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Flexible and Scalable Data-Acquisition Using the artdaq Toolkit

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The Real-Time Systems Engineering Department of the Scientific Computing Division at Fermilab is developing a flexible, scalable, and powerful data-acquisition (DAQ) toolkit which serves the needs of experiments from bench-top hardware tests to large high-energy physics experiments. The toolkit provides data transport and event building capabilities with the option for experimenters to inject art analysis code at key points in the DAQ for filtering or monitoring. The toolkit also provides configuration management, run control, and low-level hardware communication utilities. Firmware blocks for several common data acquisition boards are provided, allowing experimenters to approach the DAQ from a higher level. A fully-functional DAQ "solution"of the toolkit is provided in otsdaq, sacrificing some flexibility in favor of being ready-to-use. artdaq is being used for several current and upcoming experiments, and will continue to be refined and expanded for use in the next generation of neutrino and muon experiments.

Minioral

Yes

Description

ArtDAQ

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