ABSTRACT

This research is to find out which NAS performance is the best in handling file delivery with RAID configuration, the methods needed in this test include transfer rate parameters, CPU and Memory resource usage, and QoS which includes throughput, delay, and packet loss by uploading and testing. download with variations in different file capacities. The results showed that synology is better in the transfer rate parameters of both RAID configurations, both upload and download, with the delivery of variations in file capacity delivery with an average transfer rate of 116-118MBps, and xigmanas 97-118MBps. In the resource usage parameter, the percentage of resource usage in both RAID configurations with testing upload or download xigmanas is lower with CPU usage 22%, memory usage 1.4-1.5GB or 30%, compared to synology CPU 30-34%, with CPU usage memory 190-201MB or about 42%. On the parameters of QoS throughput xigmanas 780-930Mbit/s, and Synology >800Mbit/s (standard >75% very good) from both upload and download RAID configurations. The average delay of both servers is 0.03ms (standard <150ms is very good), and packetloss is 0 (standard 0% is very good) on both servers from upload and download tests. QoS results from both servers are in very good category according to TIPHON standards.

***Keywords**: NAS, Network Attached Storage, RAID.*