

EJFAT - A Joint ESnet / JLAB prototype load balancer for large scale DAQ processing

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Jlab and ESnet jointly identified a need for terabit scale data processing of DAQ data from new large scale accelerator facilities. Most DOE instruments are evolving to provide 100's of gigabits to many terabits of raw data, which needs to be processed in hundreds of hardware accelerated DSP equipped servers for event extraction and data set recording. In this talk we describe the implications on IP based protocols used to transport this data, as well as a trigger and event aware load balancer that can sort data with nanosecond trigger granularity and direct it to a flexible cloud of processing elements. The load balancer can be implemented in hardware with a combination of FPGAs and terabit data center top of rack switches.

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