

Fast Data Storage system for PAL-XFEL

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Abstract content

We have developed a fast data storage and archiving system for the PAL-XFEL project. The system monitors around 5000 EPICS PVs, updated at 60Hz, most of which are scalars. The system keeps, at a minimum, 5 minutes of short-term history available for retrieval at any time. On the other hand, the system allows for long-term preservation of data from specific time intervals. This includes preservation of both past buffered data as well as future data. For example, the system can be configured to preserve the last 5 minutes and the next 2 minutes of data in the event of an interlock, or upon manual request by a user. As the basic interface, the system accepts HTTP requests to preserve a specific time frame of data. There is also an option to issue such data preservation requests based on updates of PVs. The system is based on the EPICS Archiver Appliance software with modifications that implement the data preservation logic, along with various improvements related to the data storage logic and general performance.

Summary

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