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Usage of time series databases in the Grafana platform for the NETIS service

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NetIs is a service used to monitor the Data Acquisition network of the ATLAS experiment. The first version was developed at CERN in 2010. The network group would like to replace NetIs because it is difficult to maintain and store data in a Round Robin Database (RRD), resulting in a loss of granularity over time that makes the tool unsuitable for retrieving accurate values from the past. The graphs produced by NetIs are generated by the backend server and they are quite static, though the GUI is familiar to many users. The main idea was to evaluate other time series databases supported by the Open Source tool Grafana so that data can be shown in a dynamic way. The Persistent Back-End for the ATLAS Information System (P-BEAST), developed in ATLAS for permanent storage of operational data, was already integrated with Grafana and successfully collecting network monitoring statistics.

Grafana, despite being very popular visualization web application, does not support some GUI elements that are used in NetIs such as a tree or position of drop-down. Javascript code integrated with Grafana was used to overcome these limitations.

Summary

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