DBE Software Command Set

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Agenda

• Background
• Communication Model
• Command Set Functional Breakdown
• Conclusion
Background

• 2nd Generation DBE
  – DBE v2
    • Haystack
  – VDBE
    • NRAO

• DBE version 2 software requirements
  – Guideline for command set

• Command / Control difference from v.1
  – Mark5 functionality moved to a separate device
    • Packet formatting now in DBE
      – Timing
      – Headers
Background (cont)

• Application will be running on v.2
• Communication ports
  – TCP via standard Ethernet Interface
  – RS232 will also be supported
    • Minimal functionality
• Commands adhere to VSI-S format
Command Set

- Initialization
- Timing
- General
- Data Communication
Initialization

- DBE FPGA bit code personality
  - dbe_personality
- DBE FPGA bit code mode
  - bc_modes
    - Additional information pertaining to sub-modes
      - Pulsar, geodetic, etc.
- Data transmission mode
  - mode
Timing

• Specify the clock parameters
  – dbe_clock_set

• Data Observable Time (DOT) clock information (query only)
  – dbe_dot?

• set the DOT clock on next 1pps tick
  – dbe_dot_set

• Increment the DOT clock
  – dbe_dot_inc
General

- Work in progress
- System status (query only)
  - Status?
Data Communication

- DBE 10G Network Interface Configuration
  - dbe_ifconfig
- Destination MAC addresses
  - MAC_list
- Channel ID to destination MAC address resolution
  - car_cache
- Packet transmission criteria
  - packet
- Send a valid data stream out of the DBE ON/OFF
  - data_xfer
Conclusion

• Command set is a work in progress
• Dependent on hardware implementation
  – Features
• Requires input from greater group
• Get out the stray man to group