

ABSTRACT

The rapid development of technology, makes the increasing use of internet networks. The large use of internet network makes every provider must provide adequate bandwidth. To optimize every user accessing the internet, bandwidth management is required. Bandwidth management is required so that every user can access the internet smoothly and stably. In doing bandwidth management can be done by various methods. In this study using simple queue method. Simple queue method selection because it is a simple method that is easy to implement to perform bandwidth management. Simple queue is used because it can help limit traffic based on IP address and can limit two-way traffic, namely download and upload. The simulation was conducted using GNS3, VirtualBox, Mikrotik, Ubuntu, Ubuntu Server, Iperf3 and Wireshark tools. In this simulation try to perform bandwidth management on each device. Then will be done testing of bandwidth management that has been done by using Iperf3 software to find out the bandwidth sent. When testing with Iperf3, it also captures data with Wireshark to obtain traffic from that data stream. From the results of traffic obtained from Wireshark will be conducted analysis to find out the quality of service of the network. Quality of service can be known by using throughput, delay, jitter and packet loss parameters. Throughput, delay, jitter and packet loss parameters will be analyzed to determine the quality of the network and to see the results of bandwidth management. The results of quality of service analysis in this study obtained parameters of throughput, delay, jitter and packet loss that are good for a network.

Keywords- *Bandwidth, Bandwidth Management, Simple Queue, Quality of Service, Throughput, delay, jitter, packet loss.*