ABSTRACT

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

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Network performance is a crucial factor in the success of computer network systems. PT Industri Telekomunikasi Indonesia (Persero), with a focus on addressing the absence of a system for effective and consistent measurement and in-depth analysis of network Quality of Service (QoS) aspects, aims to compare Wireshark and PRTG in conducting network performance analysis while considering parameters such as throughput, packet loss, delay, and jitter, along with their functionalities. The research methodology employed here involves statistical analysis, a process of collecting, analyzing, and interpreting acquired data. Over a 7-day measurement period using the TIPHON standard, Wireshark's data showed a throughput of 1.418 Mb/s with a "Good" index, a packet loss of 2.146% with a "Very Good" index, a delay of 4.095 ms with a "Very Good" index, and a jitter of 4.08 ms with a "Good" index. On the PRTG device, a throughput of 2.231 Mb/s with a "Good" index, a packet loss of 0.493% with a "Very Good" index, a delay of 3.094 ms with a "Very Good" index, and a jitter of 4.12 ms with a "Good" index were found. The comparison results of both devices based on 10 points functionality measurements indicate that PRTG exhibits superior performance compared to Wireshark. In conclusion, both applications possess the capability to measure networks according to specified parameters; however, PRTG is identified to hold a higher advantage over Wireshark. This research is expected to provide a significant contribution as well as valuable recommendations and insights for the development and enhancement of network systems in the future.

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