

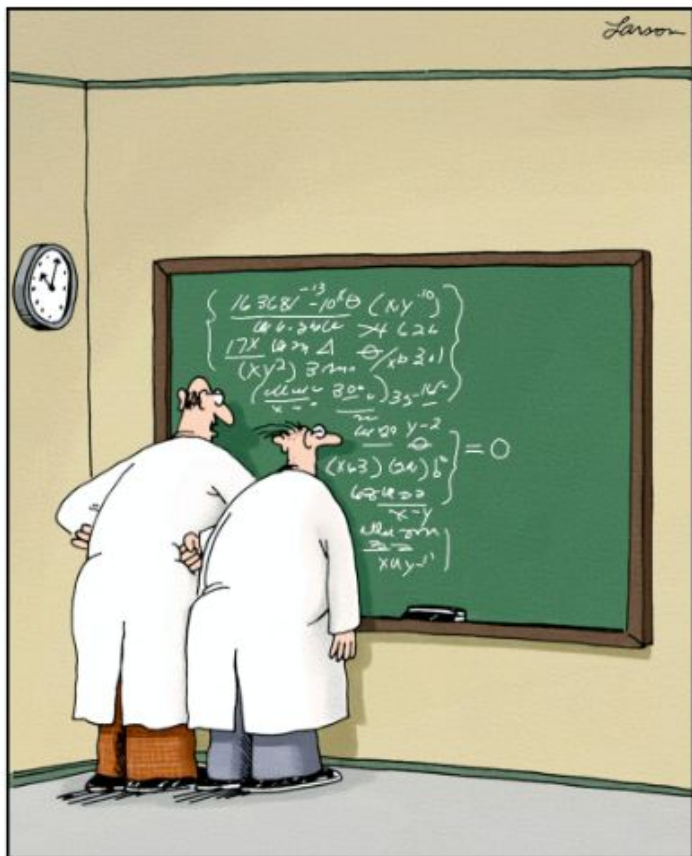


# cppTango: What's new?



9.4.2, 9.3.6 (LTS) and everything else (10.x)

# cppTango: Fixed release cycles (refresher)



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“No doubt about it, Ellington—we’ve mathematically expressed the purpose of **Tango Controls**. God, how I love the thrill of scientific discovery!”

© Gary Larson

## 10.0:

- 10.0.0 to be released on 2023-10-02

## 9.4:

- 9.4.0 released on 2022-09-30
- 9.4.1 released on 2023-02-23
- 9.4.2 released on 2023-06-19

## 9.3.6 (LTS)

- released on 2023-04-02
- 9.3.x in maintenance mode
  - Currently no further release planned
  - Critical bug fixes only
  - No backporting of new features
  - No new features

## Development Branches (refresher)

main	9.3-backports
Future: cppTango 10.x	(9.3.x <b>LTS</b> branch)
<ul style="list-style-type: none"><li>● Requires <b>C++14</b> (at least)</li><li>● Requires <b>CMake 3.18</b></li></ul>	Does not require C++11 (Can be compiled on old compilers but might need a more recent CMake version)
<b>Not binary compatible:</b> neither with cppTango 9.3.x nor with cppTango 9.4.x	Binary compatible with cppTango 9.3.x
Gitlab CI: <ul style="list-style-type: none"><li>● Debian 11 and 12, 12-cross-32bit</li><li>● Alpine</li><li>● Ubuntu 20.04</li><li>● LLVM (<b>16</b>)/GCC (<b>13.1</b>)</li><li>● Clang-tidy, clang-analyzer</li><li>● Sanitizers (ASAN, TSAN, UBSAN)</li></ul>	Gitlab CI: <ul style="list-style-type: none"><li>● Debian 7 (c++=*), 8 (c++=*), 9 (c++=*) and 10 (c++=* and c++98) (frozen) *=distribution default</li><li>● Alpine</li><li>● GCC (8.3.0, frozen)</li></ul>
Appveyor: win32 and x64 msvc 15	Appveyor: win32 and x64 for msvc9, msvc10, msvc12, msvc14 and msvc 15

Please refer to `RELEASE_NOTES.md` in the repository!

👉 Release notes

Major improvement when compared to 9.3:

**Event subscription and publishing possible across isolated container networks**

👉 cppTango 9.4 is cloud native 😊

- ★ A regression introduced in cppTango 9.4.1 was preventing to specify an omniORB endpoint with an empty hostname. (#1055)
- ★ MacOS support has been improved (#1072,#1094),#1079,#1056)
- ★ When using `Group::write_attribute`, a bug could prevent client/server connection if the server was started after the client (#906)

Latest cppTango 9.3 LTS release:

9.3.6, released 2023-04-02

(Remember: 9.3 LTS supports ends 2027-10-02)

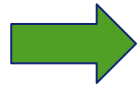
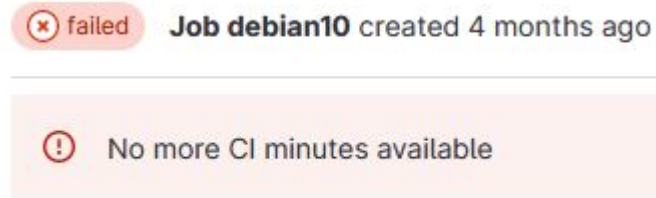


- It is now *officially* possible to extract the DEV\_STATE attribute multiple times from a DeviceAttribute object ([!943,#845](#))
- The device server programmer can now use the `DeviceImpl::get_client_ident()` method to get information on the client ([!1055,#801](#))

- ★ Event data corruption could occur with big spectrum or image attributes when a device server was exporting several devices ([!1069,#1007,#684](#))
- ★ Restore event subscriptions after device server rename and restart ([!1052,#679](#))
- ★ A crash could occur when reading a DevString RW Scalar Forwarded Attribute ([!914,#512](#))
- ★ A Segfault could occur in db API when using alternate casing for "DServer" class ([!960,#893](#))
- ★ Fix group write\_attribute connection problem when server starts after client ([!961,#906](#))
- ★ The interface event stateless subscription can now succeed as expected with non reachable device ([!860,#750](#))
- ★ Device Servers should now always exit as expected when receiving the SIGTERM signal ([!1054,#927](#))
- ★ Case sensitivity bug for class attributes property ([!1070,#1085](#))
- ★ Allow users to select C++ standard ([!928](#)). There was a regression preventing users to use c++98 standard
- ★ Use Expected omniidl When TANGO\_OMNI\_BASE Is Given ([!994,#971](#))
- ★ "Suspected bug in devapi\_pipe" ([!954,#925](#))



gitlab.com changed the rules in the way to count the CI Minutes



We switched to our own Gitlab Runners

Many thanks to all the institutes who contributed some runners

Still some performance issues to be solved

## Known issues elsewhere (a.k.a. dependencies)

We are aware of a couple of problems or defects in software that cppTango depends on:

- omniORB <= 4.2.5, <= 4.3.0
  - Defect on macOS aarch64 (aka Apple M1/M2)
  - Will be fixed in the next 4.2 and 4.3 releases
- libzmq == 4.3.3 and 4.3.4
  - Handshake timeout error with ZMTP 2\_0
  - Fix in libzmq > 4.3.4 (to be released, no release date)
- libjpeg-turbo (used since cppTango 9.4.0)
  - General quality regression with identical quality settings when compared to libjpeg
  - Not a bug! Result of the faster implementation of libjpeg-turbo.
  - Fix: Adjust your quality settings (and store them as a property or as an attribute 😊).

The next cppTango release will be

cppTango 10.0.0

To be released on 2023-10-02

Will require omniORB  $\geq 4.3$

Planned major features for 10.0.0 (details in IDLv6 talk):

- New alarm event
- Enhanced logging system with tracing of command calls
- Warning and alarm hysteresis
- New DevInfo\_6 with version information

Outlook/planned for cppTango 10.x (details in IDLv6 talk):

- New datatype DevDict
- Multi-parameter commands
- Multi-dimensional arrays

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

The screenshot shows the YouTube channel page for 'tango-controls'. The channel has 71 subscribers. The page displays a grid of video uploads, including:

- Tango Kernel Webinar #5 - Taurus - Part 2 (33 views, 1 month ago)
- Tango Kernel Webinar #5 - Taurus - Bonus during break (18 views, 1 month ago)
- Tango Kernel Webinar #5 - Taurus - Part 1 (85 views, 1 month ago)
- Tango Kernel Webinar #4: PyTango (309 views, 11 months ago)
- Tango Kernel Webinar #3 - Tango events system - ... (66 views, 1 year ago)
- Tango Kernel Webinar #3 - Tango event system (117 views, 1 year ago)

- Kernel
  - On 2<sup>nd</sup> and 4<sup>th</sup> 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, ...)
  - Technical discussions
  - Define priorities
- 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.

Top row from left to right: Reynald Bourtembourg (ESRF), Thomas Juerges (SKAO), Tomasz Madej (S2Innovations)

Bottom row from left to right: Nicolas Leclercq (ESRF), Thomas Braun (byte physics e.K.)

**Weekly meetings can be fun! Please join us.**

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

NEVER HAVE I FELT SO  
CLOSE TO ANOTHER SOUL  
AND YET SO HELPLESSLY ALONE  
AS WHEN I GOOGLE AN ERROR  
AND THERE'S ONE RESULT  
A THREAD BY SOMEONE  
WITH THE SAME PROBLEM  
AND NO ANSWER  
LAST POSTED TO IN 2003



You can also get some help from the experts on <https://www.tango-controls.org/community/slack/>





# Thank you!

## Any questions?

### Acknowledgement (in alphabetic order):

Benjamin Bertrand, Damien Lacoste, Grzegorz Kowalski, Jack Yates, Kieran Mulholland, Michal Liszcz ,  
Nicolas Leclercq, Piers Harding, Reynald Bourtembourg, Thomas Braun, Thomas Ives, Thomas Juerges,  
Tomasz Madej

and so many others for their contributions (PR, bug reports, code reviews, comments, ...)

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

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

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