

Subversion @ CERN

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- Why SVN
- SVN Usage
- Best Practices
- CERN SVN Service
- Migration from CVS

- Many commercial and Open Source VC Systems:
 - (Centralised) CVS/SVN
 - (Distributed) GIT, Bazaar, Darcs, GNU arch, Mercurial, Monotone, etc
 - Subversion is used by GCC, Phyton, PuTTY, Apache, GNOME, KDE,...
- Physics User Community likes SVN: (ATLAS, IN2P3, ROOT, Totem..)
- SVN client runs on many platforms

Feature	SVN	CVS
Speed	Works “faster”	Works “slower”
Permission	Full	Limited
File types	All	Limited
Off line operations	Yes	No
Repository format	Database	Filesystem
Locks	No	Yes
Atomic commits	Yes	No

“Although the goal of Subversion is to take over the current and future CVS user base, some new features and design changes were required to fix certain “broken” behaviors that CVS had. This means that, as a CVS user, you may need to break habits - ones that you forgot were odd to begin with.”

– The official Subversion book

- Documentation:
<http://cern.ch/svn>
- Live example

- Revision numbers repository-wide
- Subversion tracks tree structures, not just file contents
- More offline operations
 - Status
 - Diff
 - Revert

- Attach arbitrary metadata (or properties) to files and directories
- Nicer conflict resolution and merging
- Branches and Tags
 - Branches and tags are ordinary directories within the filesystem. This is probably the single biggest mental hurdle that a CVS user will need to cross
- <http://svn.collab.net/repos/svn/trunk/doc/user/cvs-crossover-guide.html>

trunk/branches/tags structure:

trunk/module1, module2, ...

branches/module1, module2, ...

tags/module1, module2, ...

or:

module1/trunk

 /branches

 /tags

module2/trunk

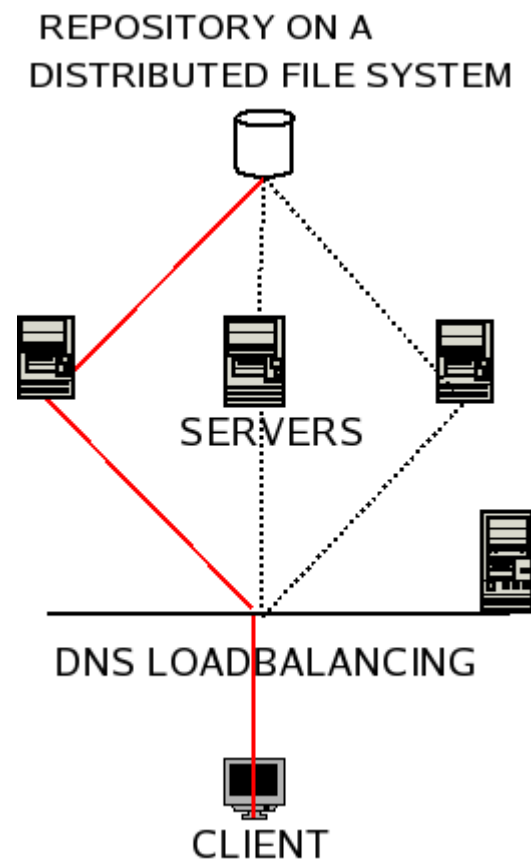
 /branches

 /tags

- Branching
<http://nedbatchelder.com/text/quicksvnbranch.html>
- Commit logical changesets
- Use issue-tracker
- Large files

- Get in touch with other SVN Users

- `svn.cern.ch` (rw)
 - Secured subversion server (SSH and HTTPS)
 - Read and write access to repository
- `svnweb.cern.ch` (ro)
 - User documentation
 - Project request
 - SVN web interface
 - Usage statistics



- High Availability and Load Balancing
- Web interface to repositories
- Usage Statistics
- Daily archive of Repositories and the Disaster Recovery copies (last 3, off-site)
- Developers Mailing list
- Pre/Post Commit Actions (such as e-mail notification, etc)
- Role split (SVN Admin/Librarian/Developer)

- Control Read access per path (module)
- Authenticated and authorized Web access
- Binary files handling
- Ease CVS to SVN migration
- Delegate administrative tasks to Software Librarians of each project
- SVN Service Managers willing to get your feedback:
<https://twiki.cern.ch/twiki/bin/viewauth/DESgroup/SVNFeatureRequest>

- <http://cern.ch/svn>
 - Documentation
 - How to
 - Video tutorials
 - SVN for CVS users
 - Request a project
- Configure access rights
- CVS to SVN migration

- Authorization file:
 - /afs/cern.ch/project/svn/repos/<my_project>/conf/authz
- Valid for:
 - SVN clients
 - Trac web interface
 - WebSVN

[groups]

Dev = hugosson, guijarro

[/]

* = r

@Dev = rw

[/some/path]

* =

@Dev = rw

Video tutorial:

<http://cern.ch/svn/video/conf.htm>

- Tool: cvs2svn
 - Run your migration on LXSVN servers
- Consider:
 - Tools and conventions built on top of CVS
 - post-commit scripts (mail notifications)
 - Authorization files
 - Good occasion to clean up
 - Is all the history needed ?
 - Is all the data needed?
 - Good occasion to restructure
 - Split into more repositories?
 - Where to put tags, branches and trunks?

- Top skimming:
 - `svn import <your_cvs_working_copy>
svn+ssh://svn/repos/<your_repository>`
- Converting all history using cvs2svn:
 - `cvs2svn --use-cvs --fallback-encoding=ascii \ --
dumpfile=<your_svndumpfile>
<your_cvssource>`
 - `svnadmin load svn/repos/<your_repository> \ <
<your_svndumpfile>`
- Demo: <http://cern.ch/svn/video/cvs2svn.htm>

Thanks For Listening....

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