## ABSTRACT

Mobile Ad Hoc Network (MANET) is a combination of nodes (mobile wireless devices) that move dynamically and forming a temporary network without using any existing network structure (Li et al, 2007). Routing in MANET is an interesting challenge because it has dynamic features, as well as limited by the bandwidth and energy. The movement of nodes will make the network topology always change. Because of this each node always make changes to the routing table, and the result is too many control packets in the network and use too much energy consumption.

In MANET routing protocols are generally only use a single path (Unipath) to use from the source node to the destination node. But, with dynamic network topology, making the preexisting node becomes disconnected and had to re- establish a new route. Therefore, today multipath routing has been implemented, which can provide more than one route to the destination node. So the source node and the intermediate node can use this route as back up route or the main route.

In this final assignment analyzed performances of multipath routing protocol, and unipath routing protocols in MANET. The author use Ad - hoc On-Demand Distance Vector Routing (AODV) for Unipath routing protocol and Ad-hoc On-demand Multipath Distance Vector Routing (AOMDV) for multipath routing protocol. AOMDV protocol is used because it is extension of AODV protocol. This final project was simulated using Network Simulator v2. From the test results we can conclude that AOMDV protocol is better than AODV protocol only in parameters of average delay, and for parameters of normalized Routing Load (NRL), routing overhead, throughput, and packet delivery ratio (PDR), AODV routing protocol shows better performance than AOMDV routing protocol.

Keyword : wireless, ad-hoc, AODV, AOMDV, multipath, routing