

Performance Benchmark

Testing Bed

In the performance testing, we set up five different NAS to install Cloud Sync. The specifications of these five models are listed below.

- RS3614xs+: Ext4 on RAID 5 with twelve 1TB hard disks
- DS3615xs: Ext4 on RAID 5 with twelve 1TB hard disks
- DS716+: Ext4 on RAID 1 with two 1TB hard disks
- DS416: Ext4 on RAID 5 with four 1TB hard disks
- DS216j: Ext4 on RAID 1 with two 1TB hard disks

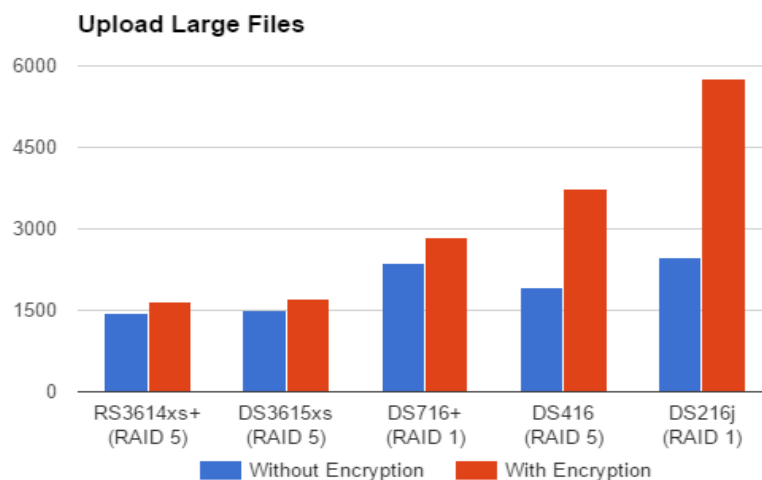
Each of the above NAS is installed with DSM v7321 and Cloud Sync v0716, and the Cloud Sync is connected with a WebDAV server with the following specifications:

- WebDAV Server: Windows IIS
- Hard disk: Intel 535 120G
- Memory: 16 GB

Large Files

The charts below shows the evaluation results for the large file case:

- Number of files: 20
- Size of each file: 5 GB



For the blue bars, it shows the results for the cases without encryption. From these results the Disk I/O is simply the bottleneck. Therefore, models with more powerful Disk I/O (that is, the ones to the left) yield better results. It is noteworthy to mention that, the DS416 model yields a better results than DS716+ due to the different RAID configurations. The DS716+ uses RAID 1 with 2 disks, and the DS416 uses RAID5 with 4 disks.

For red bars, it shows the results with encryption. Similarly, the Disk I/O is the bottleneck for models with strong computation power. However, for the models with weaker CPU (e.g., DS216j and possibly DS416), the CPU becomes the bottleneck.