

# PyTango Status Report

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Tango 2020 November status update meeting

Tuesday, 17 November 2020

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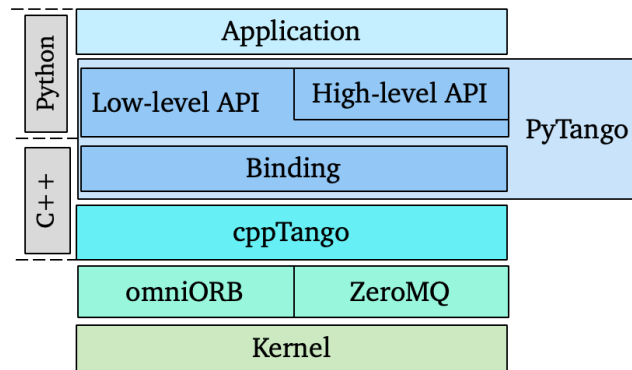
GitHub: [ajoubertza/pytango-status-updates](#)

Slides: <https://ajoubertza.github.io/pytango-status-updates/>



# PyTango? Quick reminder

- Python library
- Binding over the C++ Tango library
- ... using boost-python (future: pybind11)
- Relies on numpy
- Multi OS: Linux, Windows, Mac (with Docker...)
- Works on Python 2.7, 3.5, 3.6, 3.7, 3.8, (probably 3.9)



# Current release - 9.3.2

May 2020

- MultiDeviceTestContext
- EnsureOmniThread
- Packages:
  - Source on PyPI (works for Linux)
  - Windows wheels on PyPI: 9.3.2 broken! (use 9.3.1)
  - Conda Linux binary (pytango on tango-controls channel)

# Upcoming release - 9.3.3

## Bugfixes

- Fix convert2array for Unicode to DevVarStringArray (Py3) ([#360](#))
- Fix DeviceProxy repr/str memory leak ([#386](#))
- *WIP: Fix Windows binary wheels? ([#367](#))*
- *WIP: Fix read/write/is\_allowed not called for dynamic attribute in async mode server? ([#337](#))*

## Features/Changes

- Preserve cause of exception when getting/setting attribute in DeviceProxy ([#365](#))
- Improve mandatory + default device property error message ([#385](#))

# Upcoming release - 9.3.3

## CI improvements

- CI includes Python 3.8 ([#344](#))
- CI updated cppTango version 9.3.4rc6 => 9.3.4 ([#389](#))
- CI under Windows and dev containers updated to boost 1.73.0 ([#376](#))
- *WIP: CI runs test suite on Windows - ([#369](#))*

# Upcoming release - 9.3.3

## Development/Testing improvements

- VScode remote development container support ([#377](#))
- Add string support for MultiDeviceTestContext devices\_info class field ([#378](#))
- Add test context support for memorized attributes ([#384](#))
- WIP: Enable short-name access to TestContext devices ([#388](#))

*(was "DeviceProxy support for TANGO\_HOST with #dbase=no", but no longer using TANGO\_HOST variable)*

# Upcoming release - 9.3.3

## Not included

- Support forwarded attributes with TestContext devices (requires cppTango [#796](#)).

## Contributors - thanks!

DrewDevereux, ldoyle, reszelaz, stanislaw55, spirit1317, woutdenolf, wkitka

## When can I get it?

- Aiming for December 2020

# Issues

## Further investigation required

- DS hangs when concurrently subscribing to events and destructing DeviceProxy ([#315](#))
- Event-subscribed client segfaults if events cannot reach it ([#371](#))
- Tango client hangs when it holds stateless event subscription which constantly fails and meanwhile destroys AttributeProxy ([#302](#))
- Cleanup not performed on SIGINT/SIGTERM if thread is started before call to `tango.server.run` ([#306](#))



# Compatibility Roadmap

## PyTango and cppTango

Currently, match *major.minor* releases when compiling PyTango binding.

cppTango 9.3.x and 9.4.x not Application Binary Interface (ABI) compatible.

Planned compatibility:

cppTango	PyTango	Works?
9.3.x	9.3.x	yes
9.3.x	9.4.x	probably*
9.4.x	9.4.x	yes

\* *Tested alpha release of cppTango 9.4.x with PyTango 9.3.x. Tests passed, with only change: libtango.so.9 -> libtango.so.94.*

# pybind11

## Current status

- Code is on pytango [pybind11](#) branch.
- pybind11 branch and develop (main) branch have diverged significantly.  
Need to merge in, or rebase on, develop.

# pybind11

## Functionality

Using new tests with device server running outside test suite:

- device data
- commands
- database
- attribute proxy
- device proxy
- pipes
- pipe events
- exceptions
- \_\_ push events
- \_\_ callbacks
- \_\_ forward attributes
- \_\_ groups
- \_\_ enums

# pybind11

## PyTango standard test suite

Results:

Type of tests	# Failed	# Passed
Client	56	588
Server	222	4
Events	20	0
Async	21	0
Test Context	30	6

Most failures due to crash for any use of DeviceTestContext.

# PyTango development

## Hosting

- Repo: [github.com/tango-controls/pytango](https://github.com/tango-controls/pytango)
- Docs: [pytango.readthedocs.io](https://pytango.readthedocs.io)
- Continuous Integration: TravisCI (Conda on Ubuntu VM).
- Windows packages: AppVeyor
- Anyone want to migrate us to GitHub Actions instead?

## Issues

- Specific issues: report on [GitHub](https://github.com) - the more detail the better
- Questions: use the [TANGO Forum](https://tango-controls.github.io/forum/)

# PyTango development

## Contributing

- Please join in!
- Typical branched Git workflow. Main branch is develop
- Fork the repo, make it better, make a PR. Thanks!
- More info in [how-to-contribute](#).

# Done! Any questions?

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