

# File Management Overview

There are several ways you can upload, download and manage your files on the network drive. Which method to choose depends on how and where you would like to access the files as well as your personal preferences.

- [Web interface](#)
- [Samba](#)
- [AFP](#)
- [NFS](#)
- WebDAV
- [UPnP media server](#)
- [iTunes music server](#)
- [Mobile app](#)

## Comparison

| Protocol      | LAN | WAN | Transfer | View | Pros   | Cons  | Use for...  | Don't use for...   | More Info                                      |
|---------------|-----|-----|----------|------|--|---|---|--|--|
| Web interface | ✓   | ✓   | ✓        | ✓    | <ul style="list-style-type: none"> <li>• Browser is easy to use for anyone</li> <li>• No setup or software installation required</li> <li>• Works on home network and for remote access</li> </ul> | <ul style="list-style-type: none"> <li>• Not suitable for large files transfers</li> <li>• Upload size for single files limited to 1.86GB</li> <li>• Slow transfer rates compared to other methods</li> <li>• Cannot upload/download directories and folders</li> </ul> | <ul style="list-style-type: none"> <li>• Local and remote access through web browser</li> <li>• Quick file uploads from anywhere</li> </ul> | <ul style="list-style-type: none"> <li>• Large file backups</li> </ul> | <a href="#">Browser</a>                        |
| SMB           | ✓   | ✗   | ✓        | ✓    | <ul style="list-style-type: none"> <li>• Good transfer rates</li> <li>• File management like local HDD</li> <li>• Supported on both Mac and Windows</li> </ul>                                     | <ul style="list-style-type: none"> <li>• Can only be used on home network</li> <li>• User needs to know how to mount the drive</li> </ul>   | <ul style="list-style-type: none"> <li>• File access/backup on home network</li> </ul>  | <ul style="list-style-type: none"> <li>• Remote access</li> </ul>      | <a href="#">Windows</a><br><a href="#">Mac</a> |

| Protocol | LAN | WAN | Transfer | View | Pros   | Cons  | Use for...   | Don't use for...   | More Info                                      |
|----------|-----|-----|----------|------|--|---|--|--|--|
| AFP      | ✓   | ✗   | ✓        | ✓    | <ul style="list-style-type: none"> <li>• Good transfer rates</li> <li>• Native protocol for Mac OS</li> <li>• File management like local HDD</li> </ul>  | <ul style="list-style-type: none"> <li>• Only supported on Mac OS</li> <li>• Can only be used on home network</li> </ul>  | <ul style="list-style-type: none"> <li>• File access/backup on home network for Mac users</li> </ul> | <ul style="list-style-type: none"> <li>• Remote access</li> <li>• Windows users</li> </ul>                             | <a href="#">Mac</a>                            |
| NFS      | ✓   | ✗   | ✓        | ✓    | <ul style="list-style-type: none"> <li>• Native protocol for Linux</li> <li>• Good transfer rates</li> <li>• Access control doesn't require user login</li> </ul>  | <ul style="list-style-type: none"> <li>• Requires additional configuration for access control</li> <li>• Designed for Unix and Linux systems, not for Windows</li> </ul>  | <ul style="list-style-type: none"> <li>• Linux systems</li> </ul>                                    | <ul style="list-style-type: none"> <li>• Remote access</li> <li>• Windows users</li> </ul>                             | <a href="#">Mac</a>                            |
| FTP      | ✓   | ✓   | ✓        | ✗    | <ul style="list-style-type: none"> <li>• Good transfer rates, even for remote access</li> <li>• FTP client can pause/resume tasks and data log shows record of transfers</li> <li>• Site manager in FTP client makes managing different accounts easy</li> </ul> | <ul style="list-style-type: none"> <li>• Requires installation of 3rd party FTP client</li> <li>• Requires port forwarding for remote access</li> <li>• Have to download files before opening</li> <li>• More suitable for advanced users than beginners</li> </ul> | <ul style="list-style-type: none"> <li>• File backups from local or remote locations</li> </ul>      | <ul style="list-style-type: none"> <li>• Beginners who are not familiar with FTP protocol and network setup</li> </ul> | <a href="#">Windows</a><br><a href="#">Mac</a> |

| Protocol | LAN | WAN | Transfer | View | Pros   | Cons   | Use for...  | Don't use for...  | More Info                   |
|----------|-----|-----|----------|------|--|--|---|---|-----------------------------|
| WebDAV   | ✓   | ✓   | ✓        | ✓    | <ul style="list-style-type: none"> <li>Can mount drive like local HDD even remotely</li> </ul> | <ul style="list-style-type: none"> <li>Slow transfer rates</li> <li>Unreliable feedback for upload/download progress</li> <li>File size limitations</li> </ul> | <ul style="list-style-type: none"> <li>Not recommended</li> </ul> | <ul style="list-style-type: none"> <li>Whenever any of the other methods (e.g. Samba, AFP, NFS, FTP) are available</li> <li>Windows 7 (64-bit) users</li> </ul> | <a href="#">Windows Mac</a> |

## Additional Methods

| Protocol          | LAN | WAN | Transfer | View | Pros   | Cons  | Use for...   | Don't use for...   | More Info                   |
|-------------------|-----|-----|----------|------|--|---|--|--|-----------------------------|
| Mobile app        | ✓   | ✓   | ✓        | ✓    | <ul style="list-style-type: none"> <li>Ease of use</li> <li>Works on home network and for remote access</li> </ul>   | <ul style="list-style-type: none"> <li>Limited functionality</li> <li>Except for photo uploads, files are transferred one at a time</li> </ul>  | <ul style="list-style-type: none"> <li>Mobile devices based on Android and iOS</li> <li>Quick file backups</li> <li>Remote access</li> </ul> | <ul style="list-style-type: none"> <li>Media playback on home network</li> </ul>                         | <a href="#">Android iOS</a> |
| UPnP media server | ✓   | ✗   | ✗        | ✓    | <ul style="list-style-type: none"> <li>Streams images, music and video on home network</li> <li>UPnP client doesn't need to login</li> <li>Media playback is quick and easy</li> </ul> | <ul style="list-style-type: none"> <li>Can only be used on home network</li> <li>Can only be used to stream files, not to upload or delete files</li> <li>File support depends on both server and client</li> </ul> | <ul style="list-style-type: none"> <li>Media playback on home network</li> </ul>   | <ul style="list-style-type: none"> <li>Remote access</li> <li>File uploads or file management</li> </ul> | <a href="#">UPnP</a>        |

| Protocol            | LAN | WAN | Transfer | View | Pros  | Cons  | Use for...   | Don't use for...   | More Info              |
|---------------------|-----|-----|----------|------|---|---|--|--|------------------------|
| iTunes music server | ✓   | ✗   | ✗        | ✓    | <ul style="list-style-type: none"> <li>Streams music to iTunes player</li> <li>iTunes player doesn't need to login</li> <li>Music playback is quick and easy</li> </ul> | <ul style="list-style-type: none"> <li>Can only be used on home network</li> <li>Can only be used to stream files, not upload or delete files</li> <li>Only supports music files</li> </ul> | <ul style="list-style-type: none"> <li>Music playback on home network through iTunes player</li> </ul> | <ul style="list-style-type: none"> <li>Remote access</li> <li>File uploads or file management</li> <li>Media playback for images and videos</li> </ul> | <a href="#">iTunes</a> |

## Benchmark

Following benchmarks show how long it takes to transfer certain media files using the different methods as mentioned above.

## Test Environment

### Test Files:

- 500 MP3 files, 50 folders, 1.92GB
- 500 JPG images, 5 folders, 1.92GB
- 4 MPG videos, 1 folder, 1.91GB

### Test Machine:

- NAS: MyCloud Pro
- Firmware: Version 20121224
- HDD: 2 x 1TB (WD10-EFRX), RAID 0, XFS

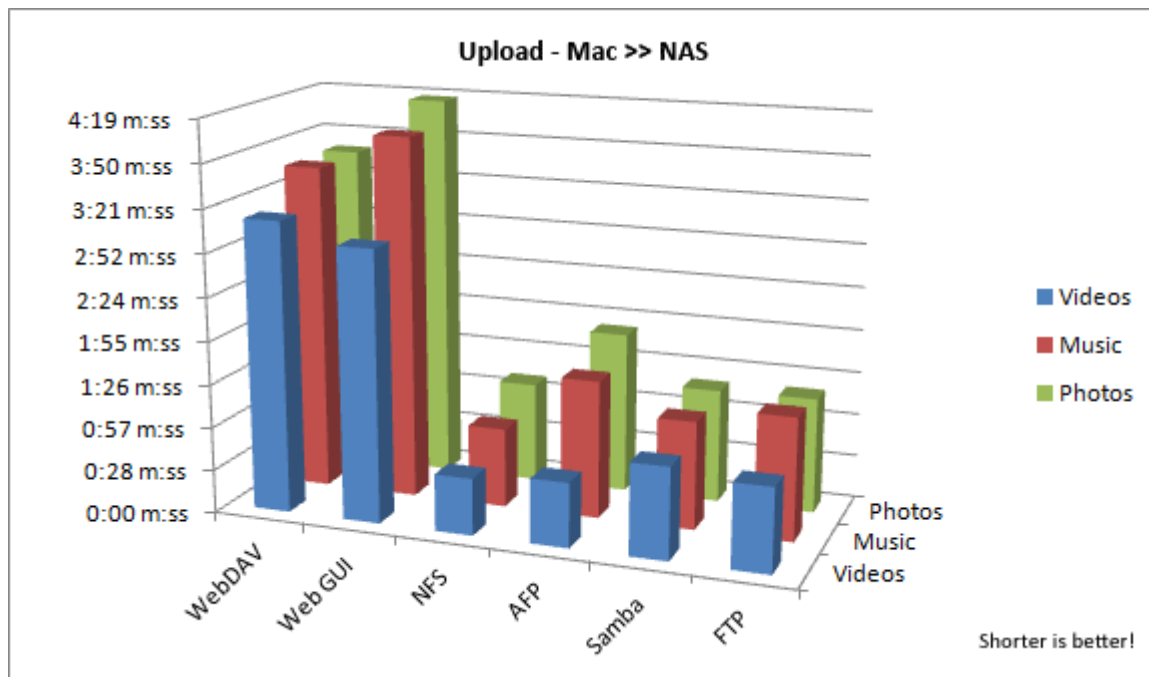
### Test Computers:

- Mac: Mac Book Pro, Mac OS 10.8.2, 2.4GHz Intel Core 2 Duo processor, 2GB memory
- PC: Windows 7 Pro, 3.33GHz Intel Core i7 processor, 6GB memory

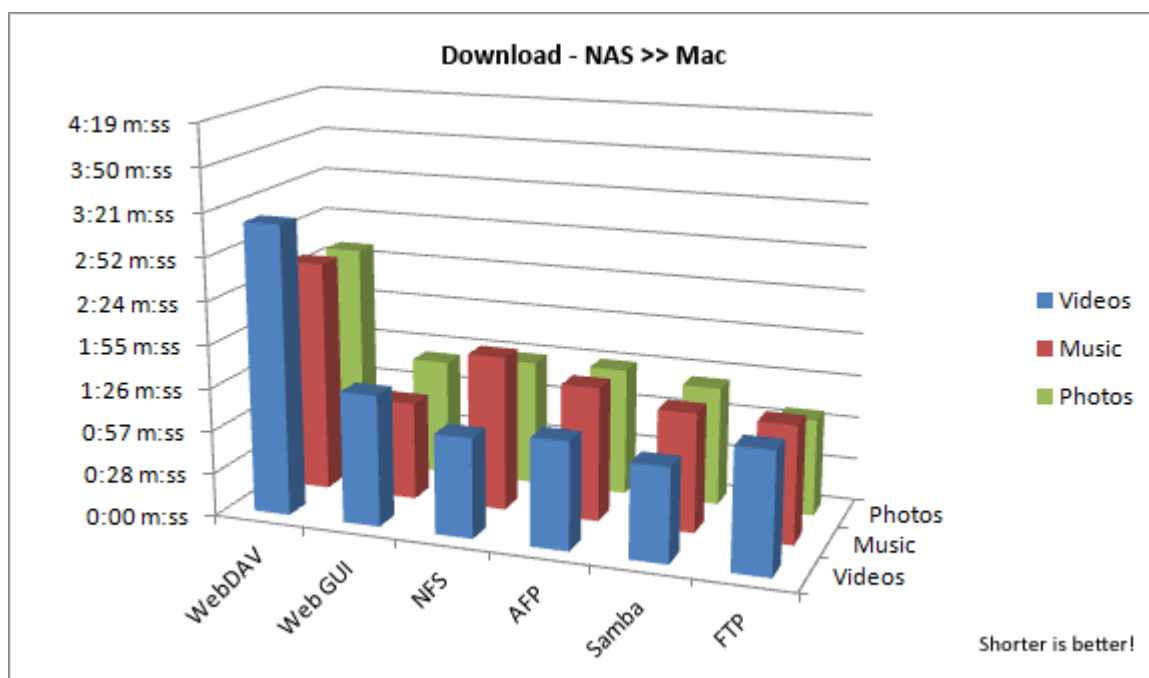
### Test Software:

- FTP client: FileZilla v3.6.0.2
- WebDAV client: Cyberduck v4.2.1

## Upload - Mac >> NAS

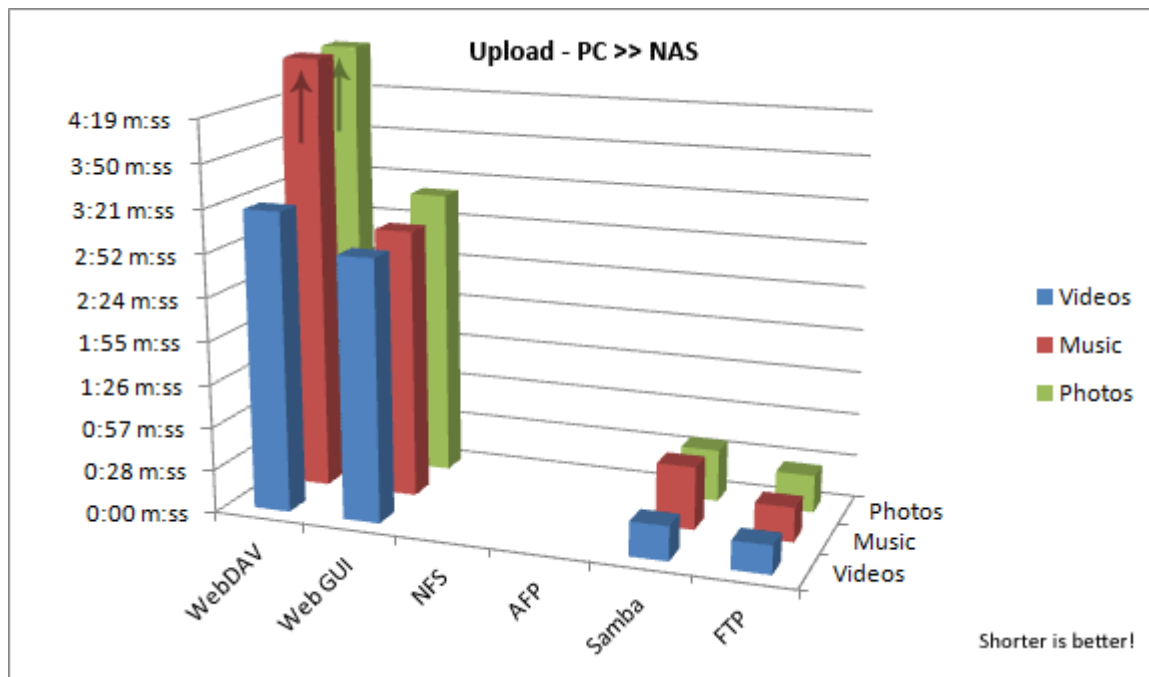


## Download - NAS >> Mac



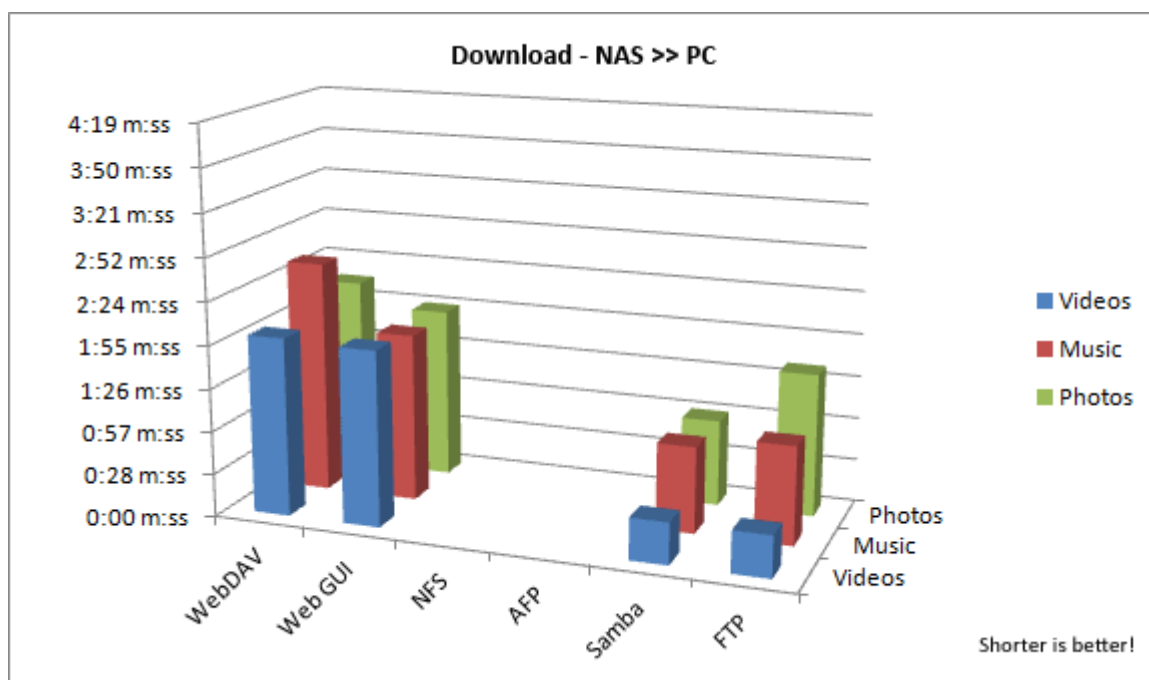
For the web interface, it's not possible to download more than one file at the time. Because of that, for the download test, the files were added to a ZIP archive. The resulting transfer rate is therefore faster in comparison to the upload, where the files were not combined in a single ZIP archive.

## Upload - PC >> NAS



The photos and music results for the WebDAV upload were out of range for this benchmark. For music, the transfer completed after 9:54 m:ss and for photos, it completed after 10:29 m:ss.

## Download - NAS >> PC



For the web interface, it's not possible to download more than one file at the time. Because of that, for the download test, the files were added to a ZIP archive. The resulting transfer rate is therefore faster in comparison to the upload, where the files



were not combined in a single ZIP archive.

## Conclusion

Following recommendations are not based solely on the best transfer rates but on the best overall user experience.

| Who/Where/When                                       | What                                     | Why  |
|--|--|--|
| Beginners<br>Anywhere                                | Web interface                            | No explanations or software installation needed and it works with all browsers.                                    |
| Home network<br>Large file backup                    | Samba                                    | Ease of use once the network drive is mounted and fast transfer rates.   |
| Home network<br>Media playback                       | UPnP media server<br>iTunes music server | Streaming does not require user login, easy and convenient for media playback.                                     |
| Remote access<br>Quick uploads                       | Web interface<br>Mobile app              | MyAkitio web portal automatically redirects user to network drive at home, no further setup required.              |
| Advanced users<br>Remote access<br>Large file backup | FTP                                      | Best transfer rate for remote access and FTP client provides additional functions (e.g. pause, resume, error log). |

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