

ABSTRACT

The use of network infrastructure has been implemented in Hasnur Information Technology to connect to existing devices in the company. With the development of the needs of each room that requires an internet connection and the availability of data sharing from each room for users' needs, the quality of computer network service is required.

Hasnur Information faces several major challenges in its network infrastructure. In addition, the company does not have access control between users and clients to the Internet connection so vulnerable to cyber and excessive bandwidth usage. In order to prevent this from happening in the company, the author wanted to do research in the way of designing a proxy server device based on Ubuntu Linux using Squid software and conducting testing directly on the network of PT Hasnur Information Technology. The purpose of the research is to do the analysis of the design and testing of proxy servers on the company in order to avoid problems that occur at the company. Then after doing the planning and testing on the Proxy Server device the author performed testing directly in the network using Wireshark software and with the QOS (Quality Of Service) Method. The network testing is done before and after adding proxy and useful to find out if the proxy device of the server that has been designed and tested is already worthy to be used on PT hasnur Information Technologies. The results of the network tests conducted before implementing the proxy server categorized it as "Good Enough" with an average throughput of 16471.43 kbps, a packet loss of 0.16%, and a delay of 118.04 ms. In contrast, the results after implementing the proxy server categorized it as "Very Good," with a peak throughput of 55435.43 kbps, a packet loss of 1.36%, and a delay of 155.07 ms. The research will use a qualitative approach to analyze and develop the network infrastructure of PT Hasnur Information Technology.

Keywords: Network Infrastructure, Proxy Server, Qos (Quality Of Service)