Ph: 9585554590, 9585554599
Email: support@salemsmartreach.com
URL: www.salemsmartreach.com

An experimental analysis on cloud-based mobile augmentation in mobile cloud computing

Abstract:

Recent consumer electronic technologies have created momentous ground for smartphones in various domains, particularly healthcare and education. However, smartphones' miniature nature imposes intrinsic limitations on computational capabilities and battery lifetime that encumber performing Resource-intensive Mobile Applications (RMAs). Cloud-based Mobile Augmentation (CMA) is the-state-of-the-art augmentation model that leverages proximate and distant clouds to increase, enhance, and optimize computing capabilities of mobile devices aiming at execution of RMAs, which breeds Mobile Cloud Computing (MCC). This study analyzes impacts of mobile-cloud distance and number of intermediate hops - as influential factors - on CMA performance which are not yet investigated. The results indicate the correlation between distance and intermediate hops on overall execution costs (time and energy) of RMAs. The mathematical modeling and benchmarking unveil that distance has negligible impact on latency, whereas intermediate hops increment and communication overhead significantly degrade application performance and complicate energy and time estimation in CMA system.