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The ALICE Experiment Control System

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The Experiment Control System (ECS) is the top level of control of the ALICE experiment.

Running an experiment implies performing a set of activities on the online systems that control the operation of the detectors. In ALICE, online systems are the Trigger, the Detector Control Systems (DCS), the Data-Acquisition System (DAQ) and the High-Level Trigger (HLT).

The ECS provides a framework in which the operator can have a unified view of all the online systems and perform operations on the experiment seen as a set of detectors.

ALICE has adopted a hierarchical -yet loose- architecture, in which the ECS is a layer sitting above the online systems, still preserving their autonomy to operate independently. The interface between the ECS and the online systems applies a powerful paradigm based on inter-communicating objects. The behavioural aspects of the ECS are described using a finite-state machine model.

The ALICE experiment must be able to run either as a whole (during the physics production) or as a set of independent detectors (for installation and commissioning). The ECS provides all the features necessary to split the experiment into partitions, containing one or more detectors, which can be operated independently and concurrently.

This paper will present the architecture of the ALICE ECS, its current status and the practical experience acquired at the test beams.

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