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A J2EE based server for Muon Spectrometer Alignment monitoring in the ATLAS detector

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The ATLAS muon alignment system is composed of about 6000 optical sensors for the Barrel muon spectrometer and the same number for the 2 Endcaps wheels.

The system is acquiring data from every sensor continuously , with a whole read-out cycle of about 10 minutes. The read-out chain stores data inside an Oracle DB. These data are used as input from the alignment algorithms (C++ based) in order to compute alignment corrections that are then used by ATLAS muon reconstruction software.

An application deployed inside a J2EE server takes care of interactions between the DB and the alignment algorithms, delivering also functions for monitoring tools, handling scheduled tasks to launch alignment reconstruction software and checking and validating results before their migration to the official ATLAS Condition DB (COOL). The same application allows access to COOL database information and to another database containing Conditions and Configurations Metadata for ATLAS (COMA), giving thus the possibility to follow the full chain of the data flow of the Muon Alignment system.

We will describe the architecture of the J2EE application and the monitoring tools that have been developed.

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