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Experimental Analysis on Available Bandwidth Estimation Tools for Wireless Mesh Network

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ABSTRACT

Measurement of available bandwidth in a wireless mesh network (WMN) environment has always been a topic of great interest. Several active and passive-based tools has been tested and proposed in previous research. However, the performance of these tools was never tested extensively in terms of the condition of the WMN such as varying bandwidth across the network and external traffic factors. In this work, we perform an extensive experimental analysis study on both active and passive available bandwidth tools by looking at the accuracy, failure rate and consistency of each tool. We also investigate the effects of varying the WMN bandwidth and external traffic on the performance of these tools. Our results indicate that all tools performance was affected by the WMN testing environment. In term of accuracy, failure rate and consistency, Pathload was the most favorable tool in these conditions.

KEYWORDS: WMN; ASSOLO; Pathchirp; IGI/PTR; Pathload; Pathrate; Wbest

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