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## The ATLAS T0 Software Suite

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ATLAS is a multi-purpose experiment at the LHC at CERN, which will start taking data in November 2007.

To handle and process the unprecedented data rates expected at the LHC (at nominal operation, ATLAS will record about 10 PB of raw data per year) poses a huge challenge on the computing infrastructure.

The ATLAS Computing Model foresees a multi-tier hierarchical model to perform this task, with CERN hosting the Tier-0 centre and associated Tier-1, Tier-2, ... centres distributed around the world.

The role of the Tier-0 centre is to perform prompt reconstruction of the raw data coming from the on-line data acquisition system, and to distribute raw and reconstructed data to the associated Tier-1 centres.

In this paper we report on the requirements, design and implementation of the ATLAS T0 software suite that has successfully met this challenge, most notably: TOM, the ATLAS T0 Manager and Eowyn, the job supervision component shared with the ATLAS WLCG-based production system.

We also report on the ATLAS Tier-0 scaling tests carried out in 2006/2007, whose goals were to evaluate the ATLAS Tier-0 work- and dataflow model, to test the infrastructure at CERN, and to perform Tier-0 operations up to their nominal rates.

### Summary

In this paper we report on the requirements, design and implementation of the ATLAS T0 software suite, most notably: TOM, the ATLAS T0 Manager and Eowyn, the job supervision component shared with the ATLAS WLCG-based production system.

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

ATLAS

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