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LHCb MiniDAQ Control System

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LHCb is one of the 4 experiments at the LHC accelerator at CERN, specialized in b-physics. During the next long shutdown period, the LHCb experiment will be upgraded to a trigger-less readout system with a full software trigger in order to be able to record data with a much higher instantaneous luminosity. To achieve this goal, the upgraded systems for trigger, timing and fast control (TFC) and data acquisition (DAQ) will have new electronic boards and a new software stack will be introduced for data acquisition. In the development stage, all these components are housed in servers named MiniDAQ. These new components will need to be integrated in an upgraded Experiment Control System (ECS) based on the WinCC OA SCADA and the CERN JCOP framework. The ECS provides full monitoring and control for all these sub-systems and many important features like configuration recipes and automated actions. This paper will describe the implementation of the upgraded ECS and its component fwMiniDAQ, which integrates all the new developments and can be easily distributed to the sub-detector developers and configured for their various setups.

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