

MXCuBE Developers meeting, 12/4/2018

Present (virtually): Jordi Andreu, Michael Hellmig, Gleb Bourenkov, Ivars Karpics, Roberto, Milan Prica, Martin Savko, Marcus Oscarsson, Antonia Beteva, Pavel Palau, Ana Zeri, James Piton, Lais do Carmo, Peter Keller, Rasmus Fogh.

1. Minutes of last meeting, and matters arising

The minutes were approved.

2. Welcome to LNLS Brasil, status, and questions.

The meeting welcomes the group from LNLS, who have been part of MXCuBE for 18 months. LNLS is working on building the new 4th generation Sirius synchrotron. MXCuBE is in production use on the existing UVX synchrotron, and users are very happy (!). The main MXCuBE related activity is developing the EPICS interface, which will be mostly used internally within LNLS. LNLS are still unsure of the requirements for membership, not having seen the MOU - which is still in preparation (!)

There has been some problems after a recent shift to CentOS on the control computer. MS is using both CentOS 7.03 and Ubuntu 16 on PX1/PX2, and should be able to advise.

The MXCuBE installation was originally the Qt3 version, ported from ESRF. Douglas Beniz changed over to the Qt4 version, but the exact branch and origin could not be specified at the meeting (Douglas having since left LNLS).

3. MXCuBE refactoring

AB/MO introduced the refactoring issue to the new participants. The primary goal is to produce an API that can be used for the Qt and Web UIs both to access the underlying code layers. MO, MS, and IK have all contributed documents to start the discussion.

The user will (e.g.) want to set or query a beam size without having to care about apertures, slits, etc. The interface is taking the form of a coarse-grained set of function signatures (rather than e.g. an object hierarchy); in MXCuBE3 there is a single layer of functions, but the flatness (or otherwise) of the final result can be decided later. It is agreed that for now the effort should be on making a minimal interface that covers the needs of the UI, and that extension to more detailed interactions or to the needs of e.g. workflow software should be left till later. PK raised the point that there might be a need for including a more scientific view of the process, e.g. for data processing and MS agreed that e.g. specifications for setting up experiments seemed to be missing; it was agreed that PK should compare the interface, as it is created, with the GPhL abstract beamline interface. GB agreed that we should definitely start with the interface to the UI(s), or a

part of them to start with, and underscored that the specification would have to be very precise and detailed.

It was agreed that the first step should be to make a repository and fill it with an interface description, starting from a combination of the contributions of MS and MO (**ACTION:** MO, MS). The documents should be split into separate files on the lines of the core components.

This should be done in a github repository, which provides mechanisms for pull requests, issues, review etc. PK would circulate a document listing the alternative markup formats supported by github, and people would decide on one; something simple and known to the participants being the most obvious choice (Markdown?).

4. Any Other Business

MO and AB informs that MXCuBE 3.0.0.b3 is now in production use on ID 29 and ID23-2, and under installation at MASSIF-1 and MASSIF-3. A full release is expected in May, and collaborators are advised that MXCuBE3 is no longer 'future' but 'present', if they want to try it.

RHF asks for feedback on his increased activity of merging proposed pull requests. The need and usefulness of an introductory document to describe procedures and coding standards gets a mildly positive reception, but there are no volunteers to write one. The main principle is left as 'Do not do onto others what you do not want others to do onto you'. It is discussed whether improvement of the Abstract Class framework is still appropriate, and agreed that these changes are useful and positive, so it is welcome if people find the time to contribute them.

The organisation of the ISPyB/MXCuBE meeting is discussed. A period of 1.5-2 days is suggested as appropriate for the MXCuBE part. There are requests for doing the MXCuBE part first, as some people cannot make the last day, for not starting the meeting before Tuesday to keep Monday free for travelling, and for considering the need for ISPyB-MXCuBE coordination in the organisation.

Next Meeting

The next meeting is planned for the week of the 24th of May, details to be settled by Doodle poll (**ACTION:** RHF). RHF expresses the hope that the UI specification can progress significantly before then.