Python3 support and other developments
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- Python3 support
- BeamlineTest
- SimpleHTML
- Queued autoprocessing
- Other developments

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Python 3 support

- Initiated and major work done by Douglas Bezerra Beniz (LNLS).
- Support and interest to expand capacities of MXCuBE.
- Main work done in HardwareRepository. Almost no feedback from other sites. Does it work?
- Minor changes to hardware objects and Qt4 Bricks.
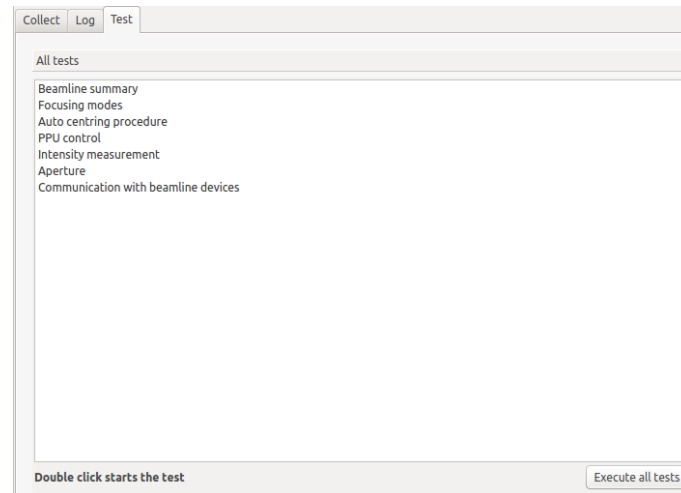- Important is to ensure Python2.x compatibility.
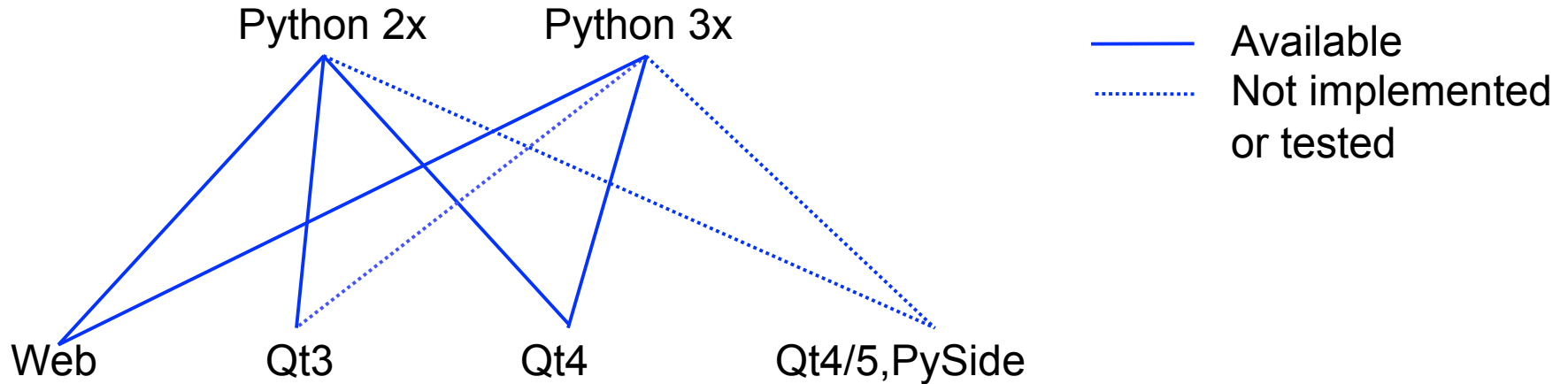
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BeamlineTest

- There was a need to include test procedures.

- EMBL specific EMBLBeamlineTest.

- Available methods defined in the xml and in the hardware object.

- If method do not exists test will fail.

- Html and pdf as summary is generated.

- Possible to run single test or all test suite.

```
<available_tests>["ppu", "aperture", "autocentring", "summary", "com", "focusing", "measure_intensity"]</available_tests>
<startup_tests>["ppu", "focusing", "measure_intensity"]</startup_tests>
```

```
TEST_DICT = {"summary": "Beamline summary",
             "com": "Communication with beamline devices",
             "ppu": "PPU control",
             "focusing": "Focusing modes",
             "aperture": "Aperture",
             "alignbeam": "Align beam position",
             "attenuators": "Attenuators",
             "autocentring": "Auto centring procedure",
             "measure_intensity": "Intensity measurement",
             "graph": "Graph",
             "sc_stats": "Sample changer statistics"}
```

Collect | Log | **Test**

All tests

```
Beamline summary
Focusing modes
Auto centring procedure
PPU control
Intensity measurement
Aperture
Communication with beamline devices
```

Double click starts the test   Execute all tests

BeamlineTest

- Html page displayed in MXCuBE

Pdf example from P13 and html form P14

SimpleHTML

- Used by ParallelProcessing to generate html report for MeshScan.

- Used also by BeamlineTest.

- Atomic methods to add text, image, headers, tables to the static html page.

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Queued autoprocessing

- Autoprocessing takes more time than data collection.
- Previous job submission skipped some jobs when running many collections in the row.
- A FIFO stack introduced to queue autoprocessing.

MXCuBE (p13)

FIFO

EDNA

ispyb

MXCuBE (p14)

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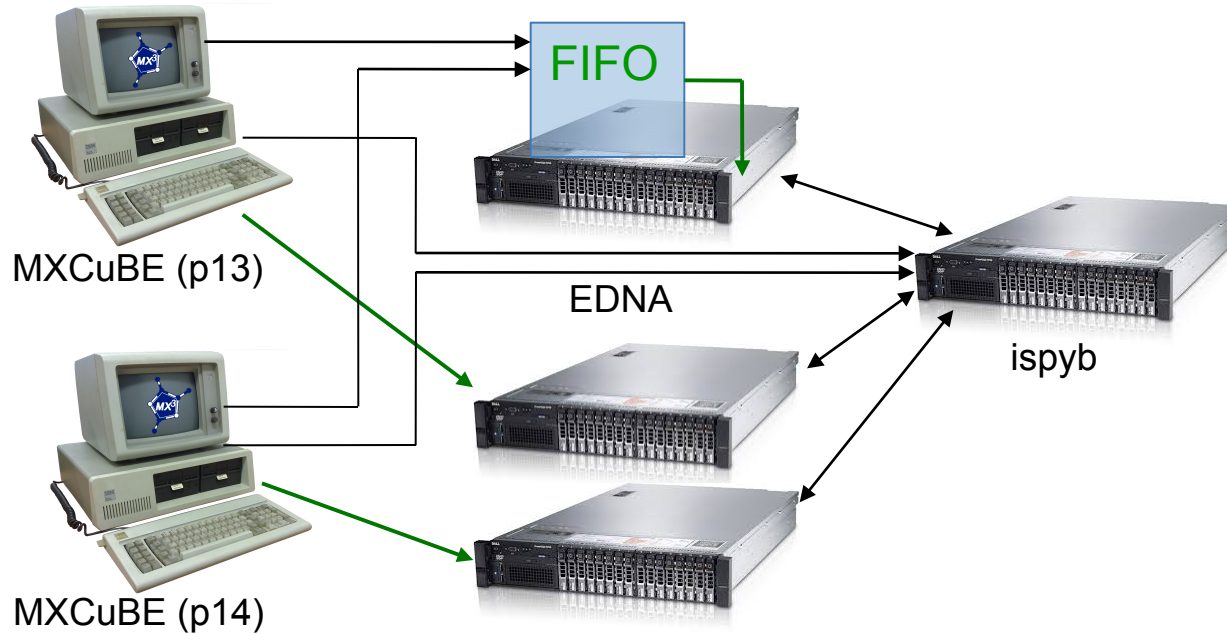
Other developments

- Added possibility to define log template with command line argument –logTemplate.

```
set LOG_TEMPLATE    = "%(asctime)s|%(name)-5s|%(levelname)-7s|%(message)s_/%(module)s/"
```

```
python ${MXCUBE_ROOT}/BlissFramework/Qt4_startGUI.py ${MXCUBE_GUI_FILE} --hardwareRepository=${MXCUBE_XML
} --hardwareObjectsDirs=${MXCUBE_HWOBJ}/EMBL:${MXCUBE_HWOBJ}/sample_changer --bricksDirs=${MXCUBE_BRICKS}
 --logTemplate=${LOG_TEMPLATE} $argv
```

```
/home/karpics/beamlinesw/trunk/beamline/simulation/app/mxcube/HardwareObjects.xml
================================================================
2016-06-22 17:49:28,040|root |INFO   |Starting MXCuBE_/Qt4_startGUI/
2016-06-22 17:49:28,040|root |INFO   |Qt4 GUI file: /home/karpics/beamlinesw/trunk/beamline/simulation/app
2016-06-22 17:49:28,040|root |INFO   |Hardware repository: /home/karpics/beamlinesw/trunk/beamline/simulat
----------------------------------------------------------------
2016-06-22 17:49:28,055|root |INFO   |Connected to Hardware Repository server ['/home/karpics/beamlinesw/t
pervisor/
2016-06-22 17:49:28,207|root |WARNING|Could not find autocentring library, automatic centring is disabled_
2016-06-22 17:49:28,211|HWR  |ERROR  |Cannot load Hardware Object "/eh1/diff-kappa_phi" : file not found._
2016-06-22 17:49:28,211|HWR  |WARNING|BeamInfo hwobj is not defined_/GenericDiffractometer/
2016-06-22 17:49:28,211|HWR  |DEBUG  |Adding phi motor to centring motors_/GenericDiffractometer/
2016-06-22 17:49:28,212|HWR  |WARNING|Motor phiz listed in the centring motor list, but not initalized_/Ge
2016-06-22 17:49:28,212|HWR  |WARNING|Motor phiy listed in the centring motor list, but not initalized_/Ge
2016-06-22 17:49:28,212|HWR  |WARNING|Motor sampx listed in the centring motor list, but not initalized_/G
2016-06-22 17:49:28,212|HWR  |WARNING|Motor sampy listed in the centring motor list, but not initalized_/G
2016-06-22 17:49:28,212|HWR  |DEBUG  |Adding kappa motor to centring motors_/GenericDiffractometer/
2016-06-22 17:49:28,212|HWR  |WARNING|Motor kappa_phi listed in the centring motor list, but not initalize
2016-06-22 17:49:28,212|HWR  |WARNING|Motor beam_x listed in the centring motor list, but not initalized_/
2016-06-22 17:49:28,212|HWR  |WARNING|Motor beam_y listed in the centring motor list, but not initalized_/
2016-06-22 17:49:28,213|HWR  |WARNING|Diffractometer: Sample Changer is not defined_/GenericDiffractometer
2016-06-22 17:49:28,236|HWR  |DEBUG  |GraphicsManager: Loading graphics from configuration file /tmp/mxcub
2016-06-22 17:49:28,970|HWR  |DEBUG  |Attaching TINE channel: /TEST/collection/resolution state2_/Tine/
2016-06-22 17:49:28,971|HWR  |DEBUG  |Attaching TINE channel: /TEST/collection/resolution position_/Tine/
```

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Thank you for your attention!