Contribution ID: **312** Type: **Oral**

CMD-3 TOMA DAQ goes to KEDR detector.

Monday 2 June 2014 17:30 (20 minutes)

CMD-3 detector of VEPP2000 e+e- collider, BINP, Russia, is under data taking for a few runs.
It's Time Oriented Measurement and Acquire (TOMA) DAQ demonstrates stable operation and targeted performance. During DAQ life cycle it was few times expanded in number and nomenclature of digitizer boards so as new functionality features was switched on. There are no interference or backward compatibility problems observed.
This is due to special design based on idea to exchange some hardware logical complexity to precise time control complexity known as synchronization. Using this idea to distinguish synchronization modes the CMD-3 modular approach specification was built. This specification connects DAQ function's with synchronization modes and makes all hardware modules the same hierarchy level e.g. independent. Hardware modules are realized as HDL descriptions suitable to implement in any modern FPGA.
KEDR detector of VEPP-4 e+e- collider is now constrained with it's DAQ performance. To solve this problem we make step by step change of KEDR DAQ hardware with CMD-3 DAQ hardware. Dramatically difference in timing is addressed with modification of HDL parameters. At process completion DAQ performance will increase in 20..40 times.

Summary

CMD-3 and KEDR is mid scale universal detectors for HEP. But it's energy range, DAQ technique and colliding machines is totally different. This talk describes how to really isolate modules in "modular approach"and how it can help to address system requirements. Also, some details are discussed.

Primary author: Mr RUBAN, Alexander (A.)

Co-author: KOZYREV, Alexey (BINP)

Presenter: Mr RUBAN, Alexander (A.)

Session Classification: III.b Trigger & DAQ

Track Classification: Data-processing: 3b) Trigger and Data Acquisition Systems