DDCA in Cellular Network using Fuzzy rule based Multi-agent System

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ABSTRACT

Present mobile networks have different Quality of Service (QoS) requirements to support increasing need with major objectives such as better admission control, effective bandwidth utilization, and fault tolerance.

So the network aims at satisfying their demands without much degradation of quality in terms of call dropping and call blocking. It is possible by admission control algorithms and by optimizing the sharing and utilization of existing resources in an effective way. It improves the overall performance of the network system. This paper addresses different Quality of Service (QoS) requirements of the users of a cellular network with a focus on fuzzy based Call Admission Control Scheme (CAC) and optimized bandwidth allocation using Multi Agent System Model. We propose combined framework to address resource allocation problem. This problem can be dealt with the help of two issues in Admission control and Transmission control. The admission control – the decision to admit or reject the calls based on fuzzy logic concepts. Transmission control – Bandwidth allocation using co-operative negotiation of Multi-Agent System. We demonstrate the efficiency of the proposed framework model by determining call dropping probability and call blocking probability.