Competing with the Cloud

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The purpose of this experiment was to determine whether a home server, or NAS, is a viable competitor to consumer cloud services such as Mediafire or Google Drive. We hypothesized that, because of the lesser amount of users, the home NAS server would be a more viable solution. We defined “viability” in three areas: speed, cost, and ease of use. To test the consumer cloud services we used three of the largest providers: Mediafire, Dropbox, and Google Drive. For our home server test we used a Raspberry Pi running OpenMediaVault and set up to connect over FTP on port 21. For the upload/download test we created a simple 1 GB dummy file. To test speed, we used 3 trials for upload times, and 3 trials for download times of each service. To control and help make this experiment more conclusive we made sure to upload and download at the same time each night, 5pm for the uploads, 8pm for the downloads. This experiment was also conducted on 2 different networks. For the NAS server we not only tested LAN upload and downloads, but also WAN upload and downloads. After conducting our tests it was time to draw a conclusion. We looked back to our original definition of viability. We found that speed wise, the NAS was a lot faster on the LAN than any of the other services, and slightly faster on the WAN. For cost, the initial price was higher, but the prices over time were cheaper for the NAS. And finally, for ease of use, we determined that a cloud service would be easier to use than a NAS, at least for now. In the end this research supported our hypothesis that a home NAS service is a viable competitor to consumer cloud services.

Awards Won: