Correlator control and implementation meeting, June 21 2012

Present: Harro, Des, Salvatore, Jonathan, Arpad

Previous Action items
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Jonathan: upload Sergei's two page document about mixer and FFT.
#done
Des/Harro: investigate Erlang performance problems reading UDP packets
#ongoing
Salvatore: find someone in LOFAR who knows the details of the PFB,
check if they know about the behaviour and why they think it is
acceptable.
#not done
May need discussing with Sergei and/or SFXC people depending on
outcome.
Des: figure out validity bit handling in SFXC
#not done
pro memori:
Jonathan/Salvatore: update output data packet header with 8-bit FPGA
nodeid
and possible >1 bit correlation engine id. Update documentation and put
on
the memoseries wiki.
#done
all: write up documentation and upload to wiki

In connection with action on Salavatore:

He found a bug, fixed it, but data still noisy, still investigating. It has been
narrowed down to before the FFT. Talked to Sergei, noise could be the
effect of truncation. He suggested to feed data directly into FFT. Tap data
after PFB, into matlab, nearly identical. Try again with real data. PFB has
not been modelled in matlab yet, maybe this should be done now?

Next days: narrow down problem + tests w real data + design without PFB

**action Jonathan: ask Aard for comparable SFXC plots

Discussion about accuracy needed for space VLBI. Resources problematic.
Might use bigger memory modules.

**Jonathan: check on 8GB modules.

Other possibility is simply to create separate personality for space VLBI. Very likely will only be done using SFXC anyway. Final possibility: just lie! (Des)

**action Jonathan: find out of spectral resolution needed (ask Rob, Zsolt?)

next meeting: not decided because of extensive upcoming travelling

quite shortly after meeting: Jonathan and Salvatore figure out that they have been misinterpreting the data representation (I think I got that right). Now produces much less noisy fringes.