ABSTRACT

The tremendous success of cellular phones has generated great interest in wireless networks. Wireless subscribers have now begun to expect many advanced networking capabilities, such as multimedia applications, multicasting, and guaranteed Quality of Service (QoS). However, the wireless network is characterized by scarce radio spectrum, an unreliable propagation channel (with shadowing, multipath fading, etc.), and node mobility, all of which lead to a number of interesting open problems for network management in these systems.

It is well known that power control can help to improve spectrum utilization in cellular wireless sistem. However, many existing distributed power control algorithm do not work well without an effective call admission control (CAC) mechanism, because they could diverge and result in dropping existing calls when an infeasible call is admitted. In this work, based on a sistem parameter defined as the discriminant, we analyzed CAC algorithm for a power controlled sistem. Simulation results demonstrate the performance of the algorithms.

Based on simulation result, CAC schemes can guaranteed Quality of Service for each mobile station in the systems. Under these CAC schemes, an infeasible call is rejected early, and incurs only a small disturbance to existing calls, while a feasible call is admitted.