A Comparative Analysis of Unicast, Multicast, Broadcast and Anycast Addressing Schemes Routing in MANETs

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

Volume 133
Number 9

Year of Publication: 2016

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10.5120/ijca2016908001

Abstract

The efficient addressing schemes based routing mechanism in MANETs is a challenging issue due to the dynamic nature of network topologies and resource constraints. Ad hoc networks do not rely on any fixed infrastructure. The performance of the addressing schemes such as unicast, multicast, broadcast & anycast affected by the widely varying mobility characteristics in ad hoc network. In this paper, we are giving a comparative analysis of these message addressing and transmission methods on the basis of different factors such as Time, Spectrum Efficiency, Privacy and Security. We present a comparative study of these message transmission methods and their use as a communication primitive before intrusion and after intrusion with a specific attention to Mobile ad hoc networks. We analyze and implemented these approaches and this evaluation supports our claim that Multicast is the best message transmission method in case of dynamic nature of ad hoc network. Through simulated analysis and extensive implementation, we explore the characteristics of these approaches and finally provide recommendation for best suitable approach for mobility model.
References


Index Terms

Computer Science

Networks
Keywords

MANETs, Unicast, Multicast, Broadcast, Anycast.