ABSTRACT

Wimax is a communications technology that aims to provide long-distance wireless data communications. Wimax architecture consists of Base Station (BS), Subscriber Station (SS), and Network Management System (NMS). At Wimax is needed a packet scheduling with use algorithm that can support QoS for different classes of service. IEEE 802.16 doesn't give a fix standard for scheduling algorithm choosing in Wimax. Scheduling algorithm that provide fairness for users is needed for Wimax, because the resource access is request from users. This final project simulated about TRS+mSIR (*Temporary Removal Scheduler + maximum Signal to Interference Ratio*) and mmSIR (*modified maximun Signal-to-Interference*) scheduling algorithm on Wimax network. This simulation is worked based on increasing the number of SS scenario.

This final Project aims to see the effect of scheduling algorithms on the Quality of Service (QoS) on networks based on Wimax. The way to reach that aims by simulate TRS+mSIR and mmSIR scheduling algorithm on Wimax. QoS classes are analyzed in this final project are UGS, rtPS, and BE. Performance parameters that measured are throughput, average delay, packet loss, and fairness to see how the performance of Wimax scheduling using mSIR algorithm. In the design of Wimax network simulation using Network Simulator 2 (NS2).

The simulation results show the TRS+mSIR scheduling algorithm produces values greater throughput than scheduling algorithms mSIR. MmSIR scheduling algorithm produces a value of average delay is smaller than mSIR scheduling algorithms. Value of packet loss generated by the TRS+mSIR scheduling algorithm and mmSIR is still below the standard maximum packet loss are issued by the ITU-T.

Keyword: Wimax scheduling, TRS+mSIR scheduling algorithm, mmSIR, QoS.