



Contribution ID: 194

Type: **Oral Presentation**

The new frontier of the DATA acquisition using 1 and 10 Gb/s Ethernet links.

Thursday, 9 June 2011 15:00 (30 minutes)

ALICE (A Large Ion Collider Experiment) is the detector system at the LHC (Large Hadron Collider) optimized for the study of heavy-ion collisions. Its main aim is to study the behavior of strongly interacting matter and the quark gluon plasma. Currently all the information sent by the 18 sub-detectors composing ALICE are read out by DATE (ALICE Data Acquisition and Test Environment), the ALICE data acquisition software, using several optical links called DDL (Detector Data Link), each one with a maximum throughput of 200 MB/s. In the last year a commercial transmission link with a throughput of 10 Gb/s has become a reality, with a low price affordable for everyone. The DATE system has been upgraded to also support this technology in addition to the DDL.

This contribution will describe the VHDL firmware of a detector readout board, sending data using the UDP protocol and the changes made to the readout part of DATE software to receive information coming from the 1 or 10 Gb/s Ethernet link.

It will also describe the relevant details of the test firmware and software and will conclude with the results of the performance tests done at CERN using the new set-up.

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Session Classification: Trigger and DAQ Systems

Track Classification: Trigger and Data Acquisition Systems