

A tag based filesystem

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Where we left off

- VFS changes or new fs
- Metadata storage + add picture

Assumptions

- Do as few changes as possible
- Filename separated from tags by ":"
- Limit the length of filename and/or tags to MAXPATH
- Define tagfs start points in file system hierarchy
- Store the tagfs metadata files in RAM

VFS Operations

- **touch filename:tag1:tag2:...**
 - create file with tags (add metadata in tagfs structure)
 - vfs function: dosysopen
- **mv**
 - move file (change metadata in tagfs structure)
 - vfs function: rename
- **cp**
 - create a copy of file (add metadata in tagfs structure)
 - vfs function: unlink
- **ls**
 - list files and associated tags, iterate through tagfs structure
 - vfs function: getdents

New Operations

- All use `fcntl` syscall
- `tag -l filename`
 - list tags associated with a file
- `tag -a filename:tag1:tag2:...`
 - Add `tag1`, `tag2`,... tags to file
- `tag -d filename:tag1:tag2:...`
 - Remove `tag1`, `tag2`,... tags from file

Current status

- Implemented structure for storing metadata
- Testing tool for storage module
- Userspace tool for add/remove/list tags
- Hacks in vfs

TODOs

- Further testing for storage module
- Implement kernelspace side for user-tool
- More hacks in vfs