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ZRP ROUTING PROTOCOL PERFORMANCE IMPROVEMENT USING FUZZY BASED RADIUS APPROACH

Abstract:

Mobile Ad Hoc Networks is becoming a major emerging technology in the field of telecommunication networks. The mobility of nodes in MANETs induces local connections changes frequently and makes the network topology change constantly. To maintain the local connections up to date and track neighbor relationship between the nodes, each node broadcasts Hello packets at regular intervals which can cause unnecessary traffic in the wireless network reducing by the performance in case of frequent topology changes. This Paper proposes a fuzzy based radius approach in order to improve the ZRP routing protocol performances. The proposed fuzzy logic radius approach uses as inputs energy and speed; while the radius is used as output. Simulation results obtained using NS-2 simulator show that the proposed fuzzy radius approach outperforms the standard routing protocol ZRP regarding all considered metrics reducing by the way the energy consumption.

Keywords:

Ad hoc, MANET, Protocol, Routing, ZRP, Fuzzy logic, Radius