SCHED and VEX

Craig Walker
NRAO
SCHEDULING CONCERNS

• What needs to change for scheduling?
• DBE
  – Specify personality
  – Describe the setup
• Mark5C - No required changes?
  – Specify which recording system
• Software correlator
  – VEX as input to generate correlator jobs
  – Support new features
• Bookkeeping
DBE

- Use current baseband descriptions to describe each data stream
  - Frequency in IF (and RF)
  - Bandwidth, (re)sample rate, and number of bits
    - Independent for each bit stream?
  - IF channel and DBE device used
  - Calibration data request (Ts, Power, Pulse Cal…)
  - ALC style

- New items
  - DBE personality (also needed for checking setup)
  - Which hardware DBE to use (normally default)
  - IF sample clock and Nyquist zone
MARK5C

• Schedule needs to provide:
  – Record start and stop time
  – Bit stream descriptions (≈DBE setup)
  – Predicted byte totals for operations planning
  – Routing (eVLBI etc)
  – Channel/bank correspondence?
    • Will both banks always be played back together if recorded together? How about hardware correlators?
  – Anything else? Most of above already provided
SOFTWARE CORRELATOR

• Most required parameters don’t change
  – Source positions, station locations, times, frequencies etc.
  – Exceptions - anything new?
• Scheduler should not need to know details of correlator
  – Shouldn’t need to know target correlator at observe time
• Can recorders always be stopped between?
  – Can we drop all the infrastructure for early starts?
BOOKKEEPING CHANGES

• Allow a station to have multiple systems
  – Keep each system’s description separate
  – Have system specified in schedule

• Base correlation on user supplied source positions?
  – Normally provided by SCHED or SKED from catalog
ADDITIONAL FEATURES

• These are items that need to be added eventually but not immediately
• Multiple field centers
• Pulsar gate
• Burst mode description