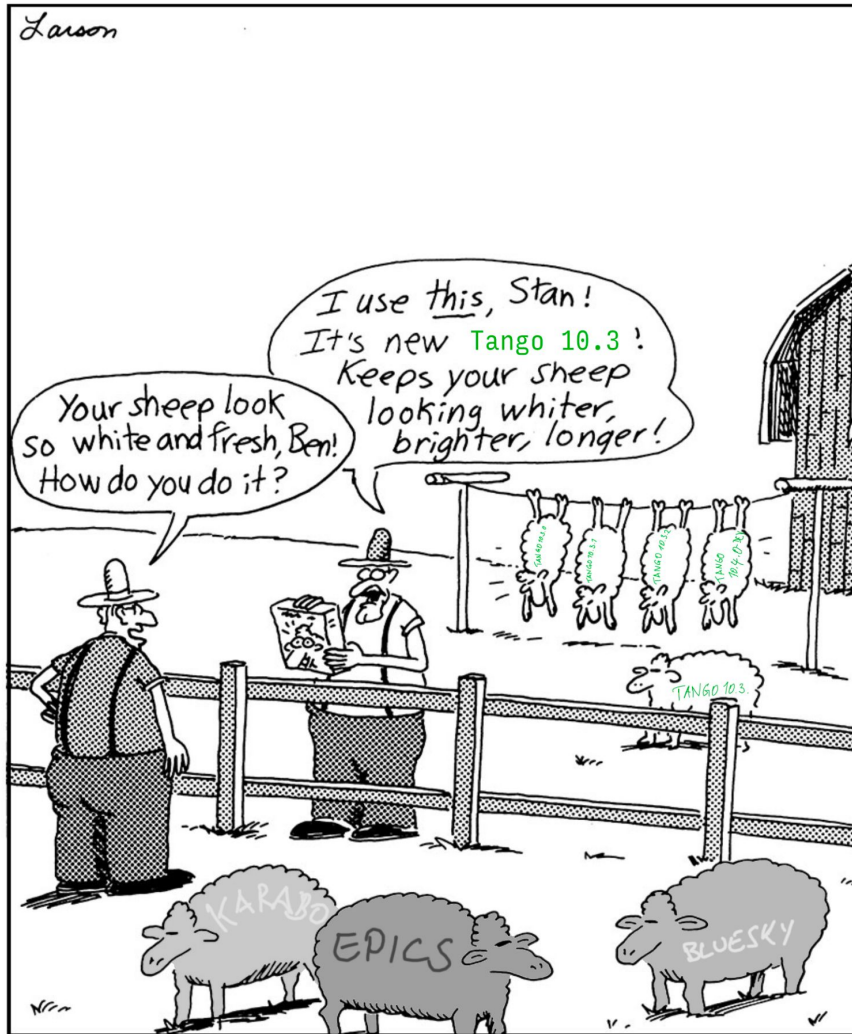


cppTango Version 10.x: Maturing like a good wine

9.3.7 (LTS), 10.3.x, 10.4.x and the future

cppTango: The releases



Now at your local source code repository

10:

- 10.3.2: Released 2026-06-03
- 10.1.2: Released on 2026-01-23
- 10.0.4 released 2026-01-23
- 10.4.0 planned for 2026-10-30

9.3.7 (LTS) released on 2024-11-28

- 9.3.x in maintenance mode
 - Critical bug fixes only
 - No backporting of new features
 - No new features

main

9.3-backports

Next: minor release cppTango 10.4.0

(9.3.x **LTS** branch)

- Requires **C++17**
- Requires **CMake 3.18**

- Only requires **C++98**

Reserve the right to break API/ABI as required in this branch. However, we are conservative about breaking API.

Even binary compatibility with cppTango 9.3.x is guaranteed.

Gitlab CI:

- Debian 11-13, 12-cross-32bit
- Alpine
- Ubuntu 22.04, 24.04, 26.04
- LLVM (**22**)/GCC (**16.1**) (c++17/20/23/26)
- Clang-tidy, clang-analyzer
- Sanitizers (ASAN, TSAN, UBSAN)
- MacOSX x86_64/aarch64
- MSVC 2022

Gitlab CI:

- Debian 7 (c++=*), 8 (c++=*), 9 (c++=*) and 10 (c++=* and c++98) (frozen)
*=distribution default
- Alpine
- GCC (8.3.0, frozen)

Appveyor: win32 and x64 for msvc9, msvc10, msvc12, msvc14 and msvc 15

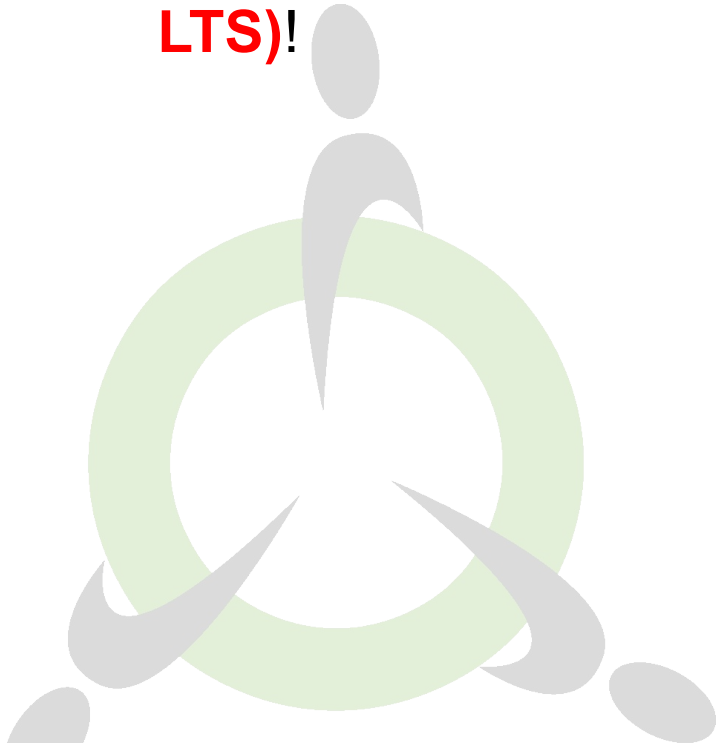
Adjusted cppTango release cycle:

- **Major releases (11.0.0, 12.0.0, ...)**
 - Define new features
 - Write RFCs
 - Implement new features that do affect IDL
 - Release when done and not on a set date
- **Minor releases (10.x.0, 11.x.0, ...)**
 - New features, bug fixes that do not affect IDL
 - Release every six months, regardless what has been fixed
- **Hotfix releases (10.x.y, 11.x.y, ...)**
 - Important bug fixes/regressions only
 - When required
 - Flexibility provided to react quickly (see 10.3.2 release)

Latest cppTango 9.3 LTS release:

9.3.7 (released 2024-11-28)

Remember: 9.3 LTS support ends **two years after 11.0 (new LTS)**!



Major improvements/changes since TCM in Giulianova (10.0):

- Remember: Alarm hysteresis not in Tango 10!
But we promised last year: Coming in Tango 11.
 - See Alessio's talk coming up next:
<https://indico.tango-controls.org/event/737/contributions/1007/>
- New features 10.1 (2025-08-14)
 - Performance monitoring for ZMQ event system
 - Improve device server command line help
 - Don't block signals anymore on POSIX platforms
 - Fix all known memory leaks
 - New event subscription modes (asynchronous subscription with/without attribute reading)

- Breaking changes 10.1
 - DServerSignal completely refactored: subclasses of DServerSignal have to be re-written
 - DServerSignal::get_sig_thread_pid member removed: replace a call to it with getpid()
 - DServerSignal no longer inherits from TangoMonitor: create your own TangoMonitor object
 - LockThread::admin_proxy is now std::unique_lock<DeviceProxy>: if needed get access to the raw pointer using std::unique_ptr::get()
 - get_value_storage() was incorrectly exposed: sub-classes of Tango::Attribute can replace uses of value with calls to attribute_value.get<T>(), tests of value_flag should replace with calls to attribute_value.has_value().
 - Sub-classes setting value_flag will be broken: no longer possible to independently set the value_flag
 - DeviceImpl::blackbox_ptr: now std::unique_ptr

- Breaking changes 10.1
 - `ApiUtil::get_zmq_event_consumer(), get_notifd_event_consumer()` return `Tango::PointerWithLock` objects: `Tango::PointerWithLock` are unmovable and non-copyable, while they exist the corresponding event consumer will not be deleted. These objects should not be held for extended periods of time as their existence prevents the shutdown of Tango
 - `ApiUtil::create_zmq_event_consumer(), create_notifd_event_consumer()`: idempotent, always return `Tango::PointerWithLock`
 - `ApiUtil::get_zmq_event_consumer, get_notifd_event_consumer()` return `Tango::PointerWithLock` that compares equal to `nullptr` if the corresponding event consumer does not exist
 - Header inclusion more self-contained: Breaks code that doesn't include what it uses
 - Event names in event classes now no longer have an `idl5_` prefix when Tango is reporting that the subscription has failed !1460 (merged)
 - `Tango::~Util` is private: use `Tango::Util::shutdown_ds` or `Tango::Util::server_cleanup` to shut down DS before process exits
 - Event classes: new member `event_reason`, therefore new signature breaks user code

- New features 10.3 (2026-02-06)
 - More event system debugging
 - Telemetry
 - Run-time config (DServer commands, properties, ENV)
 - Multiple endpoints
 - Client identification attribute in spans
 - Support for filtering telemetry spans based on topics

- Breaking changes 10.3
 - Device Classes in their own file - breaks class factory
 - Source code files layout: One header file per class (almost always) - breaks users when not `#including <tango/tango.h>`
 - Version info now in `<tango/common/version.h>` - breaks users that do not include it
 - `*EventData` classes are no longer default constructible
 - Hard requirement: `opentelemetry-cpp >= 1.16`
- Noteworthy
 - Integrated log4tango into cppTango
 - Use internal macOS CI runners (TJ: 🎉)
 - Adopt SPDX license headers
 - Improve command line help output for device servers (10.1.0)
 - Fix all known memory leaks (10.1.0)
- Please refer to the [RELEASE_NOTES.md](#). Please have also a look at the 10.1.0 breaking changes in the same document!

cppTango 10.4 major improvements/changes when compared to 10.3:

- Device-level dynamic attributes, see the talk today at 9:30 by Thomas Braun:
<https://indico.tango-controls.org/event/737/contributions/1016/>
- PIMPL refactoring (ongoing)
 - Sorting out really private APIs from somewhat private APIs (i.e. separate documented as private APIs from private APIs)
 - Will break API & ABI!
 - Therefore planned for 10.4

cppTango 11.0: planned for ~2027

(LTS SIG meeting @DESY: Major versions only released when features are done!)

Main features:

- Warning and alarm hysteresis support (sponsored by Elettra)
- Encryption support (planned, budgeted, work has not started yet, sponsored by DESY)
 - Authentication, Authorization, Accounting prototype
- Remove notifd
- Bonus track: Telemetry for events

We can still change the feature list: please join us at the road map discussion on Wednesday, 11.55h

- 35 catch2 tests in 10.1.0 release
- Now 56

👉 *ONLY* 106 left to convert 😱

General rule: old and `cxx_*` tests must not be extended, new tests must be in catch2

Leaderboard (TB added it 😊)

19 Thomas Braun
17 Thomas Ives
6 Damien Lacoste
5 Yury Matveyev
2 Théo Rozier
2 Rodrigo Tobar
1 Thomas Juerges
1 Reynald Bourtembourg
1 Max Brauer
1 Matt Auger-Williams
1 Grzegorz Kowalski

- Kernel
 - On 2nd and 4th Thursday of the month at 15:00h (CET/CEST)
 - Agenda and minutes available on Gitlab: [tango-kernel-followup](#)
 - Status of recent development (cppTango, JTango, pyTango, POGO, RFCs, etc.)
 - Technical discussions
 - Define priorities
 - Plan SIG meetings
- cppTango
 - Every Thursday, 14:00h (CET/CEST)
 - Prioritising issues
 - MR discussion
 - Feature discussion and prioritisation

Meet the cppTango team



A random photo from our telecon. Starting at top left: Thomas Braun (byte physics e.K.), Thomas Juerges (SKAO), Reynald Bourtembourg (ESRF), Thomas Ives (OSL), Damien Lacoste (ESRF)

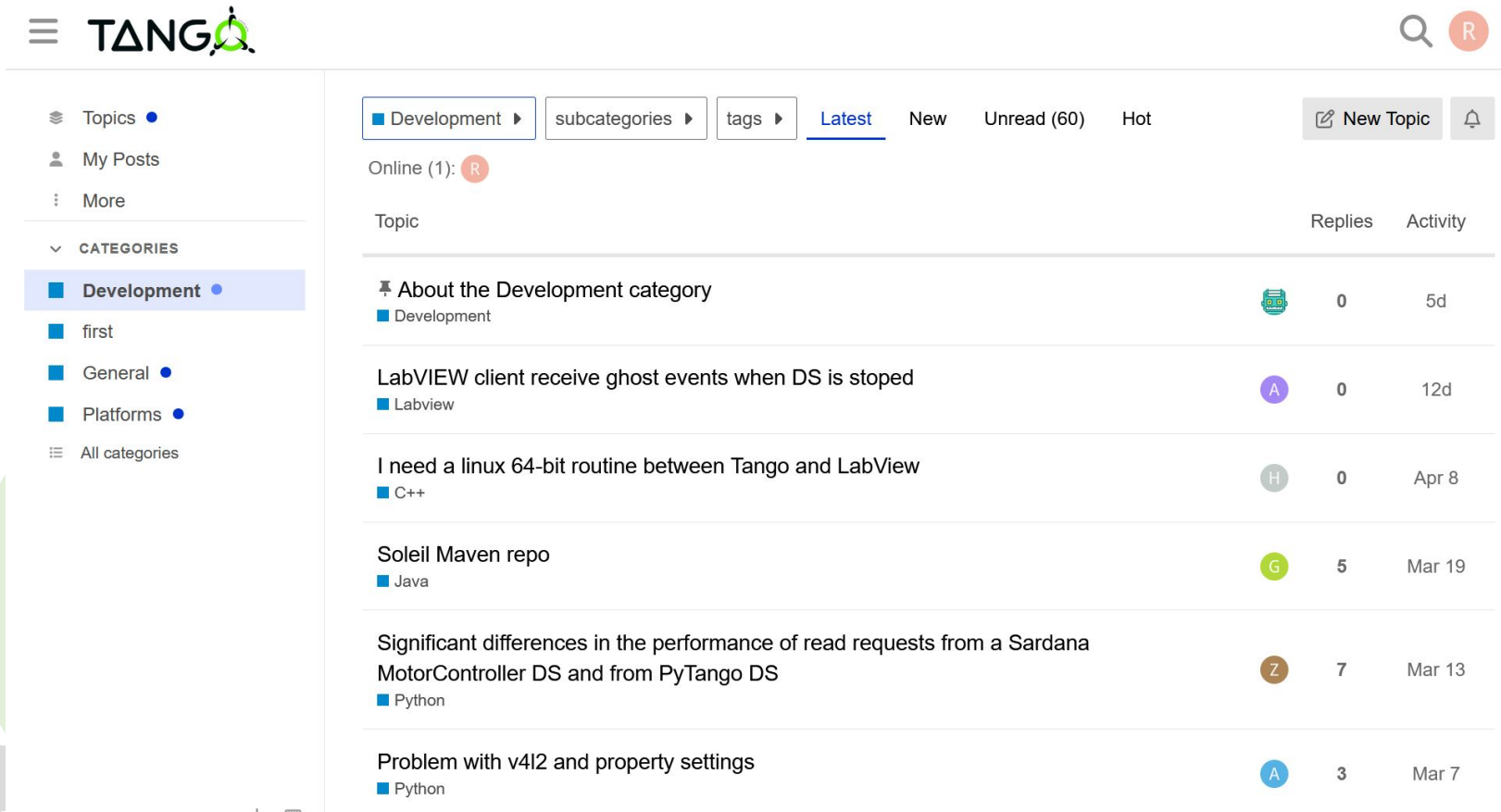
Weekly meetings can be fun!

Please join us.



<https://www.tango-controls.org/community/forum>

Migrated to Discourse by Webu company (yeah!)



The screenshot shows the Tango Controls Forum interface. On the left is a navigation sidebar with a hamburger menu icon and the 'TANGO' logo. The sidebar lists 'Topics', 'My Posts', and 'More'. Under 'CATEGORIES', 'Development' is selected, with sub-categories 'first', 'General', and 'Platforms'. 'All categories' is also visible. The main content area features a top navigation bar with filters for 'Development', 'subcategories', and 'tags'. It includes tabs for 'Latest', 'New', 'Unread (60)', and 'Hot', along with 'New Topic' and notification icons. Below this is an 'Online (1)' indicator. The main section is a table of topics with columns for 'Topic', 'Replies', and 'Activity'. The topics listed are:

Topic	Replies	Activity
About the Development category Development	0	5d
LabVIEW client receive ghost events when DS is stoped Labview	0	12d
I need a linux 64-bit routine between Tango and LabView C++	0	Apr 8
Soleil Maven repo Java	5	Mar 19
Significant differences in the performance of read requests from a Sardana MotorController DS and from PyTango DS Python	7	Mar 13
Problem with v4I2 and property settings Python	3	Mar 7

We are (for not much longer) on Mattermost

Join us there!

<https://mattermost.hzdr.de/tango-controls/channels/cpptango>

Next, we will be on Matrix

When? From 2026-07 on
Where? Helmholtz's Matrix
How to join? Write to Yury



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“You know, we’re just not reaching that guy.”

Thank you!

Any questions?

Acknowledgements (in alphabetical order):

Benjamin Bertrand, Damien Lacoste, Lorenzo Pivetta, Matt Auger-Williams, Max Brauer, Reynald Bourtembourg, Sergi Rubio, Théo Rozier, Thomas Braun, Thomas Ives, Thomas Juerges, Yury Matveyev, gilice

We would like to thank everybody for their contributions (MRs, bug reports, code reviews, comments, the whole lot)!

<https://gitlab.com/tango-controls/cppTango/-/milestones>

<https://gitlab.com/tango-controls/cppTango/-/issues>

<https://gitlab.com/tango-controls/TangoSourceDistribution/-/issues>

Video recordings available on tango-controls YouTube channel:
<https://www.youtube.com/channel/UCezS9cMkektZNIYnPOAQvg>

The screenshot displays the YouTube channel page for 'tango-controls'. The channel has 71 subscribers and a 'SUBSCRIBE' button. The 'Uploads' section shows several videos:

Video Title	Views	Time Ago	Duration
Tango Kernel Webinar #5 - Taurus - Part 2	33 views	1 month ago	1:38:18
Tango Kernel Webinar #5 - Taurus - Bonus during break	18 views	1 month ago	6:27
Tango Kernel Webinar #5 - Taurus - Part 1	85 views	1 month ago	1:39:38
Tango Kernel Webinar #4: PyTango	309 views	11 months ago	1:28:43
Tango Kernel Webinar #3 - Tango events system - ...	66 views	1 year ago	22:00
Tango Kernel Webinar #3 - Tango event system	117 views	1 year ago	1:09:15