

ABSTRACT

Nowadays, technology tends to be developed to wireless technology. One of factors affects that development is mobile capability offered by the system to users. One of current wireless technology is technology used in mobile ad-hoc network.

Important feature of mobile ad-hoc network implementation is routing protocol. There are many types of routing protocol for mobile ad-hoc network. However, Ad-hoc On Demand Vector Uppsala University (AODV UU) and Better Approach To Mobile Adhoc Networking (BATMAN) are still developed now. In this thesis, AODV UU and BATMAN Daemon (BATMAND) are implemented to analyze their performance for file transfer. AODV UU and BATMAND are implementation of AODV and BATMAN in Linux-based software. Both routing protocols are implemented in up to four nodes. For mobile scenario, source node moved with velocity about three km/h. Transmitting and receiving file at system is using Distributed Internet Traffic Generator (DITG). Analyzed parameters in this system are average packet loss percentages, average throughput, and average jitter.

After implementation of both routing protocols, at both movement types, AODV UU generates more packet loss percentages than BATMAND. In static scenario, percentages difference between AODV UU and BATMAND is up to 4.12062585%. At both movement types, BATMAND generates more throughput compared to AODV UU. In static scenario, BATMAND throughput is higher up to 11.4293659 Kbps than AODV UU. At source-node-mobile scenario, BATMAND throughput is higher up to 12.7658401 Kbps than AODV UU. At both type movements, BATMAND generates jitter higher than AODV UU. In static scenario, BATMAND jitter is higher up to 0.00102262 s than AODV UU. In source-node-mobile scenario, BATMAND jitter is higher up to 0.00078058 s than AODV UU. Besides, implementation result shows that direct communication shows better performance than via-intermediate-node communication.

Keywords : mobile ad-hoc network, AODV UU, BATMAN, DITG, routing protocol