

## CMD-3 detector DAQ upgrade

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### Abstract content

The BINP VEPP2000  $e^+e^-$  collider is under upgrade now. The new particle injection system will increase the collider's luminosity in order of magnitude. This article is devoted to how the CMD-3 detector DAQ works and how it to be upgraded to accept a higher luminosity. Now the CMD-3 detector DAQ named TOMA is already at physical data taking for few years. It operates with 12.5 MHz bunch crossing rate producing up to 700 Mbps data stream at input of 3-rd level trigger. DAQ hardware is based on distributed serial link backplane. The main feature of TOMA DAQ is the flat model both of architecture and of synchronization. It allows stable data taking operation still new digitizing boards are added and new features are activated. The mainstream upgrade plan is to preserve flat model while expand using of standard inexpensive networking hardware to increase TOMA DAQ throughout output performance up to 10 Gbps of physical data. The next step is to design the DAQ built-in computer cluster based on inexpensive small form factor PC motherboards. Due to high parallelism of process it will allows affective on-line data rate compressing to preserve server power requirements.

### Summary

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