

Correlator meeting, Jonathan and Salvatore's room, 27 February 2014, 11.00 am
Present: Salvatore, Jonathan, Des, Harro
Guifré is on holiday, Arpad is still in S. Africa

- progress reports:

. Jonathan/Salvatore

Due to a change in firmware Des has made a change in the Erlang code to configure the integration time on all FNs, rather than just on FN0. The phase jumps seem to be under control now.

When the new pkt_rx module was run on the other UniBoard it failed spectacularly. Apparently there is something very timing critical that is sensitive to small timing differences between individual FPGAs. Currently not fully understood.

On top of that, the new pkt_rx seems to trigger a problem in the BN firmware. From time to time, the BN will stall, waiting for data to arrive from one of the FNs. It is very unclear whether the data is not sent by this particular FN or whether the BN receiver firmware doesn't synchronize on the sent data. This behaviour was never seen with the old pkt_rx.

We spent the better part of the meeting discussing hypotheses and coming up with diagnostics; there are some check points in the code that could be looked at. The daunting properties of the error are (1) if it happens, it is synchronized across all BNs and (2) it always stalls at the first frame of an integration (so the error could be in the last frame of the previous integration or in the first frame of the current integration). It never happens immediately after starting a run; Usually a number of integrations can be processed before the error is triggered.

Des and Harro tried to be of help but lack of VHDL and FPGA programming left that energy go mostly wasted.

.Des/Harro

Haven't pushed the new capturing mechanism yet, mostly because of the UniBoard firmware not being stable yet and lack of time.

-aob

Harro will be in China next week.

-next meeting

Thursday 6th march 11.00 am, after jive coffee