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CMS Conditions Data Access using FroNTier

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The CMS experiment at the LHC has established an infrastructure using the FroNTier framework to deliver conditions (i.e. calibration, alignment, etc.) data to processing clients worldwide. FroNTier is a simple web service approach providing client HTTP access to a central database service. The system for CMS has been developed to work with POOL which provides object relational mapping between the C++ clients and various database technologies. Because of the read only nature of the data, Squid proxy caching servers are maintained near clients and these caches provide high performance data access. Several features have been developed to make the system meet the needs of CMS including careful attention to cache coherency with the central database, and low latency loading required for the operation of the online High Level Trigger. The ease of deployment, stability of operation, and high performance make the FroNTier approach well suited to the GRID environment being used for CMS offline, as well as for the online environment used by the CMS High Level Trigger (HLT). The use of standard software, such as Squid and various monitoring tools, make the system reliable, highly configurable and easily maintained. We describe the architecture, software, deployment, performance, monitoring and overall operational experience for the system.

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

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