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128 Gbps PCIe link for data acquisition with MTCA.4

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Abstract content

Data acquisition and processing systems used in modern physics produce large amount of data. A good example is the image acquisition system, that collects data from megapixel digital cameras. The image acquisition system, composed of ten 1 megapixel cameras, can easily produce the 100 gigabit data stream. The data acquisition and processing system requires a powerful interface to transfer such an enormous data steam. The PCIe standard, initially developed for Personal Computers, allows transferring data with throughput reaching 128 gbps (PCIe x16, gen. 3) or even more. The interface provides a high-throughput low-latency data transmission and therefore makes possible to use a high-performance CPU blade that collects and processes data provided by the MTCA.4 based acquisition system.

In this talk, we will present the first results for the data throughput measurement for a MTCA.4-based data acquisition system that transfers data to an external CPU blade via the PCIe x16 cooper link.

Summary

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