

## ABSTRACT

Internet network basically will need end to end connection to keep in order the transmitter and receiver can be still connected. End to end connection in internet network must be through some routers from transmitter to receiver during packet data transmission process. If there is a broke router during transmission of packet data, then the process will stop and the packet data will be lost. Therefore, it appears a network named Delay Tolerant Network (DTN) where it is a tolerant network that doesn't mind delay. DTN network works using Store Carry Forward method, if one of node that become a router is broke, then DTN network will be still working. There are some routing protocols in DTN. Those are Prioritized Epidemic Protocol (PREP) that is an improvement of Epidemic Routing.

In this final task, it explains about performance of Prioritized Epidemic Routing that is using Average Availability method and allocation priority in transmitting and dropping a message. The simulation uses ONE (Opportunistic Network Environment) Simulator and analyze the Delivery Probability, Overhead Ratio, and Average Latency in node movement of Shortest Path Map Based Movement and Random Way Point.

Based on the testing, the result is that Prioritized Epidemic Routing is better in all the aspects, that are 78.76% for delivery probability, as 4687.83% for overhead ratio, and 417.475% for average latency. For the variation size of buffer is also better, that are 65.02% for delivery probability, 1202.491% for overhead ratio, and 385.028% for average latency. The performance of Prioritized Epidemic Routing and Epidemic Routing is good in node movement of Random Way Point in delivery probability, overhead ratio, and average latency in variation number of node and buffer size. Meanwhile, the variation size of buffer for Prioritized Epidemic is better than movement model of Shortest Path Map Based Movement.

**Keyword :** *Delay Tolerant Network*, PREP, Epidemic.