

FRONT-END I/O OF THE ATLAS DETECTOR CONTROL SYSTEM

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The importance of using a powerful Detector Control System (DCS) has much increased with the size and complexity of HEP detectors. The generation of detectors for the LHC experiments puts further requirements onto the front-end I/O system due to the inaccessibility of the equipment and the hostile environment concerning radiation and magnetic field. Novel techniques such as fieldbuses for distributed input/output and Programmable Logic Controllers (PLC) for closed loop control have to be employed. These represent the layer closest to the detector of a hierarchically organised multi-layer DCS. After a short introduction of the concept and the architecture of DCS the paper will concentrate on the usage of fieldbuses as front-end I/O bus with special emphasis on industrial standards of hardware and software.