

Subversion & Trac

Or How I Learned To Make the
Most of Subversion and Love Trac

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Who Am I?

- CF developer for the past 5 years
- Application Architect for Maestro Publishing
- Lead Developer for Mach-II
- Co-Host of the ColdFusion Weekly
- Classically Trained Musician



Our Goals

Some questions I want you to be able to answer in the end:

- What is version control
- Why you should use version control?
- How does the version control work?
- How does Subversion work?
- What does Trac do for you?



So What is Version Control?

Your lifesaver in a sea of changes!

- Software that keeps track of changes to source code over time
- Centralized repository for your source code that can easily be accessed by multiple developers
- can actually manage ANY files, not just source code!



Why Do You Need Version Control?

Because you're working in the stone age if you don't use it.

- It's a much safer way to develop, particularly in teams, but even individually
- Accountability - tracks everything
- Makes management of multiple versions of the same projects much easier
- Enables other slick features like easy comparisons, tagging, branching, etc.
- It can save your behind!



Version Control Choices

- Microsoft Visual Source Safe -VSS
 - Not free
- CVS
 - Free/open source
- Subversion - SVN
 - Free/open source
- And many more...



Quick Facts About Subversion

- How much does SVN cost?
 - Free and open source
- How is SVN licensed?
 - It appears that SVN's license is similar to the Apache 1.0 license.
- What platforms does SVN run on?
 - A most Windows platforms to different favors of *nix including Mac OS X.
- What about documentation?
 - SVN has great resources including a free online book published by O'Reilly



Why Choose SVN Over the Others

- Total cost per developer
- Features
 - Or limitations associated with a specific solution
- Integration with development tools
 - Clients like Subclipse or TortoiseSVN
 - Intergrates easily with Apache Web Server and WebDAV
- Platforms
- Extremely efficient



Common Gripes About the Limitations of CVS

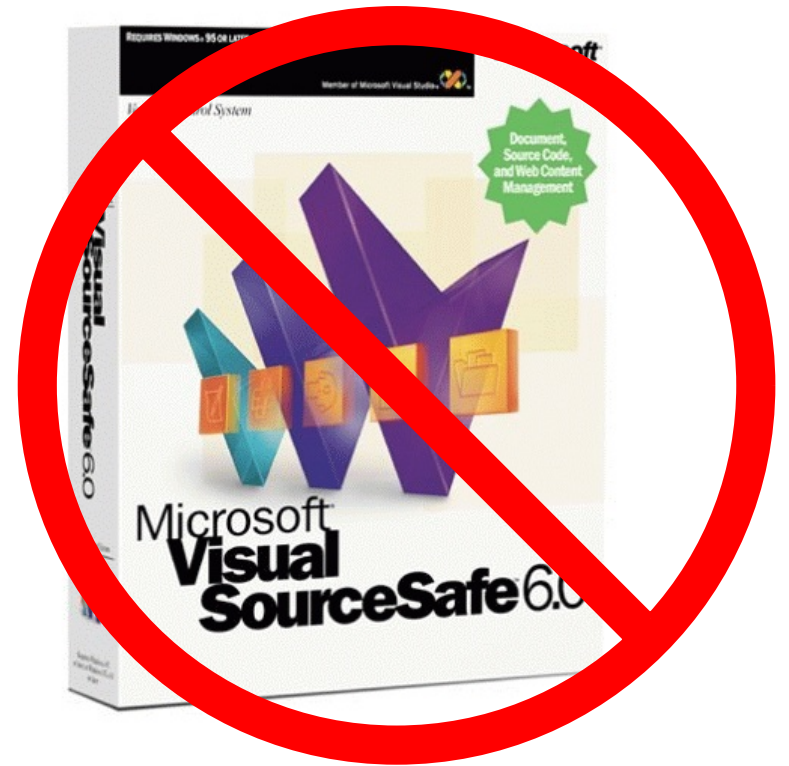
SVN was designed as modern replacement for CVS and to over come some of the limitations that CVS possesses.

- Version controlled files cannot be renamed after the initial commit.
 - To rename a file, it must be removed from version control and re-added.
- Directories cannot be moved or renamed.
 - If you want to rename a directory, you must explicitly deleted and re-add all the files in the directory.
- Limited support for Unicode files
 - Including filenames with non-ASCII characters



Why Not VSS?

- Not free
 - ▶ Unless you have a MSDN subscription
- Microsoft does not even use it internally
 - ▶ With the exception of two small projects
- Not geared to “team” development
- Sometimes has problems with binary files



Key Terms - Part One

- Repository (aka Repo)
 - A location is where the files are stored (often on a server).
- Check-Out
 - A check-out a **working copy** of the files from the repo.
- Commit
 - A commit occurs when you copy the changes you made on your **working copy** back to the repository.
- Change
 - A change represents the modifications to a file.
- Update/Sync
 - An update copies the changes that were made to the repo back into your **working copy** (opposite of a commit).



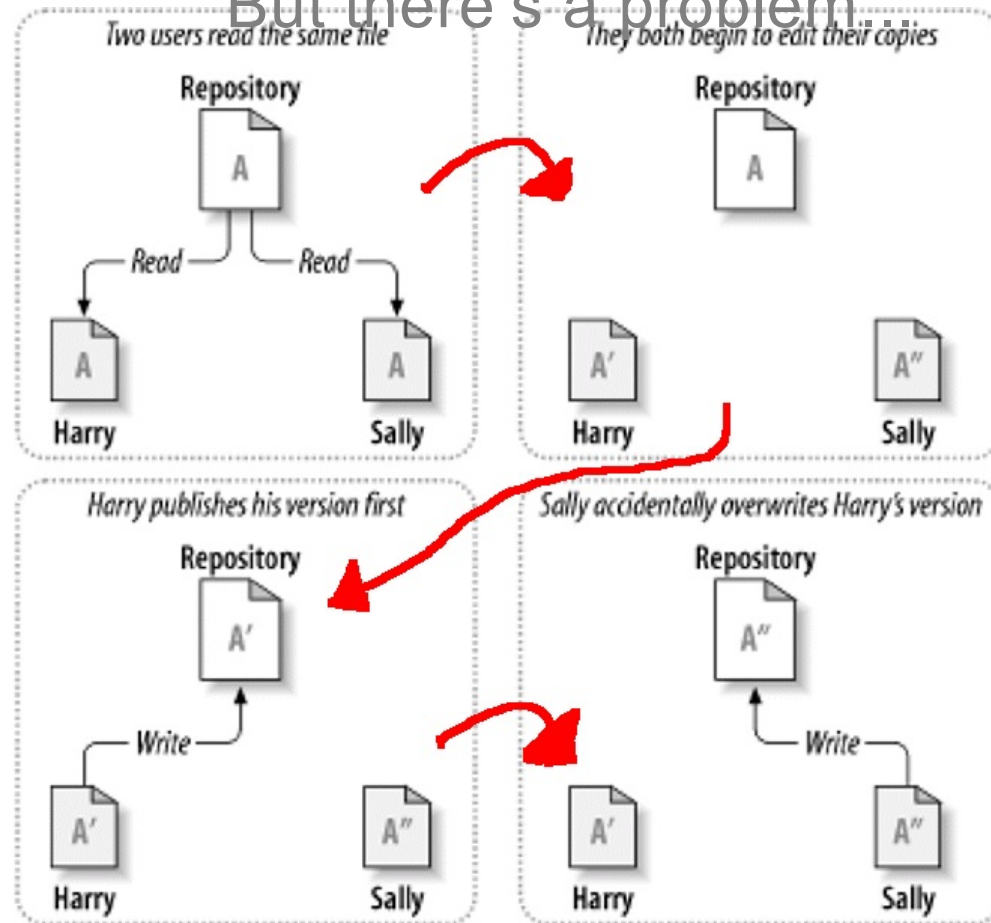
Key Terms - Part Two

- **Revision/Version**
 - ▶ A revision or version is one version in a chain of changes.
- **Conflict**
 - ▶ A conflict occurs when two changes are made by different parties to the same file or place within a file. Since the software is not intelligent enough to decide which changes are 'correct' – a user is required to resolve the conflict.
- **Resolve**
 - ▶ The act of user intervention to address a conflict between different changes to the same file.
- **Merge**
 - ▶ A merge brings together (merges) concurrent changes into a unified revision.



So It's Just A Big File Server?

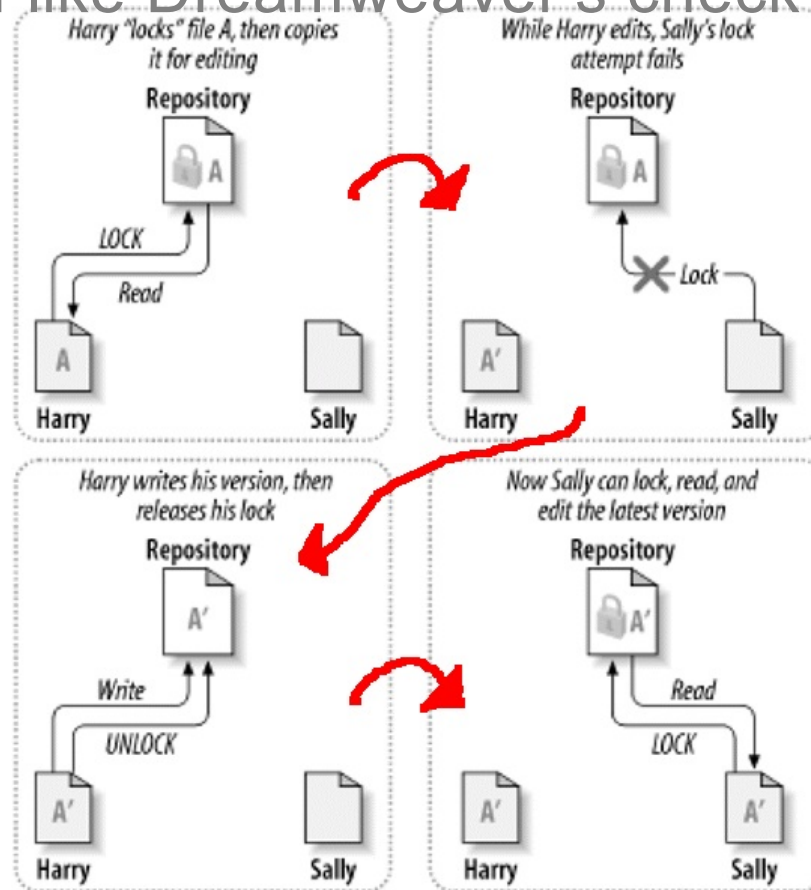
But there's a problem.



Please see author attribution in Appendix

Lock-Modify-Unlock Solution

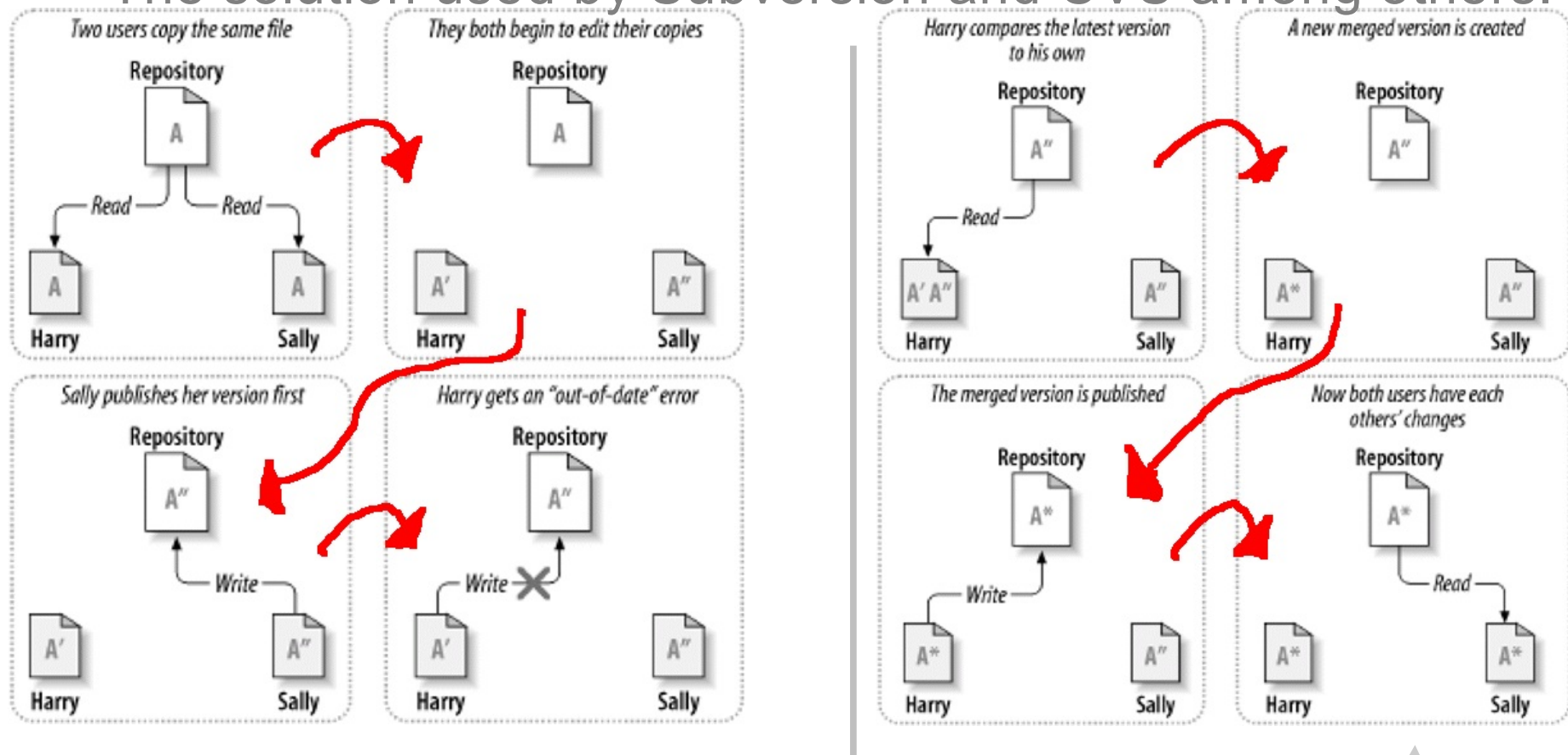
Sort of like Dreamweaver's check-in/check-out



Please see author attribution in Appendix

Copy-Modify-Merge Solution

The solution used by Subversion and CVS among others.



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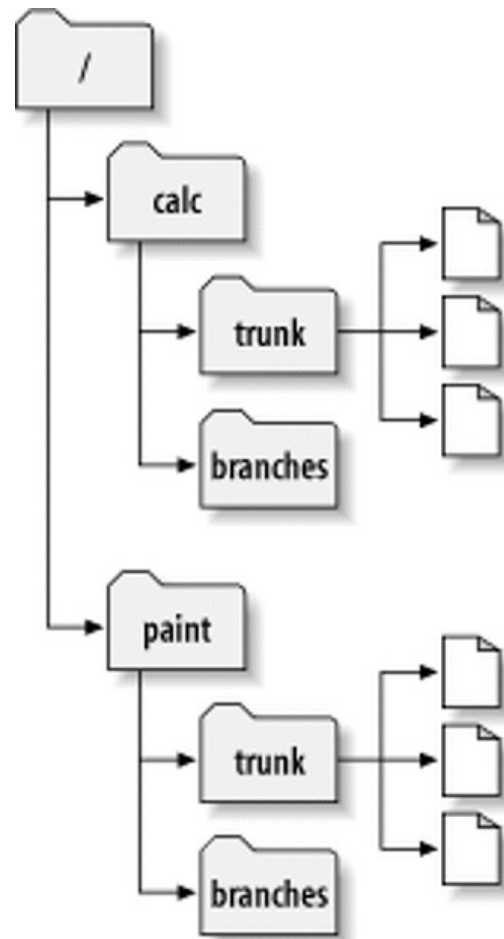
Installing Subversion

The Red-Bean book tells you how to install and configure it, so I'll let you figure that all out.

- Use the One-Click Installer for Windows
- RPM / Yum It if your on *nix type OS



Typical Repository Setup

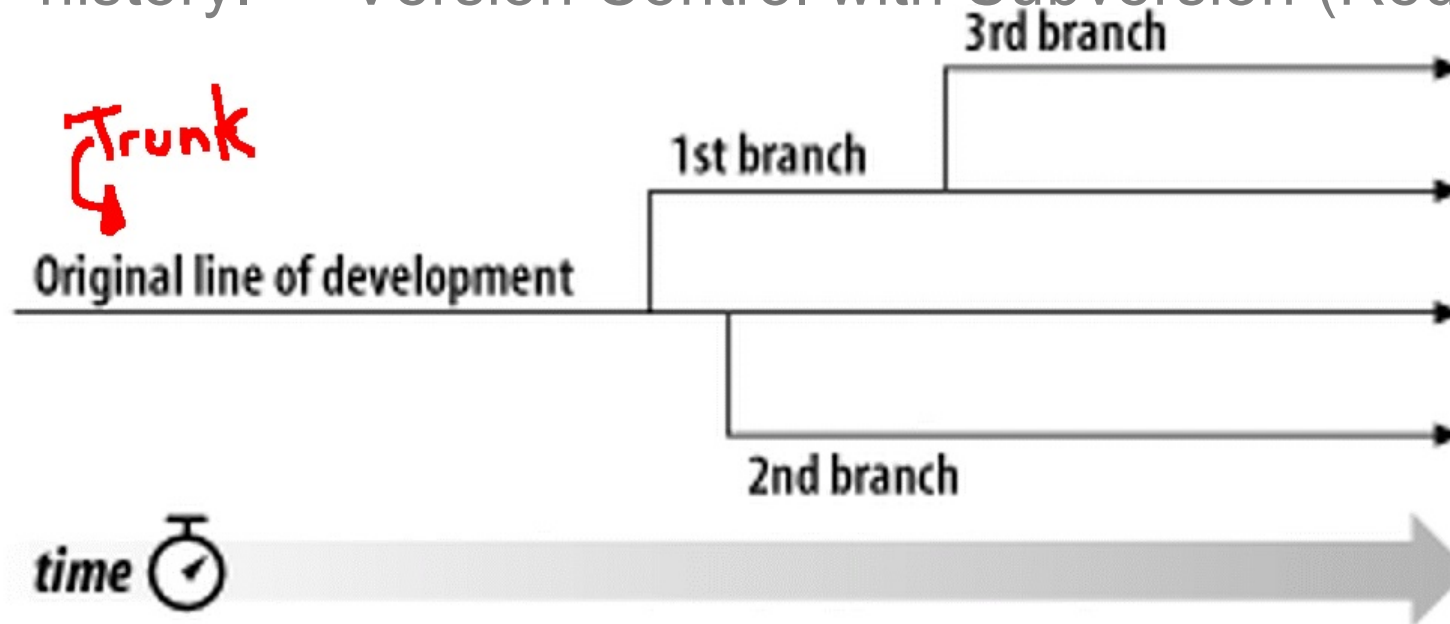


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What is a Branch?

“A line of development that exists independently of another line, yet still shares a common history if you look far enough back in time. A branch always begins life as a copy of something, and moves on from there, generating its own history.” – Version Control with Subversion (Red-Bean)



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Subversion Demo

Things I'll show...

- Check-out a working copy
- Making a commit
- Updating (syncing) your working copy
- Resolving a conflict with a merge



In Short...

A digital librarian and source code traffic cop!

Basically, version control systems keep track of all changes to the central repository.

In turn, this makes solo/team work faster, easier and cleaner.

With version control, you have every version ever committed to the repository forever including a bunch of nifty features.



What's Trac?

The perfect companion to Subversion

- Trac is an integrated wiki, issue/bug database, timeline and reports
- Provides the “big picture” perspective of a project by being truly accessible at any time
- Easily get your team quickly get up-to-speed
- Basically a good project management tool



Quick Facts About Trac

- Open source (modified BSD license)
- Runs on any system that can run Python
- Has Windows installer
 - Be sure to download the ClearSilver dependency
- Generates “Strict” XHTML
- Use SQLite or PostgreSQL
 - Support for MySQL and Oracle on the way



Subversion Resources

- Subversion – Installers, FAQs, Listserve, etc.
 - <http://subversion.tigris.org>
- One-Click SVN Installer for Windows
 - <http://svn1clicksetup.tigris.org/>
- Version Control with Subversion – Free Book
 - <http://svnbook.red-bean.com>
- Pragmatic Version Control using Subversion
 - <http://www.pragmaticprogrammer.com/titles/svn/>
- **cvsdude.com**
 - Professional CVS and Subversion hosting
 - Include Trac and Bugzilla



Popular Subversion Clients

- Subclipse Plugin for Eclipse
 - <http://subclipse.tigris.org/>
- TortoiseSVN - Windows shell extension
 - <http://tortoisesvn.tigris.org/>
- RapidSVN - cross- platform GUI for SVN
 - <http://rapidsvn.tigris.org/>
- Check out the Clients and Plugin page
 - <http://subversion.tigris.org/links.html#clients>



Trac Resources

- Trac
 - <http://www.edgewall.com/trac/>
- See a demo
 - <https://ssl.bulix.org/projects/demo>
- Trac Mailing List
 - <http://lists.edgewall.com/mailman/listinfo/trac/>
- Trac's own Trac site (they eat their own fud)
 - <http://projects.edgewall.com/trac/>



Contacting Me

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Appendix - Copyright

All Diagrams from Version Control with Subversion
Available from <http://svnbook.red-bean.com>

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