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LHCb Online Interface to a Conditions Database

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In a High Energy Physics experiment it is fundamental to handle information related to the status of the detector and its environment at the time of the acquired event. This type of time-varying non-event data are often grouped under the term "conditions". The LHCb's Experiment Control System groups all the infrastructure for the configuration, control and monitoring of all the components of the online system. It is in this environment where an interface to define and store conditions is needed. These conditions are stored in the Conditions Database. This database will contain a subset of the monitoring data, read from hardware, that are needed for physics processing and also some configuration data, like for example, the trigger settings. The Interface to the Conditions Database has been developed as a component of the LHCb control framework and it is based on a SCADA (Supervisory Control and Data Acquisition) system called PVSSII. It consists in a PVSS panel which allows users to define which data should be stored as a condition, how these data should be packaged and when these data should be updated: when they change, when they change by more than a certain value, regular intervals, etc. Once these data are updated they are sent to a server which is the responsible to write and read the conditions from the database. This system provides a very simple and flexible way to define conditions and it can also be used by any sub detector because the way the information is transferred and stored is completely transparent for the users.

Submitted on behalf of Collaboration (ex, BaBar, ATLAS)

LHCb

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