and fairer than mega-vendors when it comes to contract negotiations and terms and conditions. This is a fairy tale. The vast majority of SaaS vendors are as avaricious as any ERP vendor."

Source – SaaS and Human Capital Management: Avoid Risky and Expensive Deals, Gartner 2011

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Tips for Negotiating Cloud Contracts

Procurement Negotiations Drive Costs Down – 30%

- Delineate features
- Quantify metrics
- Stipulate data ownership
- Beware of fees
- Qualify system performance

Source – SaaS and Human Capital Management: Avoid Risky and Expensive Deals, Gartner 2011

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Execution for Success

- Assess impact on IT Governance
- Formulate a Cloud strategy
- Identify entrance criteria
- Evaluate current business processes
- Adopt a culture of change
- Do not surrender constituency ownership
- Be prepared for surprises

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Final Thoughts

Efficiencies can compromise effectiveness. The balance between the two is tenuous and mandates prudent administration.

Cloud service providers are motivated by profit. Public servants are motivated by service. Both are reasonable expectations in trusted partnerships.

3 Key Takeaways

1 Cloud is here to stay!

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3 Key Takeaways

2 One Size Does Not Fit All!

3 Key Takeaways

3 **Read the Fine Print!**

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Questions and Answers

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