Profiling-Based Task Scheduling for Factory-Worker Applications in Infrastructure-as-a-Service Clouds

Reference:


Abstract:

An increasing number of modern smartphone applications are dependent on information updates from the cloud. To realize such information updates mainly two communication approaches are common, namely push- and pull. Due to different communication patterns both approaches differ in their energy consumption and notification latency. The energy constrained nature of mobile devices entails a sensible selection of the appropriate notification approach. In this paper we provide an evaluation of the energy consumption of both communication approaches. Based on this we provide a transition approach that is able to use the best of both, low latency and low energy consumption. Our results show that energy savings of up to 7% of the total smartphone battery per day can be achieved by switching between both approaches, depending on the context.