

# A tag based filesystem

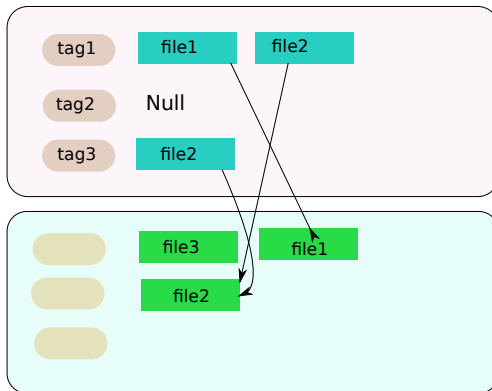
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# Where we left off

- VFS changes or new fs
- Metadata storage



# Assumptions

- Do as few changes as possible
- Filename separated from tags by ":"
- Limit the length of filename and/or tags to MAX\_PATH
- 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: `do_sys_open`
- **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