ABSTRACT

DAS (*Direct Attached Storage*) and NAS (*Network Attached Storage*) are storage solution which oftenly used by companies to fulfill their storage demand. Both of them do not recommended while used in large-scale network. Main disadvantage of DAS and NAS there isn't disaster recovery to keep connection while there's any faulty in storage connection. While in DAS if there's any harddisk fault will result an unavailability of service. Nowadays NAS have already fault tolerance feature that achieved by using scheduling backup to another NAS box. While NAS master faulty, it needs much time to fault tolerance which is result unavailability of service. So that both of above solution do not fit to be said as full availability option of storage.

In this last project, I make iSCSI SAN box to cover up main disadvantage of DAS and NAS so that it can provide full availability storage. iSCSI SAN have multipath and RAID over Network ability which make iSCSI SAN very reliable. iSCSI SAN using iSCSI protocol that using SCSI commands to access block device such as harddisk, optical drive, tape drive, and flashdisk. iSCSI SAN can be built easily and fast, that because iSCSI SAN using TCP/IP protocol so that it can using existing Ethernet network. Testing need to bo done to determine the performance of iSCSI SAN such as IOPS, throughput, failover delay, failback delay.

The result of iSCSI SAN in this last project is a storage solution that can provide quite good availability and performance. Test result show us that iSCSI SAN can provide us delay fail over about 20 seconds and fail back about 6 seconds without any terminated connection, it can provide up to 32.740,77 IOPS in write and reading, and there's not show any closed connection while one of iSCSI SAN terminated.

Keyword: iSCSI SAN, NAS, DAS, Failover, Failback, IOPS.