Use of Sequential Hypothesis Testing for Detection of Mobile Replica Nodes in Wireless Sensor Network

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Abstract

Network protection has grown to be a demanding area, previously tackled only by well qualified and familiar experts. Although more pupils become wired, an increasing number of pupils need to understand basis of security in the network world. The replica node attacks are hazardous as they allow attackers to leverage the compromise of a few nodes and exert control over much of the network. Earlier works on replica node recognition relied on set sensor locations and hence do not effort in mobile sensor network. The proposed method uses sequential probability ratio test for detection of mobile replica node. It has provided exclusive identity to the sensor nodes so that an adversary can not disturb the network. The proposed sequential hypothesis testing results in a better detection of mobile replica nodes within wireless sensor networks. The replica node attacks are hazardous as they allow the attacker to influence the compromise of a few nodes to make use of power over a lot of the network. A number of detection schemes have been proposed for static sensor networks, fixed sensor locations and it does not effort in mobile sensor networks. An effective mobile replica node detection scheme is proposed with Sequential Probability Ratio Test (SPRT).
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References


Index Terms
Keywords

Wireless sensor network (WSN), network security, attack detection, node replication, tamper resistant hardware, sequential probability ratio test (SPRT)