

Discrete simulation framework for wireless cellular networks.

ABSTRACT

The aim of the discrete simulation framework is to deal with issues of the next generation of wireless cellular networks (e.g., multimedia traffic, radio resource management and mobility... etc) and to provide a platform for current and future investigations involving wireless cellular networks. The simulator is built from the scratch to enable customization requirements of any research and to provide the freedom to understand, configure protocol modules, draw desired topologies and specifies the movement paths of the mobile users and to plot the necessary performance graphs. In order to evaluate and validate the performance of the designed simulator, a simulation model for the wireless cellular network and mobile environment deployed. The performance of the developed simulator compared with the performance characteristics of existing algorithms. Simulation results verify the developed simulator is able to recapture the results of both the numerical result and simulation results of the comparative system utilizing an idealistic platform. In addition the simulator incorporates detail algorithms for the correlated components between the entities of the cellular networks and the development of the discrete simulator.

Keyword: Discrete simulation; Wireless cellular network; Performance modeling