Correlator implementation and control meeting

May 9, 2011, 13.30, Minnaert

Present: Jonathan, Salvatore, Jintao, Harro, Paul, Sergei, Arpad

Salvator gives overview of status.

Currently work on FN, integrating all filter banks, no delay model yet. Two time domains, 0.3 nsec negative slack. Slow progress, but 8 filter banks should be possible (without delay!)

BN: corner turning module is still missing. Arpad asks who and when. Jonathan: depending on time spent on test of DDR, either him or Salvatore.

Sergei: could make design less demanding by changing delay update time to 10/s (now 32/s). Could also throw away parabolic term.

Salavator: right now on 266MHz, which seems about the edge. Surprising how crappy the software is that places the design. Xylinx supposedly now much better.

Discussion about how to proceed. We definitely will need delay module, according to Sergei this will have big impact on timing in FN. Probably better to use 4 filter banks, add delay model, see how timing works out. Apertif will not need delay module, might benefit from 8 filter banks.

Right now: working on 128MHz from 32 stations. 64MHz would still be ok, still have current correlator on one board (important PR-wise)

BN: two correlator engines will fit, and the corner turning (probably), but we also need pulsar binning.

We will proceed with 4 filterbanks on FN, one correlator engine on BN and try to get autocorrelations asap, followed by addition of delay model and real fringes. Then start squeezing design.