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The DUNE DAQ Application Framework

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The Deep Underground Neutrino Experiment (DUNE) is a next-generation neutrino experiment that will probe the properties of these elusive particles with unparalleled precision. It will also act as an observatory for neutrino bursts caused by nearby supernovae, in the event that one occurs while the experiment is in operation. Given these goals, the DUNE trigger and DAQ system must be able to maintain extremely high uptime and provide a path for full readout of the detectors for very long times (up to 100s). To achieve these ends, we have designed the DUNE DAQ system around a flexible "application framework", which provides a modular interface for specific tasks while handling the interconnections between them. The application framework collects modules into applications which can then be interacted with as units by the control, configuration and monitoring systems. One of the key features of the framework is its communications abstraction layer, which allows for modules to interact with both internal queues and external network connections with a single transport-agnostic interface. We will report on the architecture and features of the framework.

Minioral

Yes

IEEE Member

No

Are you a student?

No

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