Metadata aided run selection at ATLAS

Management of the large volume of data collected by any large scale scientific experiment requires the collection of coherent metadata quantities, which can be used by reconstruction or analysis programs and/or user interfaces, to pinpoint collections of data needed for specific purposes. In the ATLAS experiment at the LHC, we have collected metadata from systems storing non-event-wise data (Conditions) into a relational database. The Conditions metadata (COMA) database tables not only contain conditions known at the time of event recording, but also allow for the addition of conditions data collected as a result of later analysis of the data (such as improved measurements of beam conditions or assessments of data quality).

A new web based interface called "runBrowser" makes these Conditions Metadata available as a Run based selection service. runBrowser, based on php and javascript, uses jQuery to present selection criteria and report results. It not only facilitates data selection by conditions attributes, but also gives the user information at each stage about the relationship between the conditions chosen and the remaining conditions criteria available.

When a set of COMA selections are complete, runBrowser produces a human readable report as well as an XML file in a standardized ATLAS format. This XML can be saved for later use or refinement in a future runBrowser session, shared with physics/detector groups, or used as input to ELSSI (event level Metadata browser) or other ATLAS run or event processing service.

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