Haystack / NRAO 4Gbps Status

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RDBE

- Our second generation DBE is based on the Casper's Roach design
  - Common between both NRAO and Haystack.
  - Previously referred to as"
    - V-DBE – NRAO
    - DBEv2 – Haystack
  - Now is referred to as the RDBE
    - Roach DBE
      - Same hardware platform
      - Different FPGA personality
      - One Command / Control application
      - Debian Etch Linux Distribution on PPC.

RDBE - Cont

- Target for first light
  - August 2009
  - 2010 Broadband development effort
    - Poly Phase Filter Bank personality
    - Output - 2Gbps Mark5B emulation mode
    - UDP/IP with 32 sequence number outside of the VLBI Payload.
    - Comparison with existing Haystacks DBE1
      - VSI-H output
  - Future
    - BBC personalities (NRAO)
    - VDIF payload format (Haystack)

Mark5C

- Record only device
  - 4Gbps raw data rate
- 10G Ethernet daughter card
  - Version under test at Haystack
    - Receive only
    - Initial version of FPGA load
      - Minimum featured (no crc checking)
    - Verified up to 4Gbps data rates to disk
  - Awaiting next feature set
    - Continue testing
    - Test plan available
      - http://www.haystack.mit.edu/tech/vlbi/mark5/mark5_memos/076.pdf

Mark5C Application

- Version 0.9 release
  - Target date was 5/25/2009
    - Expect beginning of June
  - Write capabilities
  - 2 Gbps Mark5B Compatibility Mode
    - Bank Mode operation
  - Non bank mode 4 Gbps capability (not fully functional)
  - Driven by 2010 Broadband development effort
    - Using Mark V Hardware Correlator
- Version 1.0
  - Fully Functional Non-Bank mode
    - Summer of 2009

Thank you