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The DAQ system for the AEgIS experiment

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In the sociology of small- to mid-sized (O(100) collaborators) experiments the issue of data collection and storage is sometimes felt as a residual problem for which well-established solutions are known. Still, the DAQ system can be one of the few forces that drive towards the integration of otherwise loosely coupled detector systems. As such it may be hard to complete with
off-the-shelf components only.

LabVIEW and ROOT are the (only) two software systems that were assumed to be familiar enough to all collaborators of the AEgIS (AD6) experiment at CERN: working out of the GXML representation of LabVIEW Data types, a semantically equivalent representation as ROOT TTrees was developed for permanent storage and analysis. All data in the experiment is cast into this common format and can be produced and consumed on both systems and transferred over TCP and/or multicast over UDP for immediate sharing over the experiment LAN.

We describe the setup that has been able to cater to all run data logging and long term monitoring needs of the AEgIS experiment so far.

Primary Keyword (Mandatory)

DAQ

Tertiary Keyword (Optional)

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