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ALICE DCS preparation for Run 3

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The ALICE experiment is havy ion collision detector at the CERN LHC. Its goal to study extreme phase of matter –called quark-gluon plasma. It is collaboration of 41 countries and more than 1800 scientists. A large number of complex subsystems requires supervision and control system. ALICE Control Coordination (ACC) is the functional unit mandated to coordinate the execution of the Detector control system (DCS).

In 2020, the ALICE experiment at CERN will start collecting data with upgraded detector. The ALICE upgrade addresses the challenge of reading out and inspecting the Pb-Pb collisions at rates of 50 kHz, sampling the pp and p-Pb at up to 200 kHz. ALICE O2 project meres online and offline into one large system with ~8400 optical links, data rate 1.1 TB/s, data storage ~60PB/year. From DCS O2 requires continuous data flow with ~100 000 conditions parameters for event reconstruction. Data has to be injected into each 20ms data frame. DCS-O2 interface consists of electronics and software modules for configuring CRU controllers and provide continuous dataflow to O2 system.

In this talk, we will describe the architecture and functionality of the ADAPOS mechanism. We will discuss the requirements and results obtained during the test campaign. We will also provide a description of a new front-end access mechanism allowing for detector control in parallel to the data acquisition.

Summary

A new mechanism, called ADAPOS has been developed. Its role is to collect condition parameters from the distributed SCADA system and provide this data to O2 - A new combined online-offline facility.

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