Selfish Decentralized Computation Offloading for Mobile Cloud Computing in Dense Wireless Networks

ABSTRACT

- In this paper we consider selfish mobile devices in a dense wireless network, in which individual mobile devices can offload computations through multiple access points or through the base station to a mobile cloud so as to minimize their computation costs.
- We provide a game theoretical analysis of the problem, prove the existence of pure strategy Nash equilibria, and provide an efficient decentralized algorithm for computing an equilibrium.
- For the case when the cloud computing resources scale with the number of mobile devices we show that all improvement paths are finite.

EXISTING SYSTEM

- Offloading computation to a mobile cloud is a promising solution to augment the computation capabilities of mobile devices.
- Mobile cloud computing has emerged as a promising solution to serve the computational needs of these computationally intenstive applications

PROPOSED SYSTEM

- Furthermore, we provide an upper bound on the price of anarchy of the game, which serves as an upper bound on the approximation ratio of the proposed decentralized algorithms.
- We use simulations to evaluate the time complexity of computing Nash equilibria and to provide insights into the price of anarchy of the game under realistic scenarios.

HARDWARE REQUIREMENTS

- Processor - Intel core i3
- RAM - 2B
- Hard Disk - 20 GB

SOFTWARE REQUIREMENTS

- Operating System : LINUX
- Tool : Network Simulator-2
- Front End : OTCL (Object Oriented Tool Command Language)

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