

Impact of Mobility on Bypass AODV Protocol in Mobile Ad Hoc Network

ABSTRACT

The creation of highly reliable routing protocol for wireless vehicular ad hoc networking (VANET) presents a real challenge to the wireless community. Recently, a Bypass-AODV **Error! Reference source not found.** mechanism is proposed to enhance the performance of standard AODV with local repair by overcoming several inherited problems such as a newly non-optimal reconstructed route, out-of-order delivery, packet drops, and routing overhead increase. In this work, the impact of mobility on Bypass-AODV is investigated. The simulation results show that Bypass-AODV performs similarly or better than AODV for short length connections. In particular, this behavior is rapidly changed with increasing the physical distance between the end nodes beyond 2 hops. For long length connections, Bypass-AODV outperforms AODV by showing a reduction in the percentage of packet drops from 15% to 2%. The results also show the insensitivity of Bypass-AODV goodput to the change in mobile speed. This feature makes the proposed routing protocol very attractive to VANET applications.