

ABSTRACT

Pajerukan Village is one of the villages that is far from the reach of ISPs, so the village government makes an internet network, namely BUMDes Net. The weakness of the BUMDes Net Pajerukan Village is still not stable and evenly distributed. Mass internet usage along with increasing network users causes a decrease in network performance. The purpose of this study is to optimize the BUMDes Net network to be more stable. Performing bandwidth management is a solution by managing excessive bandwidth usage and limiting bandwidth access for some users. The scenario used is to compare two bandwidth management methods, namely Simple Queue and Queue Tree on a proxy server using Winbox and testing Quality of Service (QoS) parameters on delay, packet loss, throughput, and jitter using the Wireshark application. The Bumdes Net network topology uses a 100 mbps ISP as an internet source and uses fiber optic cable to supply each user (87 users). The conclusion of this study is that the simple queue QoS results are better on the throughput parameter which has a value of 20 Mbps, while the queue tree is 1,4 Mbps. The queue tree method has better QoS results in the packet loss parameter having a value of 0,01% while the simple queue 0,28%, the delay parameter has a value of 5,9 ms and 6,5 ms, and the jiter parameter has a value of 1,48 ms and 1,78 ms.

Keywords: *bandwidth management, Mikrotik, Simple Queue, Queue Tree, BUMDes net*