

OPTIMIZE SIGNAL STRENGTH AND ENERGY EFFICIENT MECHANISM FOR LINK FAILURE IN MANET

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ABSTRACT

Link breakage and power failure are common issues in MANET which causes due to movable nature of nodes. As they move, the list of neighbors may change due to changing routing topology and links may become broken which results packet loss and leads to performance degradation in MANET. In MANET nodes have limited battery so it is required to save battery of those nodes which are having low battery to enhance the network lifetime. Such problems make routing protocols like AODV ineffective and unreliable. So, for this an effective and dynamic routing protocol is needed. Here we propose a mechanism based on signal strength and energy for routing in MANET. The distance between two consecutive nodes is calculated based on Received Signal Strength (RSS). The thresholds for energy and signal strength are pre defined. If RSSI is high it implies that nodes are close to each other. If it is greater than threshold value than it is accepted otherwise discards it and before sending to next hop node it measures energy of node. If it is greater than it is forwarded to next hop node otherwise sends RERR message to source node. In this way node always choose the route in which node having sufficient energy and signal strength. The combined technique improves performances and also consumes less energy of nodes in MANET. Simulation results show that SE-AODV performs better than AODV routing protocol.

KEYWORDS: MANET, Reliable Routing, RSSI, Energy and Link Failure