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A Novel Energy-Efficient Sybil Node Detection Algorithm for Intrusion Detection System in Wireless Sensor Networks (Conference Paper)

Karuppiah, A.B.^a [✉](#), Dalfiah, J.^a, Yuvashri, K.^a, Rajaram, S.^b [✉](#), Pathan, A.-S.K.^c [✉](#)

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Abstract

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A Wireless Sensor Network (WSN) is vulnerable to different types of security attacks where the attackers could easily intrude into the network and could cause inexplicable destruction by disrupting the expected functionalities of the network. Severe drainage of battery may occur due to the attacks and as a result, the lifetime of the network may decrease drastically. In this paper, an energy-efficient integrated Intrusion Detection System (IDS) is proposed to detect network layer Sybil attack. Our scheme spots out accurately and purges out the Sybil node which may falsely behave as a genuine node. The experimental results show that the critical factor in WSN, energy is conserved more efficiently by the proposed scheme than the existing alternative methods. Also, accurate detection of the malicious node is possible spending relatively less energy. © 2014 IEEE.

Author keywords

Attacks Efficient Energy Integrated Intrusion Network Security Sensor Sybil Wireless

Indexed keywords

Engineering controlled terms:

Algorithms Computer crime Distributed computer systems Energy efficiency
Environmental protection Intrusion detection Mercury (metal) Network layers
Network security Networks (circuits) Radio Sensor nodes Sensors

Attacks Efficient

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Integrated

Intrusion

Security Sybil

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