

An Entropy Based Novel Algorithm for Internal Attack Detection in Wireless Sensor Network

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Abstract : Wireless Sensor Network (WSN) consists of low-cost and multi functional resources constrain nodes that communicate at short distances through wireless links. It is open media and underpinned by an application driven technology for information gathering and processing. It can be used for many different applications range from military implementation in the battlefield, environmental monitoring, health sector as well as emergency response of surveillance. With its nature and application scenario, security of WSN had drawn a great attention. It is known to be valuable to variety of attacks for the construction of nodes and distributed network infrastructure. In order to ensure its functionality especially in malicious environments, security mechanisms are essential. Malicious or internal attacker has gained prominence and poses the most challenging attacks to WSN. Many works have been done to secure WSN from internal attacks but most of it relay on either training data set or predefined threshold. Without a fixed security infrastructure a WSN needs to find the internal attacks is a challenge. In this paper we present an internal attack detection method based on maximum entropy model. The final experimental works showed that the proposed algorithm does work well at the designed level.

Keywords : internal attack, wireless sensor network, network security, entropy

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