Abstract

Wireless Sensor Networks (WSN) are self-configurable ad-hoc networks. To set up a seamlessly interoperable a WSN, a wireless sensor device technology called ZigBee is used. Moreover, ZigBee is an IEEE 802.15.4 based specification for a group of high-level communication protocols used to build area networks having both small range and wide range coverage. The design of the communication infrastructure and hardware components are crucial in the large-scale ZigBee networks in order to ensure communication efficiency in the real world applications. This study presents a performance analysis of a large-scale ZigBee networks for three different topologies comparatively. The performance of ZigBee devices has been analyzed in the network simulator OPNET in terms of total end-to-end delay, MAC throughput and MAC load.

References
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Technology.


Index Terms

Computer Science

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Keywords

Large-scale WSN, performance analysis topologies, ZigBee