

**Table 1: Updated LRM Issues after discussions (16th April, 23rd April, 30th April 2002)**

Description/Issue	Issue # (Priority #)	Action	Assigned To	When
Real Valued Ports & real nets	21 (1) 12 (4)	Kevin has sent some write-up on wreal on his “Verilog-AMS views” documentation This document has to be reviewed in one of the committee calls sooner rather than later.	Kevin	Not Sure
Back Annotation problem	7 (2)	none. Kevin has sent some mails/docs related to this. He has reposted the same.	Kevin	Post 2.1
<p>Discipline Resolution. Algorithm is based on net types rather than driver that appears on mixed net which is Antrim’s point of view.</p> <p>Related Issues:</p> <ul style="list-style-type: none"> <li>- remove algorithm from chp 8 and delete Annex F to make chapter 8 generic to include alternate views on MS nets</li> <li>- Driver-Reciever segregation</li> <li>- placement of A/D converter</li> <li>- empty disciplines, undeclared nets</li> <li>- how to deal with leaf level wires</li> <li>- no clear definition on OOMR</li> </ul>	<p>26 (3)</p> <p>36 (7)</p> <p>2 (10)</p> <p>3 (8)</p> <p>10 (39)</p> <p>59 (27)</p> <p>60 (28)</p>	none. Some DR issues have been addressed as part of 2.1 which have been identified and addressed seperately		

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<b>LRM currently does not support instantiation of digital primitives in analog blocks</b>	None	<b>This came up as part of discipline resolution, and digital portnames have been reincluded to support this. A proposal has already been sent and these names shall not be used for named override in digital primitive instances</b>	Jon	2.1
<b>Ambiguity in connect-resolveTo statement during Discipline Resolution. Not clear how the connect rules apply</b>	None	<b>This came up as part of DR discussions. A proposal has been submitted related to the changes in Section 8.7.2 clarifying connect-resolveTo rules.</b>	Sri	2.1
Concurrency. MS synchronization mechanism is not clearly defined	25 (5)	Proposal is being written and shall be submitted soon.	Martin	Not Sure
<ul style="list-style-type: none"> <li>- LRM does not clearly illustrate the MS simulation cycle and the initialization is not clearly defined. Illustration of IC analysis in AMS is non-existent.</li> <li>- which solver starts first</li> <li>- Initialization mechanism</li> <li>- Rules for synchronization are not sufficient to produce portable code</li> </ul>	31 (16) 17 (18) 5 (19)  64 (32) 65 (37) 23 (44)	Should try to sync up with VHDL-AMS.	Jon	Not Sure
<i>System tasks and function. Issue with \$random</i>	32 (6)	<i>\$random from Verilog 1364-2001 is planned to be used in AMS along with application notes documented</i>	??	2.1

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Truncation vs Rounding mechanism for converting from analog to digital times	1 (9)	Probably use VHDL-AMS mechanism. Resend issue to committee. This has been done and kevin has posted why “rounding” should be used. No other responses have been got in favour of “truncation”	Sri	Not Sure
<b>Accessing discrete nets &amp; variables (Section 8.3.2 cleanup) - X &amp; Z bits access in analog</b>	<b>24 (11), 58 (20)</b>	<b>Rewrite section 8.3.2 and propose to committee. This has been completed</b>	<b>Sri</b>	<b>2.1</b>
<i>Issue with genvar</i>	<i>9 (12)</i>	<i>Use genvar mechanism from Verilog digital std. There are some issues with this since support of ‘analog_for’ and other related issues should be looked</i>	<i>Martin</i>	<i>2.1</i>
External module definition to support and import spice netlists in Annex E	6 (13)	none. I think this is going to be vendor specific. That's the way it's looking from the Committee discussions.		
Support for global design variables	85 (14) 35 (15)	relook at dynamic parameter proposal. Martin to have a look and repost.	Martin	Post 2.1
<i>Ambiguities with if-else-if syntax</i>	<i>87 (17)</i>	<i>Martin to illustrate this example in his ‘genvar’ proposal which will address this problem.</i>	<i>Martin/Sri</i>	<i>2.1</i>
<b>‘default_discipline’ usage is unclear, and how to deal with analog and digital primitives</b>	<b>45 (21) 13 (24) 47 (38)</b>	<b>Write a proposal on default disciplines for analog primitives and digital ones. This has been completed</b>	<b>Jon</b>	<b>2.1</b>

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<i>Initial value of wreal to be set to 0.0 if not defined</i>	43 (22)	<i>LRM will state that the value will be 0.0 if it hasnt been determined at t=0</i>	<i>Jon</i>	<i>2.1</i>
<i>Contribution statements in IC analysis</i>	50 (23)	<i>Contribution statements shall not be allowed as part of initial conditions</i>	<i>Martin</i>	<i>2.1</i>
<i>Confusion on the way bi-dir model is being stated in Section 8.6</i>	61 (25)	<i>The diagram illustrating the example will be rewritten and the example shall reflect the diagram</i>	<i>Jon</i>	<i>2.1</i>
Mixed Signal language features	8 (26)	There is no specific issue that has been stated and hence shall be dropped for now		
<i>Driver Type function. There should be a driver access function for finding type of driver. driver_type_function ::= \$driver_type(signal_name, signal_index)</i>	4 (29)	<i>This was agreed and kevin will prepare the writeup material for LRM Kevin has already posted the proposal to the committee</i>	<i>Kevin</i>	<i>2.1</i>
Analysis dependent function should be clearly defined with use of tables to denote how they behave.	16 (30)	This should also include clarifying currently existing confusion on DC Sweep mechanism. A seperate issue to be posted regarding behaviour of DC sweep		Not Sure
Net resolution function unclear. This replaced assign dval=dval syntax.	62 (31)	Jon is unclear on what this issue exactly is. Shall repost this	Jon	Not Sure
Issues with discipline and nature compatibility.	86 (33)	Relook at this problem again	Sri	Not Sure

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<i>LRM cleanup typos - Section 8.3.2 fix</i>	<i>84b (34)</i>	<i>This has been accepted and shall be updated. Part of this has already been addressed in 2.0</i>	<i>Sri</i>	<i>2.1</i>
<i>Issues with regards to example 3.8 where derived disciplines are used but BNF does not support them</i>	<i>88 (35)</i>	<i>This has been accepted and shall be updated in the document. Suggestion #3 would be dropped</i>	<i>Sri</i>	<i>2.1</i>
<i>TRI &amp; WIRE are aliases</i>	<i>42 (36)</i>	<i>LRM should specify tri &amp; wire are aliases</i>	<i>Jon</i>	<i>2.1</i>
<i>Syntax consistencies with 1364 in BNF snippets specified while describing the feature</i>	<i>53 (40)</i>	<i>It was agreed that the snippets shall be the same as the way it has been specified in the BNF of AMS lrm. Remove “;” in table 6-1 to make it consistent</i>	<i>Jon</i>	<i>2.1</i>
<del>New mechanism for doing insertion of connect modules using connect rules from the previous versions</del>	<del>28 (41)</del>	<del>There is no real issue mentioned in this.</del>		
<del>Behaviour in top level modules</del>	<del>19 (42)</del>	<del>Its agreed that top level module can have behavioural stmts. There is no issue that has been identified.</del>		
Mixed Signal Initialization (digital). Verilog-D simulators are transient in operation and hence there is no mechanism defined for static/steady state simulation	92 (43)	This issue shall be taken up later.		Post 2.1

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Driver access and net resolution functions	29 (45)	<p>For the time being it was agreed that the driver access functions would be called from connect modules only. Otherwise it would involve a change in Verilog-D.</p> <p>For missing functions – no way to discover what change caused driver_update(). Nothing new is going to be added. \$driver_type might be extended later</p> <p>Jon to clarify what “default” means in the explanation for net_resolution function.</p>	Jon	
Spice vs Verilog name conflict. There is an issue while instatiating two modules with same name defined in different abstraction (spice v verilog)	80 (46)	<p>Lots of discussion but not clear whether LRM is going to change with regards to this.</p> <p>There is no name scoping mechanism in LRM currently.</p> <p>Error will be issued when there is a name conflict.</p> <p>Cadence uses some sort of header file mechanism to resolve this without error, and Antrim uses standard library methodology (pick the first match from the library).</p> <p>Looks like this is going to go the vendor specific way.</p>	??	??

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Supplementary driver access functions.	30 (47)	none		Post 2.1
<i>Switch branch syntax not defined in BNF tho' explained in an example Implicit Switch Branches</i>	<i>55 (48) 51 (51)</i>	<i>The BNF will be updated to allow switch branch syntax and made legal.</i>	<i>Jon/Sri</i>	<i>2.1</i>
Adding Support for 'NaN & X' into Verilog-AMS. Contribution of these values to a branch would be an error, however analog variables should be able to propagate this value.	89 (49)	There has been lot of debate on this over many calls. Kevin has been pushing for support on this because Verilog-D handles it. Martin talked to 1364 committee with regards to this and apparently was told that its not a good choice to support the same.	Martin	
<del>Discipline rules for branches.</del>	<del>48 (50)</del>	<del>Not clear what the issues stated is</del>		