Abstract

In most of the applications of Mobile Adhoc Network (MANET), the node capabilities are constrained and the node function is heterogeneous during operation. Routing security in ad hoc networks is often equated with strong and feasible node authentication and lightweight cryptography. A wide variety of secure extensions to existing routing protocols have been proposed over the years. However, the majority of these protocols are focused on using cryptographic solutions to prevent unauthorized nodes from creating seemingly valid packets. This work addresses the aforesaid issues and various security breaches which arise in each and every node function that affects the performance of the network.

This research work proposes a strategy using Particle Swarm Optimization (PSO) for providing security in node level which fights against intrusion detection along with clustering. The main objective of this study is to provide the dual best solution in clustering the network as well as Intrusion Detection. It focuses on the node level processing to increase the efficiency of node. It uses waypoint access mechanism to further increase the efficiency of mobile node data transmission in a secure channel. This secure mechanism also reflects on mobile hand over mechanism and proven to be secure when node navigates from one cluster to another. Hence this work proposes alternate effective mechanism using Particle Swarm Optimization to fight against few attacks which affects mobile node performance and its effectiveness and is referred as Intelligent IDS.