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# Utility of collecting metadata to manage a large scale conditions database in ATLAS

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The ATLAS Conditions Database, based on the LCG Conditions Database infrastructure, contains a wide variety of information needed in online data taking and offline analysis. The total volume of ATLAS conditions data is in the multi-Terabyte range.

Internally, the active data is divided into 65 separate schemas (each with hundreds of underlying tables) according to overall data taking type, detector subsystem, and whether the data is used offline or strictly online. While each schema has a common infrastructure, each schema's data is entirely independent of other schemas, except at the highest level, where sets of conditions from each subsystem are tagged globally for ATLAS event data reconstruction and reprocessing.

The partitioned nature of the conditions infrastructure works well for most purposes, but metadata about each schema is problematic to collect in global tools from such a system because it is only accessible via LCG tools schema by schema. This makes it difficult to get an overview of all schemas, collect interesting and useful descriptive and structural metadata for the overall system, and connect it with other ATLAS systems. This type of global information is needed for time critical data preparation tasks for data processing and has become more critical as the system has grown in size and diversity.

Therefore, a new system has been developed to collect metadata for the management of the ATLAS Conditions Database. The structure and implementation of this metadata repository will be described. In addition, we will report its usage since its inception in LHC Run 1, how it will be exploited in the process of conditions data evolution during LS1 (the current LHC long shutdown) in preparation for Run 2, and long term plans to incorporate more of its information into future ATLAS Conditions Database tools and the overall ATLAS information infrastructure.

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