

ABSTRACT

In the Adhoc Network a user/node can moving around freely. This is happening because of an Adhoc Networks are infrastructurless and using air as its transmission media (wireless). On the wireless network routing protocol are exist to choose where path that have to be taken so communication between two node can proceed. While the communication session occur, the electromagnetic wave will propagate on all direction. As a result, fading will occur where the received power are less than the transmitted power.

The goals of this research are to find out the routing protocol performances on various propagation model. The observed routing protocols are AODV, DSR, and OLSR that already have standardized by IETF MANET Working Group. This routing protocols performance will be evaluated using a software called Network Simulator 2. This research used four propagation models that considered often occur in the real condition, there are Two-rayground, Ricean, Rayleigh, and Shadowing. This research are using several scenarios, there are variation of number of nodes, velocity of node mobilities, number of traffic, and pausetime. Meanwhile the output QoS parameter for analyzing the protocol performances are throughput, packet delivery ratio, end-to-end delay, and normalized routing load.

The conclusion of this research are, on all four propagation models OLSR have a high score for throughput and NRL, while its PDR are low. Meanwhile AODV have the highest score for PDR, and DSR have a highest score for end-to-end delay among all routing protocol that have been researched.

Keyword : *Adhoc network, routing protocol, propagation model, network simulator 2.*