Abstract

These days, the development of technology is very rapid, especially in the world of computer networks. Therefor all needs that are related network quality is getting more complex. Services that are produced by a network must have a good quality. The quality that produced by a network is determined by several factors, one of which is the route selection by a router forwarding packets in a network.

Because of that, there are several algorithms are applied to the determination of the router in packet forwarding path. One of the most widely applied algorithm is OSPF algorithm. This algorithm adopts Djikstra, wherein the selected routing path is the path with the lowest cost. However, OSPF algorithm has shortcomings, which can cause a bottleneck. This happens because packets can accumulate in a node even though the other lane has a high cost, but has a low density [11]. Algorithm is what will be analyzed and compared to the results using different algorithms, namely particle swarm optimization. Based on the main parameters in determining the quality of the network to be compared is the convergence time. With the performance comparison testing is expected to know what is more appropriate algorithms implemented in routers for packet delivery path determination in large or small scale networks.

Keywords: Routing, OSPF, Swarm Intelligence, Particle Swarm