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LibreOffice loves LLVM

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LibreOffice

- State of the art productivity suite
- Cross platform
- Millions of lines of C++ code
  - with a long history
- Clang, GCC, MSVC
  - clang-cl (some minor issues)
- C++11, C++14 as available

Static Analysis

- Long tradition of warning-free code (-Werror -Wall -Wextra etc.)
- Various external checkers like Coverity Scan
  - a pain with obscure false positives…

- Can we do even better?
  - warnings no tool emits, yet would be generally useful
  - warnings about specifics of the LibreOffice code base

Clang Plugins

- More than 50 different RecursiveASTVisitors by now
  - slowing down the build?
- From trivial ones…
  - nullptr, override, dynamic exception specifications, new S(), sal_Bool
- …to highly specific…
  - some dtors must implement “disposal protocols”
- …to the controversial “style police”
  - explicitly passing a defaulted argument
- Lots of them can do automatic rewriting (thank god!)
- Some global analysis: write out interesting facts, post-process with Python
- Integrated with Gerrit/Jenkins patch handling

Runtime Analysis

- Large ‘make check’ test suite
  - but never large enough…
  - lots of pathological sample documents
- Daily Clang ASan/UBSan builds
- Fuzzing
  - reading file formats, also UI interactions
  - AFL, Google OSS-Fuzz

Where you find us:

libreoffice.org/community/developers
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