Abstract

The widespread applications of Mobile Ad hoc Networks (MANETs) have lead to the development of many protocols in this field. Routing protocols for ad hoc networks have generally ignored channel fading. This paper proposes a routing protocol which calculates the channels non-fading duration for routing which attempts to minimize packet loss due to fading and also reuse the path with some security mechanisms to increase the throughput. Specifically, in the proposed work the faded paths can be reused when they become available again, rather than being discarded, also the loads are balanced on the link. The Channel Aware - Ad hoc On-demand Multipath Distance Vector (CA-AOMDV) used for channel average non-fading duration as the routing metric. The Load Based Channel Aware - Ad hoc On-demand Multipath Distance Vector (LBCA-AOMDV) is used for increasing throughput and packet delivery ratio. The NS-2 is used to perform both the simulation and evaluation of the performance of proposed protocol and to compare it with existing protocols. The simulation result demonstrates improvement in the throughput, packet delivery ratio, security and reduction of packet loss on routing.

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