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High Performance Computing with ALICE at the LHC

Abstract

The entire field of heavy-ion physics and most of the high-energy experiments are characterized by formidable information technology challenges. Each year, several petabytes of data from detector readout channels have to be compressed, calibrated and reconstructed. In parallel, computing intensive detector simulation jobs are performed providing similar amount of data. This big amount of real and simulation data is distributed around the World via Worldwide LHC Computing Grid (WLCG), linking more than 60 computing centers, and is continuously used for computing intensive analysis. In the near future, ALICE experiment will be generating data with a throughput of up to 3 TB/s, which requires a new computing system for online and offline data processing. I will show major building block of the system, and discuss first result obtained in collaboration with IT experts.