

## ABSTRACT

The use of network connection collectively in Wireless Local Area Network (WLAN) needs gateway and router that can be relied on. Mikrotik is an operation system that can be relied on to operate as gateway and router, which has support to reach Quality of Service that can make the computer becomes top and stable network router. That operation system includes any complete features for network and wireless, one of them is bandwidth management.

Bandwidth management id needed to precisely distribute bandwidth capacity available in the network for every client and application. The clients are expected to get bandwidth allocation fairly, appropriate bite rate, and minimum delay.

This final project implements bandwidth management on WLAN network by using Mikrotik as the operating system. By distributing the bandwidth based on client need, it is expected for the system to be capable in optimizing the network use appropriately as the portion and each client's need. Final result from the implementation show that the video streaming quality is good enough. The delay of system is still of the range of the acceptable in video streaming communication which is under 150 ms, packet loss under 1% and jitter under 1 ms. For those not included in the category that are permitted for video streaming communication , the video streaming cannot be applied. While for the three client's conditions, the quality of the video streaming is not good enough. For the data application , Mikrotik can stabilize the network bandwidth well, shown from the value of the packet loss which is nearing zero, or it can be said that there is no packet loss, so that the data application can be applied.

Keywords: WLAN, Mikrotik, Bandwidth Management, QoS