Abstract

As IoT (Internet of things) has progressed at a massive pace, the clustering algorithms that are implemented for the wireless sensor networks have started to attain enormous importance. The wireless sensor network collected together mainly constitutes an IoT framework. A Wireless Sensor Network (WSN) is composed of a number of sensor nodes that are connected to each other. An optimized energy efficient routing protocol for the enhancement of network lifetime in Wireless Sensor Networks is proposed by this paper. The chief use of the protocol used lies in the fact that at the start of each iteration, it modifies the cluster size along with the cluster head in a dynamic manner. Also taken into account are the heterogeneous and non-heterogeneous networks. A threshold-based approach is also made use of in order to decrease the number of total transmissions that greatly reduces the consumption of energy. A concept of delay time is put forth for re-transmission of the data considering case of not exceeding the transmission threshold limit. This sort of secures the algorithm to a great extent. The results achieved show that the system proposed yields higher network lifetime in comparison to the previously existing methods.
Enhancing Network Lifetime in Wireless Sensor Networks using Adaptive Threshold based Clustering

References


Index Terms

Computer Science Wireless

Keywords

Internet of Things (IoT), Wireless Sensor Networks (WSN), Clustering, Routing, Network
Lifetime