ABSTRACT

One of the challenge that has to be exist in IEEE 802.11 is the abilty to handle hidden node problem in wireless local area network. In IEEE 802.11 hidden node problem is handled in sublayer MAC. The problem that appear because of hidden node problem will result in collision that affect the QoS parameter significantly. IEEE 802.11 use RTS/CTS mechanism to solve the hidden node problem that happened frequently in mobile wireless network. In which those mechanism will reduce the collision happening in some case.

In this final project the performance of RTS/CTS in IEEE 802.11 mechanism will be analysed. The parameters that is tested and analysed in this final project is throughput, delay dan retransmission attempts. The simulator used in this final project is OPNET Modeler 14.5 Educational Version in which used to simulate and analyze the performance of RTS/CTS mechanism.

In the simulation process is used multiple scenarios that cover the the presence or absence of hidden node, implemented or not the RTS/CTS mechanis and node mobilty. With that scenarios used the result concluded in the simulation process is RTS threshold with 256 Bytes achieve the highest performance in hidden node scenario on the other hand RTS threshold with 1024 Bytes achieve the highest performance in no hidden node scenario.

Keywords : IEEE 802.11, RTS/CTS, OPNET Modeler 14.5, Mobile Wireless Network.