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Research on Cloud Based Mobile Computing Security Issues and Challenges

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Abstract: *Mobile cloud computing, a combination of two computing mechanisms. One is mobile computing and second is cloud computing. These 2 have become one of the major and crucial word of information industry. It is an advanced version of mobile computing technology and wireless technology. Mobile devices faces many challenges like storage, security, bandwidth etc. Therefore, researchers introduce a better solution called MCC (Mobile cloud computing). Which manage both infrastructure data storage and data processing. MCC is still under development. MCC integrates cloud computing into mobile environment and overcome obstacles related to performance. MCC is the mechanism that is necessary to make it secure. With the latter aim, this paper presents a review on the background and principle of MCC, characteristics, recent research work, and future research trends.*

Keywords: *Security and Privacy, Cloud Computing, Mobile Cloud Computing (MCC), Smart Mobile Devices (SMD), Mobile Computing.*

1. INTRODUCTION

John McCarthy first introduced the idea of CC in 1961. It has gained popularity and broadly applied in different applications and environments.

The device like smartphone, tablet, pads etc. are used as communicating tool sand become the important part of our life. Now a days it's really very difficult to live without these devices like mobile. Mobile is very useful in these days for communication. We can take it from one place to another place or we can say walk and talk easily in the mobile with our friends, family, relatives or anyone. There are many applications in the mobile and the apps by which we can get knowledge information or entertainment us by the many games as movies, series or serials etc. in Google we can research anything. Mobile is a wireless device that make our life easier, so wecan say that the mobile, smartphone, and tablet etc. are very essentials for us in many ways so that the program of the mobile computing is really very important.

These device is used in many field like technology, commerce, business, industry etc. But by using this devices we faces the challenges like battery life, storage capacity and communication etc. Battery life of mobile can be challenge in front of us because overuse of the mobile causes the end of the battery so at that time mobile switch off and our work in that stop and for that we changed the mobile and again we used that in our needs and the storage problem is also the obstruction in the use of these because after this storage we can't download more things and mobile and this causes irritation and observation in our work so it needs to be addressed the limit capacity processor power available memory consumption.

Cloud computing give us a range of services which are provided by an internet cluster system, which consists of personal computer. CC officers many advantage by allowing the users to used infrastructure like services networks, and storage platform containing middleware services, operating system etc. There are beneficial in the uses of mobile.

Mobile clouds computing is introduced as an integration of cloud computing with mobile computing and mobile services.

So this topic is very important because it gives the proper framework to cloud computing on mobile device.

2. LITERATURE REVIEW

From the mobile cloud computing now the cloud computing era begun at 2007 as developingextensions of cloud computing and the mobile computing a new phase has been developed and again devised 2009. Because of its attractive technology with increased number of mobile phone, smartphone etc.

Top 10 technology is proved by gaunter where cloud is in first position because at 2012 cloud computing will have an increased impacts on these enterprises and the more organized at 2012.

In mcc the author have overview of mcc privacy and integrating of the data.

People of the mobile user need high data storage capabilities where mcc can proved all these promises by these promises 6% total mobile users in 2014 by the another report cloud mobile increased with repaid phase and increased market value 88% of 5 year from 2009-2014 but mcc is also not satisfied because only the barrier which present the user to adopt mobile. Mobilecloud computing is risk i term of security and privacy of the data and the services. Most of the managers around this world servicing for this. Its also conduct by research from proto and published by another research 68% of chief information officer have confirmed the security of cloud computing.

3. OVERVIEW OF TECHNIQUES

A. Cloud Computing -

It is the delivery of computing services over the internet on the pay per use basic. It allow the access to information and resources on anytime anywhere basics

It is useful as -

a. Online file storage
b. Social networking
c. Web mail
d. Online business applications etc.

By using this services business person can used software that are managed by the remote locations.

It provide a -

a. Shared pole of resources
b. Including data storage space
c. Network
d. Specialized corporate
e. users application.

It related to computer services and describe a type of outsourcing the computer services, without worrying about from where it is? And from how it and pay for what the consumed. The users can simply use storage computing power specially crafted development environment. Without worrying about its internet working. It is usually internet base computing which hide complex infrastructure of the internet, it's the style of computing and the services are proved as a service allowing user to access their needed technology behind services providing services.

B. Mobile Computing -

Mobility has become a very popular word and rapidly increasing past in to days computing area an incredible growth has developed as sat phones pads a laptops with a variety of mobile computing networking and security technologies. In developed of wireless technology and internet it become much easier and not limited by the particular office or home or the organization with use of the cloud computing concept it is easier to develop the mobile.

C. Mobile Cloud Computing -

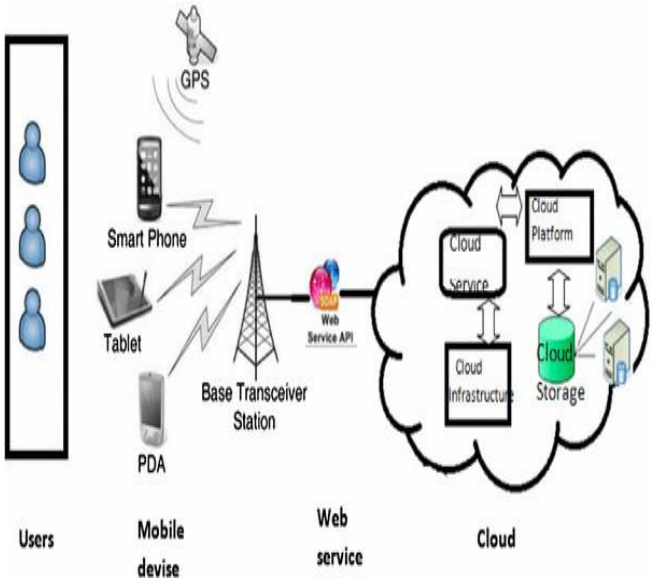
· It is the advanced version of the above i.e. therefore cloud computing and mobile computing.

· MCC defined by Aepona as a new distribute computing par diagram for mobile application.

· MCC is based on the cloud concept centralized application services and sources access over the wireless network technologies based on web browser of the smart phone.

It is portable business option sine reduce the development, execution cost of mobile application and mobile user are unable to acquired new technologies as on demand based.

MCC try to focus on alleviating resources limitations in SMDS by employing different strategies of argumentations such as screen argumentation, energy argumentation, storage argumentations and application processing of SMD.



4. APPLICATIONS OF MOBILE CLOUD

Now these days, Mobile user use the wide range of cloud computing services such as Cloud storage, Cloud media, Mobile social networks, Mobile wireless networks, Mobile gaming, learning and education, mobile transactions and payments, mobile messaging, and mobile ticketing.

Many mobile applications have taken advantages of MCC and there are some typical applications are introduced.

1. **Mobile healthcare** – Mobile healthcare provides mobile users with convenient helps to access resources (e.g., patient health records) easily and efficiently. Besides, m‐healthcare offers hospitals and healthcare organizations a variety of on‐demand services on clouds rather than owning standalone applications on local servers.
2. **Mobile learning -** Mobile learning is totally based on electronic learning. An online educational or electronic learning service websites and apps are cloud based mobile learning applications.

5. BENEFITS OF MCC

Cloud computing considered as a solution to mobile computing because of several reasons including mobility, portability and Communication, wireless data transformation.

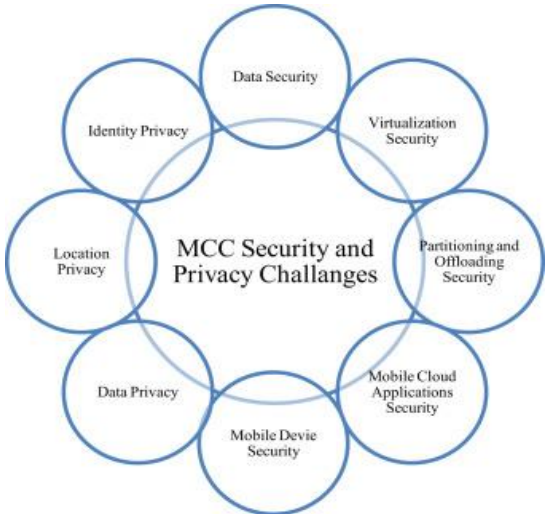
- **Mobile cloud computing** allowing personal users to access their documents, files, images, and other types of data remotely over the Internet using their smartphones.
- Accessing of data from anywhere.
- We can also stored our data which is privately accessed the data which have been already stored.

6. CHALLENGES AND SOLUTIONS

A. Challenges Regarding Mobile Computing:

1. Security and Data Privacy-

Most of the times the user has sensitive content on the cloud and during the data flow there can be a breach in the network which can lead to the loss of data.The major data security risks such as data loss, data breach, data recovery, data locality and data privacy result from the fact that mobile users' data is stored and processed in clouds that are located at the service providers' end.Attacks and Hacking activates are susceptible to one or other type of malicious attacks on all networking platform.

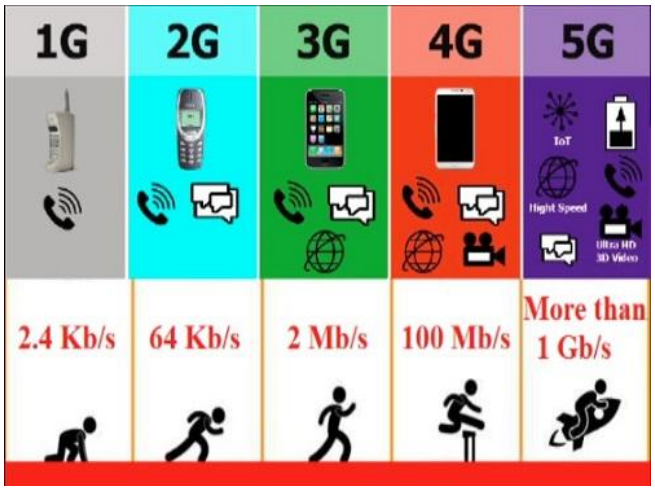


2. Data Integrity –

Data quality is referred to as "data integrity." It is maintaining the data is accurate and reliable over the cycle on cloud computing. Data integrity and recovery are vitally important and they require a standard storage and management infrastructure to overcome data integrity, accuracy and consistency related issues in MCC.

3. Connectivity –

When we want to use the cloud services than it's totally depends on internet connection.



7. CONCLUSION AND FUTURE SCOPE

It is all about mobile cloud computing which is a cocktail of the mobile device which accessing the services as well as remote available on cloud.

It is becoming the advanced and modern by increasing the uses of mobile device by this format we highlights the mcc field as a many demand of mobile device are increased along with this use of internet are also world wide spread.

All the transaction is on the mobile network with the use of network the chances of different kind of threats are increasing. MCC empowers the mobile users with a rich functionality despite the restricted resources in their mobile devices.

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