Mobile Cloud Computing

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Abstract: *Mobile cloud computing is one of the technology extremely important in today's mobile environment. It joins the features of the both mobile computing and cloud computing which provides optimal services to the users of mobile devices. As mobile cloud computing (mcc) is still at the advanced stage of development, it is essential to catch a detailed understanding of the technology in order to point out the direction of future research. In recent times mcc has been introduced to be a potential technology for mobile services. This paper gives a view of mcc, which readers have an overview of the mobile cloud computing the definition, architecture, application, advantages and issues faced by mobile cloud computing.*

1. Introduction

This world is moving towards mobile world by the way of invention of devices like smartphones, tablets etc.. Which are becoming real parts of today's world. These devices are even more very useful to communicating by usage of mobile internet. As the word mobile itself the time and place are not bounded by the busy person. Users are all getting various services by mobile application itself e.g.…Google apps that run on remote servers via wireless networks. These are all the reason behind making essential to the progress of mobile computing [1]. IT technology, commerce, business industry and many fields become a powerful trend in the development. But at the same time mobile devices are facing problem through battery performance storage capacity and security issues [2]. So as the use of smart phones and mobile devices their available mobile services are performing in very much useful manner. There is need to address that challenges facing by these devices.

Over the past few years, an advance in network computing and application has high demand for mobile application. However some common problems for all devices are still needs to be addressed. The limited capabilities are processor power, available memory and energy consumption. Cloud computing (cc) commonly gives a range of services which provided by an internal based cluster system. Such cluster system consist low cost servers to organizing the various sources to the computer. They offer very safe, reliable, fast, convenient and transparent services such as data storage accessing and computing to clients. A technology of cloud computing gives it users on demand in mobile nature from any remote distance, has been recognized as the next generation computing infrastructure

Cloud computing offers many advantages by allowing their users to use servers, networks and storages. Thus the software application program eliminates the requirement for users to acquire different resources for storage and computing power. Particularly resources can be dynamically added, as a result, the availability of cloud computing services in a mobile applications, the support of cloud computing introduced different variety of services for mobile users. Mobile cloud computing (MCC) is introduced as an integration of cloud computing with mobile devices [3]. As a result of mcc research still having some several issues to be done.

2. Architecture
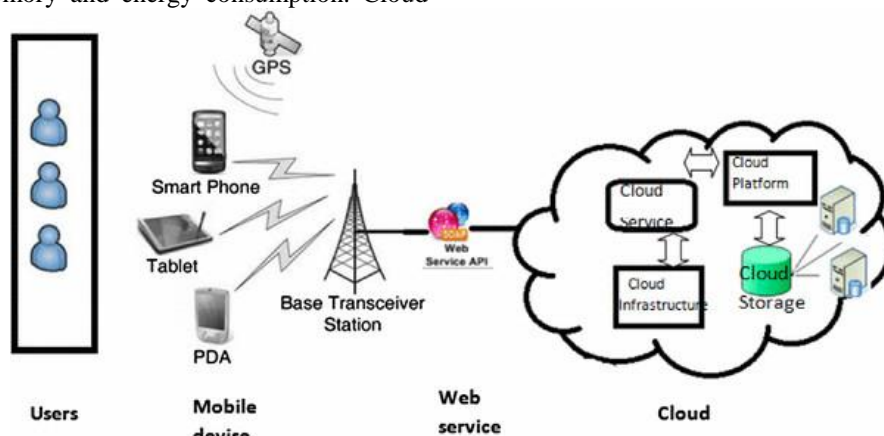
Mobile cloud computing is described under the three main combination of mobile computing, cloud computing and mobile internet. Mobile environment can be stated as availability of cloud computing facilities. It integrates the advantages of all the three technologies called as cloud computing for mobiles. Mobile cloud computing is a new model where the data processing and storage can be moved from mobile devices to powerful and centralized computing platforms. This platform can be accessed by wireless connections via web browser on the mobile devices. This is similar to cloud computing, but the client side has changed view for mobile phones but still cloud computing is the main concept. Mobile cloud computing can be divided into cloud computing and mobile computing. To establish connection to mobile users send services request to the cloud by web browser or desktop application. While monitoring and calculating function will be implemented to ensure the os until the connection is completed.

3. Benefits of Mobile Cloud Computing

Mobile cloud applications move the computing power and data storage away from mobile phones, intocloud, bringing apps and mobile computing to not just smart phone users. There is a possible benefit of mobile cloud computing [4].

- Mobile cloud computing will help to overcome limitations in particular of the processing power and data storage.
- It also might help to extend the battery life.
- Mcc is also seen as potential solution for mobile operating system with currently with eight main operating system.
- Mcc can increase to security level for mobile devices, achieved by through monitoring and maintained of software.
- Mobile cloud operators can act as virtual network operators-payment services and provide software data storage etc.
- Mobile cloud provides a number of new technical functionalities.
- In particular, providing of context and location awareness enable services Is an attractive functionality.
- Mcc might open the business that is currently for addressing business to consumers since they will significantly.

4. Issues in MCC

While deal with mobile devices in cloud the first thing is resource-constrain. However, smart phones have been improved clearly in various aspects such as capability of CPU and memory, storage, size of screen, wireless communication, sensing technology, and operation systems, still have significant limitations such as limited computing capability and energy resource, to deploy complicated applications. Some of major issues are listed below:

1) Low bandwidth: Low bandwidth is a one of a major problem in mobile cloud computing (Mcc). Mcc uses radio waves which are limited compared to wire network. Obtained wavelength is assigned in different mobile devices. The wired network has three times high-speed than mobile cloud computing. This is a one of main issues faced in mobile cloud computing.
2) Security and privacy: It is difficult to control threats on mobile devices as compared to desktop devices Because, in a wireless network, there is a lot of chances in lack of information from network. By this activity loss of data, or misuse of data are possible.
3) Service availability: Connection is another vital threat in cloud computing. User frequently finds out complaints like transportation, crowding, breakdown of network, out of coverage. Moreover, customer also get low frequency signal which leads low speed and storage facility.
4) Alteration of networks: It has-been used in different operating system driven platform like android, apple, IOS, and windows phone. So, it has to be conflict with different platforms. Such activity was maintained by IRNA (intelligent radio network access) technique.
5) Limited energy source: Generally mobile phone requires less power and saves more energy. mcc increases battery usage of mobile devices which become major issues. Devices should have extended life battery to access applications and other operations. When the size of code is small, the offloading saves more energy than local processing. Some organizations try to solve this problem. Cloud computing and mobile devices give well-organized and accessibility but with the security issues may happen if not proper implemented. A fast growing market of Mobile Device management (MDM) manages resources of mobile devices on cloud within the enterprise. In future of technology is a combination of Cloud, and Mobile.

5. Conclusion

Cloud computing has created a new research in smart phone argumentation leading to the emergences of mcc. The goal of mcc is to provide rich mobile computing through communication between frond users and end users of cloud providers. With high increase of data computation has been consider as a strategic resource in many countries. We have conclude a there are some main optimisation approaches in mcc, which are focusing in limitation of mobile devices, quality of communication and division of application services. And effective elastic application division mechanism is the best solution to guarantee service in mcc. It's complicated but it surely provides high impact result.

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