Building Tips and Tricks

Luboš Luňák <l.lunak@collabora.com>

LibreOffice

- Is big.

LibreOffice

- Is HUGE.
- Everything takes ages.

Building LO takes time

- Solutions:
  - Build faster
  - Build less (and/or less often)
  - Build when at some other time

The easiest solution

- Get better and faster HW
- make -j<a lot>
- SSD, RAM (tmpfs), ...

Distributed build

- Icecream
- Speeds up (parallel) builds by distributing to that old machine, machines of colleague's, …
- --enable-icecream
- make -j<a lot>

LibreOffice from COLLABORA

Compiler cache

- ccache

- Avoids repeated compilation if it is *exactly* the same

- make clean, git bisect

- Not much else

Bibisect

- https://wiki.documentfoundation.org/QA/HowToBibisect

- Don't build at all when checking older revisions

Build only what is needed

- make <target>
- make build-nocheck (*vs* make)
- make sw (*vs* make sw.check)
- make Library_msword
- make Cppunitest_ww8import
- (and get latest make – is faster)

Avoid git pull -r before push

- git clone --reference
  - git pull -r + git cherry-pick + git push
- http://vmiklos.hu/blog/push-tree.html

- git format-patch origin/master + git am

Avoid debuginfo

- As developers, we all use --enable-dbgutil, right?

- --enable-selective-debuginfo=...

- Avoid debuginfo for parts where it will not(?) be needed

- Less disk space, less disk I/O

Split debuginfo

- -gsplit-dwarf (CXXFLAGS, no explicit LO support)

- Part of debuginfo is not in .o (and thus .so) but in .dwo

- Less disk space, less disk I/O

- Poor support in tools

Less work for compiler

- CXXFLAGS='-g0 -O0'
- No optimizations, no debuginfo, so only useful for special cases
  - git bisect
  - does-it-build?
- --disable-compiler-plugins

Avoid rebuild on file change

- make rebuilds when a dependency is newer
- e.g. include/rtl/ustring.hxx can cause full rebuild on modification
- touch -t0101010101 <file>

Avoid rebuild of part of LO

- mv sc ~/backup

- Edit out from RepositoryModule_build.mk

- Only works if it's been built at least once (so e.g. only for git bisect)

New full build

- Do when "idle"

- Backup last working one in case of trouble

- Build in a different dir and symlink
  - cd `realpath -e $PWD` && make

More

- More?