Routing Mechanism in Mobile Ad hoc Network with Improved Security and Channel Adapitivity under Fading

Volume 121 - Number 1
Year of Publication: 2015

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Abstract

Mobile Ad Hoc Network is a type of wireless network without a fixed topology consist a set of self organized nodes which are randomly, frequently and unpredictably mobile. In MANETs packet transmission is affected by radio link fluctuations. Hop count is a simple routing metric that calculate the distance between a source and destination on the number of routers in the path. Routing protocols for ad hoc networks have less channel fading. The minimum hop count is not enough for a routing protocol to achieve a good performance. MANET is an open environment and it is susceptible to many security attacks due to dynamic topology and lack of centralized monitoring authority. Anonymous routing protocols conceal the identities about the route, source and destination to provide security and privacy from intruder’s attacks. So in this paper, channel adaptive protocol with improved node security, extensions to a multipath routing protocol to accommodate channel fading and node security is introduced. The resulting protocol is referred to as Channel Adaptive routing protocol with node security (CARNS). Using channel state information (CSI), a pre-emptive handoff strategy is applied to maintain reliable and stable connections. Paths are reusable, rather than simply regarding them as useless. In this paper we provide performance analysis of CARNS, as well as comparison between CARNS
with AODV and AOMDV. The simulation results which confirms the improved network performance of CARNS, both in terms of node security and channel fading.

References

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**Index Terms**

Computer Science

Networks

**Keywords**

Mobile Ad Hoc Networks  routing protocols  security  channel fading.