Abstract

The main aspect in Wireless Sensor Network is to improve the overall performance of the network, to reduce the battery usage, and also to enrich all QoS by using some protocols. Now a it is seen that a single network that is deployed have to handle numerous with varied QoS requirements applications. These aspects can be achieved by using multi-stack architecture which works with various several combinations of MAC & NWK protocols. The combinations of MAC & NWK protocols are adapted in multi-stack mechanism by dividing time into time intervals. At each time interval each combination of the protocols are activated. Simulations mitigated QoS among the combinations of protocols. The queue exchange algorithm used allows frames from one time interval of the node that is to be sent during another time interval at same node is proposed. This eases the complexity of time intervals dimensioning and also improves the overall performance of the network.

References

- Collotta M., Salerno V. M. “A real-time network based on IEEE 802.15.4 / ZigBee to control home automation environment”, International forum “Modern Information Society Formation – problems, perspectives, innovation approaches”. St.-Petersburg, Russia, June 6–11, 2010
Multi-Stack Architecture Implementation to Enhance the QoS in WSN with Prioritization of Packets


Index Terms

Computer Science

Wireless

Keywords
Sensor Networks  Multi-stack architecture  Priority Queuing