Software and Computing Status:

a snapshot

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Overview

▸ Last reported in October 2014:

https://indico.bnl.gov/conferenceDisplay.py?confId=921, covering

  ▸ Software infrastructure

  ▸ Distributed computing

  ▸ Geometry

  ▸ Collaborative Tools

  ▸ 35t/DAQ

  ▸ ...please visit the link for more info.

▸ These slides are just a quick heads-up:

  ▸ Brief summary of S&C in 2014

  ▸ Personnel update

  ▸ Important milestones for the remaining weeks of the year

  ▸ Forum for Computational Excellence

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Core Software Infrastructure

- We lobbied FNAL to get support for this crucial work area and thanks to Liz agreeing to help there are now three people working on CMake/worch-based "purified" method for building core elements of the framework:
  - Brett Viren (BNL)
  - Ben Morgan (Warwick)
  - Patrick Gartung (FNAL)
- This is an A-team and real progress is being made, with "art" largely done and "purification" process under way for building LArSoft.
- The goal, as before, is to achieve a reliable and efficient way to build from source on any site without assumption about its configuration. This it within reach now.
- David Adams has joined as the person responsible for release mgt.
- Steve Timm replaced Mike Kirby as the Infrastructure co-manager. He is an experiences professional with an excellent record who I personally know from previous work. This is a great addition to the team. Experience with the Grid, VM, CVMFS etc.

Situation at FNAL

▸ To make this work really pay off we need acceptance from FNAL mgt and from the developer team, of the actual tools and other materials we have developed, and inclusion of these into the official code base - otherwise the latter may have to be split/forked for a while which is undesriable.

▸ Our plan for the last weeks of the year was to have a meeting, or a workshop at FNAL where we would present the status of this project and propose actions as outlined above.

▸ There have been organizational changes and reshuffling at FNAL including the computing sector, and we now have to operate in a different environment. So far it's unclear if this environment is more cooperative than before.

▸ But right now the plan remains the same (see next slide).

Game plan for the rest of 2014

- "White Paper" to be prepared by Brett and Ben, to inform our colleagues in LBNE and importantly FNAL mgt about the issues enountered while using the pre-existing build tools. Without such document, in my experience, we are going in circles with same people asking pretty much same questions, so we need this in writing.

- The prospect of a wider and more international collaboration should bolster our case.

- We need to meet the new sector head at FNAL, Panagiotis Spentzouris. The decision is in his hands.

- With that in mind, I'll travel to FNAL in the second week of December (and also attend the 2nd IIEB meeting).

- Regarding the fate of our proposal, I'll provide an official record to the Collaboration and the Spokespeople.

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Data Handling

▸ We got initial support of our ideas regarding utilizing xrootd, from SLAC - Amber - (which is where xrootd is being developed) - very good news. We are working with experienced personnel who is involved in ATLAS xrootd federation.

▸ Having a relatively simple architecture along the lines proposed by Brett a while ago seems feasible.

▸ Ultimately, with a "global redirector", there will be a largely transparent way to access and share LBNE data among institutions globally - important for the "internationalization" effort.

▸ I'll participate in the xrootd workshop in Jan.2015 to discuss these issues with most relevant people in the field. I will need to fill the role of Distributed Data mgt for a while.

▸ Still trying to identify ways to productively utilize the already existing link from FNAL to BNL.

DAQ/35t

▸ Conditions DB and other DB situation is not 100% clear, we are trying to get information from Jon Paley.

▸ Actively participating in the data handling discussions.

▸ Utilizing our new Mediawiki at BNL to collect and organize information which was floating around before.

▸ Panagiotis met with Liz, Tom and Michelle this past Friday to discuss the software needs of the 35t test.

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Miscellanea

▸ Progress with Geometry Description (GGD)

▸ Very useful Mediawiki created by Brett and I at BNL, a real boost to our Collaborative Tools:

  ▸ https://lbne.bnl.gov/wiki/Main_Page

▸ Contributions to the Forum for Computational Excellence (DOE Initiative)- a paper is due in a few weeks. Brett is a co-lead of the Tools and Libaries Group and I am the lead writer for one of the sections.

▸ A response to the Final Report for the May review of S&C is due in a few days.

▸ Work on the Computing Model continues but at a lower proirity with "reformulation" under way.

▸ There is a hiatus in our use of OSG resources on the Grid, our new member Steve Timm has agreed to look into that, at least as a testing and validation tool.

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