

What's new in Subversion 1.7? How did 1.6 turn out?

Neels Hofmeyr <neels@elego.de> Steve Butler <sbutler@elego.de>

elego Software Solutions GmbH

June 11 2010

Agenda



- How did the 1.6 release turn out?
- New features planned for 1.7
- What can we do differently?

Agenda 1/3



- Q: How did the 1.6 release turn out?
- A: There were some easily-detectable problems:
 - ▶ Example 1: Tree conflict: merging a replacement
 - ▶ Example 2: File externals: binary files

Tree conflict: merging a replacment

- Bug: merge operation fails trying to replace a file or dir
- First reported in 1.6.2 (issue #3486)
- Replace == delete + add
- Both delete and add trigger tree conflicts!
- Fixed in 1.6.6

Tree conflict: merging a replacment

- Dozens of tests for tree conflicts (but not enough)
- One merge test case: delete files and dirs
- Another merge test case: add files and dirs
- Needed both at once!
- Want: adequate test coverage
- Don't want: long test runs

File externals: binary files

- Bug: can't create file external pointing to a binary file
- First reported pre-1.6.0! (issue #3368)
- In the main update, a dummy file is added
- In the externals update, the dummy is switched to the real file
- The switch failed if the real file had any properties set
- Fixed in 1.6.6

File externals: binary files

- Repurposing an existing feature (svn switch) is risky
- Implemented with lots of special-casing
- Only 2 tests for the whole feature
- No testing of externals to files with properties

Improving test coverage

- Not many unit tests in Subversion
- Most features tested by integration tests only
- Generate tests automatically?
- Measure coverage of tree-operations?
- Lightweight modeling? (<http://alloy.mit.edu>)

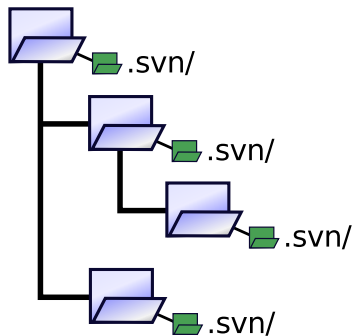
More pre-release testing

- Make pre-release binaries available
- SVN-Book updates before release

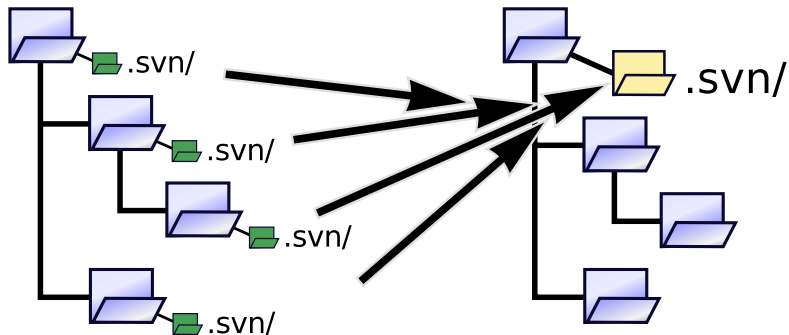
Agenda 2/3

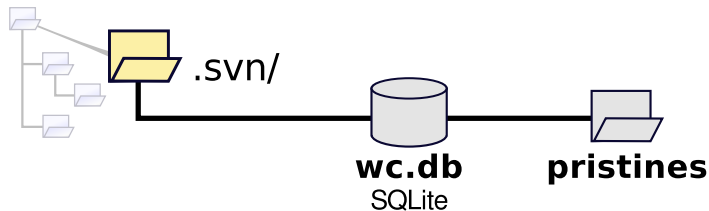


- New features planned for 1.7
 - ▶ WC-NG
 - ▶ HTTPv2
 - ▶ svn patch



- "Working Copy, Next Generation"
- complete WC rewrite





- SQLite Database
- DB transactions yay, locking nay
- logical layers:
 - ▶ BASE
 - ▶ WORKING
 - ▶ ACTUAL
- All info available regardless of sparse WC

WC-NG: Pristines store

- SHA1 hashed file content
 - ▶ `wc-root/.svn/pristines/`
 - ★ `f5/f50ccd3fd43b85bc86ace63b8aec8420654e4ff3`
 - ★ `6c/6cbb09ea15ef3cc963d3d36d42d6f9ce01eb312c`
 - ★ `e8/e8541f52fd39fe0a7d2ff2e8d5e76bdefa602523`
- "cleaner than text-base"
- opens doors for...
 - ▶ shelving ("offline commits")
 - ▶ limiting local storage ("high watermark")

HTTPv2

- optimized *http://* layer
- reducing roundtrips
- fully compatible

svn patch

- built-in patch tool
- complementary to svn diff

svn patch

- Stage 1 (released in 1.7)
 - ▶ DWIM for encodings, newlines
 - ▶ avoid spurious keyword conflicts
 - ▶ adds/deletes are inferred

svn patch

- Stage 2
 - ▶ git diffs
 - ▶ properties
 - ▶ explicit tree changes

Agenda 3/3



- What should we do differently?

What should we do differently?

- Pre-release testing
- Binaries

Thank you!

- questions?
- suggestions?

