

Title: STIL 1450.1 Internal Resolution of 1450.1-D17

History:

- 10/5/03 - issues carried over from D16. Marked with <D16>. Plus issues from wg meeting at ITC-2003.
- 10/23/03 - updated from wg phone meeting.
- 11/6/03 - updated from wg phone meeting.
- 11/20/03 - updated from wg phone meeting.
- 11/28/03 - more change requests received
- 12/4/03 - updated from wg phone meeting.

Comments by:

CTL - STIL.6, CTL working group
DM - denis martin, Synopsys
DO - don organ, Inovus
GR - gordon robinson, IEEE
JC - John Cosley, Source III
JD - Jason Doege, Inovus
PR - paul reuter, Mentor
RK - rohit kapur, CTL chair
TT - tony taylor, STIL.1 chair
WG - STIL.1 working group

Table 1: Summary of Issues with Draft P1450.1-D17

Ident	Issue	Resolution
DM-1	9/29/03 - The type of a variable can be changed from domain to domain. In fact, if the variable is only used in a domain named block, a parser doesn't know the useage until a context is established.	10/5/03 - The solution is to require that the RHS of an expression be explicit. The default is always wfc. If other than wfc, then the RHS of the expression should use \d for a decimal value, \h for a hex value, or \W for a variable/constant. x/x/03 - agreed to by wg 11/28/02 - see related issue - JC-1

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DM-2	<p>10/1/03 - ScanStructures, clause 15 - suggestions:</p> <p>1) ScanCellType - a new statement which contains the If-CellIn-Cell-Out statements. Then the scan cells reference the type (or use an unnamed global type). This will greatly reduce file size.</p> <p>2) InheritScanStructures - a new statement which causes a separate set of scan cells to be included in the same name space.</p>	<p>10/23/03 - changes made to D17 document and agreed to by wg.</p> <p>11/18/03 - one additional change allows for a null ScanCellType to be defined which means no scan data is to be consumed. The motivation for this was to define lockup latches.</p> <p>11/20/03 - all changes agreed to by wg</p>
DM-3	<p>11/1/03 - NameMaps is one of the largest data structures in a stil file. We need a more compact representation of this data.</p>	<p>11/18/03 - Denis provided a solution using InheritNameMap that accomplishes the desired compaction. It has been added to the document.</p> <p>12/4/03 - changes agreed to by wg</p>
DM-4	<p>11/26/03 - we don't explicitly define how variables are handled in parameter-passing in procedures and macros.</p> <p>It is both Denis' and Greg's understanding that assigning values to variables, in the CALL to a procedure or macro (that is, as a parameter), are DEFERRED until that variable consumes that parameter in a "var=#;" construct inside the procedure or macro body.</p> <p>Denis says that the current dot-6 examples appear to assume that assigning the value to a variable occurs in the call statement, without consuming the value in the body of the macro.</p> <p>This is not consistent with parameter handling in dot-zero. If a parameter is passed in dot-zero, and it is never used/consumed in the body of that procedure or macro, then that assignment never occurs.</p> <p>The dot-6 examples are easily corrected, by adding a C { var=#; } statement at the start of each procedure or macro, to identify where that assignment actually occurs.</p>	<p>11/28/03 - added new sub clause 20.2 to define the method of passing signal variables and integer variables to macros and procedures.</p> <p>12/4/03 - changes agreed to by wg</p>
GM-1	<p>9/29/03 - Clause 10.4 attempts to establish evaluation criteria for expressions that use a variable on the LHS and RHS. Strongly suggest that this be called an error condition. For example: C {FOO=6; BAR=FOO+1; }</p>	<p>9/29/03 - WG agreed with making this an error. The example in clause 10.4 will be changed to use multiple C statement so the example will be: C {FOO=6;} C {BAR=FOO+1;} x/x/03 - agreed to by wg</p>

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GR-1 <D15>	<p>Fail data is a different concept from Pattern data, and should not use the identical syntactic form. A new keyword expresses the fact that this is different information.</p> <p>Annex N The "tag" mechanism is fundamentally ambiguous when "vector splitting" occurs. Earlier comments show how it fails to adequately specify many contexts. In general I want to see clear syntactic entries identifying information as fail data.</p>	<p>9/23/03 - New clause 22 - PatternFailReport has been added to address this.</p> <p>x/x/03 - agreed to by wg</p>
JC-1	<p>9/29/03 - Numerous errors, inconsistencies, and old syntax in the examples.</p>	<p>10/5/03 - Corrected the document per comments from John Cosley at ITC.</p> <p>x/x/03 - agreed to by wg</p>
JC-2	<p>11/20/03 - Issue with interpreting '=='; John identified that it would be desirable if this operator was symmetric on both sides of the '==', which makes the interpretation of the data to be uniform. The ambiguity problems here are notably with WFC_lists and signal/var names, and integer values with WFC_lists.</p>	<p>11/20/03- Discussion about making the interpretation of the expressions uniform, in particular, interpreting an expression not otherwise differentiated as a WFC_list by default, whether it is on the LHS or RHS of the '=='. This would be a default expression interpretation rule for all contexts where expressions are present; expressions are WFC_lists unless otherwise delineated. There are several mechanisms of delineation: single-quotes for signals/groups/variables, \w, \d, etc.</p> <p>11/28/00 - Per further discussion by Tony, Greg, John Cosley, it was proposed to change the operators to := := for integers, and thereby remove the need for single quotes around expressions.</p> <p>11/28/03 - Clause 6.2 and all examples in the document changed to reflect the above decision.</p> <p>12/4/03 - changes agreed to by wg</p>
JC-2	<p>12/4/03 - Clause 11 now provides for the automatic creation of a signal group when the [] construct is used. What happens if the list is non-contiguous - e.g., A[1 2 3 5].</p>	<p>12/4/03 - WG decided to add another rule that states that the automatic group is created only when the ellipsis form is used. Note: "A[1 2 3 4]" will not result in a group called A, whereas "A[1..4]" will. Changes have been made to the document.</p>
JC-3	<p>12/4/03 - Now that the tics around expressions and expression tokens has been made unnecessary, are the allowed as optional syntax. And, what about constructs in STIL.0 that state that they are required, like in waveform definitions.</p>	<p>12/4/03 - Working group decided that the tics should optionally be allowed around integer/real expressions wherever they occur. A statement to this effect is added to clause 6.2.</p>

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JD-1	10/1/03 - Need an example of lable and X statement usage	10/17/03 - Added annex N as provided by Jason. 10/23/03 - Annex approved by wg.
TT-1	10/5/03 - clause 6.11 - scan cell names - 1) The INSTANCENAME is redundant with what is done in 1450.6. 2) The ::CHAINNAME, aside from being awkward syntax is unnecessary since all cell names and chain names should be in the same name space.	10/15/03 - Changes made to Table 3, clause 6.11, and examples. Clause 15.4 (hierarchical scan scan structures) has been removed. This facility is available only with 1450.6 (CTL). Annex L.3 (complex multi-bit cells using heierarchy) has been removed. 10/23/03 - Changes agreed to by wg.
TT-2	11/28/03 - Due to the removal of tics (GR, DM-1, JC-2), The statement "Loop Data {}" now presents a conflict. Is the token "Data" a keyword or an integer variable.	11/28/03 - Changed "Loop Data" to a single token "LoopData". 12/04/03 - Changes agreed to by wg.
WG-1 <D16>	9/2/03 - 1450.3 had adopted the convention of "STIL file/stream", rather than just "STIL file". This convention should be adopted in 1450.1 also.	10/17/02 - changes made to the doc x/x/03 - changes agreed to by wg
WG-2	12/4/03 - The use of a boolean expression in a Loop statement is unnecessary since this functionality is identical to the While statement.	12/4/03 - Working group agreed to remove boolean from the Loop statement. Changes are made to the document.