Abstract

This paper proposes a novel architecture for security in Mobile Adhoc Networks using Intrusion Detection and Authentication with Data Fusion along with clustering technique and leader election model. Here clusters are formed through fixed width algorithm and it elects the leader node in each cluster with the help of neighbor ranking mechanism. Leader helps in finding out the intruder in the cluster and sends them out of the network by using Intrusion Detection System and Authentication device that are implemented only in leader node, so leader node is able to detect the intruder. To overcome the demerits in unimodal biometric system, Multimodal biometrics is set to work with IDS. Each and every device has dimensions and estimation limitations, many devices to be selected with the help of Dempster-Shafter theory for data fusion. Based on the security posture, system concludes which biosensor (IDS) to select and decide user need authentication (or IDS input) is essential. By every authentication device and Intrusion Detection System (IDS), the decisions are made in a fully distributed manner. Simulation results demonstrate that the novel architecture is efficient and accurate.

References
High Security for MANET using Intrusion Detection and Authentication with Data Fusion on Leaders

- Rakesh Shrestha, Kyong-Heon Han, Dong-You Choi, Seung-Jo Han "A Novel Cross Layer Intrusion Detection System in MANET" 2010 24th IEEE International Conference on Advanced Information Networking and Applications

Index Terms

Computer Science

Wireless Security

Keywords

MANET Intrusion Detection System Authentication Leader election Fixed width algorithm
Security