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Security in Resource Constraints Network Light Weight Encryption for Z-MAC

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Abstract : Wireless sensor network was formed by a combination of nodes, systematically it transmitting the data to their base stations, this transmission data can be easily compromised if the limited processing power and the data consistency from these nodes are kept in mind; there is always a discussion to address the secure data transfer or transmission in actual time. This will present a mechanism to securely transmit the data over a chain of sensor nodes without compromising the throughput of the network by utilizing available battery resources available in the sensor node. Our methodology takes many different advantages of Z-MAC protocol for its efficiency, and it provides a unique key by sharing the mechanism using neighbor node MAC address. We present a light weighted data integrity layer which is embedded in the Z-MAC protocol to prove that our protocol performs well than Z-MAC when we introduce the different attack scenarios.

Keywords : hybrid MAC protocol, data integrity, lightweight encryption, neighbor based key sharing, sensor node dataprocessing, Z-MAC
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