

ABSTRACT

The existing GTDM routing protocol in DTN still have a lack and not efficient because user must take their packet's. In this research, DTN routing protocol Game Theory based on Decision Making (GTMD) is modified and implemented in Bandung city as one of the solution to distribute information over DTN network to help the deployment of smart city.

In this Final Project, the original GTDM routing protocol is simulated and this routing is modified by changing the destination node from using static node as the end-node by assuming user will take their packet's manually, changed to using human node as the end-node so user will not have to take their packet's manually and need to use ferry node with specific movement that will be analyzed too.

Simulation result shows that ShortestPathMapBasedMovement with information of POIs is the best movement to be applied for ferry node. This modification can compete with its original version and have better performance in overhead ratio with the increasing performance up to 283,5% and delivery probability with the increasing performance up to 141,39%. The change of node density influences this routing. Delivery probability of GTDM modification decrease 5,76% as the increasing of 100 node density. Overhead ratio of GTDM modification is much better than the original version. Latency increase 2,9% for both modification and original version. The increment of buffer capacity rise the delivery probability of the original version up to 4% while lowering the modification version around 25,2% but help the overhead ratio to keep low and the value kept decrease around 19,7% for original GTDM and 21,5% for modification. Latency increase original version increase up to 18,6% and for the modification increase up to 17,3%.

Key Words: Delay Tolerant Network, DTN Routing Protokol, GTDM, Single Copy Forwarding, Ferry Node, ONE