

ABSTRACT

This study aims to optimize and analyze the village hall network in Melung Village using bandwidth management with the queue tree method. This research was in the admin room and the village head's room, Melung village hall, Kedungbanteng sub-district, Banyumas. This study analyzes in terms of the value of quality of service from before and after the implementation of bandwidth management on the network used for the work of the Melung Village office. In the initial research, the throughput value only got an index of "3" in the TIPHON standard, which made the network quality less than optimal. The bandwidth management queue tree configuration implementation involves a hierarchical token bucket in the configuration using the Winbox application and testing this research using the wireshark application to get the data used to find the QoS value with parameters throughput, packet loss, delay, jitter according to the TIPHON standard. The results of the QoS measurement, before bandwidth management in the admin room, got an index of 3.75 (standard > 3), and the village head room got an index of 3.75 (standard > 3). After bandwidth management in the admin room got index 4 (standard 4), village headroom 4 (standard 4). The results of the Mean Opinion Score (MOS) after bandwidth management got an average rating of 4.8 (standard > 4). Based on the results of QoS and QoE, it can be concluded that bandwidth management using a queue tree can run well.

Keywords: Bandwidth, Queue Tree, Quality of Service, Hierarchical Token Bucket, Mean Opinion Score