

ePIC Streaming Computing Model Working Group

Kick-off meeting - July 11, 2023

Software and Computing Coordinator (Markus)

- + Deputy Coordinator **Operations (Wouter)**
- + Deputy Coordinator **Development (Sylvester)**
- + Deputy Coordinator **Infrastructure (Torre)**

Guiding Principles: DE&I, Software Principles, Sustainability

Operation WGs:

- Production (CD)
- User Learning
- Validation (CD)

Development WGs (CI):

- Physics and Detector Simulation
- Reconstruction
- Analysis Tools

Infrastructure WGs:

- Streaming Computing Model
- Multi-Architecture Computing
- Distributed Computing

Cross-cutting WG:

- Data and Analysis Preservation

- Structure of Software and Computing in ePICS
- Presented by Markus on May 2nd 2023 kickoff-meeting

- ePIC SRO Computing Model WG belongs to 'infrastructure'
- Co-conveners: M.Battaglieri (INFN), J.Huang (BNL) + J.Landgraf (BNL)



Marco Battaglieri
Co-convenor



Jin Huang
Co-convenor



Jeffery Landgraf
Co-convenor for electronics & DAQ WG
Kindly helping SRO group organization during next months when Jin focuses on sPHENIX commissioning

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Infrastructure

- **Streaming Computing Model** (Marco Battaglieri, Jin Huang, Jeff Landgraf (interim)):
 - **Charge:** Development of the computing model for the compute-detector integration using streaming readout, AI/ML, and multi-architecture computing (CPU, GPU, ...) with a specific focus on the data flows after the FEE layer.
 - **Priorities for 2023:**
 - Establish a collaborative dialogue with the Electronics and DAQ WG-
 - Define the requirements and high-level design for a computing model that enables rapid processing for the data for physics analyses, while leveraging external compute resources, including those provided by international partners.
 - Coordinate activities on prototyping streaming computing systems, together with the Physics and Detector Simulation and Reconstruction Framework and Algorithms WGs.
 - Document a streaming computing model that can be redefined further with international partners.

Work plan:

- Define a draft of SRO Computing Model by end of September
- Discuss it during the fall
- Present the ePIC Computing Model at the EIC Resource Review Board meeting scheduled for December 7 and 8 2023

Work Group organization:

- Two meetings before EICUG/ePIC meeting in Warsaw meeting (July 11 and 18)
- Bi-weekly meetings starting from August with contributions from experts (general, EIC, BNL, JLab and foreign institutions - CERN, FAIR, KEK, ...) and other ePICs WG (DAQ, SW, Physics, ...)
- From september focus the discussion on ePIC SERO computing model