ABSTRACT

Exposed terminal is a serious problem in ad-hoc network that causes unfairness between hosts. TCP protocol adoption is the root of the exposed terminal problem. TCP was developed for wired network, and became a problem when it implemented in wireless network. TCP protocol which was designed for wired environments will always assume that the absence of acknowledgment from the receiver as a sign of congestion in the network. Moreover, wireless network uses CSMA/CA for congestion control mechanism. In CSMA/CA, a node sends a "notification" packet that the transmitter node wants to send packets and make another nodes who receive the notification packet waiting for amount of time until the packets and the ACK packets are sent. This mechanism will reduce transmission throughput.

The simulation proposed ini this Final Project is to cut some part of the congestion control mechanism such as ignore RTS/CTS packets, eliminate NAV, and cut through some backoff timer. For more option, the solution equipped with cross layer design to make it more adaptable in many topologies. MAC layer interrogate informations reside at network layer before take any decisions. Information from network layer comes in form of number of hop to receiver as well as another nodes.

Keyword : IEEE 802.11, Exposed Terminal, TCP Fairness, Cross Layer Design