ABSTRACT

NETWORK OPTIMIZATION AND QoS MEASUREMENT ANALYSIS USING THE SIMPLE QUEUE CUSTOM METHOD ON MIKROTIK RB-941 (CASE STUDY: SKI ORGANIZATION SEMINAR EVENT)

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The ever-developing digital era encourages seminar organizers to adopt a hybrid format, combining online and offline participants. Central Islamic spiritual organizations in holding seminars often use zoom meetings and live YouTube broadcasts. However, the presence of many participants creates challenges in maintaining network quality. This research applies a custom simple queue method on the RB-941 proxy to optimize the network and measure Quality of Service (QoS). This method uses a Hierarchical Token Bucket approach to manage network traffic priorities by dividing bandwidth according to the needs of each application used during the seminar, with a bandwidth of 50 Mbps. Test results show a significant improvement in QoS parameters after optimization: throughput is stable with 100% data sent, jitter decreases from an average of 42.71 ms to 24.65 ms, and delay decreases from an average of 42.75 ms to 24, 66 ms, while packet loss remained stable at 0%. This improvement proves that the implementation of a custom simple queue has succeeded in optimizing network performance and guaranteeing better service quality for hybrid seminars.

Keywords: Quality of Service, Simple Queue, Network, Hybrid Seminar