Abstract

MANET became the focus of researchers as a promising technology for a broad range of applications due to their self-organizing, self-configuring capability in different mobile network scenarios. One significant area of research within ad hoc networks is energy consumption issue. The primary goal of ad hoc networks is to call for the energy-constrained protocols. Energy consumption evaluation methodology is introduced for the protocol consideration in different mobile network. AODV routing protocol performs well on assessment of energy consumption for the mobile ad hoc network with high node mobility. Nodes in MANET networks are basically battery operated, and thus have access to a limited amount of energy. This process proposes an Energy based Ad-Hoc on-Demand Routing algorithm that balances energy among nodes so that a minimum energy level is maintained among nodes and the
lifetime of network is increased. This paper, focused on increasing the prolonged existence of node in the network. In this proposed work, one set the minimum energy threshold limit of a mobile node, when a node reach the minimum threshold limit the node goes to sleep mode, save energy and participate in the event as long as possible. The research papers are published to improve the network lifetime on the network layer. The construct of network scenarios and performance analysis is done on NS-2. 34 to simulate both the AODV and AODV-Sleep under the similar scenario. This paper also compares and analyzes the simulation results with a popular on-demand routing protocol AODV to show the usefulness of this algorithm. From this simulation one finds that the overall MANET’s efficiency is enhanced.

References

- Fei Dai and Jie Wu, Efficient Broadcasting in Ad-Hoc Networks using Directional Antennas, Department of Computer Science and Engineering, Florida Atlantic University, Boca Raton, FL 33431.
- Krishna Balachandran, Wing Cheong Lau and Joseph H. Kang, "Adaptive Sleeping and Awakening Protocol (ASAP) for Energy Efficient Adhoc Sensor Networks," 0-7803-8938-7/05/$20. 00 (C) 2005 IEEE.
Energy based AODV Routing Algorithm with Sleep Mode in MANETs


Index Terms

Computer Science
Mobile Networks

Keywords
Mobile Ad-Hoc Networks  AODV routing protocols  energy consumption  Sleep mode  mobility models  simulation analysis