

Closeout

Reviewers

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Observers

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General Comments

- We congratulate the EIC organizations for reaching CD-1 approval
 - Software and computing were clearly essential for that accomplishment
- We thank the organizers and the presenters for the well-prepared talks
 - We appreciate that the limited time did not allow a full-depth investigation of technical topics
- We applaud the rapid progress being made by the proto-collaborations
 - Coalescence of EPIC+ATHENA detector proposal groups
 - Broad agreement on main principles for EIC software development
 - Overview of the full problem (data handling scope, data/analysis preservation, ...)
 - Early convergence on some major technical issues (Jana2, PODIO/EDM4hep, ...)
 - Encouraging rapid progress towards usable tools (October production)
- We are happy to see extensive use of community-developed, open source software
- We appreciate the emphasis of focus on user experience is positive
- We see as positive that new technologies (AI/ML) are being considered at onset

Concerns

- Not much focused discussion on CD-2 needs from computing/software
- Connections with the host labs computing and software support were not clear
- A long-term software infrastructure development timeline was not presented
- The Online and Offline integration is in early phase
- The plans for conditions/environment/alignment/cataloging data are in early stages
- Heavy use of community software exposes the collaboration to risk from support loss
- The choice between grid concept (WLCG) and federated computing is not obviously optimal
- Direct feedback from end users was not presented

Recommendations

- Strengthen the connection between the EIC proto-collaboration software groups and the host lab computing and software support staff
 - Estimate support staff manpower needs associated with support of software infrastructure
- Develop a long-term timeline for major software and computing infrastructure reviews/downselects/milestones
- Clarify computing and software requirements on data handling, processing, and access
- Ensure project needs associated with the CD process are being met by planned development and productions

Response to the Charge

- The scope of the charge was broader and deeper than could be covered by a ~1 day review
 - Questions beyond software infrastructure cannot be fully addressed
- Technical requirements
 - *Is there adherence to modern software development and design patterns?* **Yes**
 - *Has a market analysis on alternatives for critical software elements been performed?* **Yes, in several cases**
- EIC Community Considerations:
 - *Is there continuity for the user community at a reasonable level (i.e., is it in use at other facilities with a high overlap of users)?* **Yes**
 - *Are the developers or POCs integrated into the user community, and does a track record exist for supporting and evolving software solutions?* **Yes**
- Institutional considerations:
 - *Is the proposed solution compatible with a potential second detector?* **Yes**