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Experience with SPLUNK for archiving and visualization of operational data in ATLAS TDAQ system

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The ATLAS Trigger and Data Acquisition (TDAQ) is a large, distributed system composed of several thousands interconnected computers and tens of thousands software processes (applications). Applications produce a large amount of operational messages (at the order of O(10^4) messages per second), which need to be reliably stored and delivered to TDAQ operators in a realtime manner, and also be available for post-mortem analysis by experts.

We have selected SPLUNK, a commercial solution by Splunk Inc, as a all-in-one solution for storing different types of operational data in an indexed database, and a web-based framework for searching and presenting the indexed data and for rapid development of user-oriented dashboards accessible in a web browser.

The paper describes capabilities of Splunk framework, use cases, applications and web dashboards developed for facilitating the browsing and searching of TDAQ operational data by TDAQ operators and experts.

Author: BAUER, Kevin Thomas (University of California Irvine (US))

Presenter: KAZAROV, Andrei (Petersburg Nuclear Physics Institut (RU))

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