

Adaptive resource allocation scheme based on call admission control and mobility prediction for multimedia services in wireless cellular networks

ABSTRACT

QoS guaranteed for multimedia services in next generation wireless cellular networks poses great challenges due to the limited bandwidth and user mobility. Therefore, the demand for effective management of the resources is immensely needed to enhance the network performance. In this paper, adaptive resource allocation scheme based call admission control (CAC) and mobility prediction for controlling the multimedia traffic in the network to enhance the previous schemes which are reduce the handoff call dropping probability (HCDP) through an adaptive multimedia schemes with more accurate mobility prediction. However, the new calls have not been able to take advantage of the adaptive scheme and thus new call blocking probability (NCBP) has not improved as much. Therefore, the proposed scheme is designed to take advantage of the adaptive resource allocation scheme with new and handoff calls rather than only handoff call in order to enhance the system utilization and the NCBP. The simulation results show the performance of proposed scheme outperforms the compared scheme in terms of NCBP and bandwidth utilization.