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ABSTRACT

The purpose of my research is to analyze local disk, remote disk using iSCSI protocol, and distributed shared storage (DSS). The analysis will be performed using the established Bonnie++ and IOzone benchmarks. The main focus of the analysis will be on measuring the throughput of sequential block write and block read tests, and comparing the results for these different configurations. Disks connected remotely by iSCSI perform much worse than disks connected locally because of network latency in traditional storage area networks. By taking multiple measurements, I will be able to provide established evidence that DSS has the ability to create data networks where all I/O devices, either local or remote, can be accessed as quickly and transparently as if they were attached locally. A network such as this is invaluable to the scientific community, for example, because it will allow data to be quickly and easily shared by researchers across a wide area network. This is also highly applicable to the area of homeland security, because it would allow many different government agencies to readily share their defense data.