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Muon g-2 reconstruction and analysis framework

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The Muon g-2 experiment at Fermilab will begin beam and detector commissioning in summer 2017 to measure the muon anomalous magnetic moment to an unprecedented level of 140 ppb. To deal with incoming data projected to be around tens of petabytes, a robust data reconstruction and analysis framework, built on Fermilab's *art* event-processing framework, is developed. In this workshop, we report the current status of the framework, together with its novelty features such as multi-threaded reconstruction chain for fast-turnaround operation (nearline) and online data quality monitor (DQM) based on *art*, MIDAS, ZeroMQ, and Node.js. We will also discuss the performance of the framework during the commissioning run.

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