GENERIC REPOSITORY AND SEARCH ENGINE FOR LHC EQUIPMENT TESTS DATA

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The construction of the CERN Large Hadron Collider involves anunprecedented amount of equipment testing. Very large volumes of data aretaken by various data acquisition systems and stored in plain files, inmany formats and in diverse locations. Without appropriate tools, thedomain experts have to put a lot of effort into locating the rightinformation. Most of the time they have to transform data by hand in orderto be able to analyse it with their favorite software tools. The LHC/IAS group has developed a data storage framework addressing thoseissues. Data coming from various sources before the insertion torepository is transformed to conform with an optimized, generic and opendata model. System architecture is based on a three-tier paradigm toprovide the separation between storage layer and data processing layer. Complex, user-defined queries and on-the-fly preprocessing of data aresupported. Data access tools take advantage of new industry-standardtechnologies (WWW, Java, ActiveX). Thanks to this approach it is possibleto access data in a platform-independent way and to plug-in the dataaccess functionality into widely used software tools (spreadsheets,scientific toolkits).