Fuzzy Logic Based Intrusion Detection System against Blackhole Attack on AODV in MANET

Abstract

Security[16] is an essential feature for wired and wireless network[1]. But due to its unique characteristics of MANETs[10], it creates a number of consequential security challenges to network. MANETs are vulnerable to various attacks[2], blackhole[12] is one of the possible attack. In this paper, we represent an intrusion detection[5] system for MANETs against blackhole attack using fuzzy logic[4]. Our system successfully detects the blackhole in the network and this information is passed to other nodes also. We also provide a detailed performance evaluation based on various network parameters. Our results show that the proposed system not only detects the blackhole[12] node, but improves the performance of AODV under the blackhole attack.

Reference
- Bing Wu, Jianmin Chen, Jie Wu, Mihaela Cardei,” A Survey of Attacks and Countermeasures in Mobile Ad Hoc Networks “ Department of Computer Science and Engineering, Florida Atlantic University
- Fuzzy Logic with Engineering Applications by Timothy J.Ross Mcgraw Hill, Inc.
- Y. Zhang, W. Lee,(August,2000) “Intrusion Detection on Wireless Ad hoc Networks", in

Index Terms

Computer Science

Security

Key words

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AODV

Blackhole Attack

Fuzzy Logic