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Volume 9, Issue 2-2, 2017, Pages 147-152

Security aspects and efforts towards secure Internet of Things (Article)

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Abstract

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Internet of Things (IoT) consists of wired and wireless devices, typically supplied with minimum physical resources including limited computational and communication resources. Most of the devices are distinguished by their low bandwidth, short range, scarce memory capacity, limited processing capability and other attributes of inexpensive hardware. The resulting networks are more prone to traffic loss and other vulnerabilities. One of the potential networking challenges is to ensure the network communication among these deployed devices remains secure at less processing and communication overhead, and small packet size. The purpose of this paper is to highlight possible security attacks in Low Power and Lossy Networks (LLNs) as identifying pertinent security issues is an initial step to design the effective countermeasures. The IETF efforts in relevance to security implementation of this type of network are presented with focus on layer-2 and authentication mechanism at upper layer.

Author keywords

6LoWPAN Attacks Authentication DoS IoT LLN Secure routing Security

ISSN: 21801843

Source Type: Journal

Original language: English

Document Type: Article

Publisher: Universiti Teknikal Malaysia Melaka

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