Advanced Software Development: Compare GIT and SVN

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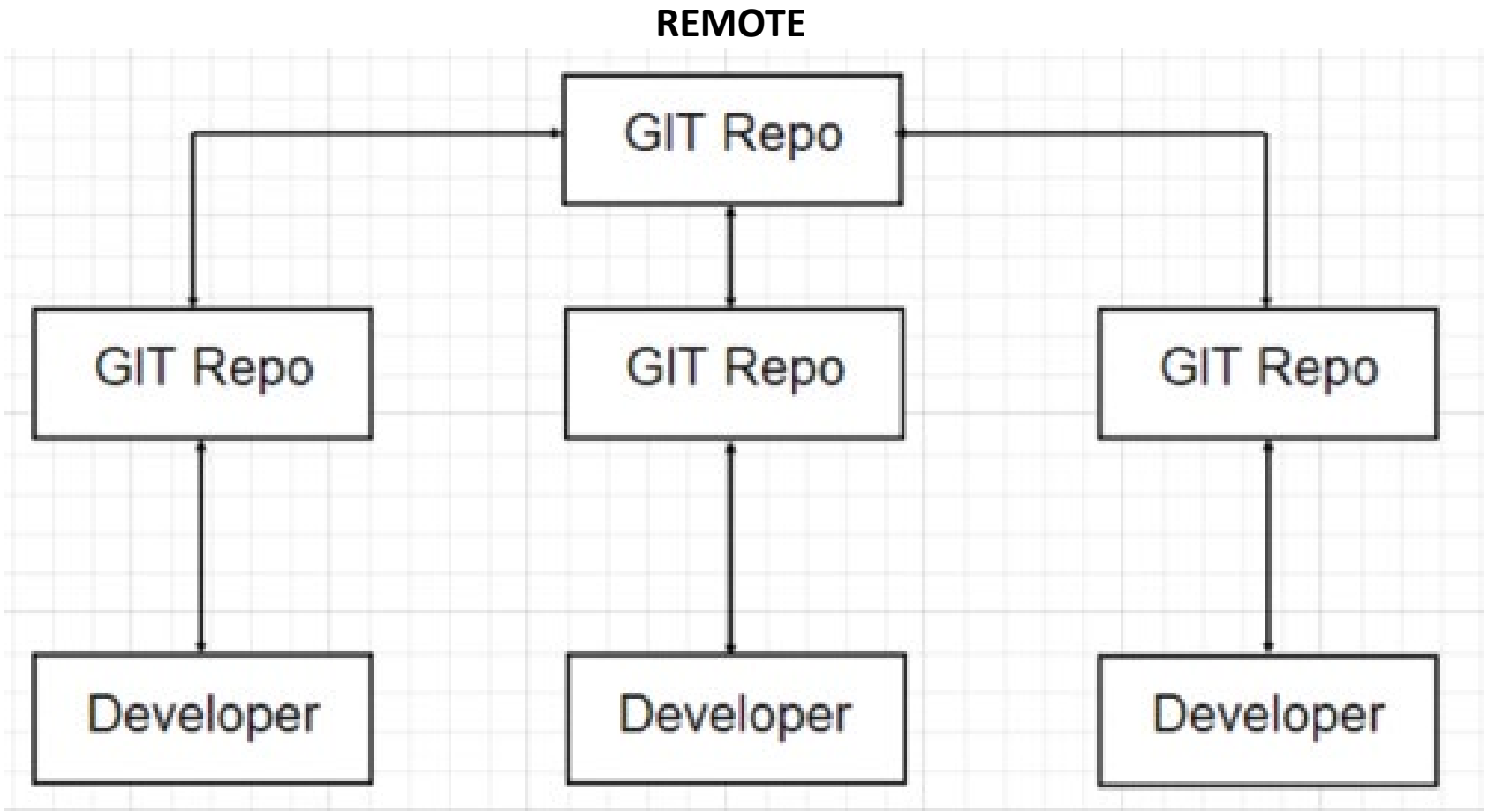
Quick comparison

Advantages of GIT

- Git has a staging area.
- 100 new changes?
- Break these 100 changes into 10 or 20 or more commits each with their own comments and their own detailed explanation of what just happened!
- Developers can commit while disconnected. (Maintains good software developer practice)

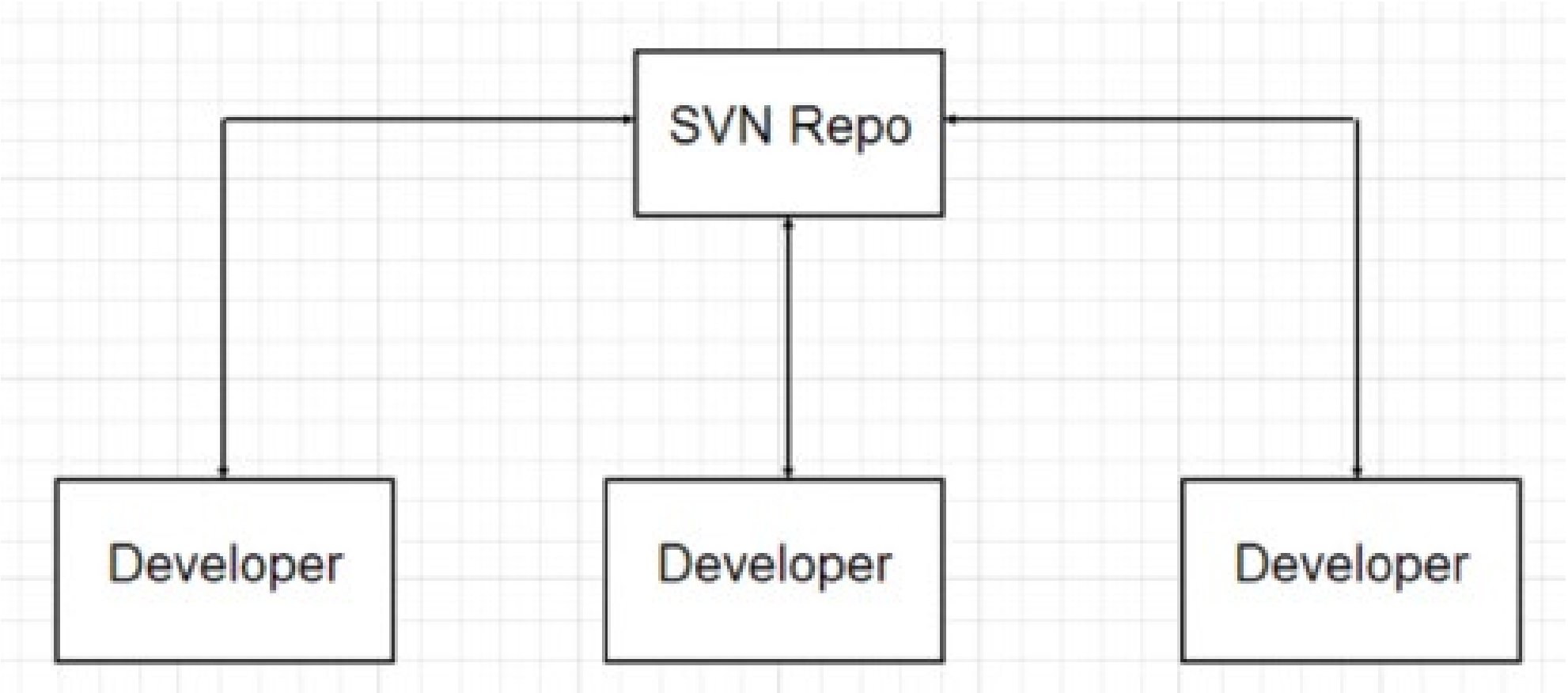
Distributed Version Control



Advantages of SVN

- SVN has one central repository
  - easier for managers to have more of a top down approach to control, security, permissions, mirrors and dumps.
  - Additionally, some say SVN is easier to use than Git. (often b/c exp. in one vs other)
  - Others say that the way SVN is set up results in greater trunk stability, and having everything on a central server feels more controlled and secure for some. (managers?)

Centralized Version control



SVN vs GIT

- **SVN allows you to check out sub-trees (or branches) only whereas Git requires you to check out the entire repository as a unit.**
- This is because there is a .svn in each one of your folders while git only has one .git at the top level parent directory.
- Great for big code bases (only need your part of code-base on laptop)

Is Git better than SVN?

- Git and SVN are each viable version control systems
- Git may have more difficulty compressing and storing binary files, while SVN doesn't as much.
- Some claim Git is better than SVN because it works well even for developers who aren't always connected to the master repository, as it is available offline.
- Branching and merging support are also thought to be superior with Git (partially due to being newly developed).
- When it comes to disk space storage, it's pretty close to equal between both SVN and Git repositories.

Command Comparison (same)

GIT	Operation	SVN
git commit	Record changes (local repo/repo)	svn commit
git status	Confirm status	svn status
git diff	Check differences	svn diff
git log	Check log	svn log
git add	Addition	svn add
git mv	Move	svn mv
git rm	Delete	svn rm
git merge	Merge	svn merge
gitignore	Ignore file list	.svnignore

Command Comparison (similar/different)

GIT	Operation	SVN
git init	Create repo	svnadmin create repo
git show	View commit details	svn cat
git checkout	Cancel change	svn checkout
git reset	Cancel change	svn revert
git branch	Make a branch	svn copy
git checkout	Switch branch	svn switch
git tag	Create a tag	svn copy

Command Comparison (remote)

GIT	Operation	SVN
git clone	Copy a remote repository	svn checkout*
git checkout	Get remote branch	svn switch*
git pull	Get/merge updates from remote	svn update*
git fetch	Get updates without merging	svn update*
git push	Push to remote	svn commit*

*There is no SVN version of a local repository, if you are interacting with a remote your operations of checkout/update/commit all are against the single centralized repository (that happens to be remote)

Onward to …
JUnit.

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