Performance Analysis of the AODV Protocol over the ZigBee IEEE 802.15.4 Standard based on Different Traffics and Performance Metrics

Abstract

As the demand in industry and academia for ubiquitous and pervasive computing increases, Wireless Sensor Network (WSN) becomes a popular research pool for the last decades. In this paper, it is presented that the performance analysis of the Ad hoc On-demand Distance Vector (AODV) protocol over the IEEE 802.15.4 standard (ZigBee) Wireless Sensor network in different scenarios. The performance analysis metrics used to simulate the AODV protocol for the ZigBee wireless Sensor Network are, energy consumption, average end to end delay, packet delivery ratio, load factor, jitter by varying the Constant Bit Rate (CBR), FTP and Poisson network traffics using the Network Simulator 2 which is commonly known as NS2 and it will be pointed out that on which traffic the protocol performs well and consumes less energy.

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Index Terms

Computer Science Wireless
Keywords

WSN, sensor Nodes, AODV protocol, NS2, network traffic, ZigBee, IEEE 802.15.4