

Data Networks

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SodaNet (M. Kavatsyuk)

- Panda needs a system to synchronize all FEE, mark begins of bursts (every 2us) and transfer some control data between FPGA
- Network will be based on TrbNet with synchronuous links and deterministic latency messages (Soda)
- Soda messages can be issued every 25ns at 40 MHz base frequency
- Current status: Soda source, hub and endpoint have been implemented, but some timing issues need investigation

FairNet (J.Michel)

- Existing TrbNet can be extent to synchronuous network, compatible with GBTx based systems
- Port of network stack to Kintex 7 needed in several applications
- Improvements to data format possible, integration of free-running mode can be done in parallel
- TrbNet could be tunneled over GBT media interfaces for simpler maintenance.
- Main frequency for FPGAs will be 120 MHz, matching the 40 MHz base frequency.

Conclusions

- Common implementation of FairNet for CBM and Panda seems feasible.
- Panda needs synchronuous extension, which will be developed first
- Data read-out and GBT media interface seems of interest for CBM only
- Port to Kintex 7 is needed by both groups, but should be done later, after reorganization of data format and code has been finished