CCE PPS Weekly Meeting

13 October 2023 Agenda: https://indico.fnal.gov/event/55574/
Link to previous meeting notes: **230929 - CCE PPS Weekly Meeting**
Attendance:

News and Reminders

- DOE Review Followup
  - institutes submit FWP by end of Sept. **(done)**
  - preamble ready sometime next week **(done)**
  - Updating the report is not a priority (may just do it for ourselves)
  - Ongoing discussion about where celeritas fits in and what to do if we have extra funding; nothing definitive yet.

- Closing out CCE-1-PPS
  - overleaf: https://www.overleaf.com/1144991646fjrvgmzycwxs
  - **Goal**: complete the report by **end of November**

- ACAT 2024
  - Mar 10-15 (Stony Brook NY)

- CCE All-Hands Meeting
  - December 18-19, 2023, ANL
  - Main topic is to plan for CCE Phase 2, at least for FY24.

- CONFAB workshop:https://sites.google.com/es.net/confab23/home
  - IRI related
  - Important for HEP-CCE to be engaged with the discussion and planning
  - Should listen to what they have to say (read their whitepapers)
  - HEP-CCE should write own whitepaper
  - HPDF: should provide our vision for High Performance Data Facility (location TBD)

- NERSC-10 update: https://drive.google.com/file/d/1jcvdTOwYzbjfhRubWOYXrub65Sh52fvq/view
  - We should write a NESAP proposal, especially for the PAW activities
  - Salman will check with Jack to see if it is too late to submit a NESAP proposal this year

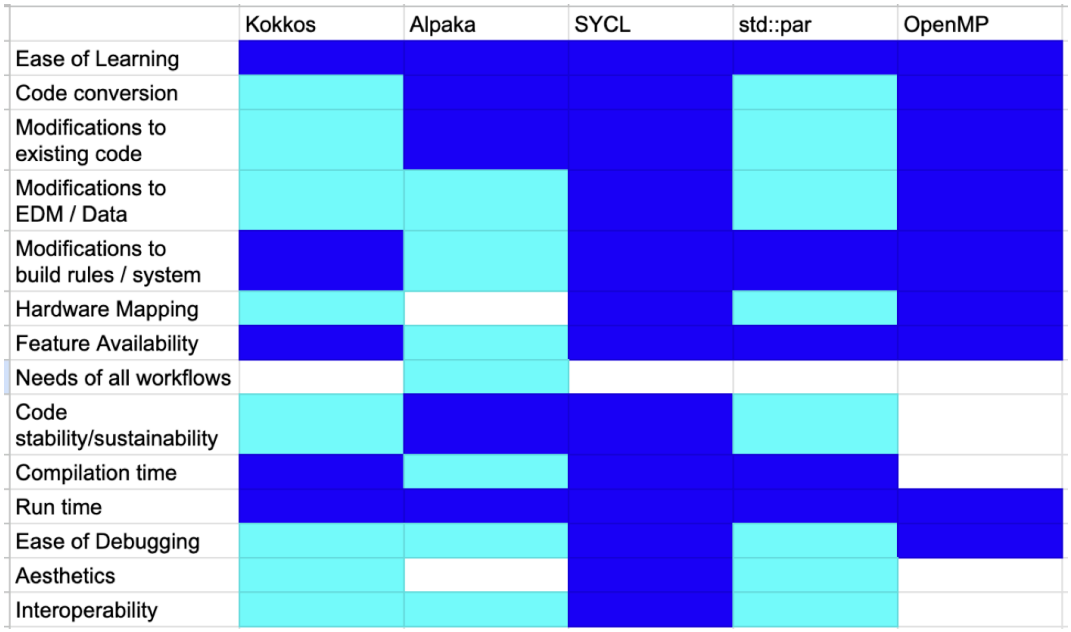
- Meet up at SC23: Salman will organize

Characteristics of testbeds to help select appropriate portability layer

- some characteristics don't matter (all portability layers perform equally)
- Program Characteristics To Help Select Portability Technology
    - add a second table w/ testbeds
    - links to metrics
    - can we define quantitative metrics?
- talk about in detail on Sep 22

Action item for Oct 13:

- Link to all metric documents:
  CCE Metrics
- complete / add more details to metrics documents
  New entries!



	Kokkos	Alpaka	SYCL	std::par	OpenMP
Ease of Learning					
Code conversion					
Modifications to existing code					
Modifications to EDM / Data					
Modifications to build rules / system					
Hardware Mapping					
Feature Availability					
Needs of all workflows					
Code stability/sustainability					
Compilation time					
Run time					
Ease of Debugging					
Aesthetics					
Interoperability					

Reports of this week

Wirecell

- OpenMP:
    - DONE
    -
- SYCL
    - DONE
- Standalone testing
    -
- Std::par
- Trying to collect performance data on Intel GPUs (Sunspot etc.)

FastCaloSim

- OpenMP:
    -
- Alpaka:
    - DONE
- Std::par / cuda / hip / kokkos
- Trying to collect performance data on Intel GPUs (Sunspot etc.)

Patatrack

- std::par:
    -
- OpenMP
    -
- SYCL
    -
- Kokkos
    - DONE

P2r

-

Event generators

-

Metrics Documents

- Github markdown: https://github.com/hep-cce2/PPSwork/blob/master/Metric.md
- Metric summary spreadsheet: https://docs.google.com/spreadsheets/d/14tE3oJdHRMxAPPPJ0Io8n5j0Kvr7he2AxGKLXQbdhGs/edit#gid=0
- Google folder of all metric document: https://drive.google.com/drive/u/0/folders/1m1IJ09SlWDLzPYiub7om34aWM-1otPqN
- Google form:
  - Survey 2023: https://forms.gle/9VgX6aCxkPyLPxK5A
  - Survey 2022: https://forms.gle/oQuwu3NxD5rSMDkD6
  - Survey 2021:https://forms.gle/rupXAGekxS1jwWNR8
- Plan: spend some time during the all-hands to revisit the metrics discussion

	Kokkos	SYCL	OpenMP	Alpaka	std::par
Patatrack	Matti	Matti	Mark (Matti)	Matti	Julien (Matti)
Wirecell	Zhihua	Zhihua	Tianle	-	Tianle
FastCaloSim	Charles/Zhihua	Charles	Atif	Vakho	Charles
P2R	Martin	Alexei	-	Martin	Alexei

- Nobody has worked on the final metrics input ➜ **Everybody please work on final metrics input.** We will ask everyone about progress next week!
  - Martin: make a new 2023 survey and send it to the PPS list
  - For the final report, we want to fill out all metric document (text input)
    - Survey will be part of it
    - There is some text input for the SC paper already (has OpenMP and other programming models included)
    - Martin will have a look and go over the paper and copy into all metric document

- identify characteristics of each use case, lay them out in a table
- we will have just 1 large paper with all the details
- tables in appendix with data as well as plots
- uniform format for plots
- artifacts description and tagged repos