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Cloud Computing Applications: A Review

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Abstract

In recent years, cloud computing is an emergent field in the Internet era. There is rapid development in high-performance computing and technology extended from grid computing to cloud computing to provide computing resources on pay per basis. Cloud service providers developed applications for users to easily access cloud services with quality of service (QoS) because cloud application plays an important role in service delivery of cloud organization. This paper provides a review of cloud computing technology, cloud models, deployment and cloud applications such as types of applications, reliability, and security. Finally, open research issues are provided for future research development.

Keywords: Cloud computing, Applications, Security, storage

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1. Introduction

Cloud computing has come with the concept of computing resources as a utility, which can be consumed based on pay on demand the same as you go fashion like electricity, water and gas [1, 2]. Cloud services mainly controlled and supported by data centers [3]. Cloud computing as a utility is a long-held dream in the information technology sector and it will become true with the advent of low-cost data centers [4]. Security is another major obstacle for opening up the vision of computing as a utility [5]. Datacenters are the most important entity in cloud service architecture. Datacenters act as cloud providers, which provide different types of cloud services to users [6]. A range of information technology companies provides services to their users as pay as you go fashion [7]. These companies are Facebook, Amazon, Salesforce, Yahoo, Cisco, Microsoft, and Google [8]. They have their own data centers deployed at different geographical locations.

SaaS is an application service licensing model that provides software facilities on demand [9]. A single application is run on the server-side, which is accessed by one or more runs on the cloud services and multiple end-users or client organizations. All leading organization get benefits of SaaS resources as its scope is limited and cost remain within the forecasted budget. The most widely known example of SaaS is salesforce.com, Google Apps, Dropbox, MailChimp, ZenDesk, DocuSign, Slack, Hubspot, although salesforce.com is providing the services of cloud computing from the last few years [10].

The main concern in the application is the authenticity of users and privacy of data, which remain at risk as the main control management remains with cloud providers [10]. Besides other terms and conditions, one of the fundamental factors in the cloud environment is to maintain security issues of cloud users. The most common security issues are spoofing, phishing, scams or frauds in the cloud environment [11]. Cloud network is considered to be a place of heaven for hackers who may perform offensive tasks over the internet by using unauthorized and illegal web browsers. However, the main challenge remains with the cloud provider to protect the users from any loss or damage.

SaaS is also assumed to be the basic services model that is used for accessing software through the cloud. Cloud users may tradeoff on the internet by establishing a connection with the end-user. Cloud buyers must consider the tradeoffs among computation, communication, and integration [12]. Whereas moving to the Cloud can essentially diminish the infrastructure cost, it causes a rise within the taken a toll of information communication, i.e. the cost of exchanging an organization's information to and from the open and community cloud and the cost per unit of computing asset utilized is likely to be higher.