Published: 06 March 2023

Scalable and Energy Efficient Cluster Based Anomaly Detection Against Denial of Service Attacks in Wireless Sensor Networks

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Wireless Personal Communications **129**, 2669–2691 (2023)

Abstract

Recently, with the meteoric evolution in the wireless communication technologies, countless real world applications which will reshape the way of seeking in robotic exploration, commercial, military, battle-field surveillance, border control and health-related areas. Due to its open nature, the network is easily prone to DoS attacks and can have significant influence on the behavior of Wireless Sensor Networks (WSN). Because of node energy capability the node verification using crypto analysis is a difficult one. In this paper, use of spatial information is used to detect and localize the multiple adversaries in both same and different node identity. This paper describes the scalable and energy efficient cluster based anomaly detection (SEECAD) mechanism to identify DoS attacks without the key management schemes to increase the lifetime of the network. Detection rate, false positive rate, packet delivery ratio, overhead, energy consumption and average delay of packets are various types of network parameters by which the performance can