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The ATLAS DAQ System Online Configurations Database Service Challenge

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This paper describes challenging requirements on the configuration service. It presents the status of the implementation and testing one year before the start of the ATLAS experiment at CERN providing details of:

- capabilities of underlying OKS* object manager to store and to archive configuration descriptions, it's user and programming interfaces;
- the organization of configuration descriptions for different types of data taking runs and combinations or participating sub-detectors;
- the scalable architecture to support simultaneous access to the service by thousands of processes during the online configuration stage of ATLAS;
- the results of large scale tests performed on the configuration service and experience of it's usage during test beam and technical runs.

The paper also presents pro and cons of the chosen object-oriented implementation comparing with solutions based on pure relational database technologies, and explains why after several years of usage we continue with it.

- "The OKS in-memory persistent object manager", R. Jones, L. Mapelli, Y. Ryabov and I. Soloviev, RT 1997; IEEE Transactions on Nuclear Science, Volume 45, Issue 4, Part 1, Aug. 1998 Page(s):1958-1964

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

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