**3/2/2017 NID-DMSC integration meeting**

Present: Ken, Jon, Andrew, Morten Christensen, Pascale, Esko, Wojtek, Jonas Nielsen, Petra, Margit, Brian, Torben, Markus, Peter W, Celine, Piotr, Rasmus, Thomas Rod, Werner, Simon, Owen Arnold, Tobias Richter, Hanna, Michael Wedel

Actions:

* Discuss and set who represents each instrument from DMSC (DMSC JT)
* Put list of expertise of DMSC staff as contacts for control, reduction analysis (DMSC)
* Discuss with CCs the software plan that will be presented at the software workshops (CCs to arrange before workshops)
* Organise a detector readout session with NID and DG (TSR)

Total DMSC construction budget: 20MEu

IK packages from STFC and PSI are managed remotely, rather than seconding staff.

Pushed into operations: full scope compute solution, instrument-specific data reduction and control, modelling and simulation based data analysis, user office software development

Data analysis collaborations: inelastic scattering (partners ISIS & PSI), diffraction (ILL: fullprof)

Software development strategy:

* Minimize technical debt
* Collaborate with other facilities on common frameworks
* Make best use of available resources
* Feature-complete core experiment control / DAQ framework
* Minimize unknowns by prototyping (WFM, live reduction and analysis pipeline)
* Fully functional software for some instrument classes: prioritise early instruments
* No development of software that is going to be used: need good requirements & specs, need good project management

Already decided:

* Mantid for reduction and visualization
* NICOS2 core experimental control
* SASview
* Born again for reflectometry
* Steca-2 for engineering

It may be that there are insufficient resources in DMSC for all software needs. Instrument projects can supplement with resources from their own budget.

There were some questions regarding the priority for coupling of control/DAQ/reduction and analysis, resulting in agreement that it is important to have at least a metric available to you at the experiment to inform you about the scientific quality of your data. What metric that is and what programme is used for that (publication-grade or not) is very much technique dependent.

The importance of the user office was stressed. DMSC should seek to find a budget to get that accelerated over the current plan. In line with the presented strategy instrument scientists stressed that instrument (specific) control and reduction to be prioritized before analysis.

First instruments start user operation on 2023-08-20 12:00.

Experiment control and data acquisition systems are required for cold commissioning. Instruments will have to come up with individual milestones for their needs. Data reduction/visualization and analysis is most likely only required during hot commissioning.

Software workshops will agree on minimum requirements for these milestones. This should get us back to having integrated schedules in P6.

Requirements should be owned by the instrument teams, unless the requirements are shared between multiple teams. At that point they can sit with a class coordinator.

Requirements shall have a defined owner

Requirements shall define a completion criteria.

Instrument teams should not be confused by DMSC budgeting, i.e. the distinction between construction funding and pre-operations. They should only be interested whether software is delivered in time for their milestones.

DMSC will nominate one main DMSC contact per instrument. There will also be a person nominated per DMSC main area.

NID-DMSC interface needs to be formally managed.

The need for as much commonality as possible for detector readout was discussed, in so far as 15 completely separate systems would make support and maintainance difficult for the DM group. A workshop will be organized.

Workshops:

SANS dates not yet set

Reflectometry 21/3

Spectroscopy dates not yet set

Imaging (ODIN, BEER, HEIMDAL) 26-27/4

Diffraction (all diffraction except NMX) dates not yet set

NMX dates not yet set

At the workshops DMSC will present the boundary conditions and existing plans for acquisition, control, reduction, visualization and analysis. All areas should be covered at the workshop.

Expected output of workshops:

* List of requirements with owners
* schedule with milestones for each instrument for key aspects that relate to key project phases, installation , cold commissioning hot commissioning and early science and finally full user operations.

Invite David Brodrick (ICS) might be a good idea.

There needs to be an integrated plan across construction and operations funding, instrument project and DMSC funding. Less speak of “excluded scope”.

We should choose an instrument to create a software project template: CSPEC and MAGIC

Next full-day meeting in June: presentations of output of workshops. Same participants as today.

Need more focused instrument-class meetings, for discussion in workshops.

Need meetings between workshop organizers and DMSC contact people, one each for control, reduction and analysis. They will prepare the plan for presentation at the workshop: requirements, schedule with milestones.