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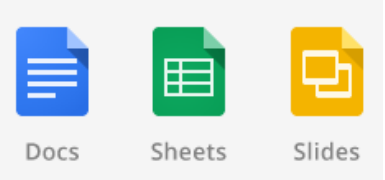








Requirement for a Minimum Service Level Framework for Cloud Providers and Users

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THE BIG PICTURE

Cloud Models & Market Trends

Applications	  
Storage	  <p>Your stuff, anywhere</p>
Computing	 
Development platform	 

Gartner predicts by 2020 “Cloud Shift” will affect more than \$1 Trillion in IT Spending

Who uses cloud computing?



TOYOTA

Carnegie Mellon University



AVON
the company for women

Cloud Shift Summary by Market Segment

Legacy Segment	Cloud Segment	Total Market Size in 2017	Total Cloud Shift in 2017	Cloud Shift rate through 2020
Business Process Outsourcing	BPaaS	\$119 Billion	\$42 Billion	43%
Application Software	SaaS	\$144 Billion	\$36 Billion	37%
Application Infrastructure Software	PaaS	\$177 Billion	\$11 Billion	10%
System Infrastructure	IaaS	\$294 Billion	\$22 Billion	17%

CLOUD COMPUTING: CHALLENGES

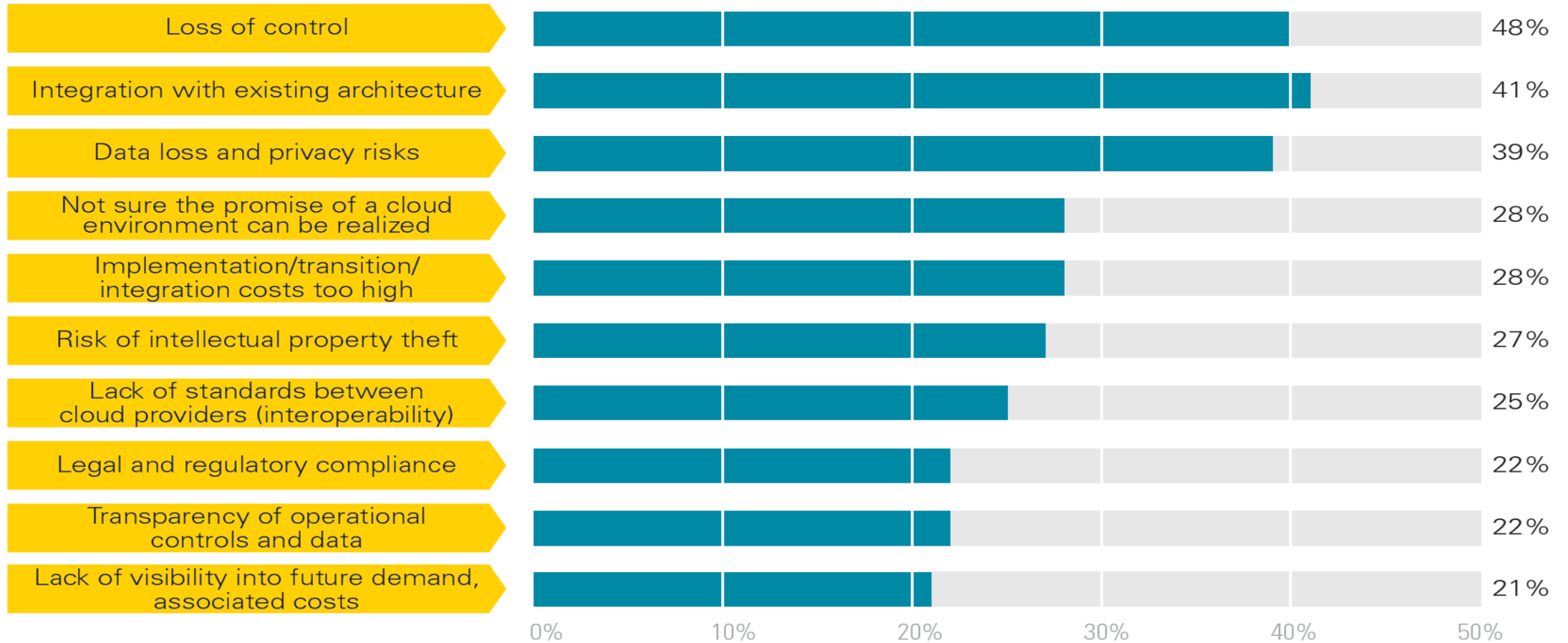
Cloud Computing: Challenges

- Poor or lack of standards between cloud providers to ensure QoS (Quality of Service)
- The security, privacy and integrity of the data in the cloud computing is a major concern and consider as a major barrier to adoption of the technology
- Lack of or no control over their data and where Internet is used as a communication media to access data which raises serious concerns regarding the data availability
- Lack of clarity in-terms of regulatory laws to protect data and intellectual property
- Integration with existing infrastructure is an adoption challenge

Cloud Computing: Challenges

- Third party audit mechanism is not followed by the cloud industry leading to poor QoS (Quality of Service)
- Incident Response standards are variable across the providers
- Identity Management issues are leading to data and security breaches
- Notorious Nine The Cloud Computing Threats are major challenges

Customers' biggest concerns



KPMG International's 2013 Global Cloud Provider Survey (n=179)

THE RESEARCH

Research Question

Q) Is it possible to implement a Minimum Service Level framework for cloud users and providers; offering a uniform standards of service clearly defining a benchmark for all the cloud providers across the industry regardless of their locations?

Aim of Research

- To implement a Minimum Service Level Agreement; for educational institution's users (students, staff and employees); offering a uniform standards of service clearly defining a benchmark for all the cloud providers across the industry regardless of their locations.

Specific Objectives

- To identify different flaws and weaknesses in the current Service Level agreement offered by the cloud providers.
- To investigate the requirements of the educational institution's users and challenges they face in the adoption and usage of cloud computing as a service.
- To propose a Conceptual framework; which will act as a Minimum Service Level framework for the educational institution.
- To design, develop and implement a test-bed using a private cloud platform to perform tests on SLAs.

Methodology

- For this research the methodology that will be deployed in order to collect qualitative data is Grounded Theory
- Grounded theory provides mechanism to collect data from a particular area from those individuals who have relevant experience in that field
- Semi-structure interviews, questionnaire and observation will be used to collect data
- To collect data from the participants, provide a mechanism to identify the data by using open coding and provide relationships between different key areas and entities.

Motivation

- **Academic:** *qualitative research, with participants observation, in the Context of a PhD project in Information Science*
- **Professional:** *Contribute to the improvement of providing better QoS (Quality of Service) for Cloud users in educational institution and setting a Minimum Standards of Service for Cloud Providers across industry*

Work Plan

From 30/07/2016 to 26/06/2017

- Literature Review. Fully review and understand the current available Service Level Agreements for the Cloud Providers.
- Investigate and identify the lack of universal standards and service among different providers from different hosting location.
- Present initial results for critical evaluation.
- Publish 1st and 2nd Research Papers.

From 27 06/2017 to 26/06/2018

- These Structure, revision and edition
- Preparation and Drafting of Defense
- Submission of Final Report

Research Contribution

- To investigate and implement a Minimum Service Level Agreement; for educational institution's users (students and employees); offering a uniform standards of service clearly defining a benchmark for all the cloud providers across the industry regardless of their locations.
- To implement a uniform standard across the industry that will provide mechanism to the students/ employees of the educational institutions to choose and trust the cloud provider regardless of their hosting location; expecting international recognised security standards for security of their data.
- Defining and implement a SLA mechanism for educational institution users (students and employees) that provides a uniform standards on availability of service, response time, a defined mechanism for resource allocation, trustworthiness of service provider and remove ambiguity of implementation of law and data protection.

Research Contribution

To implement a Performance indicator mechanism that will help educational institutions to choose the best cloud providers based on QoS, response time, Service availability, trustworthiness and cost.

To identify and resolve different flaws in the current Service Level agreement offered by the cloud providers in-terms of security of data, QoS etc.

To investigate the existing Service Level Agreements offered by the cloud providers to educational institution's users such as students and employees; to identify the challenges faced due to lack of Minimum Service Level Agreement.

To design, develop and implement a test-bed using a private cloud platform to perform tests on SLAs.

Research Contribution

- To identify and resolve the security disparity standards across different providers hosting from different locations.
- To formulate the issues and problems that are faced by the educational institutions users (students/ employees) using cloud services.

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