

Cellular Network Infrastructure - Feature #2819

migrate to python3

01/07/2018 11:37 AM - msuraev

Status:	Resolved	Start date:	01/07/2018
Priority:	High	Due date:	
Assignee:	osmith	% Done:	100%
Category:			
Target version:			
Spec Reference:			
Description			
Python 2 is scheduled for complete deprecation by upstream in 2 years - https://pythonclock.org/ We should migrate all remaining python 2 code to python 3.			
The code in osmo-python-tests is incompatible with both python 2 and 3 as of 2f266e0cec10e32db8781a8fb788b0432c33d6d9.			
This allows to migrate code which uses it (ctrl and vty tests) to python 3. Once there're no more python 2 code depending on osmo-python-tests, we can drop support for python 2 from osmo-python-tests.			

History

#1 - 07/18/2019 05:22 AM - laforge

- Priority changed from Normal to Low

#2 - 12/01/2019 09:48 AM - laforge

- Assignee set to osmith

- Priority changed from Low to High

I believe most of this has been done meanwhile, but maybe a good idea to check the status and update this ticket, including a check list with what's still missing [if any]?

#3 - 12/04/2019 02:24 PM - osmith

- Status changed from New to In Progress

- % Done changed from 0 to 50

This should be straight forward, it seems that all scripts are already python3 compatible. So we only need to drop the python2 support.

However, I'm having problems with the debian packaging; `override_dh_auto_install` in `debian/control` does not appear to be working. When building the package, it still calls `setup.py` with "python" instead of "python3".

#4 - 12/05/2019 12:49 PM - osmith

- Checklist item [] `osmo-python-tests` added

- Checklist item [] `osmo-gsm-manuals` added

- % Done changed from 50 to 60

Patch submitted for `osmo-python-tests`: <https://gerrit.osmocom.org/c/python/osmo-python-tests/+16500>

`osmo-gsm-manuals` needs to be fixed too, it depends on `python-pychart` at least (instead of `python3-pychart`).

#5 - 12/05/2019 01:37 PM - osmith

`osmo-gsm-manuals` needs to be fixed too, it depends on `python-pychart` at least (instead of `python3-pychart`).

Turns out, that there is no `python3-pychart` package. Upstream of `pychart` seems to be dead, and nobody ported it to python3.

The good news is, that we are barely using it in the manuals. The only place I can find, where we use it, is in the osmux reference, the chart for "Evaluation: Expected traffic savings". Furthermore it seems that generating this chart was broken for some time - the pdf only shows the text "osmux-reference__8.png" where it should be.

So I will create an svg from the image once, and then drop the python2 dependency.

#6 - 12/05/2019 01:39 PM - pespin

Hi, with regards to osmux chart being broken see <https://osmocom.org/issues/4193>

#7 - 12/05/2019 03:45 PM - osmith

- Checklist item [] docker image used with jenkins scripts (osmo-ci) added
- % Done changed from 60 to 90

Hi, with regards to osmux chart being broken see <https://osmocom.org/issues/4193>

Thanks for the pointer! As side-effect, we can close this issue once the patches are merged.

Patches submitted:

<https://gerrit.osmocom.org/q/topic:drop-py2>

#8 - 12/06/2019 03:14 PM - osmith

- Checklist item [x] osmo-gsm-manuals set to Done

All patches were merged, but osmo-bsc master started failing.

I was under the impression, that all previous scripts in osmo-python-tests were already working with python 3. But as it turns out, this isn't true.

So I've started to write fixes for the python3 issues, and found that besides a few small fixes in osmo-python-tests, there is also a vty_test_runner.py file in various osmo-* repositories, that is still depending on python2. Clearly this isn't a tiny fix that could be fast-tracked through gerrit to make everything work again, but rather multiple small fixes that should be properly reviewed.

Therefore I've reverted the osmo-ci (docker) and osmo-python-tests patches, so master works again and I can finish the python2 removal next week.

<https://gerrit.osmocom.org/c/osmo-ci/+16513>

<https://gerrit.osmocom.org/c/python/osmo-python-tests/+16512>

#9 - 12/06/2019 03:14 PM - osmith

- % Done changed from 90 to 70

#10 - 12/09/2019 02:41 PM - osmith

I'm going to test all repositories, that have ./configure --enable-external-tests, with the python3 version, and fix the code as necessary where it breaks.

So far I've adjusted osmo-python-tests.git and osmo-bsc.git, so the python3 version of the tests for osmo-bsc.git are passing successfully.

WIP branches (of both repositories): osmith/fix-python3

#11 - 12/10/2019 02:47 PM - osmith

- % Done changed from 70 to 80

I've fixed up and tested:

- osmo-bsc
- openbsc
- libosmo-sccp
- osmo-sgsn
- osmo-msc
- osmo-sip-connector
- osmo-mgw
- osmo-hlr
- osmo-pcap (found that external tests are not running, see [#4317](#))

Remaining repositories with --enable-external-tests (I will continue there tomorrow):

- libosmocore

#12 - 12/11/2019 11:38 AM - osmith

- % Done changed from 80 to 90

I've done more fixes, tested that everything builds on OBS (own namespace), found more bugs, fixed those, then submitted the patches.

Almost all patches depend on this osmo-python-tests change:

<https://gerrit.osmocom.org/c/python/osmo-python-tests/+16540>

All other patches should be merged quickly afterwards, as soon as the jenkins slaves have installed the new osmo-python-tests:

<https://gerrit.osmocom.org/q/topic:drop-py2>

Except for this osmo-ci patch, which will drop python2 from the docker image. This can be merged at a later point, and I can do some additional testing with repositories that are not using osmo-python-tests, as described in the gerrit comment. I've set the patch to WIP:

<https://gerrit.osmocom.org/c/osmo-ci/+16554>

#13 - 12/12/2019 01:11 PM - osmith

- Checklist item changed from osmo-python-tests to osmo-python-tests (and related changed in osmo-* repos using external tests)

Checklist item [x] osmo-python-tests (and related changed in osmo-* repos using external tests) set to Done

Everything merged but the "drop python2" patch for osmo-ci.git. As discussed, I'll do this in the new year in case of potential fallout.

#14 - 01/13/2020 09:29 AM - osmith

- Checklist item [x] docker image used with jenkins scripts (osmo-ci) set to Done

- % Done changed from 90 to 100

#15 - 01/13/2020 09:30 AM - osmith

- Status changed from In Progress to Resolved