

Throughput efficient AODV for improving QoS routing in energy aware mobile adhoc network

ABSTRACT

Mobile Ad hoc Networks (MANETs) is a type of wireless network that is made up of mobile nodes which coordinate themselves without the help of a central coordinator. The network topology changes as nodes are mobile. One of the major challenges of MANET is limited bandwidth which tends to mitigate the Quality of Service (QoS) of the network as users are not satisfied. A variety of routing protocols has been employed aiming at improving the throughput of the network in order to meet user demands. This paper proposes the development of a throughput efficient Ad-hoc On demand Distance Vector (TE-AODV) routing protocol targeted towards improving the QoS of MANET by mitigating network overhead. In this work, all nodes are assumed to be transmitting while calculating their Instant Processing State (IPS) using the concept of knapsack problem. A threshold value for node IPS is set and any node below the set threshold value is not considered during data transmission. An improved Location Aided Routing (iLAR) is used for route search process which helped in reducing network overhead. Results from simulation showed that TE-AODV has improved the throughput of energy aware Ad-hoc On demand Distance Vector (E-AODV) routing protocol. TE-AODV improved the network throughput by 2.9% as a function of simulation time and 3.7% as a function of mobility of node over the E-AODV routing protocol.