SKA AFRICA
SQUARE KILOMETRE ARRAY

HW Breakout - Feedback

AUGUST 2017

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H/W Breakout - Agenda

- Existing H/W
- H/W in development and standards
- Wishlists for new H/W
- Integration
- Peripheral H/W

Existing H/W

- ROACH2
  - Not supportable under JASPER. SKA SA to add info to wiki to ID software support.
  - About 1000 available from Digicom (lifetime buys of now obsolete components)
- SKARAB is available from Peralex
  - HMC – up to 152 ES parts available, thereafter production 2G parts
  - ADC available – Yellow Block will be available if anyone requires it to use the ADC
- SNAP is available from Digicom
  - Contact Jack H first to make sure about assembly options
- SNAP2 is available from China Academy of Science
  - Tool flow is a work in progress – expected Q4 2017
- VCU118: development board – Xilinx
  - Tool flow is a work in progress – UCB and SKA SA interested in this board
- ADC's to be listed on CASPER wiki – assume Yellow Block available if added

H/W in development and Standards

- SNAP3
  - H/W Ready October 2017

- SKARAB2
  - ~Q4 2018 (TBC)
  - Collaborators invited

- SKARAB3
  - When 7nm devices become available

- 15GSPS ADC
  - ASIAA
  - Bare PCB to be tested
- FMC+ is a standard that could be used in CASPER
- All planning to move to 100GbE – share lessons learned

Integration

- Suggested the creation of a porting workshop
- See also collaboration breakout
- Alternate between Cape Town and Berkeley inititally
- SKA SA prepared to host in ~April 2018

Peripheral H/W

- Time and Frequency
  - White Rabbit
  - Freq distribution, synthesisers etc – to list these on the wiki, sharing of experience
  - Memos, sharing of papers in this field encouraged
- GPU support
  - iWarp protocol
  - ROCE
  - Infiniband to FPGA is challenging, stick to Ethernet