ABSTRACT

Nowaday, the computer networks are growth rapidly. Communications between devices are happen through the exchanging data that flow in the network. Data from devices that connected to the network are sent as datagram, the data packet that is defined by protocols in the network. Complexity of the network needs for speed in the process of sending data. In other case, getting optimal throughput and minimal packet loss are necessary. Because of that reason, the method for ideal routing to find the best route and optimal in the sending packet are needed.

One of the routing methods that can be solution to optimalize the routing of sending data is Ant Routing System. This routing method using algorithm called Ant Algorithm that is inspired by ant colony behaviour to choose the best way in the process finding foods. As same as the ant colony, sending data has the same problem to find the best path from source to the destination. This algoritm has the ability to adapt the changes that could happen in the dynamic network. This is possible because the network is explored by the agents that use the artificial pheromone in path and finally the best path for routing are choosed.

In this *Tugas Akhir* will be implemented the routing method with Ant Algorithm for more effective routing in the case for optimalize throughput and minimalize packet loss and to compare with another routing method in the routing process between Local Area Network.

Keywords : *Ant Routing System, Ant Algorithm, agent, artificial pheromone.*