Abstract

Mobile Ad hoc NETwork (MANET) is a collection of mobile nodes that are arbitrarily located so that the interconnections between nodes are dynamically changing. In MANET mobile nodes forms a temporary network without the use of any existing network infrastructure or centralized administration. A routing protocol is used to find routes between mobile nodes to facilitate communication within the network. The main goal of such an ad hoc network routing protocol is to establish correct and efficient route between a pair of mobile nodes so that messages delivered within the active route timeout interval. Route should be discovered and maintained with a minimum of overhead and bandwidth consumption. This paper presents performance evaluation of three different routing protocols i.e. Ad hoc On-Demand Distance Vector (AODV), Fisheye State Routing (FSR) and Zone Routing Protocol (ZRP) in variable pause times and variable number of nodes. We have used random waypoint mobility model to design the
network and performed simulations by using QualNet version 5.0 Simulator [1] from Scalable Networks. Performance of AODV, FSR and ZRP is evaluated based on Average end-to-end delay, Packet delivery ratio, Throughput and Average Jitter.

Reference

- Zone Routing Protocol by Nicklas Beijar, Networking laboratory, Helsinki University Of technology, Finland. Licentiate course on Telecommunications Technology, 2002
- Broch, J; Maltz DA, Johnson DB, Hu Y-C, and Jetcheva J. “A performance comparison of multi-hop wireless ad hoc network routing protocols”.

Simulation based Performance Comparison of AODV, FSR and ZRP Routing Protocols in MANET

Index Terms

Computer Science          Algorithms

Key words

MANET        AODV        FSR        ZRP        QualNet

version 5.0.