Abstract

Routing protocols for a Mobile Ad-hoc Network (MANET) have been of great interest for many years as the underlying Internet routing protocols are mainly intended to support the permanent infrastructure network. This research makes an attempt to conducting a realistic and quantitative performance analysis of several key routing protocols in the same framework within
MANET, which eventually helps better understand the protocols’ comparative merits and suitability for deployment under different stressful and dynamic scenarios. The four routing protocols that are considered in the analysis are Optimized Link State Routing (OLSR), Ad-hoc On-demand Distance Vector (AODV), Dynamic Source Routing (DSR) and Temporary Ordered Routing Algorithm (TORA). The research asserts the fact of superiority of proactive protocol, over reactive and hybrid ones when routing the same traffic in the network. As the simulation results demonstrate, OLSR protocol has been reckoned to be a very effective and efficient routing protocol for MANET, which ensures its particular suitability, irrespective of network size and mobility. Nonetheless, among the reactive protocols, AODV performs well in a medium and high density network, with particular reference to a case where end-to-end delays are very critical.

References

Analysis of the Interaction between Routing Protocols and MANET Parameters


Index Terms

Computer Science

Wireless

Keywords

MANET

OLSR

AODV

DSR

TORA