ABSTRACT

Internet have been a needs for the society, and the user’s still increasing untuil now. The increasing users makes the packet traffic in transmission line congested. One of the reason is the internet slow connection, it can be the common routing method used until today is slow in detecting the altering network condition. Routing is an activity to lead the data information by determining the route from the source to the destination node which contained in the routing table.

In this final project, research conducted with implement the BeeHive algorithm in OmNET++ for optimizing the delay time so that the throughput can be maximized. BeeHive is an algorithm that decide the queuing delay in decide making of distribution route sharing data packet. The work of Beehive inspired from the behaviour of bee in collecting food by exploring the food location and communicate with other bee which still in the hive with waggle dance to estimate the distance and consider the food quality so in the BeeHive algorithm’s route determination process occured by updating the network quality as the consideration in route sharing decision to distribute the data packet.

Experiment result showed Beehive algorithm capable of optimizing the delay time in high density traffic condition, with time delay 1.22 s than time delay AntNet algorithm 1.427 s.

**Keywords**: Routing, Time Delay, BeeHive Algorithm