HSF Packaging Group: Introduction / JLab Summary

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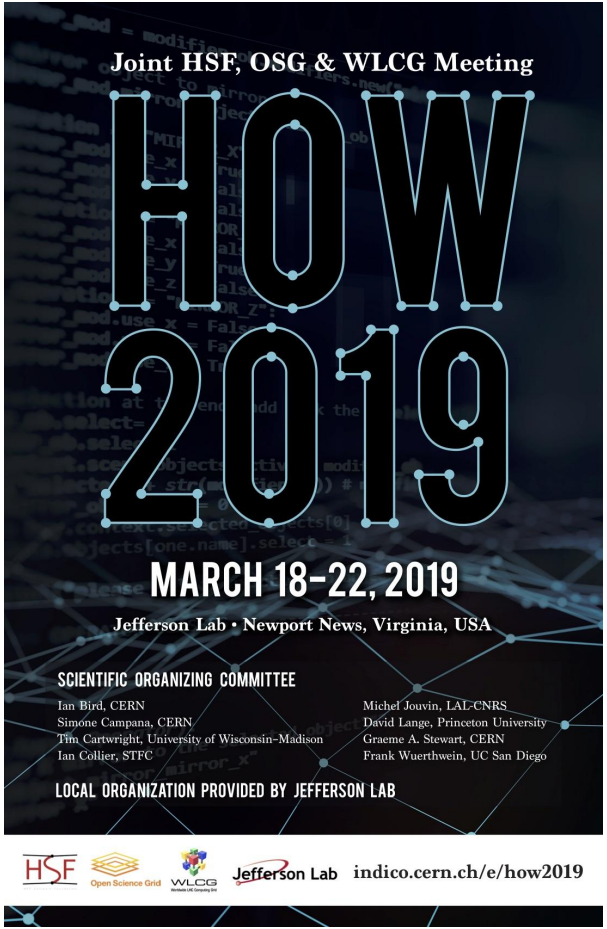
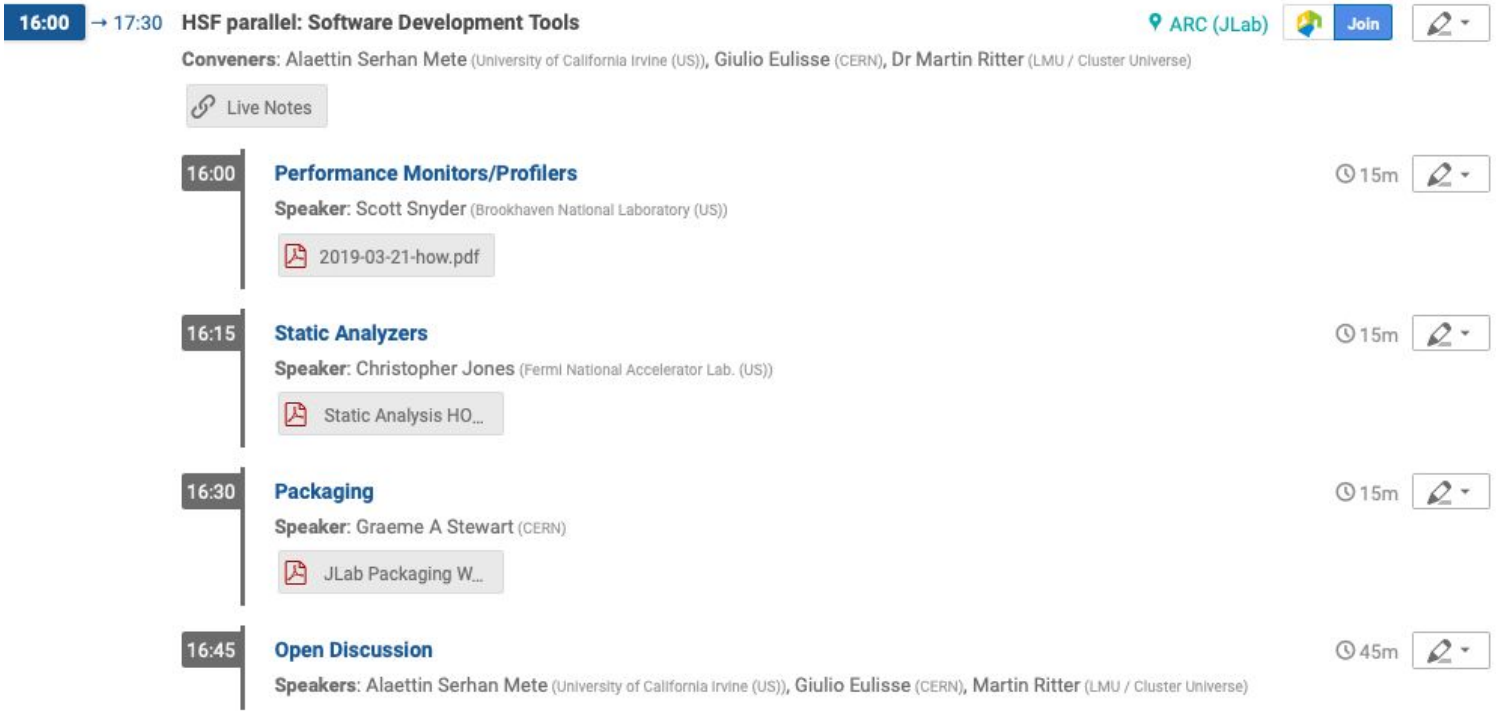
HOW2019 Workshop

- HSF/OSG/WLCG Workshop was last week
  - https://indico.cern.ch/event/759388/
  - 246 people came (!)
- Wide ranging workshop on the advances needed in software and computing in the next decade
  - Opportunity to reach discuss with HEP and non-HEP communities
  - Full set of HSF sessions (Reco, Analysis, Sim)
  - Most HSF sessions ran as plenary for our community (i.e. no clash with other HSF sessions)



Tools and Packaging



Also of interest...

- PyHEP session included:
  - Talk from Jonathan Helmus of Anaconda that covered Conda packaging tool
  - Talk from Henry Fredrick Schreiner on the new Conda ROOT package

In particular having a few Conda experts in the audience was really nice!

Packaging Talk [link]

- Raison d’être of the group
- Activities
  - Things we did last year
  - What we hope to manage this year
- Packaging Tool Projects
  - Conda
  - Nix
  - Spack

Discussion

- There was a lot of discussion (plus the presentation >30 minutes)
- Much of it ranged over topics that, I believe, in the group we decided on already
  - But this is fine - it airs ideas in a wider audience
- As with most HSF meetings we kept Live Notes (thanks to Martin!) that are quite detailed

Key Points I

- Conda
  - Yes, it can lock versions quite strictly - this would make it suitable for a production release that then freezes, apart from bug fixes
  - Issues to look at: release management, deployment to CVMFS
- One tool or a suite?
  - Open question - requirements are different for librarians and analysts, even if a single tool would concentrate expertise, so is desirable
- Why do Spack and Conda both exist?
  - A lot of history here - no tool did what Spack does when it started development; Conda only recently completely rewritten and targets a very wide audience of end users

Key Points II

- Can we adapt package recipes?
  - Spack - trivial command line declaration of options; use yaml files for more “permanent” changes
  - Conda - recipe parameters are possible
- What about interactions with the underlying system? (HepOSLibs)
  - HepOSLibs and The Great RPATH debate!
  - Reprised the very deep or very shallow discussion
  - Package group strongly supported RPATH as it cleanly separates the different environments (common to Nix, Spack, Gentoo Prefix, Conda)
  - ATLAS workflow relies on LD_LIBRARY_PATH to override for local rebuilds, RPATH less flexible (use case - changing a deep core library, but pre-testing a high level workflow)
    - Use LD_PRELOAD if you need to, for these cases (if it breaks you keep both pieces)

The Rest of the Meeting

- SuperNEMO progress from Ben
- Spack ROOT matters from Javier, Chris and Patrick

- Next meeting in 4 weeks would be 24 April
  - This is school holidays in France and Geneva
  - However, a delay by one week is 1 May, which is probably worse...