

Why Git?

My Personal Version Control History

Saving to multiple tapes
from my Vic-20

Saving to multiple
floppies on my [C-64,
Amiga, PC]

VMS file based version control

wtf.txt;7

Visual SourceSafe

... is a bag of hurt

PVCS

... an bag of enterprise hurt

svn

git

Why I like Git

Reasons I like Git

- No reason to backup - every clone/copy of a repo is as good as another
- Local, non replicated branches - experiment with full backing of revision control.
- No need to be “centralized”

More Reasons I like Git

- Cryptographically secure (Given a SHA hash and a repo, you can be sure it is 100% identical to another, or your backup)
- Branch merge history
- Efficient storage

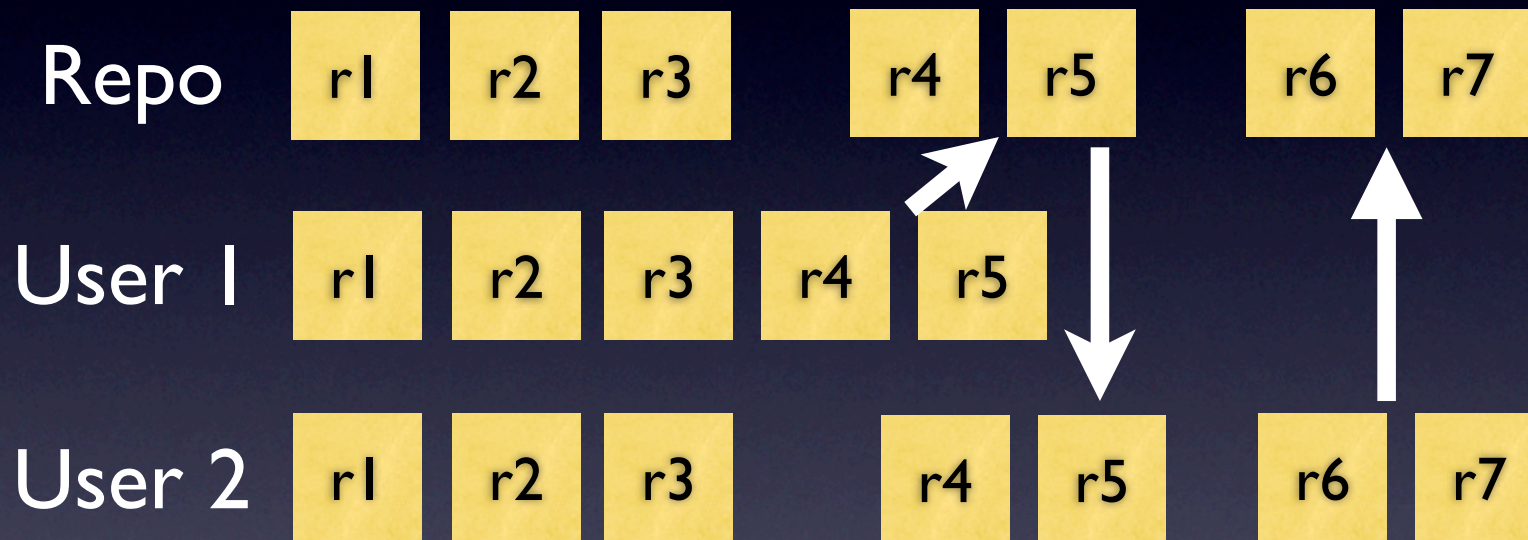
Reasons I don't like Git

- Large number of commands
 - WTF: `$ ls /usr/bin/git* | wc -l`
- Docs/man-pages suck
- Windows support REALLY sucks
- Limited but growing support in tools

What is it?

- Distributed Version Control

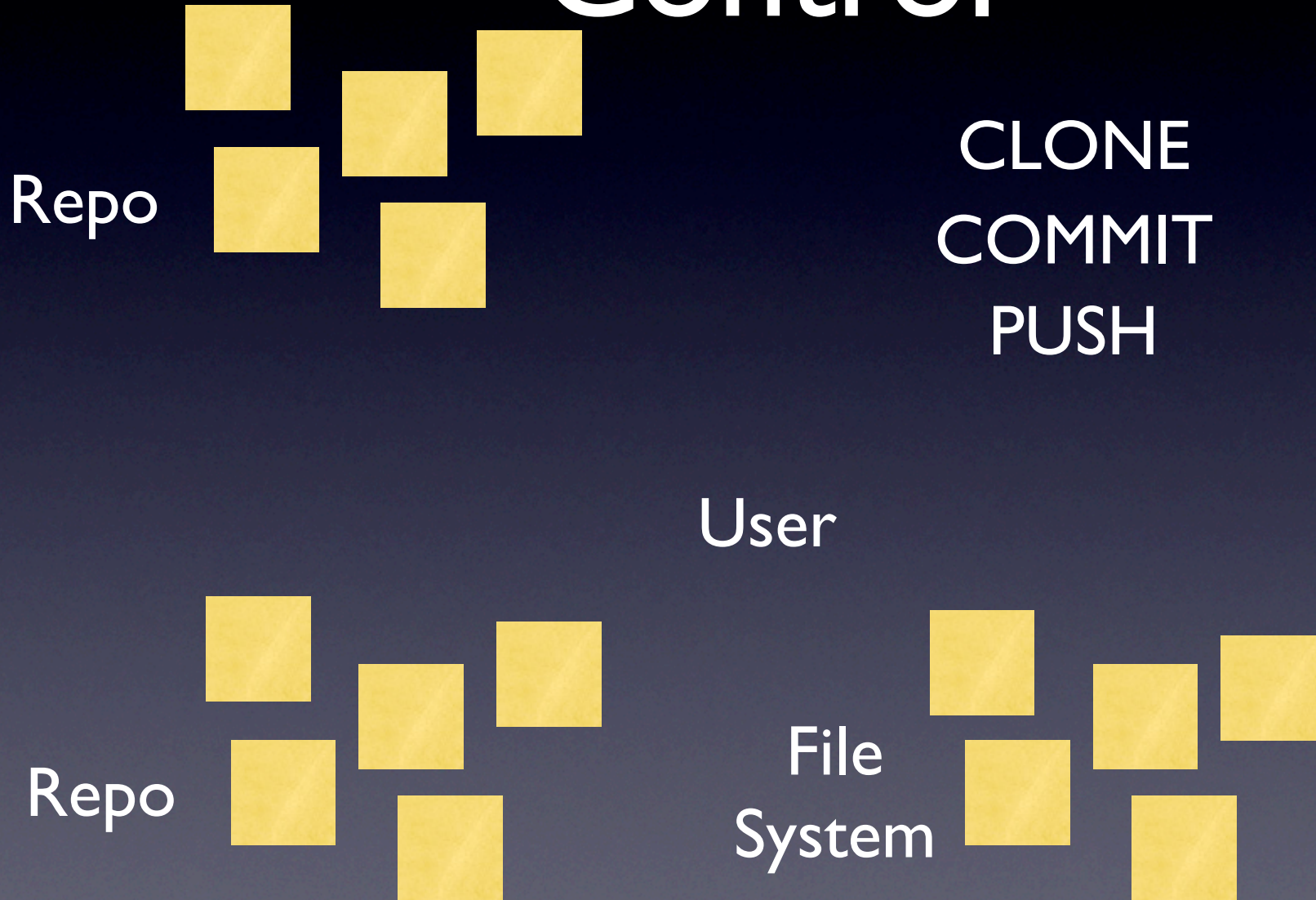
Centralized Version Control



What is wrong with this picture?

- Sequential work with repo being bottleneck
- Most operations (commits, history, etc.) must be done online
- Most lack local developer branching

Distributed Version Control



Git staging area

ADD / DELETE
COMMIT

Repo



Staging area



File
System



Git does not track files, it tracks content.

- This is one reason it can be space efficient for similar changes and similar files.
- This also allows us to selectively apply changes within single files during a commit.

Day in the life of a giter

- Create a new git repo
- Edit / add / delete
- Add
- Commit
- Push

Gitting started

- GitHub
- gitosis

gitosis

```
git clone git://eagain.net/gitosis.git
cd gitosis
python setup.py install
sudo adduser .....
Upload your id_pub.rsa
sudo -H -u git gitosis-init < /tmp/id_rsa.pub
git clone git@YOUR_SERVER_HOSTNAME:gitosis-admin.git
cd gitosis-admin
gitosis.conf -- contains definitions of projects and allowed keys
keydir -- contains keys of authorized users
Edit gitosis.conf to create new project, add pubkey to keydir to authorize users.
git push to create projects and authorize users. Couldn't be easier.
```

<http://scie.nti.st/2007/11/14/hosting-git-repositories-the-easy-and-secure-way>