ETSMC020- 2017 Adaptive application offloading decision and transmission scheduling for mobile cloud computing

Abstract

Offloading application to cloud can augment mobile devices' computation capabilities for the emerging resource-hungry mobile application, however it can also consume both much time and energy for mobile device offloading application remotely to cloud. In this paper, we develop a newly adaptive application offloading decision-transmission scheduling scheme which can solve above problem efficiently. Specifically, we first propose an adaptive application offloading model which allows multiple target clouds coexisting. Second, based on Lyapunov optimization theory, a low complexity adaptive offloading decision-transmission scheduling scheme has been proposed. And the performance analysis is also given. Finally, simulation results show that, compared with that all applications are executed locally, mobile device can save 68.557% average execution time and 67.095% average energy consumption under situations.