

The Log Service for the ATLAS Experiment

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This paper introduces the Log Service, developed at CERN within the ATLAS TDAQ/DCS framework. This package remedies the long standing problem of attempting to direct messages to the standard output and/or error in diskless nodes with no terminal. The Log Service provides a centralized mechanism for archiving and retrieving qualified information (Log Messages) created by TDAQ applications (Log Producers). One or multiple Log Servers form the system's archival container, based on the MySQL database. A C++ interface is provided to access the Log Servers in a transparent manner. Messages can be inserted, retrieved and/or removed. Furthermore, a user-friendly web-based (PHP/HTML) tool is available to easily browse and/or remove Log Messages. The development of these software components are described in this paper. Performance testing has been conducted within a controllable environment with up to ten Log Producers, two Log Servers and two Log Managers. The outcome has been crucial to identify the bottlenecks and constraints of the software and hardware infrastructure. Especially important has been the need to limit the Web Server connections to just one in order not to disturb the Log Message passing mechanism.

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