

SuperCDMS needs

Currently

Currently SuperCDMS is taking data in Soudan, Minnesota. Commissioning soon done. Then data taking for a couple of years.

Goals:

- Match Xenon100 DM limit
- Prove that the iZIP design works and can be used for SNOLAB

SLAC CDMS activities:

- MC production using the SRS pipeline:
 - 100 cores allocated to CDMS:
 - Routinely get a lot more and depend on that (added 02.17.2012: "... depend on spikes of >>100 cores". The DC allocation of 100 is sufficient)
 - Revived capability to run at SMU (1200-1500 cores)
 - SLAC CDMS person running the pipeline is moving to DOE in April:
 - Working on streamlining the production process (Detector MC code).
 - Goal is to have (some) external collaborators being able to run it. Along with (some) SLAC group members.
- MC data stored at SLAC:
 - Trying to introduce the Data Catalog
 - Final MC data copied over to local institutions
 - Large intermediate steps (to save CPU in case of reprocessings) stay at SLAC
- May store Soudan data at SLAC:
 - Size determined by calibration samples. TBD.
- To ROOT or to Matlab:
 - Note that while data is processed and stored in Root format, it's mostly analyzed using Matlab down at the Stanford campus CDMS analysis cluster.
 - Currently too expensive for SLAC as we don't get the edu discount (\$5k vs \$100 for a single general licence). We currently have a few individual licences.
 - No reason this has to be like this (Fermilab has edu discount). General Matlab licences at SLAC would be great. Not heard back from Teri about this,
- SCA support:
 - Tiny fraction of Tony for the occasional pipeline debugging (like running at SMU)

SNOLAB

There is a SNOLAB Software R&D Working Group with me as coordinator.

- Will start up when Soudan commissioning is done i.e. soon.
- Main goals are to look at scalability and automation (many things are currently being done by hand - may not scale well with many detectors)

A lot of the work will be "internal" i.e. evaluate what we have as there is a lot of legacy code/habits.

In addition, as CDMS is a small experiment with few software professionals and with modest computing and software needs I think it makes sense to avoid as much as possible developing new things and instead see what is available (from SCA) and adapt anything useful/needed. For manpower needs, this means continuous internal work and more limited expert help from SCA (installing a database or help to adapt a build tool example).

SCA related things to consider:

- Software releases & build tools (but very modest needs)
- Data storage (Data catalog)
- Data skimmer
- Data processing (test facilities + SNOLAB) (pipeline)
- Analysis cluster: Use SLAC? Hybrid solution with SLAC (data storage + skimmer) + Campus
- Databases: Conditions, calibrations?
- Collaboration tools

In short:

- **Will be happy if we can adapt many of the existing SCA tools. Main 'worry' is therefore long term SCA support of these tools (and internal acceptance of these).**