



*The Evolution of the Cloud
and Securing Your Data*



Global Efforts to Secure Cloud Computing

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Cloud: Ushering in “IT Spring”

- Technology consumerization and its offspring
 - Cloud: Compute as a utility
 - Smart Mobility: Compute anywhere
- Challenges our assumptions about.. everything
 - Shifting balance of power towards technology users
 - Barriers to market entry in any industry
 - Organizational structure and business planning
- Disrupting IT and IT security through agility
- *“Revolutions are not about trifles, but spring from trifles.”*
Aristotle

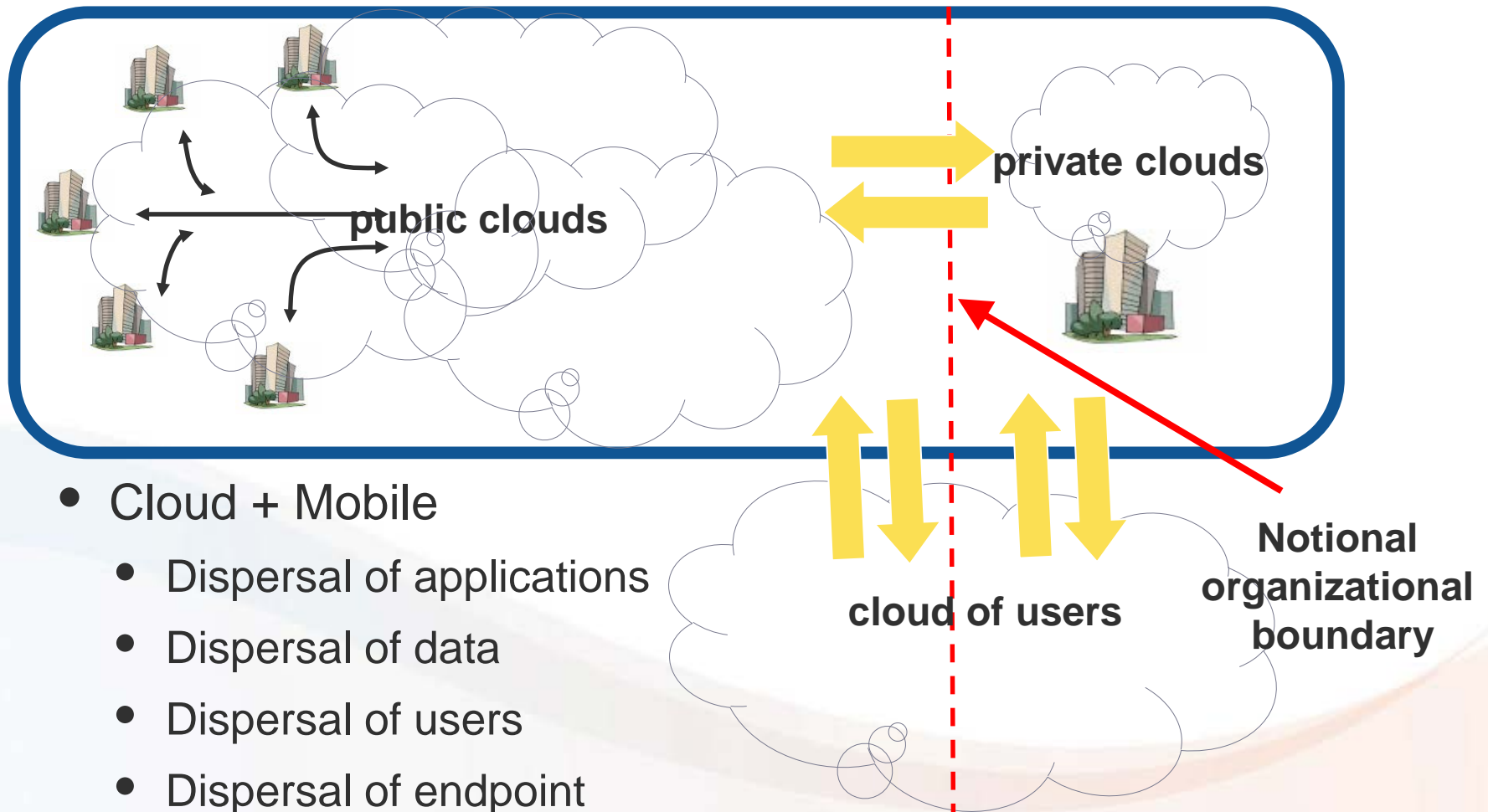
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The Hybrid Enterprise & Shadow IT



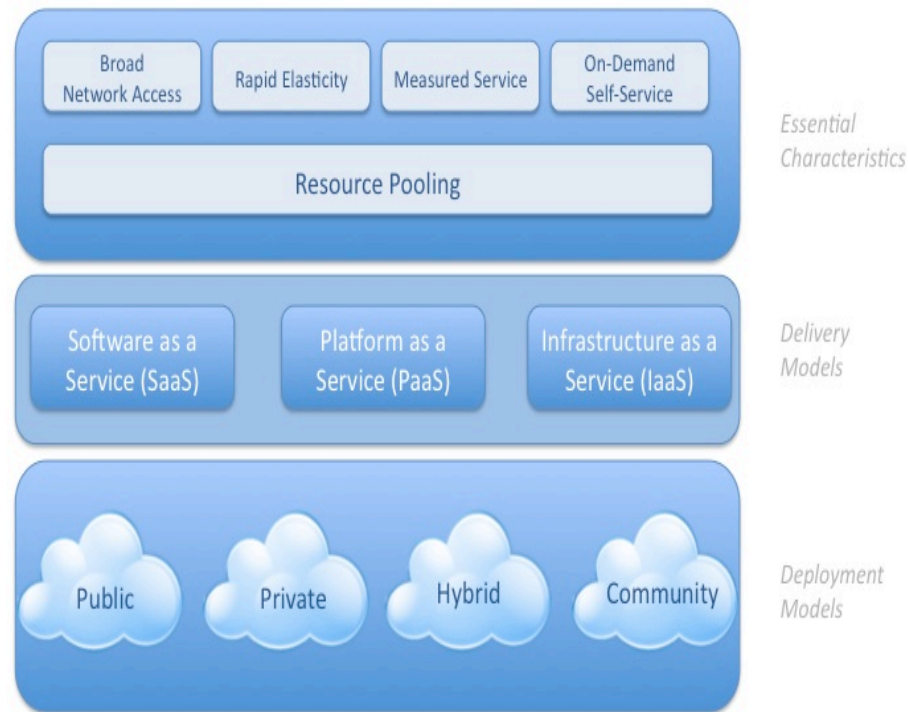
- Cloud + Mobile
 - Dispersal of applications
 - Dispersal of data
 - Dispersal of users
 - Dispersal of endpoint devices

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What is Cloud Computing?

- Compute as a utility: third major era of computing
- Cloud enabled by
 - Moore's Law
 - Hyperconnectivity
 - Provider scale
 - SOA
- Key characteristics
 - Elastic & on-demand
 - Multi-tenancy
 - Metered service
 - Broadly available
- But, can we Trust the Cloud?

Visual Model Of NIST Working Definition Of Cloud Computing
<http://www.csrc.nist.gov/groups/SNS/cloud-computing/index.html>



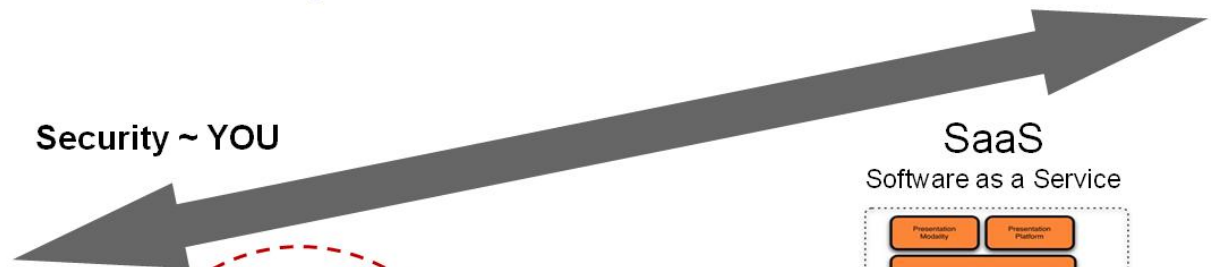
Migrating to the Cloud

- Shared Responsibility
- Strategy
- Education
- Architecture / Framework
- Due Diligence

Role Clarity

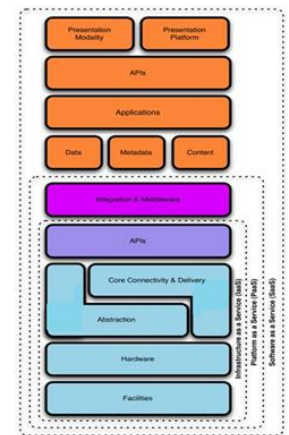
Security ~ THEM

Security ~ YOU



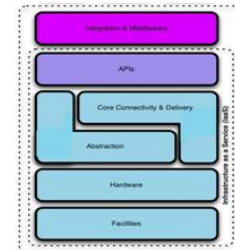
SaaS

Software as a Service



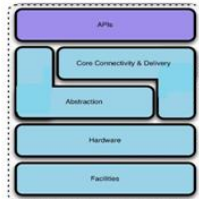
PaaS

Platform as a Service



IaaS

Infrastructure as a Service



Key Trust Issues

- Transparency & visibility from providers
- Compatible laws across jurisdictions
- Data sovereignty
- Incomplete standards
- True multi-tenant technologies & architecture
- Incomplete Identity Mgt implementations
- Consumer awareness & engagement
- *How do we gracefully “lose control” of IT and have greater confidence in its security?*

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About the Cloud Security Alliance

“To promote the use of best practices for providing security assurance within Cloud Computing, and provide education on the uses of Cloud Computing to help secure all other forms of computing.”

- Global, not-for-profit organization
- Over 33,000 individual members, 150 corporate members, 60 chapters
- Building best practices and a trusted cloud ecosystem
 - Research
 - Education
 - Certification
 - Advocacy of prudent public policy
- Innovation, Transparency, GRC, Identity

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Global Efforts

- Europe

- Proposed EU Data Privacy Regulation
- EC European Cloud Partnership



- US Federal government

- NIST
- FedRAMP



- APAC

- Standards bodies

- ISO SC 27
- ITU-T FG 17
- DMTF, PCI Standards Council



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Key CSA Contributions



Research to Secure Mobile
Endpoint Computing



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CSA GRC Stack

- Family of 4 research projects
 - Cloud Controls Matrix
 - Consensus Assessments Initiative
 - Cloud Audit
 - Cloud Trust Protocol
- Tools for governance, risk and compliance mgt
- Enabling automation and continuous monitoring of GRC

Provider Assertions

CAI[™]
Consensus Assessments
Initiative

CCM[™]
Cloud Controls Matrix

CTP
Cloud Trust Protocol

**Cloud
Audit**

Private,
Community &
Public Clouds

Control Requirements

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CSA STAR Registry



- CSA STAR (Security, Trust and Assurance Registry)
- Public Registry of Cloud Provider self assessments
- Based on Consensus Assessments Initiative Questionnaire
 - Provider may substitute documented Cloud Controls Matrix compliance
- Voluntary industry action promoting transparency
- Security as a market differentiator
- www.cloudsecurityalliance.org/star

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CCSK – Certificate of Cloud Security Knowledge

- Benchmark of cloud security competency
- Measures mastery of CSA guidance and ENISA cloud risks whitepaper
- Understand cloud issues
- Look for the CCSKs at cloud providers. consulting partners
- Online web-based examination
- www.cloudsecurityalliance.org/certifyme
- www.cloudsecurityalliance.org/training



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Security as a Service

- Information Security Industry Re-invented
- Define Security as a Service – security delivered via the cloud
- Articulate solution categories within Security as a Service
- Guidance for adoption of Security as a Service
- Align with other CSA research
- Delivered as the 14th domain within CSA Guidance version 3.
- <https://cloudsecurityalliance.org/research/working-groups/secaas/>

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CSA Mobile

Mobile – the Portal to the Cloud

- BYOD, New OSes, application stores, mobile clouds...

Our Initiative

- Security Guidance for Critical Areas of Focus in Mobile Computing
- Secure application stores
- Solutions for personal and business use of a common mobile device
- Cloud-based security mgt of mobile devices
- Security frameworks and architecture
- Scalable authentication and secure mobile app development
- www.cloudsecurityalliance.org/mobile

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CSA
Mobile

Research to Secure Mobile
Endpoint Computing

Summary

- Challenges remain
- Governments, SDOs, Industry actively addressing issues
- More tools available than you think
- Waiting not an option
- Identify IT options appropriate for specific cloud
- Leverage business drivers & risk mgt
- Be Agile!

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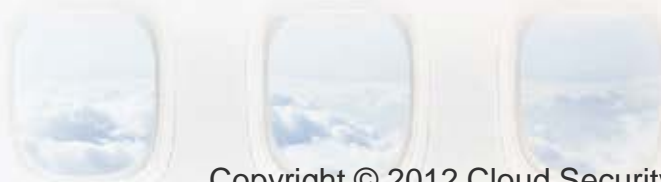
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For more information

- Research: www.cloudsecurityalliance.org/research/
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Thank you!

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