ABSTRACT

COMPARATIVE ANALYSIS
OF WIRELESS NETWORK PERFORMANCE
USING IPERF AND WIRESHARK SOFTWARE
AT PT INDUSTRI TELEKOMUNIKASI INDONESIA
(PERSERO)

by

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Network performance is a crucial factor in the success of computer network systems. PT Industri Telekomunikasi Indonesia (Persero), focusing on the issue of the unavailability of a system to effectively and consistently conduct in-depth measurement and analysis of network aspects, particularly Quality of Service (QoS). The objective of this research is to compare Iperf and Wireshark in network performance analysis, considering parameters like throughput, packet loss, delay, and jitter, along with their functionalities. The research methodology involves statistical analysis, encompassing data collection, analysis, and interpretation. Over a 7-day measurement period using the TIPHON standard, Iperf's data indicates a throughput of 3.841 Mbps with a "Very Good" index, packet loss of 0.286% with a "Very Good" index, delay of 1.024 ms with a "Very Good" index, and jitter of 0.24 ms with a "Good" index. On the Wireshark platform, a throughput of 1.418 Mbps with a "Good" index, packet loss of 2.146% with a "Very Good" index, delay of 4.095 ms with a "Very Good" index, and jitter of 4.08 ms with a "Good" index were observed. The comparison of both platforms using 10 functional measurement points suggests that Wireshark exhibits better performance than Iperf. In conclusion, both applications demonstrate the ability to measure network parameters as specified, but Wireshark is identified as having a superior advantage over Iperf. This research is expected to provide significant contributions, valuable recommendations, and suggestions for the future development and enhancement of network systems.

Keywords: Iperf, Wireshark, TIPHON, Quality of Service, comparative