

Introduction to Subversion

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What is Version Control?

- Helps you keep track of the changes you make to a group of files over time.
- Main benefit: You'll never lose any data!
- Helps control conflicts when multiple people are editing the same file(s).

Goal of Subversion

Build a version control system that is a compelling replacement for **CVS** in the open source community. (**CVS** = concurrent versions system or concurrent versioning system)

Why Subversion?

- **History** All committed versions of a document are maintained forever
- **Availability** Documents are securely accessible in a single place
- **Sharing** Several people can contribute to a document

History

- Changes to a document are committed under a new revision number each time.
- These incremental changes reflect the evolution of a document over time.

Availability

- Versions of a document are tracked in a single place = the repository
- Documents are accessible over the internet via SSH tunnel
- No extra configuration needed just a UNIX account

Sharing

- The date and time of a new revision is maintained along with the user who committed it.
- Additions, deletions and changes to a document are tracked on a line-by-line basis.
- Changes made to the same document by different users can be merged automatically or manually

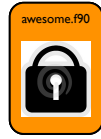
Unix Subdir



Bert

Ernie

LMU Repo



Bert



Ernie

lock-modify-unlock paradigm

SVN Repo



Bert

Ernie

copy-modify-merge paradigm

Status Codes

- **A** = scheduled for addition
- **D** = scheduled for deletion
- **M** = has local modifications
- **C** = has conflicts
- **?** = is not under version control
- **G** = successfully merged

Other Features

- **Branches** separate lines of development
- **Tags** snapshot of a project in time

References

- SVN home page: <http://subversion.apache.org/>
- Subversion book: <http://svnbook.red-bean.com/>
- Whole slew of Subversion clients for the Mac:
WebSVN <http://www.websvn.info>
Versions <http://versionsapp.com/>