Abstract

In Wireless nodes power saving is an important issue always been raised due to limited energy stored in them. For saving power various methods are implemented, using routing protocols, sleep mode operations and efficient processing algorithms. In this work, we used Network Simulator-2 to generate a wireless ad-hoc network and packets are routed through them using the AODV (ad-hoc on-demand distance vector) routing protocol. The Trace file is analyzed to determine the energy used by each of the nodes for routing the generated packets through the network. The most of the energy consumed in ad-hoc network is found to be the transmission of packets between the nodes. The goal of the project is to increase the energy efficiency of AODV routing protocol by incorporating Transmission Power Control Technique. This method calculates the distance between a transmitting node and a receiving node, and selects transmission power with respect to the distance between the transmitter and receiver.
The simulations are done for single source, multiple sources as well as for light and dense network. The comparison of output files for each of the scenarios shows significant reduction of energy consumption in the new proposed method than in AODV. The results of this project are very significant as it can extend the life of wireless ad-hoc network considerably and can be introduced to other routing protocols as well.

Reference

- "Energy Saving Routing Protocol Based on AODV" by Xingsheng Wang, Qing Liu. 2008
- “Optimizing Power Aware Routing in Mobile Ad-hocNetworks” by Jharna Chokhawala and Albert Mo Kim Cheng, 2001
- www.isi.edu/nsnam/ns/doc/node6.html

Index Terms

Computer Science

Algorithms

Key words
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