Sukanya Jewsakul 2014: Distance Based Flooding for Reducing AODV Routing Overhead in Mobile Ad Hoc Networks. Master of Science (Computer Science), Major Field: Computer Science, Department of Computer Science. Thesis Advisor: Assistant Professor Chavalit Srisathapornphat, Ph.D. 72 pages.

A wireless mobile ad hoc network (MANET) is a collection of mobile nodes that can communicate immediately when they are in each other's transmission range. AODV (Ad hoc On demand Distance Vector) is a reactive wireless ad hoc routing protocol that has been studied and developed continuously. However, a routing overhead of AODV's route discovery process based on flooding technique is a serious problem and should be improved.

This research proposes AODV-DBF (AODV-Distance Based Flooding) routing protocol which reduces routing overhead in the case of frequently route discovery process over AODV by overhearing received power information when neighbors broadcast RREQ without any routing delay.

To present the experimental results, this research uses NS3 (Network Simulator 3) to simulate and compare the efficiency of AODV-DBF and AODV with flooding and ERS (Expanding Ring Search). The experimental results show in the case of continuously moving nodes, AODV-DBF improves packet delivery ratio by 1.99 and 1.29 times compared to AODV and reduces end-to-end delay by 0.66 and 0.97 times compared to AODV with flooding and ERS, respectively.

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