

Evolution of the ATLAS Metadata architecture and databases

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In the future of ATLAS the event should be the atomic information for metadata. Events could be either from data or from Monte Carlo, and different “representation” of the event would be available to reflect the processing stage under consideration. Eg Raw, Analysis Object Data (AOD), or derived AOD. The metadata should carry the provenance information of the event, as well as the logical location of the event itself.

Collections are built from events with the same characteristics, e.g. from the same luminosity block or generated with the same event generator configuration. Collections will carry all the metadata with physics content and production system configurations. The metadata at the collection level will be dynamical, and stored into a “whiteboard”. The information of the whiteboard will change over time as collections are extended, physics information is improved/added, or the collection is declared obsolete. A versioning mechanism will be needed to manage this evolution.

Finally each physics analysis would have metadata corresponding to the collections in use. The analysers access the metadata information of the collections in use to find the physics details and may further annotate the whiteboard with the analysis specifics. The analysis level whiteboard will also contain information such as the software used to carry out the analysis, information on physics ntuples/files produced from the centrally managed storage, personnel information (list of authors, editorial board, etc)

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