

ABSTRACT

Along with the rapid development of communication technology today, the limitations of infrastructure have become the beneficiaries of urban areas, and the development of Delay Tolerant Network (DTN) is expected to be a solution to overcome the limited network infrastructure. DTN is a network that has tolerance or resistance to high delay times and does not require a centralized network infrastructure. The working principle of this DTN network is to use the store, carry, forward method. In DTN networks there are several routing protocols, such as Spray and Wait and Bubble Rap. Spray and Wait Routing exchanges data by continuously replicating data from one node to another node to each node that contacts until the node gets the desired data, while routing Bubble Rap exchanges data by analyzing the behavior of the nodes that meet and only send the data to the node they know, like social relations between people who have met.

In this final project, an analysis of the comparison of the routing performance of the Spray and Wait and Bubble Rap protocols is seen to be quite feasible if implemented in urban areas where the two routing movements of network nodes work like community behavior patterns that often move and interact with analyzing Delivery Probability, Average Latency, and Overhead Ratio with parameters testing the movement of nodes with Shortest Path Map Based Movement, number of active nodes, available buffer capacity and duration of simulation duration. This network simulation is done using ONE Simulator software.

In this study the results were obtained where the Spray And Wait routing was superior in delivery probability and average latency, more suitable to be implemented in urban areas, while routing Bubble Rap only excelled in its overhead overhead. It is expected that the results of this study can be utilized for the development of network infrastructure in the future.

Keywords: *DTN, Spray And Wait, Bubble Rap*