

Instrument control feedback

General discussion

Some control has to be available during cold commissioning.

« Must-have » parts have to be commissioned also => takes time. Users operations features have to be available during hot commissioning.

DMSC and diffraction software (J. Taylor)

Responsible for: control, acquisition, correction, visualization, analysis ... plus data center (Lund and CPH) + user program support ...

Timeline for instrument requirement needed => what is needed for cold/hot commissioning ? what can wait ?

40 persons at the moment. 60 persons estimated for operations to maintain the facility and perform additional scope.

A meeting per instrument class.

DMSC construction ends in 2020 ... we end in 2021/2022.

1 instrument = 1 software project with milestones, requirements, timeline.

Under development, 1 person at DMSC per project (contact point)

Update meeting every 6 months

If something is useless: say it !

Already decided: controls and data acquisition, centralizer facility (Lund and CPH center), Mantid, Nicos for exp. control and construction scope.

31/12/19: core data reduction, core inst. control ready == end of construction

01/01/20: instrument specific stuff

1. BEER is the only of its class. Some core requirements are indeed instrument specific ?
 1. Not core (global core), not ready by end of 19.
 2. Will be developed in 2020.
 3. Needs to be listed somewhere to be ready ASAP
2. What defines common requirements ?
 1. Store events, visualize them = core
 2. Powder diffraction workflow = instrument class specific = not in scope.
3. Data reduction: some users are using commercial software. They need their data in the correct format, or an interface.
 1. This is for data analysis ?
4. Core requirements => how did ISIS and SNS worked ?
 1. Mantid project started this way. Core and then specific. (at ISIS)
 2. SNS was a mess => do not use them as an example.
 3. Mantid has to be updated/upgraded first to accept high data rate, new detectors geometry, ... that is the first things to do !

75% of the mantid development are on « improving performance » => scale it for distributed structure.

Timeline for the new Mantid framework: middle of next year.

User experience:

Remote access: how to ?

Automatic stuff (reduction, analysis, visualization) ?

1. Experience should be the same on all instrument. Multiple project goes against that. Keep it in mind (homogeneity is important).
 1. Only one contact person is bad, we need to discuss with everyone involved.
 2. There will be differences between instruments (HEIMDALL, DREAM for example).
 3. User interface will be the same, behind it will be different.

NICOS presentation

Comes from FRM-II

Test beamline at Berlin => V20

NICOS deployed on V20 => works well so far, users like it and its reliable.

Not on EPICS yet but interfaces have been made already.

Do we need a link with data reduction ? analysis software ?

Easy integration of new SE, can connect to external software (Labview).

Logbook function included => pictures, screenshot. Can be shared with others.

Data reduction: work has started. First patterns acquired.

1. How was the interface between NICOS and V20 done ?
 1. Collaboration between ESS and Berlin personnel.
 2. ESS use it as a test beamline for their technology
 3. They have control of it.
2. Beamline V20 opened to in-kind partners
 1. If you have ideas you want to test: come to us.

Back to NICOS ...

Started in 2009, works on 20 instruments !

Python scripting and CLI available.

GUI available of course.

Dry run (simulation mode)

Single crystal specific: *hkl* and reciprocal space implemented.

POWTEX: work to be done as it will be the first instrument in events mode (like at ESS).

1. DMSC is responsible for the interface and interaction with hardware. ICS is

- responsible for the integration in the EPICS network. If it is integrated, it will be usable/selectable by users.
2. NICOS is not limited to EPICS.