ABSTRACT

PERFORMANCE ANALYSIS of THE *WIFI* NETWORK AT INSTITUT TEKNOLOGI TELKOM PURWOKERTO

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The development of COVID-19 in Indonesia has allowed for in-person learning activities with health *Protocol*s. Hybrid Learning has become the approach used, with monitoring of network quality through Quality of Service (QoS). Network performance varies due to bandwidth issues, *delay*, *Throughput*, packet loss, and *Jitter*, which affect applications, including *video* streaming. QoS is used to control data delivery, limit data packets, and adjust *Jitter*. This research applies QoS to the network Performance measurement of the network on the floors of the Building (DC) and Internet of Things (IoT) Building has revealed significant variations in response time, *Throughput*, and *Jitter* on each floor. In the DC, *delay*s range from 16 ms to 716 ms, while in the IoT Building, *delay*s range from 0.2 ms to 270 ms. Although most floors meet acceptable *delay* standards, some floors show anomalies that require further investigation. *Throughput* variations on each floor indicate differences in connection quality, network usage, and environmental factors. This variability needs to be considered to maintain consistent services that meet user needs. *Jitter* testing also reveals varying response times on each floor, likely influenced by fluctuations in network quality, workload levels, and environmental factors. Overall, this data indicates the importance of a deep understanding of the factors affecting network performance on each floor of the DC and IoT Building. The presence of variability requires further evaluation to ensure consistent and optimal network quality.

Keyword: *QoS, Network, DC, IoT*