

Subversion – Beyond CVS

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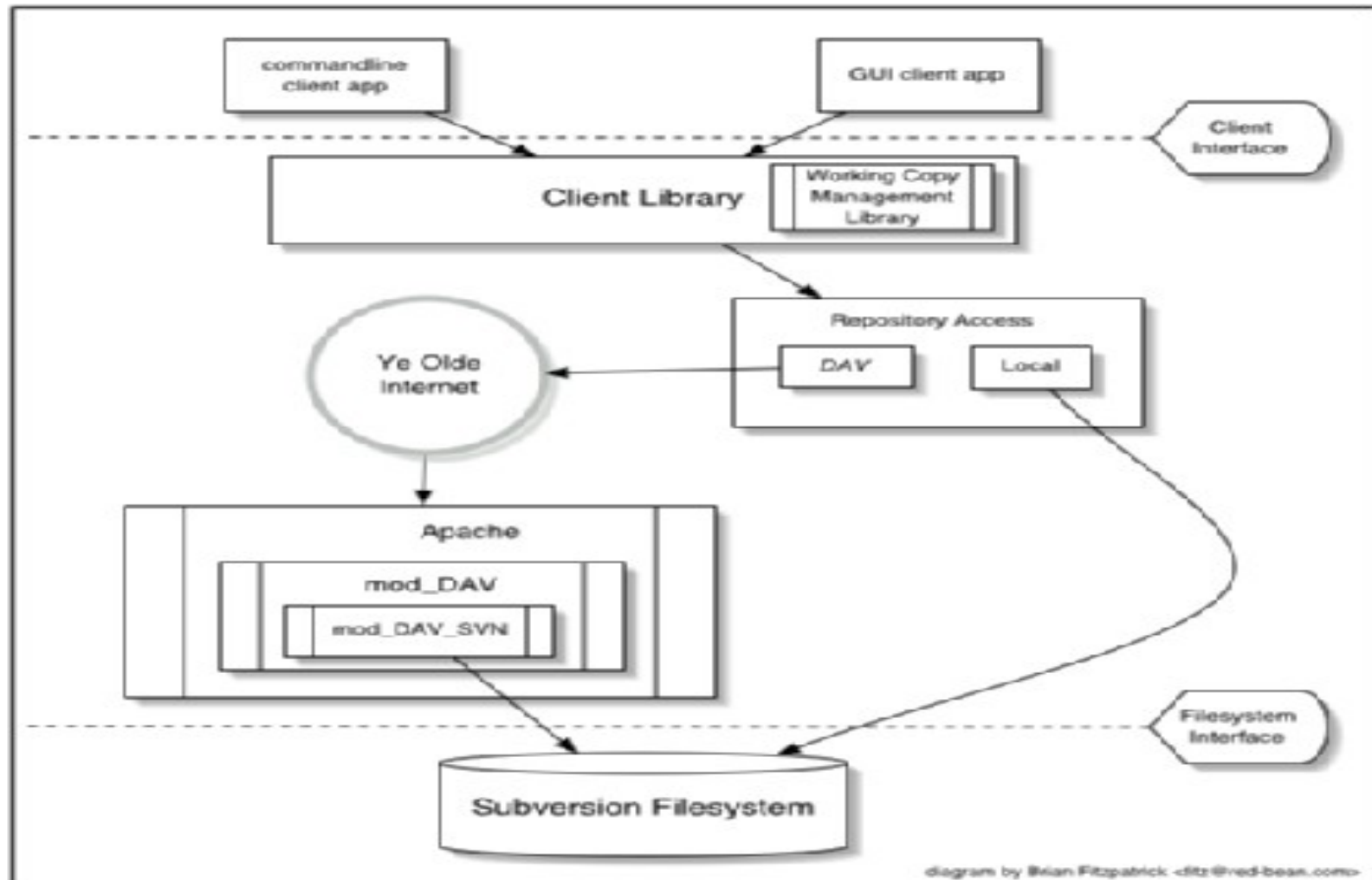
In the Beginning...

- ◆ Collabnet set up project in 2000
- ◆ Goal was to update CVS
- ◆ Wanted to keep CVS ideas
- ◆ Developer were to be able to easily switch
- ◆ Needed to fix the shortcomings of CVS
- ◆ Everything else would be a bonus (after 1.0)

“CVS is an excellent, proven model for version control; it just wasn't implemented as well as it could be.”

- Subversion “Fundamental Axiom”

Architecture



Problems with CVS

- ◆ Build on RCS
 - ◆ Can only version files
 - ◆ Does not handle Binary files
- ◆ Uses Network inefficiently
 - ◆ Diffs only sent from Server to Client
- ◆ Code base is “hacked” together
 - ◆ Couple projects have attempted to clean it up

The Subversion Answer

- ◆ Subversion versions everything
 - ◆ Not limited to just files
 - ◆ Can version directories
 - ◆ Can move files around
- ◆ Subversion does intelligent binary diffing
 - ◆ CVS keeps multiple copies of binary files
 - ◆ SVN keeps one version and the diffs
- ◆ Subversion uses the network efficiently
 - ◆ Diffs are sent in both directions
 - ◆ Binary files are sent as diffs, not full copies

New Features

- ◆ Database Back end
 - ◆ Supports Journaling, Hot Backup
- ◆ Atomic Commits
 - ◆ “All or Nothing”
 - ◆ Common version number to all files
- ◆ Filesystem properties
 - ◆ Attach key/value pairs to files/directories
 - ◆ Properties are versioned
- ◆ Apache integration
 - ◆ Used for network layer
 - ◆ Used for authentication

References

- ♦ "The Subversion Project: Building a Better CVS" by Ben Collins-Sussman <http://www.linuxjournal.com/article.php?sid=4768>
- ♦ "Single-User Subversion" by Rafael Garcia-Suarez <http://www.onlamp.com/pub/a/onlamp/2002/10/31/subversion.html>
- ♦ "Multiuser Subversion" by Rafael Garcia-Suarez <http://www.onlamp.com/pub/a/apache/2002/12/19/svn2.html>
- ♦ "Dispelling Subversion FUD" by Ben Collins-Sussman <http://www.red-bean.com/sussman/svn-anti-fud.html>