ABSTRACT

In Mobile Ad Hoc Network (MANET), each mobile node that equipped with wireless equipment has an ability to manage and organize their network. The mobile node can build a connection to any node in the network or internet anytime it needed. MANET performance relies on the type of routing protocol used.

AODV is one of routing protocol in MANET. It is a reactive routing protocol that only builds a connection when needed. When a node wants to connect with another node in the network, it has to build a route to the destination that taking a lot of time. To overcome this problem, there is an optimization method called Ant algorithm. Ant algorithm is a method to finding a shortest path that adopts ant behavior. Naturally, ant has an ability to find the shortest path to the food. Each ant that travels from the nest toward the food leaves an enzyme called pheromone. The pheromone used to choose the shortest path towards the food.

This final project merges the AODV routing protocol with ant algorithm. The simulation result shows that the AODV routing protocol performance increased with addition of ant algorithm. However, the routing overhead is also increased. The routing overhead increased because the ant packet that used in routing process sent by source node periodically in the network.

Key word: MANET, AODV, Ant Algorithm, Routing Protocol.