

AN IN DEPTH STUDY ON TCP/IP NETWORK AND DEVELOPMENT OF A REAL-TIME NETWORK BANDWIDTH MEASUREMENT TOOL

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ABSTRACT

Network Bandwidth Measurement Tool or NBMT is an application layer of tool, which is designed for the relevant user to measure the certain network bandwidth of a given network. NBMT is developed based on the “receive only packet pair” (ROPP) concept. ROPP is a passive method that is the tool runs only on the receiver end. This method depends on a pair of packets of the same size that are transmitted back-to-back and receive in the same order without separation. NBMT can be used to measure the total number of TCP, UDP and ICMP packets that passed through a network interface. Besides that, it allow user to perform some basic measurement such as the average of pocket size, the standard deviation and bandwidth in bits per second. The result gathered can be integrated with GNU plot for plotting a bandwidth statistical graph that for analyze purpose.