

ABSTRACT

The use of digital storage is common for society. For example is required for documentation activities, such as tourist attraction and others. in case of documentation of tourist location, it cannot be enjoyed by everyone because picture are not collected centrally on one storage media, but the results of documentation are on each person's smartphone or camera. One common disadvantage in storage media is loss of data due to damage to storage media hardware. Based on these problems, a NAS storage media is created using a single board computer with RAID-based USB flash drives as the main storage media. The aim with NAS, documentation activities at event or tourism place can be collected centrally so that the results of documentation can be enjoyed by many people and RAID prevent loss data if there hardware damage to the storage media. From the result of testing with 4 users using multiple files with a size of about 300 MB on the NAS server. Using the method without RAID, the result transfer rate upload is 4.9 Mbps, with averaging time 11 minutes 17 seconds, download 5.39 Mbps with time 9 minutes 24 seconds. With the RAID stripe method, the result transfer rate upload is 6.3 Mbps, with averaging time 7 minutes 2 seconds, download 5.61 Mbps with time 9 minutes 10 seconds. With the RAID mirror method, the result transfer rate upload is 3.3 Mbps, with averaging time 14 minutes 59 seconds, download 5.90 Mbps with time 8 minutes 55 seconds. With the RAID Linear method, the result transfer rate upload is 6.08 Mbps, with averaging time 8 minutes 5 seconds, download 5.26 Mbps with 10 minutes.

Keywords : NAS, single board computer, RAID, upload, download, USB flash drive, Mbps.