

# **Media and git makeup (and kill svn)**

# A typical media repository

- Very large individual files, 100mb
- Very large complete repository 100's gbs
- Does not delta compress well

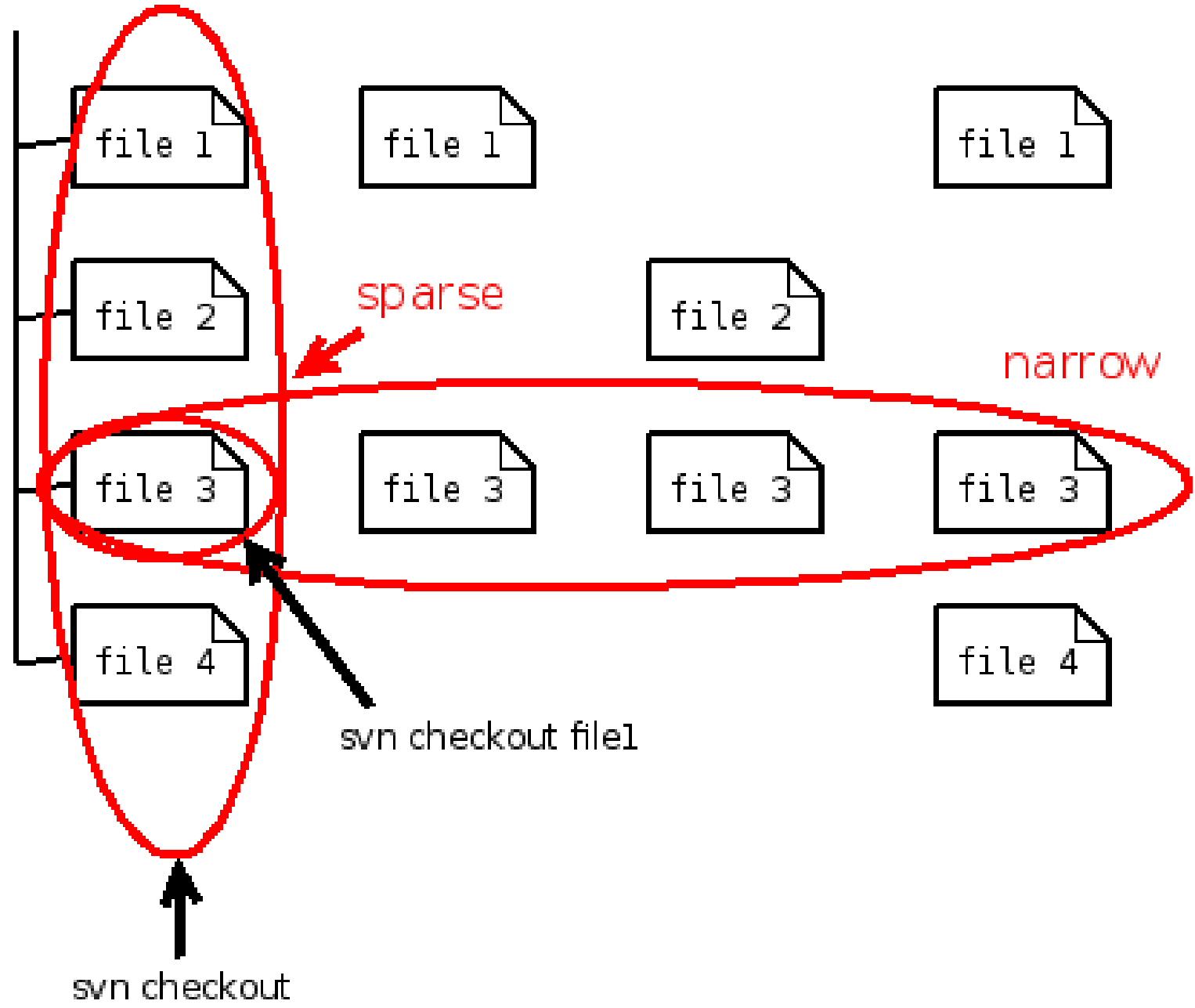
r10

r9

r8

r7

shallow



# Current git problems

- Clone always gets complete history (100gb)
- Shallow commits are second-class citizens  
(can not commit)
- Can not do narrow checkouts

# The solution

- Always clone the full metadata.
  - Metadata is trivial in size < 100mb.
  - Metadata is the most interesting.
- Only clone the blobs you are interested in.
  
- Commits work!
- Commit log works!
- Only slow as svn in worst case.

# Making it work

- git-daemon changes
  - Download non-blobs
  - Download individual blobs
- git-clone changes
  - Record which blobs exist but not downloaded
    - Needed for git-fsck, git-gc, etc
- git-commit, support ignoring non-existent
- git tools
  - Understand the difference between "non-existence" and "don't have"

# Problems

- Merging "sideways"
  - If you don't have a blob that needs to be merged it's impossible to merge.
- Automatic download vs Manual downloads
  - Automatic means "shoot yourself in foot"
  - Manual makes operations a pain