

Functional tests of a prototype for the CMS-ATLAS common non-event data handling framework

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Since the 2014 the ATLAS and CMS experiments share a common vision for the Condition Database infrastructure required to handle the non-event data for the forthcoming LHC runs. The large commonality in the use cases allows to agree on a common overall design solution meeting the requirements of both experiments. A first prototype implementing these solutions has been completed in 2015 and was made available to both experiments.

The prototype is based on a web service implementing a REST api with a set of functions for the management of conditions data. The choice to use a REST api in the architecture has two main advantages: - the Conditions data are exchanged in a neutral format (JSON or XML), allowing to be processed by different languages and/or technologies in different frameworks. - the client is agnostic with respect to the underlying technology used for the persistency (allowing standard RDBMS and NoSQL back-ends)

The implementation of this prototype server uses standard technologies available in Java for server based applications. This choice has the benefit of easing the integration with the existing java-based applications in use by both experiments, notably the Frontier service in the distributed computing environment.

In this contribution, we describe the testing of this prototype performed within the CMS computing infrastructure, with the aim of validating the support of the main use cases and of suggesting future improvements. Since the data-model reflected in this prototype is very close to the layout of the current CMS Condition Database, the tests could be performed directly with the existing CMS condition data.

The strategy for the integration of the prototype into the experiments' frameworks consists in replacing the innermost software layer handling the Conditions with a plugin. This plugin is capable of accessing the web service and of decoding the retrieved data into the appropriate object structures used in the CMS offline software. This strategy has been applied to run a test suite on the specific physics data samples, used at CMS for the software release validation.

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