OCSRAM: An Optimized Framework for Dynamic Service Adaptation in Mobile Cloud Computing Systems

Restrictions such as heterogeneity of cloud resources and processing power of mobile phones provide mobile users with an optimized service which is considered as an interesting and controversial challenge based on the Service Level Agreement (SLA) in mobile cloud computing environment. In this article, a modular framework named Optimized CSRAM (OCSRAM) is proposed as an expansion for previous proposed framework (CSRAM) which tries to keep the real-time nature of the system by computation offloading as well as better usage of evolutionary nature of Genetic Algorithm (GA) in adaptation process. In addition, not only does it use more effective environmental parameters as inputs, but, in order to increase its flexibility and reliability compared with CSRAM, it also considers failure recovery process in modular design of the system.

Keywords: Mobile Cloud Computing, Service Discovery, Context Awareness, Quality of Service, Service Request Adaptation, Failure Recovery