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Towards Reliable Mobile Cloud Computing

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Abstract : Cloud computing has been one of the fastest growing parts in IT industry mainly in the context of the future of the web where computing, communication, and storage services are main services provided for Internet users. Mobile Cloud Computing (MCC) is gaining stream which can be used to extend cloud computing functions, services and results to the world of future mobile applications and enables delivery of a large variety of cloud application to billions of smartphones and wearable devices. This paper describes reliability for MCC by determining the ability of a system or component to function correctly under stated conditions for a specified period of time to be able to deal with the estimation and management of high levels of lifetime engineering uncertainty and risks of failure. The assessment procedures consists of determine Mean Time between Failures (MTBF), Mean Time to Failure (MTTF), and availability percentages for main components in both cloud computing and MCC structures applied on single node OpenStack installation to analyze its performance with different settings governing the behavior of participants. Additionally, we presented several factors have a significant impact on rates of change overall cloud system reliability should be taken into account in order to deliver highly available cloud computing services for mobile consumers.

Keywords : cloud computing, mobile cloud computing, reliability, availability, OpenStack
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