Abstract

The need for more effective security mechanisms is increasing with the growth of Wireless Sensor Network applications in different fields as there is an increase in the number of attacks that can be launched on them. Hello flood is one of such attack in the network layer of wireless sensor network in which an attacker with high transmission power can send or replay hello packets which are used for neighbor discovery. In this way, the attacker creates an illusion of being a neighbor to other sensor nodes and underlying routing protocol can be disrupted, which facilitate further types of attacks. The attacker broadcast packets with such a high power that a large number of sensor nodes in the network choose it as the parent node. In this paper, a novel technique based on RBG color cube number, an ID, and a unique Armstrong number is proposed for the authentication of a sensor node to become cluster head. The proposed technique is implemented in NS2, the experimental results clearly indicate the proposed technique has significant capability for the detection of hello flood attack launched for making the malicious node as the cluster head.
References

15. A. Anup wanjari, Vidya Dhamdhere, “Evading Flooding Attack in MANET Using Node
Cluster Head Authentication Technique against Hello Flood Attack in Wireless Sensor Networks


Index Terms

Computer Science

Networks

Keywords

Wireless sensor networks, Hello flood attack, RBG color cube, Armstrong number, Cluster head.