Contribution ID: **32** Type: **not specified**

Evolution of ALICE analysis framework from Run 2 to Run 3 and beyond

In Run 3 the paradigm of the ALICE experiment will shift towards precision measurements of rare probes. This will be achieved by collecting large data samples at high interaction rates,continuously recording collisions with a triggerless approach called continuous readout.In this scenario, Pb-Pb collisions will be recorded at a rate up to 50 kHz, reaching a raw data flow rate of up to 3.5 TB/s. To cope with such a technical challenge, ALICE designed and developed a brand new software stack, called O2, to be used both for the online reconstruction and for the post-processing of the collected data.The O2fulfils its different purposes by using technologies that provide native multi-process computing approaches and also capabilities of scaling on heterogeneous architectures. As a notable example, the framework used to carryout Physics analyses is empowered by the Device Processor Layers (DPL), a core component that allows for deploying and managing parallel analysis workflows based on message passing.The ALICE approach to the data analysis within theO2will be presented, from detailing the structure of the analysis data format, to the new declarative approach adopted. Few practical examples will be finally shown. Ultimately, will bealso discussed the strategy of deployment of the framework on analysis facilities and their integration with the Grid ecosystem.

Primary authors: CONCAS, Matteo (TO); JACAZIO, Nicolo' (BO)

Presenters: CONCAS, Matteo (TO); JACAZIO, Nicolo' (BO)

Session Classification: Esperimenti

Track Classification: Esperimenti