A New Method for Guaranteeing Queuing Delay in RED Queue Using Learning Automata

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Abstract: *One of the most important parameters for QoS in networks is queuing delay in router. In order to guarantee queuing delay, congestion control algorithms can be used in routers. RED is the mostly known and applicable congestion control algorithm. In this paper we propose a novel method for guaranteeing queuing delay in RED-based queue. In the proposed method which is based on stochastic learning automata, thresholds of RED algorithm, are adjusted dynamically in such a way that delay is guaranteed. Simulations results show that the proposed algorithm not only guarantees the delay but increases the utilization of output link in the router which results better QoS.*

Keywords: *RED algorithm, Learning automata, Queuing guarantee, Congestion control*