

## ABSTRACT

In WMN, scheduling is one of the most important aspects that will impact on system performance. There are two scheduling mechanisms, namely centralized scheduling and distributed scheduling. Distributed scheduling is divided into two, distributed coordinated and uncoordinated distributed. This final project presents the performance of the algorithm which is the basic scheme for coordinated distributed scheduling algorithm. STDMA is a solution of the limited number of slots for allocating node.

Schematic design for this final project began with the generation node at random. Node raised this has made random location every generation. Then the node is raised will be calculated distance from each node. After that the calculation will be done SNR of each node that has been raised. Of the value of the SNR, modulation will have to be used for each node. After selecting the modulation, then each node will be scheduled with the basic scheme. The basic scheme allows the allocation of empty minislot sequentially. As for the use of STDMA itself allows each slot can be occupied by multiple nodes. The last stage is done counting throughput, and fairness index of this system.

The simulation results show that the greatest throughput for random modulation scenario is 20.586 kbps (TDMA) and 24.761 kbps (STDMA). The most effective modulation is BPSK modulation and 16QAM (3/4) with a throughput value for BPSK modulation is 21.00 kbps (STDMA) and 25.32 kbps (STDMA) for modulation 16QAM (3/4) on the number of nodes 6 to 9. At the random modulation channel conditions, the fair value of the fairness index obtained at the node number 3. Its value is equal to 0.8122 (TDMA) and 0.7199 (STDMA). On another channel conditions, the fair value of the fairness index is when using QPSK modulation (3/4) with a value of 0.7562 with the basic scheme using TDMA and 16QAM (3/4) with a value of 0.7771 for the basic scheme using STDMA. Both of these values achieved when the node number is 6.

**Keywords:** Wireless Mesh Network, distributed scheduling, STDMA, basic scheme, throughput, fairness index