



RESEARCH ARTICLE

A Novel Fuzzy Stochastic Routing Protocol For Mobile AdHoc Network

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Abstract— Conventional routing algorithms for mobile ad hoc networks such as AODV or DSR consider only one metric, for example, hop count to select best path from source to destination. However due to special characteristics of MANET such as nodal mobility, unstable links and limited resources, conventional routing algorithm found to be unsuitable for routing multimedia traffic or real time applications which require optimization of more than one metric. The paths chosen by conventional routing algorithm deviate far from optimal paths. In the proposed algorithm called Fuzzy Stochastic Routing (FSR) multiple metrics such as hop count, battery power, signal strength are considered using fuzzy logic to give multiple optimal paths. Nodes then forward data stochastically on these multiple paths resulting into automatic load balancing and fault tolerance. Simulation results show the great improvements over the conventional routing algorithm (AODV) in terms of various parameters like packet delivery ratio, no of route discoveries, delay, etc.

Keywords- *Mobile Adhoc Networks; AODV; Fuzzy logic*

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