ASSIGNMENT 1 – PAPER REVIEW

CSCI 5409 – Advanced Topics in Cloud Computing

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Assignment 1: Paper Review

Research Area – Cloud Computing: History and Overview [1]

Summary
The main idea of the research article is accentuating the origin of Cloud computing from Utility computing and Grid computing, its characteristics, service models, and deployment models. The research briefly describes the history of cloud computing and its emergence, and further talks about Salesforce being the first ever company that worked on a cloud computing project. It further mentions the collaboration of multiple universities of the US and some reputed organizations such as Google and IBM to encourage the study and use of cloud computing. The article enlists the various advantages of cloud computing such as access management, cost efficiency, scalability, and so on. The article mentions the concept of Mobile Cloud Services which is an emerging concept easing the use and access to cloud services through mobile devices. The various characteristics of cloud computing discussed are on-demand self-service, network access, resource pooling, physical transparency, or rapid elasticity, and pay peruse. The service models to support the cloud applications available are Infrastructure as a Service(IaaS), Platform as a Service(PaaS), and Software as a Service(SaaS). IaaS offers a fully computational infrastructure as a service, PaaS offers a platform where applications can be developed, and SaaS offers a complete software as a service. The research further highlights the deployment models available for use such as public, private, hybrid and community cloud models. The type of cloud used depends on the requirements and scope of the application. Private clouds are generally used within organizations to ensure that the security of data is maintained. Public clouds are used in places where privacy is not very crucial. Community cloud is shared between organizations with similar goals. Hybrid cloud is used by organizations where more than one model needs to be deployed. The various applications of cloud such as software testing, cloud storage, Big Data, Gaming, and Internet of Things(IoT), that have eased the use of their services are available today. Moreover, the article describes the evolution of cloud security and the measure taken to ensure that the security and privacy of data is not compromised. Some of the measures taken are password management, encryption, access recovery, multi factor authentication, login monitor. Cloud computing eases development, usage and implementing process workflows in organizations and offers numerous benefits such as scalability, flexibility, and productive output. [1]

Answers to the questions
1. What was the research question posed by the paper and what approach did the authors take to answer the question? Finally, what were the key findings of the paper?
⇨ One of the important research areas focused in the article is the cloud application and the various technological paradigms associated with it. The authors have very well linked the cloud applications to the available cloud services, characteristics, and cloud architecture.

2. In your opinion, what was the most interesting or important thing you learned from the paper? What is it? Why is it interesting or important? How will/can you apply that knowledge in this course or in your work?
⇨ The most interesting part of the research article was the cloud security concern being discussed and the measures available in the market emphasized. Cloud security is one of the major considerations to be made while working on cloud applications and the measures described in the article such as password management, access recovery,

encryption and so on can be used while implementing the cloud project and later in industry practices.

3. If you were going to write a detailed report on this topic, what is the next paper you would read and why would you read it
⇨ The next research article that can be read is about the implementation of one of the deployment models done using cloud providers such as Amazon, Google, Microsoft Azure to get detailed insights on cloud services.

References

[1] J. Surbiryala and C. Rong, "Cloud Computing: History and Overview," IEEE, [Online]. Available: https://ieeexplore-ieee-org.ezproxy.library.dal.ca/stamp/stamp.jsp?tp=&arnumber=9045506. [Accessed 29 September 2021].