Performance Evaluation of AODV and DSDV Routing Protocols over Zigbee Network for Different Topologies under CBR Traffic Pattern

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 124
Number 11

Year of Publication: 2015

Authors:
Smriti Maurya, N.C. Barwar

10.5120/ijca2015905640

Abstract

Zigbee is an open specification developed by Zigbee Alliance build on the top of IEEE802.15.4 Physical and Media Access Control layer standard, which is one of the global wireless standards of communication protocol for Low-Rate Wireless Personal Area Networks (LR-WPAN). It aims at low power consumption, low data rate, low cost, short range and flexible, reliable, scalable wireless communication. This paper presents overview of IEEE 802.15.4/Zigbee and analyze the performance of AODV and DSDV routing protocols over Zigbee network for different topologies like Random, Star and Peer to Peer (Mesh) under CBR traffic pattern by varying number of nodes, number of sources and range. Performance analysis is carried out using various parameters like Average End-to-End delay, Average Throughput and Packet delivery ratio to determine the Quality of Services (QoS) of the network under different scenarios using NS2 simulator (Version 2.35). Awk scripts are used for analyzing the simulation results and results are shown in graphical forms.

References
18. Dusan Stevanovic; “Zigbee / IEEE 802.15.4 Standard talk” June 20, 2007
19. Sinem Coleri Ergen, “ZigBee/IEEE 802.15.4 Summary” September 10, 2004

Index Terms

Computer Science Wireless

Keywords

Zigbee, AODV, DSDV, CBR