# 1450.4 meeting minutes – 06/11/09

**Attendees**: Bruce Parnas, Jim O'Reilly, Ernie Wahl, Ajay Khoche, Markus Seuring

**Not present**:

**Agenda:**
- IEEE Meeting Preamble (No discussion of proprietary information)
- Meeting minutes from most recent meeting (06/04/09) are now posted on the web.
- Review and finalize updated binning syntax. Work-in-progress revisions to syntax document are posted on the web.
    - Goals: We'd like to be able, in the binmap statement, to specify one or more softbins (one from each axis used, if using more than one axis) to a single hardbin. The softbins and hardbins can be specified by the formal hierarchical notation, or by bin name or number, if those names and numbers are unique across all bins in the hardbin or softbin bindef.
    - We'll also want to discuss whether the soft bins and hard bins should have identical structure (i.e., should they both have a retest field?).
    - Finally, we'll discuss the syntax needed to set bins. The following scenarios will probably need to be supported
        - Setting one bin, clearing any previously set bin.
            - (syntax - set bin <binlist>?)
        - Setting one or more bins, leaving any previously set bins unchanged.
            - (syntax - open bin <binlist>?)
        - Clearing one or more bins
            - (syntax - close bin <binlist>?)
    - As necessary, we'll use Ernie's binning document as reference.
- Issues resolved:
    - Will have separate bin definitions for soft bins (SofBinDefs) and hard bins (HardBinDefs).
    - TestProgram block will have separate statements for selecting one of N SoftBinDefs, and one of N HardBinDefs.
    - Soft bins and hard bins (in the SoftBinDefs and HardBinDefs) have the same structure (the same sets of allowable elements).
    - Only a single axis (unnamed – as is expected to be the normal case -, or named) is allowed for HardBinDefs.
    - Full hierarchical access notation for referring to a bin (hard or soft) is always allowed. If bin names (soft or hard) are unique across the selected soft or hard bin definition, then the bin name can be used as a shorthand for referring to a bin.
    - Bin numbers (note: these are bin numbers, not bin index, which is only unique across an axis) must be >=1, and MUST be unique across an axis. If bin numbers are not specified explicitly when defining a bin, then the default bin number is BIN_INDEX + 1 (where BIN_INDEX is the index for the bins, and is 0-based (i.e., first bin is index 0, Nth bin is index N-1).
        - <span style="color:red">Question: Do we want to require that bin numbers bin unique across a bindef? If so, then the default bin numbers will be group index + axis index + bin index + 1; We'll discuss this issue at next week's meeting. My notes on this (that bin numbers must only be unique across an axis) conflict with the comment I had placed in the syntax document (that bin numbers must be unique across a bindef).</span>
    - If bin numbers are unique across a selected bin definition (hard or soft), then the bin number can be used as a shorthand for referring to a bin.
    - In the binmap statement, it is illegal to map pass soft bin(s) to a fail hard bin, or to map fail soft bin(s) to a pass hard bin.

- When mapping multiple soft bins to a hard bin, all bins (soft and hard) must be either pass or fail bins in a single Map statement.
- The actions blocks of flows, tests, or flownodes will have statements to set or clear bins. In these statements ( SetBin (SOFT_BIN_NAME | **All**) or ClearBin (SOFT_BIN_NAME | **All**) ), only the softbin can be set. The hard bin is set at bin mapping time, which occurs at end of test processing.
- We believe that the binning syntax and semantics as it now stands will allow us to represent all types of binning and binning strategies in use on test systems from the last 20 years or so.

- Actions:
  - Jim:
    - Update syntax document based on latest discussions and agreements.
    - Finalize proposals for handling spec/category/spec variable dot0-dot4 integration (in progress)
    - Query the users of various systems to learn more about binning on those systems. Primarily, the older Advantest and Credence systems, and also some of the Teradyne analog/mixed-signal systems (A5XX, Catalyst).
  - Ernie:
    - Review Jim's updated syntax doc for consistency. Does it accurately represent what we agreed to?
    - Update binning conceptual document to reflect decisions made regarding binmap syntax (ongoing per discussions).
  - Bruce:
    - Review and update TestBase proposals.
      - Distributed. Will be discussed in the coming weeks.

- Next Meeting 06/18/09.

For reference STIL .4 information can be found at the IEEE STIL website:
http://grouper.ieee.org/groups/1450/ (select the P1450.4 link from the table) or use the direct link
http://grouper.ieee.org/groups/1450/dot4/index.html