



Cloud Computing for Distributed University Campus: a Prototype Suggestion

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Abstract

In this paper we discuss the “Cloud Computing” architecture, cloud services, layers and types of cloud and propose a cloud infrastructure prototype for distributed university campus. Cloud Computing can be defined as providing resources and capabilities of Information Technology (e.g., applications, storages, communication, collaboration, infrastructure) via services offered by cloud computing providers. Cloud Computing has various characteristics as shared infrastructure, self-service, pay-per-use model, dynamic and virtualized, elastic and scalable. Nowadays, because of the increasing popularity of Cloud Computing many giant IT companies such as Microsoft, IBM, Google, and Amazon interest developing new cloud environments due to advantages of the Cloud Computing technology include cost, availability, and scalability. A Cloud Computing service has ubiquitous access through a Web browser or mobile device with APIs or special desktop applications developed by cloud service provider. Use of Cloud Computing on universities has many benefits such as accessing the file storages, e-mails, databases, educational resources, research applications and tools anywhere for faculty, administrators, staff, students and other users in university, on demand. Furthermore, cloud computing reduces universities’ IT complexity and cost. It is argued that cloud computing paradigms and characteristic, service and deployment model of cloud computing technology in first section of this paper. Then we discuss the implementation of cloud services at universities and various opportunities and benefits of cloud services for universities. Finally, we present suggested cloud infrastructure prototype for distributed campus.