30 Study of Mobile Cloud Computing: Architecture, Applications and Issues

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Abstract

Cloud Computing (CC) and Mobile Cloud Computing (MCC) are some significant technology trends for the last few years. Mobile Cloud Computing integrates the cloud computing into the mobile environment. Mobile Cloud Computing is expansion to cloud computing. MCC provides a platform where mobile users make use of cloud services on mobile devices.

In this paper, cloud computing and mobile cloud computing concepts are introduced. This paper also provides an overview of mobile cloud computing including architecture, applications, challenges and issues.

Keywords: Cloud Computing, Mobile Cloud Computing.

Introduction

Nowadays, cloud commuting is very famous and it is used to run various types of business application. Cloud computing has been widely recognized as the next generation computing infrastructure. Cloud Computing offers some advantages by allowing users to use infrastructure (e.g., servers, networks, and storages), platforms (e.g., middleware services and operating systems), and softwares (e.g., application programs) provided by cloud providers (e.g., Google, Amazon, and Salesforce) at low cost. In addition, Cloud Computing enables users to elastically utilize resources in an on-demand fashion.

Mobile cloud computing is introduced as an integration of Cloud Computing into the mobile environment. Mobile Cloud Computing brings new types of services and facilities for mobile users to take full advantages of Cloud Computing.

Mobile devices (e.g., smartphone and tablet PC) are increasingly becoming an essential part of human life as the most effective and convenient communication tools not bounded by time and place. Mobile users accumulate rich experience of various services from mobile applications (e.g., iPhone apps and Google apps), which run on the devices and/or on remote servers via wireless networks. The rapid progress of mobile computing becomes a powerful trend in the development of IT technology as well as commerce and industry fields. However, the mobile devices are facing many challenges in their resources (e.g., battery life, storage, and bandwidth) and communications (e.g., mobility and security).