Reintegrating traccc With ACTS

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ACTS Workshop

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ACTS/traccc R2R4 Milestones for ATLAS

- **7.1**: Basic support for kernel scheduling in Athena **[6/30/2021]**
- **9**: Develop multi-algorithm heterogeneous applications **[4/1/2023]**
  - **9.1**: ACTS-based multi-algorithm workflow **[9/30/2022]**
  - **9.4**: GPU accelerated ML inference **[4/1/2023]**
- **11:** GPU memory management
  - **11.1**: Vecmem prototype **[3/31/2022]**
- **12**: Make ATLAS Data Model classes accelerator friendly **[12/2/2024]**
  - **12.5**: Accelerator friendly detector data model (geometry and calibration) **[12/2/2024]**

Discussion: Bringing traccc into ACTS (and Athena)

- Two step process:
  - re-integrate traccc into ACTS
  - merge ACTS into Athena

- We don’t need to wait for everything to be complete to start the process
  - what can we bring from traccc into ACTS right now without issue?
  - can we setup testing framework in ACTS for gpu workflows?
  - identify traccc / ACTS incompatibilities and determine downstream impact
    - how much of ACTS will we need to change?

- What are the hacks in traccc that we will file under “lessons learned” and that we want to re-do better?

- As we start the re-integration, development in traccc will continue
  - ensure that developments get synchronized

- Will we keep traccc as a sandbox for GPU development?

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