ABSTRACT

This study discusses the application of bandwidth management and network security using the hierarchical token bucket method and port knocking on a mikrotik router. In this study, we take an example of an application that has been carried out at Perumdam Tirta Satria which performs bandwidth management with a bandwidth allocation from the provider of 150Mbps. As well as the application of network security using the port knocking method which can regulate and limit users / clients in accessing servers or public connections. The test is done by measuring the Quality of service (QoS) using wireshark tools on the network server after the hierarchical token bucket method is applied. From the results of the QoS test, it can be seen that the implementation of the method was very successful with a throughput value of 73.059kbps (standard >100kbps), delay 0.007163 ms (standard <1 ms), jitter 0.000833 ms (standard <1 ms), and packet loss 0% (standard 0%). And in the port scanning test, it can be seen that the results of the port are in filtered status, which means that the port can only be accessed by connections that have been determined on the Mikrotik router.

Keywords: Hierarchical Token Bucket, Bandwidth, Port Knocking