ABSTRACT

Provision of throughput fairness in Wireless Mesh Network currently required so that each node get a fair chance to transmit packets to the network. The currently MAC protocol in WMN cannot provide throughput fairness for nodes more than one hop away from the gateway. In some cases, nodes more than one hop away from the gateway will experience a shortage of throughput, especially in cases where the network load is increased.

Medium access control protocol (MAC) contributes negatively to the problem of fairness in the WMN, and determine when node can transmit packets. Because the data from a WMN must go through several hops to reach the gateway, the data should be trying to get access to the media access at every intermediary hop. This means that the standard MAC protocol cannot provide fairness for each node in the network.

In this thesis, using Mesh Fairness Algorithm (MFA), which modified the packet queue and Backoff Counter on each node is changed based on the arrival of the packet, and modifies the buffer by limiting the buffer to an intermediary node.

In the study showed that the MFA with a modification in the buffer cannot get better fairness than the MFA with a

modification to the system queue. At high data rates in the buffer modification cannot provide the expected fairness.

Keywords: **WMN, MFA, Throughput Fairness.**