A tag based filesystem

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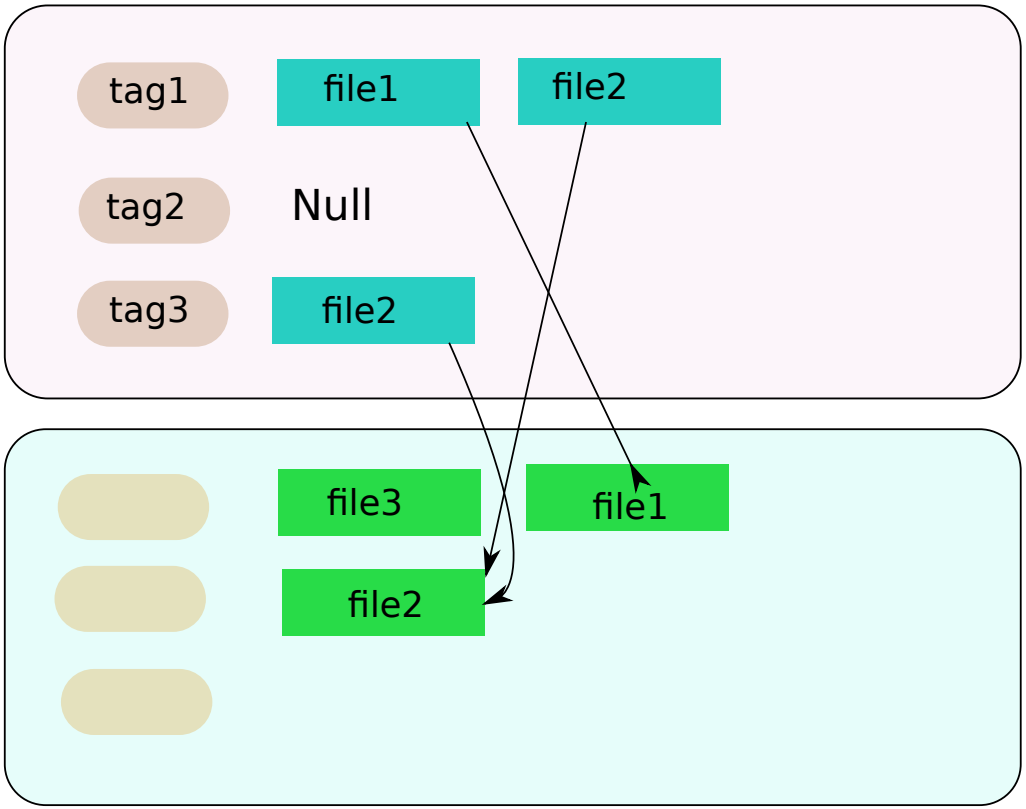
Where we left off

- 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