A New Secure Fuzzy Logic based Black Hole Attack Prevention System in MANET

Abstract

MANETs are accessible to various attacks [1]. Black hole attack is one kind of routing disturbing attacks [13] and can destroy a MANET partially or totally. In this paper Fuzzy Logic techniques have been used to detect black hole attacks and find out secure routing in wireless ad hoc networks. The proposed heuristic successfully detects the black hole in the network and this information is passed to other nodes also. AODV protocol has been chosen to test our algorithm and NS-3 as the simulation tool. This proposed method is compared with RRAF method [3]. The results of the simulation showed that the performance of the proposed method in this paper is noticeably improved. So, it is feasible that the fuzzy logic algorithm is applied to find out black holes for security purpose in MANET.

References

1. 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.


**Index Terms**

Computer Science  
Fuzzy Systems
Keywords

Mobile Ad hoc network, AODV protocol, Fuzzy, Black hole attack.