1450.4 meeting minutes – 09/02/14

Attendees: Ernie Wahl, Jim O'Reilly, Ric Dokken, Scott Franzen , Carey Garrenton, Greg Maston, Paul Reuter
Not present: Markus Seuring, Oleg Erlich, Julia DiChiaro, Ajay Khoche, Mitsuo Fujii

Agenda:

- Define semantics for relational operators as applied to a SpecVariable, e.g., SPEC_VAR_NAME == None. Proposal: spec variable field to be compared is specified by a Selector. When no applicable selector is present, the Typ field is specified implicitly. Ref Ernie email dated Wed 8/27/2014 10:00 AM.
- Review section *6.11.3.2 Shared Global Variable Memory*, special attention to initialization sequence.
- Data-capture (delayed pending Mentor Graphics input):
  - Review proposal:
    - Consider separating data-capture from manipulation (extract serial or parallel data) from interpretation.
    - Try using existing data-types before creating new ones.
    - See Jim O'Reilly email dated Tue 8/26/2014 12:16 AM
  - Review ramifications of making *captureMemArm* a function returning a Boolean value (section 6.8 and 6.6.4). See line 2268 (17 of example), i.e., define as both *function* and *action*? Would defining a standard test that captures fail memory (and compares signatures?) preclude having to address the previous question?
- Review Annex G Block Sequence
- Review Annex B Name Spaces
- Seeking help with coding examples: writing coding examples is an excellent way to spot documentation shortcomings. More participation equals more scrutiny. A complete production test program would be useful.
- Review Syntax Document organization and general content in light of emails:
  - Ric Dokken Sat 5/17/2014 4:09 PM
  - Jim O'Reilly Mon 5/19/2014 12:45 PM
  - Ric Dokken Tuesday, May 20, 2014 3:52 PM
  - Jim O'Reilly Tue 5/20/2014 10:57 PM

Summary:

Line numbers if any are with regard to STIL.4 syntax document dated Sept. 01, 2014.

- Long discussion about item #1 – that is, what is the behavior if, in (say) a PatternExec, a Category is specified, but no Selector block (which is used to resolve which of the spec variable values Min, Typ, Max, or Meas is actually used) is specified. Is there a "default" value of Selector (for instance, Typ), when no Selector is specified? Reference an email exchance between Jim and Greg Maston in Feb. 2009 regarding this issue:
  - QUESTION PREVIOUSLY POSED BY JIM O'REILLY TO GREG MASTON (via email, dated Friday, February 06, 2009 3:29 PM, Subject: Need opinions on STIL usage (dot0, dot1):
    - What happens if a spec variable is defined in a spec block, and the values for min, typ, and max are all listed, but the variable is not called out in the currently-active selector block (or if no selector block was specified)? How is the timing value resolved? Is the typ value used, or is it an error to not have a variable specified in a selector (or to have no selector) when that variable has more than one value? I believe this is the case, based on the text description for typ listed in section 19.1, p95 (103 of the pdf) - "Typ: Typical value for the variable (default if no Min, Typ, Max specified). That means that if I have a spec block with min/typ/max values, but no selector, the typ values are used. Right?
  - GREG MASTON REPLY (via email, dated 2/13/2009 5:37 PM, Subject: RE: Need opinions on STIL usage (dot0, dot1))
    - Ok, here goes. Spec blocks are meaningless. They are containers for Category blocks. Now, because of the ability to split a Category across multiple Spec blocks, there is an aggregation process (is that meaningful?) that collects all variables defined under a specific Category across all Spec blocks together. But it is only the Category that is pertinent here….
      - To make a set of variables "active" you must reference a Category name.
      - To make a set of values "active" you must reference a Selector name.
      - I believe the intent of the process was not to allow a variable to be accessed *unless* it is referenced in a selector. This is an assumption from the example pg 96, which has a bunch of variables that were defined only Typ values (because Typ is the default), but are still explicitly listed in the selector. The example

could have had an empty selector, or one that was missing a variable reference, but it didn't, I think that if one of those variables was NOT listed in the selector, that variable would not be defined or present at all. The reference you quote above, 103 of the pdf) - "Typ: Typical value for the variable (default if no Min, Typ, Max specified) identifies that a single value on a variable is automatically defined to be the Typ value, in the situation where Typ is not explicitly defined on the variable definition. I don't think this is meant to be extended to what happens if a selector does not specify that variable. But honestly, I don't know. The STIL specification is silent on what happens if a variable is referenced in an expression that is part of a Category but not listed in the Selector. I can find no explicit statements resolving this situation, which means that you are on your own (and/or you generate a clarification on what to do) in the situation where the Selector does not identify a variable.

- CONSENSUS: read as implicit in STIL.0: when Timing/DCLevels use variables, Category is required; when Category is required, a Selector is required. **There is no default selector when a Selector block is not specified.**
- CONSENSUS: do not clarify the above in STIL.4

Action Items:

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Reference documents (If logged into your google account, can edit. If not, can only view.)

- http://spreadsheets.google.com/ccc?key=0AoKiPr1I9LY9dF95dkhSTVVqOU5GbWJyWFNhY0JPX0E&hl=en
- Namespace resolution examples document: http://docs.google.com/Doc?docid=0AYKiPr1I9LY9ZGY4dmNjNTNfMGZkOGJ2bmZy&hl=en
- Scratchpad spreadsheet: https://spreadsheets0.google.com/ccc?key=tQ93VDnAZ-Cl9RFKpPrPDzw&authkey=COzyro8K&hl=en&authkey=COzyro8K#gid=0
- Scratchpad "Word" doc: https://docs1.google.com/document/d/1zVu2M8nTJsrm0nFbBhiuM8-YRt4ErYqdy_uSa3x3_T4/edit?authkey=CLrgwrsG#

Next meeting: 09/09/14.

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