



Data for LibreOffice developerss

- Markus Mohrhard
- **■** 2016-04-29



Topic

- Huge project
- A lot of data to make life of a developer easier
- Where do I find these information?
- How do I use them?
- Limitations
- Ideas



Current data

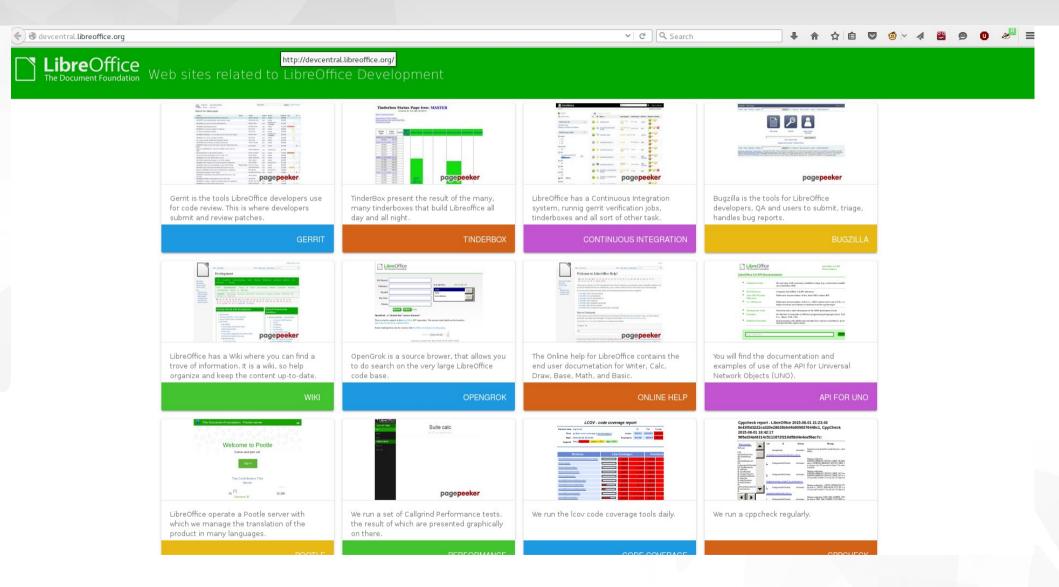


Devcentral

Devcentral.libreoffice.org



devcentral





devcentral

- Links to many resources for developers
- Work in progress
 - Needs more work
 - Needs a web developer
- Bookmark this page!



gerrit

■ Gerrit.libreoffice.org



gerrit





gerrit

- Same name for two things
 - Main git repository
 - Contains nearly all TDF repositories
 - Review platform
 - No commit access => Push to review
 - Release branches, e.g. libreoffice-5-1
- All open commits

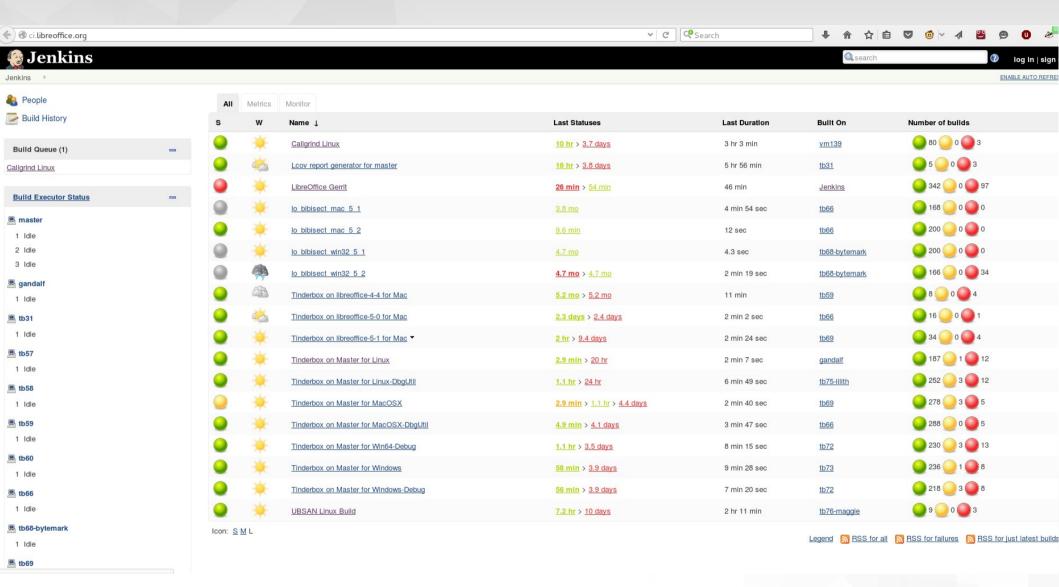


jenkins

▼ ci.libreoffice.org



jenkins





jenkins

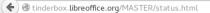
- All automated builds
- Website with overview
- Also contains gerrit verification builds
- **▼** Logs for builds, ...

Tinderboxes

▼ tinderbox.libreoffice.org



Tinderboxes



🖸 🗸 🧸 Search



Tinderbox Status Page tree: MASTER Created at: Fri Apr 29 09:40

Add to Notice Board

Regnerate HTML Pages Administrate this tree (MASTER) Tinderbox Index

| Build Time | Time (UTC) | Guilty | Android- ARM 24- Bytemark- Hosting | Jenkins Callgrind | Jenkins Linux | Jenkins Linux Dbg | Jenkins Linux Ubsan | Jenkins MacOSX | Jenkins MacOSX Dbg | Jenkins Win64 Dbg | Jenkins Windows | Jenkins Windows Dbg. | <u>Linux-</u> F19-x86_64_14- with-check | <u>Linux-Ubuntu-</u> x86 64 54-TDE | <u>Linux-</u> deb-x86 64 56- <u>lhm-ubuntu-</u> <u>trusty</u> | <u>Linux-</u> r <u>pm_deb-</u> x86_64_70-TDF |
|-------------|--------------------|--------|---|-------------------|--|---|---------------------|------------------------------------|--|---|---|---------------------------------|---|---------------------------------------|--|--|
| 04/29 09:40 | <u>04/29 07:40</u> | | | | | | | | | | | | | | | |
| 09:30 | 07:30 | | | | | | | | | | | | | <u>details</u> | | |
| 09:20 | 07:20 | | | | | | | | | | | | | | <u> </u> | <u>details</u> |
| 09:10 | 07:10 | | details | | | | | | | | | | | | | |
| 09:00 | 07:00 | | | | | | | | | | details jenkins on tb73 <u>core</u> | details jenkins on tb72 core | | | | |
| 04/29 08:50 | <u>04/29 06:50</u> | | | | | errs: 1 jenkins on tb75-lilith core | | | details jenkins on tb69 | details jenkins core | | details jenkins on tb73 core | | | details core | |
| 08:40 | 06:40 | | | | details errs: 1 jenkins on gandalf core | | | details jenkins on tb66 core | | | details jenkins on tb72 core | | | | | |
| 08:30 | 06:30 | | | | | | | | | | | | | | details | details errs: 9 core |
| 08:20 | 06:20 | | | | | errs: 1 jenkins on tb75-lilith core | | | | details jenkins on tb72 core | details jenkins on tb73 core | details jenkins on tb72 core | | | <u>details</u> <u>core</u> | |
| 08:10 | 06:10 | | 4-4-41- | | details errs: 1 jenkins on gandalf core | | | details jenkins on tb69 | details jenkins on the | | | | | | | |
| 08:00 | 06:00 | | details errs: 31 core | | | | | | | $\frac{\text{details}}{\text{on tb72}} \; \frac{\text{jenkins}}{\text{core}}$ | | | | | | |
| 04/29 07:50 | 04/29 05:50 | | <u>50, 0</u> | | | errs: 1 jenkins on tb75-lilith core | | | | | details jenkins on tb72 core | details jenkins on tb72 core | | | details core | |
| 07:40 | 05:40 | | | | details errs: 1 jenkins on gandalf core | | | details jenkins on tb69 | details jenkins on tb66 core | | | | | | | |
| 07:30 | 05:30 | | | | | | | | | | | | | | | |
| 07.00 | 05.00 | | | | | | | 1 | | | | | | | | |



Tinderboxes

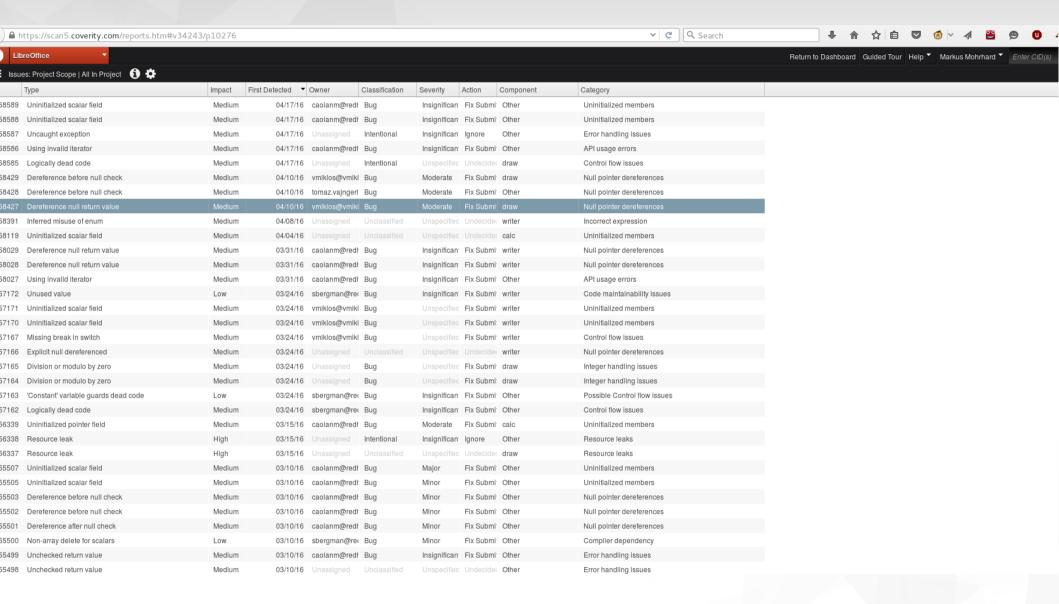
- Part of the CI infrastructure
- Build LibreOffice on different platform & configuration
- Website + mail when broken

Coverity

Scan.coverity.com



Coverity





Coverity

- Static analysis
- Not hosted by TDF
- ▼ Free for us, 2 runs a week
- Mail to the developer list with new reports
- ¬ ~0 open issues

cppcheck

http://dev-builds.libreoffice.org/cppcheck_reports/master/



cppcheck

















Cppcheck report - LibreOffice 2016-04-23 22:51:04 f5523a6ef40197164a2bb56a5f58abc73757568d, CppCheck 2016-04-23 09:18:28 0635ceb42a76a6589fd5a5877256590dbd23c65d:

| | Defe | ct su | mmary; | Line | Id | CWE | Seve |
|----|--------------|---------------------|-----------------------|-----------------|---|----------|-------------|
| | 2010 | oc our | innay, | | missinglnclude | | information |
| | Show | <i>ı</i> # | Defect ID | <u>./avmed</u> | lia/source/viewer/mediawindow_impl.cxx | | |
| | \checkmark | 289 | allocaCalled | 1 | ConfigurationNotChecked | | information |
| | \checkmark | 260 | redundantAssignme | | | | |
| | / | 258 | variableScope | 1 | ConfigurationNotChecked | | information |
| | \checkmark | 254 | duplInheritedMembe | <u>./bridge</u> | s/source/cpp_uno/gcc3_ios_arm/except.cxx | | |
| | ✓ | 252 | noExplicitConstruct | 1 | ConfigurationNotChecked | | information |
| | \checkmark | 230 | uselnitializationList | ./canva | s/source/directx/dx_9rm.cxx | | |
| | \checkmark | 163 | knownConditionTrue | 1 | ConfigurationNotChecked | | information |
| | \checkmark | 115 uninitMemberVar | | <u> </u> | ComigurationNotericoncu | | momadon |
| | ✓ | 104 | nullPointer | 1 | ConfigurationNotChecked | | information |
| | ✓ | 100 | ConfigurationNotCh | <u>./conne</u> | ctivity/source/drivers/ado/ADatabaseMetaDataImpl.cx | <u>x</u> | |
| | ~ | 100 | noCopyConstructor | 1 | ConfigurationNotChecked | | information |
| | ✓ | 83 | unread∨ariable | | ctivity/source/drivers/ado/APreparedStatement.cxx | | |
| | ✓ | 70 | cstyleCast | 1 | ConfigurationNotChecked ctivity/source/drivers/ado/adoimp.cxx | | information |
| | ✓ | 54 | clarifyCondition | 1 | ConfigurationNotChecked | | information |
| | ✓ | 47 | clarifyCalculation | _ | source/uno/loadmodule.cxx | | |
| | ✓ | 44 | nullPointerRedunda | 1 | ConfigurationNotChecked | | information |
| | ✓ | 33 | syntaxError | <u>./exten</u> | sions/source/config/ldap/ldapaccess.cxx | | |
| | ✓ | 28 | duplicateExpression | 1 | ConfigurationNotChecked | | information |
| | ✓ | 25 | invalidPrintfArgType | 1 | ConfigurationNotChecked | | information |
| | \checkmark | 25 | noConstructor | | er/source/grammar.cxx | | |
| | ✓ | 19 | nullPointerDefaultAr | <u>1</u> | ConfigurationNotChecked | | information |
| | \checkmark | 16 | uninitvar | 1 | ConfigurationNotChecked | | information |
| | ~ | 13 | unusedStructMemb | ./hwpfilt | er/source/lexer.cxx | | |
| | ✓ | 11 | invalidPointerCast | 1 | ConfigurationNotChecked | | information |
| | ~ | 8 | memleak | 1 | ConfigurationNotChecked | | information |
| | ~ | 8 | passedByValue | <u>./i18npc</u> | ool/source/collator_unicode.cxx ConfigurationNotChecked | | information |
| | ~ | 7 | assertWithSideEffe | | configurationNotChecked col/source/indexentry/indexentrysupplier_asian.cxx | | monnauon |
| ١. | 7 | 7 | onnocitoInnorCondit | 1 | ConfigurationNotChecked | | information |
| ľ | | | | <u>./i18npc</u> | ool/source/localedata/localedata.cxx | | |

| | Line | ld | CWE | Severity | Message |
|-----|------------------|--|-----|----------------|--|
| ı | | missinglnclude | | information | Cppcheck cannot find all the include files (usecheck-config for details) |
| ı | <u>./avmedi</u> | a/source/viewer/mediawindow_impl.cxx | | | |
| | <u>1</u> | ConfigurationNotChecked | | information | Skipping configuration 'AVMEDIA_MANAGER_SERVICE_NAME_FALLBACK1' since the value of 'AVMEDIA_MANAGER_SERVICE_NAME_FALLBACK1' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | 1 | ConfigurationNotChecked | | information | Skipping configuration 'AVMEDIA_MANAGER_SERVICE_NAME_OLD' since the value of 'AVMEDIA_MANAGER_SERVICE_NAME_OLD' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| E | <u>./bridges</u> | /source/cpp_uno/gcc3_ios_arm/except.cxx | | | |
| t | 1 | ConfigurationNotChecked | | information | Skipping configuration '_LIBCPP_NONUNIQUE_RTTI_BIT' since the value of '_LIBCPP_NONUNIQUE_RTTI_BIT' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| Ш | ./canvas | /source/directx/dx_9rm.cxx | | | |
| E | 1 | ConfigurationNotChecked | | information | Skipping configuration 'FAKE_MAX_NUMBER_TEXTURES' since the value of 'FAKE_MAX_NUMBER_TEXTURES' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| ı | 1 | ConfigurationNotChecked | | information | Skipping configuration 'FAKE_MAX_TEXTURE_SIZE' since the value of 'FAKE_MAX_TEXTURE_SIZE' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| ч | ./connec | tivity/source/drivers/ado/ADatabaseMetaDataImpl.c | XX | | |
| ı | 1 | ConfigurationNotChecked | | information | Skipping configuration 'DELETE' since the value of 'DELETE' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| ı | | tivity/source/drivers/ado/APreparedStatement.cxx | | | |
| • | | ConfigurationNotChecked | | information | Skipping configuration 'max' since the value of 'max' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | | tivity/source/drivers/ado/adoimp.cxx | | | |
| | _ | ConfigurationNotChecked | | information | Skipping configuration 'DELETE' since the value of 'DELETE' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | | ource/uno/loadmodule.cxx | | | |
| a | _ | ConfigurationNotChecked | | information | Skipping configuration 'SAL_DLLPREFIX' since the value of 'SAL_DLLPREFIX' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | <u>./extensi</u> | ions/source/config/Idap/Idapaccess.cxx | | | COLOR OF THE STATE |
| 1 | 1 | ConfigurationNotChecked | | information | Skipping configuration LDAP_X_OPT_CONNECT_TIMEOUT' since the value of LDAP_X_OPT_CONNECT_TIMEOUT' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| 9. | _ | ConfigurationNotChecked | | information | Skipping configuration LDAP_X_OPT_CONNECT_TIMEOUT;_WIN32' since the value of LDAP_X_OPT_CONNECT_TIMEOUT' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | | er/source/grammar.cxx | | | |
| d . | _ | ConfigurationNotChecked | | information | Skipping configuration 'YYLSP_NEEDED;yyoverflow' since the value of yyoverflow' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | _ | ConfigurationNotChecked | | information | Skipping configuration yyoverflow' since the value of yyoverflow' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
|) | | er/source/lexer.cxx | | | |
| | _ | ConfigurationNotChecked | | information | Skipping configuration "YY_MALLOC_DECL' since the value of "YY_MALLOC_DECL' is unknown. Use •D if you want to check it. You can use •U to skip it explicitly. |
| | _ | ConfigurationNotChecked | | information | Skipping configuration 'YY_USER_INIT' since the value of 'YY_USER_INIT' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | | ol/source/collator/collator_unicode.cxx | | : | Chinaire configuration (CAL DU DDEEM sizes the value of (CAL DU DDEEM is unlessed. The District that the short it. You are use 11 to a plain it. |
| | _ | ConfigurationNotChecked | | information | Skipping configuration 'SAL_DLLPREFIX' since the value of 'SAL_DLLPREFIX' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | | ol/source/indexentry/indexentrysupplier_asian.cxx ConfigurationNotChecked | | information | Skinning configuration SAL DURDEEN since the value of SAL DURDEEN is unknown. Lee Different to check it. You can use 11 to akin it evaluable. |
| + | _ | ol/source/localedata/localedata.cxx | | IIIIOIIIIauoii | Skipping configuration 'SAL_DLLPREFIX' since the value of 'SAL_DLLPREFIX' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | | ConfigurationNotChecked | | information | Skipping configuration 'SAL DLLPREFIX' since the value of 'SAL DLLPREFIX' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | _ | ol/source/textconversion/textconversion.cxx | | momadon | Shipping configuration of the value of Shipping configuration of the value of Shipping configuration of the value of the value of Shipping configuration of the value of the v |
| | | ConfigurationNotChecked | | information | Skipping configuration 'SAL DLLPREFIX' since the value of 'SAL DLLPREFIX' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | | ol/source/transliteration/textToPronounce_zh.cxx | | | |
| | | ConfigurationNotChecked | | information | Skipping configuration 'SAL DLLPREFIX' since the value of 'SAL DLLPREFIX' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | ./lotuswo | ordpro/source/filter/localtime.cxx | | | |
| | 1 | ConfigurationNotChecked | | information | Skipping configuration 'LONG_MAX' since the value of 'LONG_MAX' is unknown. Use -D if you want to check it. You can use -U to skip it explicitly. |
| | | | | | |



cppcheck

- Static analysis
- Open source tool
- Runs on a TDF server weekly
- Mail to developer list + website(make that a link)
- Many open issues
 - Many false positives
 - Read reports with care

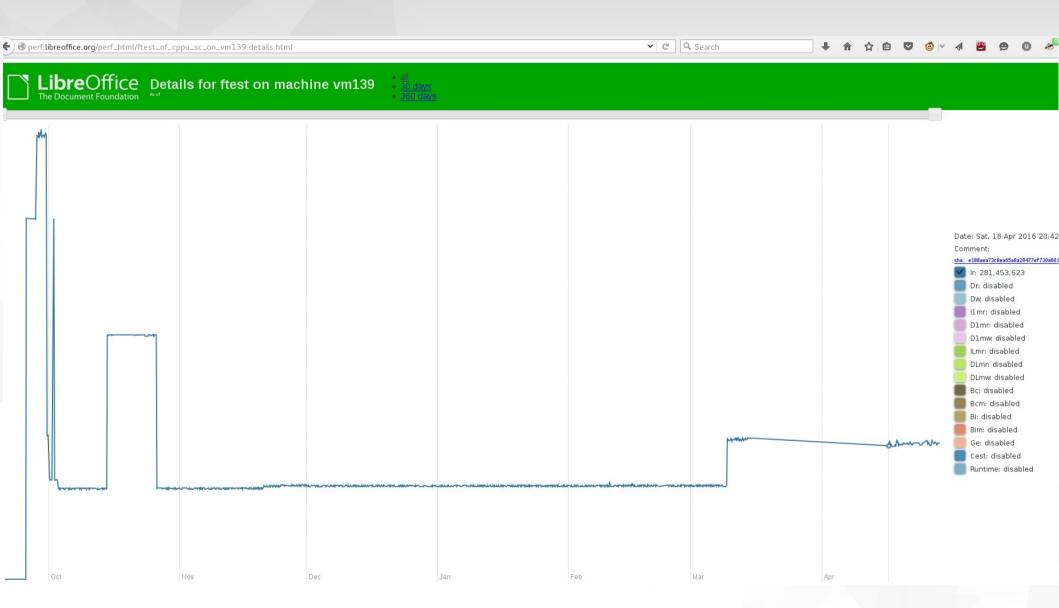


Performance testing

▼ Perf.libreoffice.org



Perf.libreoffice.org





Perf.libreoffice.org

- Automated performance testing
- Run on TDF CI infrastructure
- No mails, only website
- Small fluctuations in runs
 - Only look at huge spikes
- Own code, always needs new web developers
 - Talk to Norbert or me



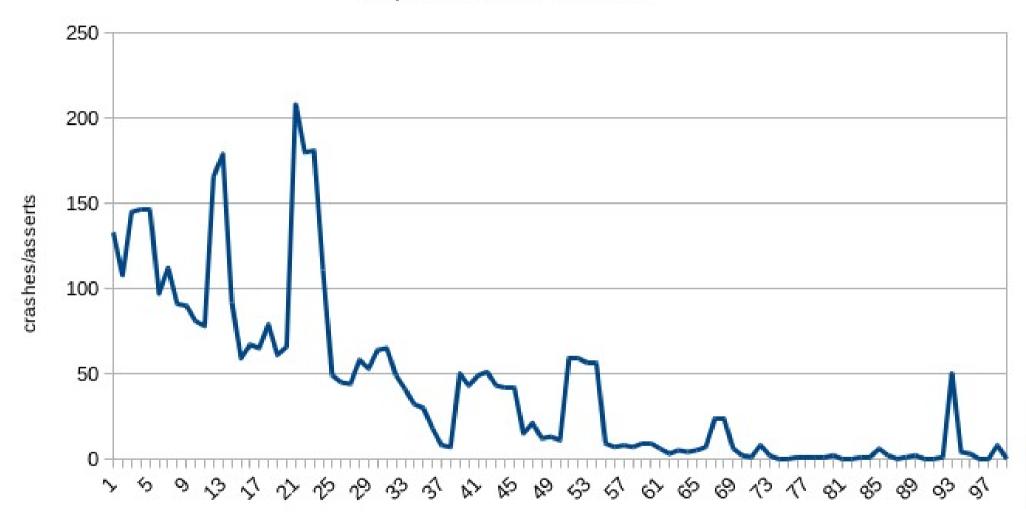
Crash testing & Validation testing

dev-builds.libreoffice.org/crashtest/



Crash testing & Validation testing

Import crashes over time



master build instances



Crash testing & Validation testing

- Run on huge TDF server
- Runs every few days
- Mail to developer list and archive on dev-www.libreoffice.org
 - Only csv files and log files
- ¬ ~0 open crashes
- ¬ ~30k open validation errors
 - Many duplicates
- Allows to add assert to import/export code and see which docs hit it

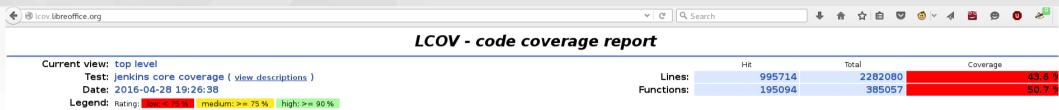


Lcov

■ Lcov.libreoffice.org



Icov



| /home/tdf/lode/jenkins/workspace/internal_lcov_master Unocontrols/source/base Unocontrols/source/controls Unocontrols/source/controls Unocontrols/source/inc accessibility/inc/accessibility/extended accessibility/inc/accessibility/standard accessibility/source/extended accessibility/source/extended accessibility/source/standard animations/source/animcore avmedia/source/framework avmedia/source/gstreamer avmedia/source/opengl avmedia/source/opengl avmedia/source/viewer basctl/source/ascide | 0.0 % 25.0 % 6.3 % 8.1 % 0.0 % 2.3 % 34.7 % 25.0 % | 0 / 3 2 / 8 41 / 648 75 / 931 0 / 2 3 / 130 25 / 72 | 0.0 % 30.0 % 7.4 % 15.2 % 0.0 % 2.6 % | 0/1 3/10 9/121 21/138 0/3 |
|--|---|---|--|---------------------------------------|
| UnoControls/source/base UnoControls/source/controls UnoControls/source/inc accessibility/inc/accessibility/extended accessibility/inc/accessibility/standard accessibility/source/extended accessibility/source/extended accessibility/source/standard accessibility/source/standard accessibility/source/framework avmedia/source/framework avmedia/source/gstreamer avmedia/source/opengl avmedia/source/viewer basctl/source/accessibility | 6.3 % 8.1 % 0.0 % 2.3 % 34.7 % | 41 / 648 75 / 931 0 / 2 3 / 130 | 7.4 % 15.2 % 0.0 % | 9 / 121 21 / 138 |
| Unocontrols/source/controls Unocontrols/source/inc accessibility/inc/accessibility/extended accessibility/inc/accessibility/standard accessibility/source/extended accessibility/source/extended accessibility/source/standard accessibility/source/standard animations/source/animcore avmedia/source/framework avmedia/source/gstreamer avmedia/source/opengl avmedia/source/viewer basctl/source/accessibility | 8.1 % 0.0 % 2.3 % 34.7 % | 75 / 931 0 / 2 3 / 130 | 15.2 % 0.0 % | 21 / 138 |
| Unocontrols/source/inc accessibility/inc/accessibility/extended accessibility/inc/accessibility/standard accessibility/source/extended accessibility/source/extended accessibility/source/standard accessibility/source/standard animations/source/animcore avmedia/source/framework avmedia/source/gstreamer avmedia/source/opengl avmedia/source/viewer basctl/source/accessibility | 0.0 % 2.3 % 34.7 % | 0 / 2 3 / 130 | 0.0 % | |
| accessibility/inc/accessibility/extended accessibility/inc/accessibility/standard accessibility/source/extended accessibility/source/helper accessibility/source/standard animations/source/standard animations/source/animcore avmedia/source/framework avmedia/source/opengl avmedia/source/viewer basctl/source/accessibility | 2.3 % 34.7 % | 3 / 130 | | 0/3 |
| accessibility/inc/accessibility/helper accessibility/inc/accessibility/standard accessibility/source/extended accessibility/source/helper accessibility/source/standard animations/source/animcore avmedia/source/framework avmedia/source/gstreamer avmedia/source/opengl avmedia/source/viewer basctl/source/accessibility | 34.7 % | | 2.6 % | - 0,0, |
| accessibility/inc/accessibility/standard accessibility/source/extended accessibility/source/helper accessibility/source/standard animations/source/animcore avmedia/source/framework avmedia/source/gstreamer avmedia/source/opengl avmedia/source/viewer basctl/source/accessibility | | 25 / 72 | | 2 / 78 |
| accessibility/source/extended accessibility/source/helper accessibility/source/standard animations/source/animcore avmedia/source/framework avmedia/source/gstreamer avmedia/source/opengl avmedia/source/viewer basctl/source/accessibility | 25.0 % | | 53.8 % | 28 / 52 |
| accessibility/source/helper accessibility/source/standard animations/source/animcore avmedia/source/framework avmedia/source/gstreamer avmedia/source/opengl avmedia/source/viewer basctl/source/accessibility | | 2/8 | 25.0 % | 2/8 |
| accessibility/source/standard animations/source/animcore avmedia/source/framework avmedia/source/gstreamer avmedia/source/opengl avmedia/source/viewer basctl/source/accessibility | 3.0 % | 169 / 5640 | 3.5 % | 34 / 963 |
| animations/source/animcore avmedia/source/framework avmedia/source/gstreamer avmedia/source/opengl avmedia/source/viewer basctl/source/accessibility | 63.8 % | 111 / 174 | 56.1 % | 23 / 41 |
| avmedia/source/framework avmedia/source/gstreamer avmedia/source/opengl avmedia/source/viewer basctl/source/accessibility | 38.2 % | 1865 / 4880 | 43.5 % | 361 / 830 |
| avmedia/source/gstreamer avmedia/source/opengl avmedia/source/viewer basctl/source/accessibility | 54.3 % | 422 / 777 | 63.1 % | 99 / 157 |
| avmedia/source/openg1 avmedia/source/viewer basctl/source/accessibility | 10.8 % | 92 / 848 | 31.7 % | 38 / 120 |
| avmedia/source/viewer basctl/source/accessibility | 0.0 % | 0 / 589 | 0.0 % | 0/94 |
| basctl/source/accessibility | 18.6 % | 80 / 430 | 18.2 % | 14 / 77 |
| | 6.1 % | 38 / 626 | 6.5 % | 7 / 107 |
| basctl/source/basicide | 0.3 % | 2 / 701 | 3.8 % | 4 / 104 |
| | 1.4 % | 146 / 10726 | 5.1 % | 58 / 1142 |
| basctl/source/dlged | 0.3 % | 7 / 2550 | 6.6 % | 14/212 |
| basctl/source/inc | 2.8 % | 3 / 109 | 2.8 % | 3 / 106 |
| basegfx/source/color | 48.8 % | 98 / 201 | 30.2 % | 13 / 43 |
| basegfx/source/curve | 64.5 % | 304 / 471 | 77.4 % | 24/31 |
| basegfx/source/inc | 87.5 % | 189 / 216 | 85.4 % | 41 / 48 |
| basegfx/source/matrix | 81.7 % | 470 / 575 | 82.9 % | 58 / 70 |
| basegfx/source/numeric | 75.0 % | 6/8 | 100.0 % | 1/1 |
| basegfx/source/point | 62.3 % | 48 / 77 | 71.4 % | 5/7 |
| basegfx/source/polygon | 67.3 % | 4646 / 6902 | 78.9 % | 496 / 629 |
| basegfx/source/range | 87.1 % | 305 / 350 | 90.0 % | 72 / 80 |
| basegfx/source/raster | 78.9 % | 116 / 147 | 90.0 % | 9/10 |
| basegfx/source/tools | 39.9 % | 414 / 1037 | 42.5 % | 54 / 127 |
| basegfx/source/tuple | 66.7 % | 8 / 12 | 80.0 % | 4/5 |
| basegfx/source/vector | 87.5 % | | | |
| basegfx/test | 07.5 70 | 112 / 128 | 85.7 % | 18 / 21 |



Icov

- Generates reports about test coverage
- Runs weekly on TDF server
- Mail to developer list + website
- Currently broken
- Useful if you want to add tests
 - Check which features are not covered yet

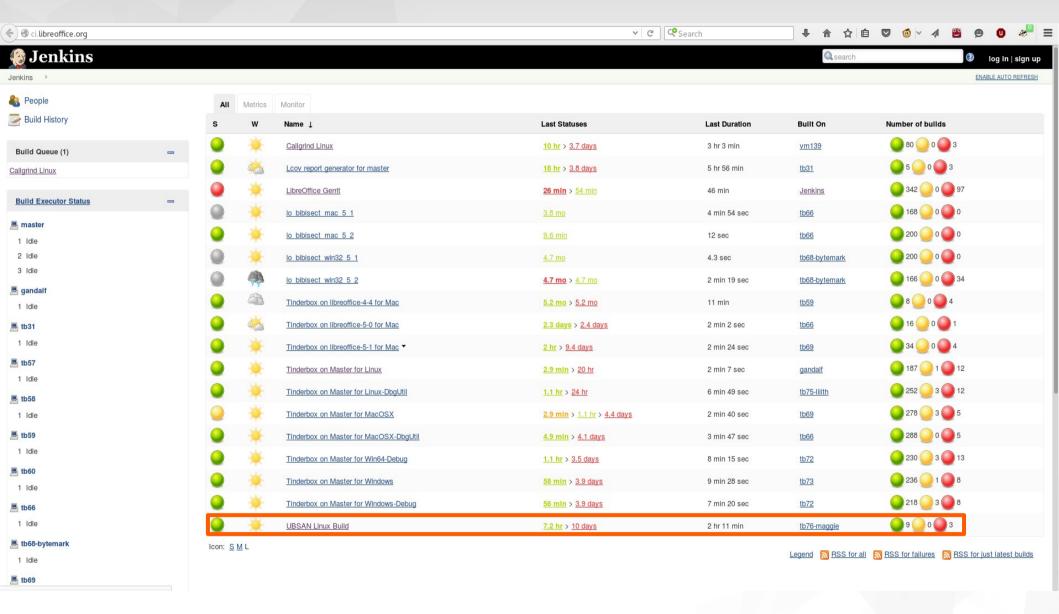


UBSAN

ci.libreoffice.org/job/lo_ubsan/



UBSAN





UBSAN

- Undefined Behavior Sanitizer
- Runs as part of CI
- Only jenkins, no mails
- Finds coding errors
- Monitored by Stephan Bergmann
- Similar to Asan (Address Sanitizer) and Lsan (Leak Sanitizer)
 - Find other coding errors





Thank you ...

- ... for listening!
- ... for supporting LibreOffice!



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