



Cloud Computing: A Primer for SMEs

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What is Cloud Computing?



Cloud Computing

- *IT Services delivered over the Internet through a Service Provider's Infrastructure and based on user demand*
- *Delivery of software, infrastructure, and storage either as separate components or a complete platform*

Cloud Computing Characteristics



Elasticity and scalability

- *Service available all the time (7 days a week, 24 hours a day)*
- *Scale upward for high periods of demand - Scale downward for lighter one*

Self-service provisioning

- *Simple on-demand access without time delays*

Application programming interfaces (APIs)

- *Standardized Programming Interfaces*

Pay-as-you-go model

- *Billing and Metering*
- *Customer receives a bill*

Types of Cloud Services



Infrastructure-as-a-Service (IaaS)

- *Cloud users rent storage, computation, and maintenance from cloud providers (utility services)*
- *On-demand datacenter services as a service*
- *Examples: Amazon Web Services (EC2), Skytap Cloud*

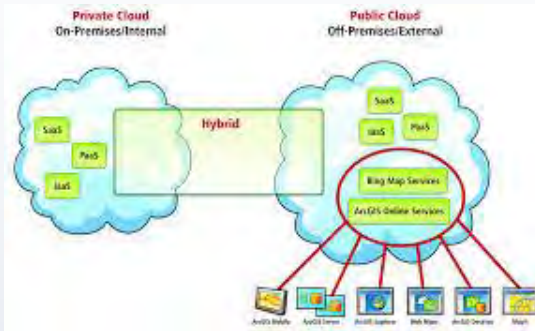
Software-as-a-Service (SaaS)

- *Software applications accessed & delivered through the Internet*
- *Examples: Salesforce.com, Google Docs*

Platform-as-a-Service (PaaS)

- *Internet based platform offered to developers for creating their own services*
- *Examples: Google App Engine, Facebook APIs for Developers*

Types of Cloud Infrastructures



Public Cloud

- *Cloud Services rendered over a network that is open for public use*

Private Cloud

- *Infrastructure operated solely for a single organization*

Hybrid Cloud

- *Composition of two or more (public, private) clouds*

Why SMEs should care?



Easy way for Small Businesses:

- *Several SMEs typically don't have the time or resources to manage IT infrastructure in house*

Ubiquity

- *Information stored online and available to you wherever you need it*

Reduced Capital Expenditure

- *Convert Capital Expenses (CAPEX) to Operational Expenses (OPEX) (pay-as-you-go)*
- *Cloud Services can be cheap (e.g., Dropbox, Google Drive, Microsoft365)*

Business Agility

- *E.g., Try new application without investing in hardware, software, networking*

What are the Challenges?



Five Challenges to Overcome
in the Cloud

Data Privacy and Confidentiality - Security

- *Where will your data be located?*
- *What are the security features provided?*

Cost Issues

- *E.g., Variable/Uncontrolled Costs, Migration Costs*

Poor Awareness

- *SMEs are not typically aware of the pros and cons of the Cloud, but also how to negotiate with cloud providers*

Contractual Issues and SLAs

- *Liabilities, Vendor Lock in, Data Portability*

The Role of CloudingSMEs



Raise Awareness

- Workshops, Tutorials, Q&A

Education and Training

- Knowledge Pyramids – Expert advice

Support in Decision Making and Negotiations

- Decision Support Tools (Cloud Computing Toolbox)

Ambassador for Policy Making and Standardization

- CloudingSMEs = The SME Voice in EU

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- www.cloudingsmes.eu

Thank you!



Contact

CloudingSMEs

Accelerating the adoption, deployment and use of Cloud Computing by SMEs

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