Software Workflows and Responsibilities

Alex Olivas

Simulation Projects

ppc - **P**hoton **P**ropgation **C**ode (D. Chirkin)
- Original photon propagation project
- Written in CUDA
- Ported to OpenCL (w/ recent CUDA resurrection)
- Actively developed in calibration group to generate new ice models.

clsim - Open**CL Sim**ulation (C. Kopper)
- Originally developed for Antares
- OpenCL provided better hardware portability
- Recent CUDA optimized impl (Thanks NVIDIA!)
- Includes GEANT integration
- Photon saving (makes cool pictures)

Software Workflow - Proposal

Stick with the two-project model.

Seasonal sync-ups.

- Aim for feature-completeness.
- Dima and clsim maintainer gives talks on developments - hopefully relying heavily on solid documentation.
- Each developer aims to implement features before the next release
- Continued cross-validation with benchmarks to ensure minimal algorithmic divergence - Make results of these cross-checks part of the release notes.

Discussion...

Scope & goals for Monday

- Define scope of software packages and required features
  - Merging into single piece of software did not find support
  - Is PPC used in physics simulation, does it need to support Geant/Snowstorm…?
  - Are LED simulations / ice fitting done in clSim?

- Identify maintainers and reviewing procedures
  - For each feature to be ported the implementing software presents the rational, implementation at the software call. The adapting software presents their adaptation a few weeks later, after mutual code review.
  - Minutes and summary of today's discussion to be presented at software call