Cloud Computing Adoption: A comparative study

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Outline

- Cloud Computing Predictions
- Survey Design
- Survey Results
- Conclusions
What are the Analysts Saying?

- IDC estimates that spending on public cloud IT services in 2011 was $28 billion ($1.7 trillion of total expenditure on IT products and services)
- IDG CIO Survey reports that 26% of IT budget is allocated to cloud, and 88% of executives rate cloud computing as priority
- Northbridge survey (2012) – 82% use SaaS and 50% of respondents are confident to use cloud services for mission critical applications

Cloud Computing Predictions

- Worldwide revenue from public IT cloud services to reach $55.5 billion in 2014, representing a compound annual growth rate of 27% [IDC]
- Global cloud computing market to grow from $37.8 billion in 2010 to $121.1 billion in 2015 at a compound annual growth rate of 26% with SaaS accounting for 73% of the market’s revenues 2010 [MarketsandMarkets.com]
Some Issues with Surveys

- Results of different surveys are difficult to compare and sometimes not easy to interpret.
- Cloud computing encompasses a wide spectrum of solutions and is difficult to define (data storage and hosting services vs multitenant SaaS applications).
- Private and public clouds are associated with different benefits and have different adoption characteristics.

Comparative study – Czech Republic vs Australia (2011/12)

- Both surveys use identical online questionnaires.
- Computerworld and CIO magazine in Australia.
- Computerworld, CSSI and CACIO in Czech Republic.
- About 100 responses each survey.
Survey design

- Profile of respondent organization, including the size of the organizations, industry sector, duration of operation, IT expenditure, etc.
- Expenditure on cloud services, perceived benefits of cloud computing, concerns about adopting cloud services
- Types of cloud services used, types of processes supported by these services, and level of satisfaction

Survey design …

- Focus entirely on public clouds
- Direct questions about specific cloud models (i.e. SaaS, IaaS and PaaS), not cloud computing in general
- Survey differentiates between pilot projects and production systems
- Questions designed to establish if cloud services are used to support mission-critical business processes
Survey design …

- Adoption trends - questions about past use of cloud services (over the last 12 months), current, and intended future use (over the next 12 months).

Survey results

- Sample size: 96 for the Australian and 105 Czech organizations
- Mostly large organizations > 250 employees operating for more than 5 years
- Some differences: 45% of Czech companies in IT sector (17% of Australian companies in IT sector)
Overall Adoption Rates

- **Australia**
  - SaaS 53%, IaaS 30%, PaaS 27%
- **Czech Republic**
  - SaaS 25%, IaaS 13%, PaaS 11%

SaaS in production and mission critical applications

- Higher use of cloud services in production in Australia, in particular for SaaS applications (44%) as compared to Czech Republic (18%)
- Higher use of SaaS services in mission critical applications in Australia (31%) of as compared to Czech Republic (23%)
Motivations for Adoption

- Most cited benefits of cloud computing adoption include cost reduction, elasticity, flexibility, and rapid deployment.
- Australian companies put more emphasis on improved support for business processes in SaaS applications (26%) as compared to Czech companies (about 6%) and appear to be less concerned about cost reduction.
Motivations for Adoption

Barriers to Adoption in Australia

1. Data security and privacy issues (34% for SaaS, 17% for PaaS, 27% for IaaS)
2. IT governance (27% for SaaS, 19% for PaaS, 23% for IaaS)
3. Service availability (21% for SaaS, 12% for PaaS, 22% for IaaS)
Barriers to Adoption in Czech Republic

1. Dependence on service provider (28% for SaaS, 28% for PaaS, 11% for IaaS)
2. Data security and privacy (23% for SaaS, 23% for PaaS, 13% for IaaS)
3. Service availability (16% for SaaS, PaaS and IaaS)

Reduction in Concerns Following Adoption

- Concerns about data security, IT governance, service availability and dependence on service provider are held by lower number of respondents in both Australian and Czech surveys following adoption
Adoption Barriers (Before/After) Australia

Adoption Barriers (Before/After) Czech Republic
Conclusions

- Australian data shows much higher use of cloud services in production environments, in particular for SaaS applications (44%) as compared to less than 20% in Czech Republic
- Larger number of Australian companies (31%) using SaaS in mission critical applications as compared to 23% in Czech Republic
Conclusions ...

- Concerns about data security, IT governance, service availability and dependence on service provider are held by much lower number of respondents following adoption of cloud services.
- SaaS adoption is confined to a small number of relatively simple types of enterprise applications that include CRM, email and other types of collaboration software.

Conclusions ...

- Important differences in cloud computing adoption patterns between Australia and Czech Republic exists at present.
- It is likely that the factors that cause lower level of acceptance of cloud computing in Czech Republic will diminish over time as the ICT infrastructure and overall readiness for cloud computing improves.
Conclusions …

- Further investigation is needed to identify the impact of country-specific factors such as the availability of localized SaaS applications and local cloud providers on cloud computing adoption decisions.

Readiness for Cloud

- The BSA (Business Software Alliance) study “Blueprint for Economic Opportunity” examined laws and regulations relevant to cloud computing as well as ICT-related infrastructure and broadband deployment.
Conclusions …

- Adoption of cloud services in CR is growing steadily
- Need to improve awareness of available cloud computing services
- Need for adoption guidelines for organizations of different size and industry sector
- *Collaboration opportunities between universities and industry practitioners*

Conclusions …

- SaaS, IaaS and PaaS have different adoption rates and business benefits
- Adoption rates vary according to
  - company type
  - company size
  - industry sector
  - territory
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- Objectives
  - Improve understanding of cloud computing issues
  - Development of adoption guidelines
  - Study of Enterprise Architectures for cloud computing

- Research Projects
  - Cloud computing adoption and governance: Models and Guidelines - IG406040 (2010)