Abstract

The versatile Ad hoc Networks provides communication among wireless nodes which occurs in the wireless medium. Energy effective routing in MANET [5] is a demanding goal which should be taken under consideration. Moreover, energy effective routing is considered to be the most important design criteria for MANETs because mobile nodes will be powered by batteries with limited capacity. The architecture of ad hoc network protocol, generally based on a conventional “layered approach”, has been found ineffective to deal with, energy efficient routing and breakage of links in MANET [5]. This paper proposes a Cross Layer based MANET framework to minimize the energy consumption [3] and maximize the network lifetime with comparison to conventional layered architecture. Further the different performance metrics evaluation such as PDR, energy and number of collisions based on simulated scenarios is performed for Layered and Cross Layered based MANET. Furthermore, enhancing the cross-layer communication [1, 18] among different layers, such as network layer, MAC layer and physical layer. The proposed Cross-Layer based AODV (CLAODV) would help to minimize energy consumption and to find an effectual route between the source and the destination, achieving the maximum network
lifetime. This cross-layer designated approach [1] was tested by simulation (NS2 simulator) and its performance over AODV [11], DSDV [12] was found to be better.

References


Tavel, P. 2007 Modeling and Simulation Design. AK Peters Ltd.

Index Terms

Computer Science Networks

Keywords

Cross Layer based AODV (CLAODV), Ad hoc on Demand Distance Vector (AODV), Destination Sequenced Distance Vector Routing (DSDV).