

## ABSTRACT

Ad hoc network is a network that does not rely on centralized and organized connectivity, and without dependence infrastructure. Ad hoc Networks in terms of network topology is a collection of some nodes are dynamic multi hop wireless networks. Each node has a wireless interface to communicate with other nodes. The type of network that uses a mobile node called Mobile Ad hoc Network (MANET). MANET is needed in places where impossible to build an infrastructure network, such as natural disaster areas and areas of military operations.

This final project already evaluates the comparison between two MANET routing protocols, which are Optimized Link State Routing (OLSR) and Destination-Sequenced Distance-Vector (DSDV) with simulation using Network Simulator. Parameters which will be compared are Throughput, Delay, Packet Loss and Packet Delivery Ratio (PDR). Mobility models in use are Random Waypoint, Freeway Model and Manhattan Model. This final project carried out simulations using Network Simulator v2.34 (NS-2.34) to determine the effect of mobility on network performance MANET using routing protocol OLSR and DSDV.

The simulation result, show the highest throughput values obtained 196,379733 Kbps in scenario 2, while the lowest throughput values obtained 90,1176889 Kbps in scenario 2. The highest packet loss value obtained 4,18791672 % in scenario 2, while the lowest value of 0,76553051 % packet loss in scenario 3. The highest packet delivery ratio value obtained 99,2344695 % in scenario 3, while the lowest packet delivery ratio value of 95,8120833 % packet loss in scenario 2. Highest delay values obtained 0,4027116 s in scenario 1, while the lowest delay value of 0,03242398 s in scenario 3. Highest delay values obtained 0,4027116 s in scenario 1, while the lowest delay value of 0,03242398 s in scenario 3. Highest round trip delay values obtained 1,437 s in scenario 1, while the lowest round trip delay value of 1,041 s in scenario 2.

**Keyword :** *Ad hoc*, MANET, DSDV, OLSR