

The new ALICE DAQ system for LHC Run 3

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ALICE (A Large Ion Collider Experiment) is a heavy-ion detector studying the physics of strongly interacting matter and the quark-gluon plasma at the CERN LHC (Large Hadron Collider). During the second long shut-down of the LHC, the ALICE detector was upgraded to cope with an interaction rate of 50 kHz in Pb-Pb collisions, producing in the online computing system a sustained input of 3 TB/s.

The new data-acquisition system consists of 200 readout nodes, collecting the data transferred from over 8000 detector links to PCs memory by dedicated PCI boards.

These machines also perform some initial data processing tasks, like compression and data quality monitoring, before sending data over an Infiniband network to aggregate and handle the full detector events in a dedicated online processing farm.

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