Comparative Simulations for SARA and AODV Routing Algorithms in Ad hoc Network using NS2

Abstract

The past two decades noticed a great development in ad hoc wireless networks. Although most of the routing algorithms that have been produced to ad hoc networks find the shortest discovered path, they have different network performances. It is hard to predict which routing algorithm will perform well under different scenarios. In this paper, an empirical study of the elements that may affect a routing algorithm’s performance using NS2 simulator is presented. AODV and SARA routing algorithms have been chosen to apply the study on and their performances have been investigated under different scenarios. NS2 has been used to simulate three topologies and their performances have been measured. According to the results, it is suggested to use AODV routing algorithm in low interference scenarios and to use SARA routing algorithm in high interference scenarios.

References

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Index Terms

Computer Science

Algorithms

Keywords

Ad hoc Wireless Network, Ad hoc Routing Algorithms, Simple Ant Routing Algorithm (SARA), On-demand Algorithms, Ad hoc Ondemand Distance Vector (AODV), IEEE 802.11a/b/g