

Strategies and Tools for ATLAS Online Monitoring

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ATLAS is one of the four experiments under construction along the Large Hadron Collider (LHC) ring at CERN. The LHC will produce interactions at a center of mass energy equal to $\sqrt{s} = 14 \text{ TeV}$ at a 40 MHz rate. The detector consists of more than 140 million electronic channels. The challenging experimental environment and the extreme detector complexity impose the necessity of a common scalable distributed monitoring framework, which can be tuned for the optimal use by different ATLAS sub-detectors at the various levels of the ATLAS dataflow. This note presents the architecture of this monitoring software framework, and describes its current implementation, which has already been used at the ATLAS beam test activity in 2004. Preliminary performance results, obtained on a computer cluster consisting of 700 nodes, will also be presented, showing that the performance of the current implementation is in the range of the final ATLAS requirements.

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