Workshop Goals

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ProtoDUNE DAQ & Offline Computing Infrastructure Workshop

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High-level Goals

- Reach a definitive consensus on system requirements

- Discuss technology options and hopefully agree on a smaller number of options for further development

- Establish the process that leads to technology choices on the timescale of April 2016

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DAQ Goals

- For the ProtoDUNE DAQ systems, in particular, the selection of a particular technology is tightly coupled with the selection of groups of collaboration institutes who will assume responsibility for implementing the systems

- Therefore, an important component of the selection process is the formation of the consortiums of institutes that will take on these responsibilities

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Single versus Dual Phase

- Dual-Phase ProtoDUNE has an established MOU that defines a specific set of institutes with responsibilities for its DAQ system (additional institutes are still encouraged to consider becoming involved)

- The situation is more open for Single-Phase ProtoDUNE

- We do want to explore the idea of potential synergies between the two ProtoDUNE DAQ systems

    - This week we have already discussed the idea of having a common online computer farm and a common online disk storage area for the two ProtoDUNE detectors

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DAQ Selection Criteria (Primary)

- Systems that meet the defined requirements

- Systems that can realistically be implemented on a short time scale

  - Partial DAQ systems need to be in place May 2017

  - Full DAQ systems need to be in place December 2017

- Systems supported by a group of collaboration institutes that can credibly argue that they will be able to provide a large enough team on the ground at CERN to implement the systems on the required time scale

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DAQ Selection Criteria (Secondary)

- Systems supported by broad groups of collaboration institutes

- Systems supported by groups of collaboration institutes incorporating new international partners

- Systems that can help further the development of the DAQ systems that will eventually be used for the DUNE far detectors

> Note: We have stated previously that the DAQ systems for the ProtoDUNE detectors will not necessarily be prototypes of the systems that will be built for the far detectors

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DAQ Selection Process

- At this workshop we hope to reach a consensus on system requirements and converge on a smaller number of technology choices for further consideration

- The process for how we get from here to the final technology choices (and formation of the consortiums of institutions who will be responsible for implementing the systems) is open to discussion at this workshop but needs to be defined here

DAQ Selection Process (cont.)

- Rough sketch of how this process might work …

    – On timescale of mid-March collaboration institutes or groups of institutes should define their interests and what resources they can contribute (informal proposals?)

    – Discussions would then be initiated between interested institutions to form coherent proposals for the design and implementation of the DAQ systems (another workshop in early April?)

    – Could lead to single or competing proposals

    – Proposal or proposals would be presented to and reviewed by DUNE Technical Board, which would make recommendations to the DUNE Executive Committee based on the primary selection criteria (mid-April)

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DAQ Selection Process (cont.)

- Rough sketch of how this process might work …

  - DUNE Executive Committee would consider recommendations of Technical Board and factor in considerations stemming from secondary selection criteria to reach final decisions

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Offline Computing Infrastructure

- CERN (as host laboratory for ProtoDUNE) and Fermilab (as host laboratory for DUNE) are expected to play big roles in the development and maintenance of the offline computing infrastructure needed for ProtoDUNE

- Heads of CERN IT and Fermilab CD met this week for an initial discussion on how responsibilities might be shared between the two

  – Presentations by Bernd Panzer-Steindel (CERN) and Panagiotis Spentzouris (Fermilab) on Friday morning

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Offline Computing Infrastructure Workshop Goals

- The primary goal of the workshop is to more firmly establish the requirements for ProtoDUNE offline computing infrastructure and the model that will be adopted for processing and analyzing the data

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