A New Algorithm Based on Trap Packet for Black Hole Attack Detection in MANET

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Abstract

Nowadays mobile ad hoc networks (MANETs) are much more popular and efficient than before. Therefore, the concept of security is of high importance in such networks. Security has become one of the most important issues in scientific debates in grounds of information exchange. Existence of destructive attacks is one of the problems that have challenged security in case networks. Black hole attack is one of the attacks in this case. In this research a new algorithm is introduced in order to identify destructive nodes of black holes in routing protocol of case networks. Through sending empty packets to efficient nodes that are located in the network, and considering the amount of nodes' input and output, the new algorithm, has tended to identify destructive nodes. The proposed method in comparison to similar methods is much more efficient and less complex. The structure of this algorithm has the capability to be implemented in a parallel way within several processors.

Index terms: Black hole attack, Mobile ad hoc networks (MANETs), Security, Intrusion detection, Routing protocol AODV

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