

Skype Meeting HZDR – PSI, May 20, 2019

Participants

Sophie Redford, Carlos Lopez Cuenca (PSI)
Jonas Schenke, Florian Warg, Heide Meißner (HZDR)

Topics

Performance

The current performance (approx. 1.5 GB/s) does not seem to match the performance of previous version (approx. 12 GB/s). Therefore reproduction of the results and further testing is needed. The code ran on the mpc2198.psi.ch machine and was taken from the master branch (state: 8.3.2019). To get a deeper insight into this issue, testing on this exact system as well as on HZDR systems will be made. If the GPU accelerator is selected, GPU profiling can be done with the NVIDIA profiler just like before.

Reference Implementation

Since the file size of the result (of the corrected reference implementation) differs greatly from the reference result (provided to us), these results are expected to be incorrect. Furthermore, some slight differences in the algorithms were discovered (e. g. the reference code runs without a pedestal calibration and therefore calculates the pedestals from the first N dark pixels).

Result Verification

Since the reference implementation is currently not working as expected and additionally has slight algorithmic differences, the results our program produces will be verified manually. This version will then be used as a reference.

Detector Connection

It was noted, that the Mellanox's Raw Ethernet API is being evaluated for copying data into buffers in our code directly thereby bypassing internal buffering.

Next Steps (HZDR):

- check runtimes on our system and on the remote PSI system
- integrate more detailed explanation of GPU memory usage into the documentation
- fill in at least a bullet point description of our program
- update and extend documentation

Next Steps (PSI):

- look at results of our program
- send program log file to us
- maybe look at our code and see if any questions arise