Modified Ad Hoc On-Demand Distance Vector Routing Protocols

Abstract

Ad Hoc network is a network without physical structure and is established with mobile nodes using wireless connections. Ad Hoc network is highly flexible and supports dynamic network topology. Thus, the efficiency of the routing protocol will affect the overall network performance. Mobile ad hoc networks carriage several kinds of security problems, initiated by their open systems and nature of collaborative by limited accessibility of resources. In this paper we study and analyses various attacks that can be possible on AODV. My planned work is an extension of AODV to the secure AODV protocol extension, which contains tuning policies aimed at improving routing performance. Proposed an extension to Adaptive-SAODV of the secure AODV protocol extension. In our thesis we goals s Developed a routing protocol algorithm to solve the problem of efficiency transmission in Mobile Ad Hoc networks. So that work we divided the process into two parts.

In M-AODV an intermediate node create an adaptive reply decision for an incoming demand that helps to stabile its security and efficiency of incoming messages. I.e. we propose a
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modification to adaptive mechanism that adjusts M-AODV behaviour.

In the AODV protocol, a backup route will be began to transfer data when the original route is broken. However, a backup method affects the overall network performance such as pdr, end-to-end delay, etc. To solve this problem, the method developed in this research is used to reroute the data traffic and improve the performance of AODV protocol by via ACK reply path as a backup way whenever there is a route failure. The proposed method, called Modified AODV protocol (M-AODV), is developed by modifying the AODV protocol.

The method creates new flags in the routing message, so that as long as the source node can still receive ACK reply from the destination node when an original route is broken, it uses the forwarding path of ACK as a backup route to transfer the rest of the data packets. M-AODV also incorporates features of the M-TCP scheme to solve unnecessary resending of lost data packets. The both algorithm uses only connectivity information to look for illegal structures in the connectivity graph. The algorithm is independent of wireless communication models. We have analysis that our proposed algorithm improve the performance in M-AODV and also compared its performance like the throughput, end-to-end delay and packet delivery ratio with existing mechanisms using EXATA simulation.

References


Index Terms

Computer Science Wireless

Keywords

MANET, Routing Protocols, ad-Hoc networks, Mobility, backup path.