

Hop Restricted-AODV (HR-AODV) Routing and Its Applicability on Different Wireless Channels for Vehicular Network

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ABSTRACT:

Routing is considered the most significant part of any wireless system, and vehicular network depends on Adhoc On-demand Distance Vector (AODV) routing mostly for routing purposes. To adapt to the dynamic topology of the vehicular network, different variations of AODV routing are adopted, and there have some event-driven limitations considering different performance metrics. In this paper, we propose a variant of AODV routing hop restricted-AODV (HR-AODV) that limit searching for receiver up to a maximum of four hops and completes data transmission. We simulate the protocol on two channels; LOS-driven two-ray ground and Non-LOS multipath fading channel Rayleigh channel. We found that different performance metrics like packet delivery ratio (PDR), delay, overhead, and throughput follows the trend regarding AODV performances mentioned by Hota et al. [18]. The results indicate that; our proposed protocol is suitable for routing in vehicular networks.

KEYWORDS:

Routing, AODV, Vehicular Network, Channel, HR-AODV

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