

# The New CMS Event Data Model and Framework

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The new CMS Event Data Model and Framework that will be used for the high level trigger, reconstruction, simulation and analysis is presented. The new framework is centered around the concept of an Event. A data processing job is composed of a series of algorithms (e.g., a track finder or track fitter) that run in a particular order. The algorithms only communicate via data stored in the Event. To facilitate testing, all data items placed in the Event are storable to ROOT/IO using POOL. This allows one to run a partial job (e.g., just track finding) and check the results without having to go through any further processing steps. In addition, the POOL/ROOT files generated by the new framework are directly browseable in ROOT. This allows one to accomplish simple data analyses without any additional tools. More complex studies can be supported in ROOT just by loading the appropriate shared libraries which contain the dictionaries for the stored objects. By taking the time now before data taking has begun to re-engineer the core framework, CMS hopes to provide a clean system that will serve it well for the decades to come.

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