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Tools for the maintenance of Siemens PLCs and associated Profibus® fieldbuses and intelligent instrumentation

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Several tools have been developed to assist on the maintenance and diagnostics of the LHC control hardware. These tools run independently of the control infrastructure, do not require any particular computer configuration and are quite fast to load and run.

Two real-time tools based on TCP/IP communication between a PC and Siemens PLCs are implemented:

- PLCdiag: shows the status of all Siemens CPUs and associated Profibus master and slaves, allowing a fast diagnostics of the cryogenics control system.
- FastTrend: a multi variable real-time (50 ms refresh rate) visualization of instrumentation readings and other PLC data.

An offline tool for data visualization:

- “MultiGraph” is a multi-variable bar-graph animator, with adjustable time frame, that reads data directly from excel files; a future version might retrieve data from the LHC logging system.

Proposed for workshop session (see call for abstracts): 1- Operation 2- Maintenance 3 - Safety 4 - Control

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Author: Mr TOVAR-GONZALEZ, Antonio (CERN)

Presenter: Mr TOVAR-GONZALEZ, Antonio (CERN)

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