	A	B	C	D	E
1	**IBISv5.0 AMI specification BIRD task list**				
2	**Description**	**Clarification or correction**	**New feature**	**BIRD file name**	**Date done**
3					
4	**Parser developer questions (and some more related ones)**				
5	**first token** - is it required to be the file name? **no, the first token in the file actually does not need to be checked for matching to the filename; while this may be added as a restriction later, this is a LISP-ism and so may actually be any string.**	5.1		Definitions_BIRD.txt	
6	**Model_Specific** - is it required or optional ("The file must have 2 distinct sections, or sub-trees")? **(provided to parser developer by Arpad) Per our discussion today in the ATM meeting and Ambrish's approval, please tell the parser developer, that the intent was to have an optional Model Specific section in the .ami file which means that there is no requirement to have 2 sections at all times in the .ami file. We will write a BIRD to make the necessary changes in the specification.**	5.1			
7	**case sensitivity** - are .AMI files case sensitive? **yes**	5.1		Definitions_BIRD.txt	
8	**line length limit** - is there a line length limit in .AMI files? **Only the Description string in the .AMI file was intended to have a 120 character limit *per line* (the Description string can span multiple lines). The rest of the .AMI file lines are effectively unlimited in length.**	5.1		Definitions_BIRD.txt	
9	**comment character** - define comment character for .AMI files in the AMI portion of the spec. - what is the comment character in .AMI files? **For .AMI files... only the | character is acceptable as a comment character, regardless of what the calling IBIS file uses.** - why is "//" used in an example? **That example is a C source code excerpt from the DLL**	5.1		Definitions_BIRD.txt	
10	**white space** - define what it is in .AMI files **spaces and tabs, including new lines** **need to see the reason for this** **in .AMI file anything is allowed** **No attempt needs to be made to be consistent with .IBS files.**	5.1		Definitions_BIRD.txt	
11	**string** - define what it is	5.1		Definitions_BIRD.txt	
12	**integer** - define what it is	5.1		Definitions_BIRD.txt	
13	**float** - define what it is	5.1		Definitions_BIRD.txt	
14	**scale factors** - clarify **no .AMI files do not permit scaling factors or suffixes such as p, n, etc. Scientific and floating point notation is permitted.**	5.1		Definitions_BIRD.txt	
15	**min/typ/max** - define possible values - is increment always positive? **yes** - does default have to obey min <= default <= max? **I would think yes** **Default must be a legal value according to Format.** **Sweep starts at typ, tool goes up closest to max, then goes down closest to min.** **Increment is therefore always a positive number.**	5.1			
16	**Init_Returns_Impulse** and **GetWave_Exists** True - inconsistent (correct) **explain ???** - is the parameter "Default" not allowed for it? **(provided to parser developer by Walter) There is no default for these two; they must be specified. The BIRD should be amended to say something like:** | **and are required if the [Algorithmic Model] keyword is** | **present. The entries following the reserved parameters** | **points to its usage, type and value. All reserved** | **parameters must be in the following format:** | | **(parameter_name (Usage <usage>) (Type <data_type>)** | **(Value <values>) (Description <string>))** **further down:** | **Reserved Parameter Required Value Info In Out InOut** | | **Init Returns Impulse Yes True/False X** | **GetWave Exists Yes True/False X** **Technically Init is always used, and is required to be called before GetWave. The output, or modified impulse response of Init may or may not be generated. If not generated, then it is academic to say that the EDA tool can "use" it.**	5.1			

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1	**IBISv5.0 AMI specification BIRD task list**				
2	**Description**	**Clarification or correction**	**New feature**	**BIRD file name**	**Date done**
17	**"Format", "Value", "Default"** - define rules **1) For the first 5 Reserved Parameters (listed on p. 145 of the PDF and below), the following two rules are to be observed:** **- "Format" is illegal and is therefore prohibited** **- "Default" is required and must be present (does this make sense for Usage Info???)** **2) For all other Reserved Parameters and model-specific parameters,** **- "Format" is required and must be present** **- "Default" is optional and may or may not be present** **Recall that the first 5 Reserved Parameters covered by (1) above are:** **GetWave_Exists, Init_Returns_Impulse, Use_Init_Output, Max_Init_Aggressors and Ignore_Bits.** **This means that the text description on page 144 of the 5.0 specification is correct. Table 1 and Table 3 of Section 6c have certain ambiguities, as you have highlighted, which these two rules will correct. A future version of the specification will make this clearer and more explicit.** **Note that these two rules build in an ambiguity about the relationship between "Format" and text strings. We advise flagging a warning that these are not currently parsed or covered in the specification (your choice).** **Does this need to be corrected???**	5.1			
18	**Table** - is a space required after "Table"? The "Table" format is specifically named as a "branch", which must have white space separating its name, "Table", from its value. pg 186: | 2. Parameter name/value pairs are always enclosed in parentheses, with the | value separated from the name by white space. pg. 140: | Table The parameter name "Table" names a branch of the parameter | tree rather than a single leaf. One of the leaves of this | branch can be named "Labels" and, if provided, is to be | assigned a string value containing a list of column names. **answer ???**	5.1			
19	As per the above BNF, the Format = Table syntax is invalid. **???**				
20	Syntax for leaf **???**				
21	Atul NA in Table - Not the same as NA **???**				
22	Table 1 and Table 3 of Section 6c have certain ambiguities. Note that these two rules build in an ambiguity about the relationship between "Format" and text strings. **???**				
23	What about Format Table, Gaussian, DjRj and Dual-Dirac? **???**				
24					
25	**AMI flow related**				
26	Order of EDA tool convolution and first Tx GetWave call	5.1			July 27, 2010
27	add parameter: Init_Returns_Filter		5.1+		
28	process Rx pad waveform with Rx_GetWave		5.1+		
29	**impulse_matrix** - can AMI_Init only modify the first column? - how about modifying the IR of cross talk aggressors?	5.1			
30	**clock_times** - clarify various topics	5.1		clock_times_BIRD_17.txt	May 4, 2010
31	**impulse response** - define how it is generated - clarify what is its unit - what should be done in absence of an analog IBIS model? - if Thevenin (LTI) buffer is used, what should be the amplitude? - what tap coefficients should the analog model represent? **Driver without EQ, already in spec**	5.1			

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2	**Description**	**Clarification or correction**	**New feature**	**BIRD file name**	**Date done**
32	**parameter string** (passed into the DLL) - are quotes and other special characters (tabs, CRLF, etc…) allowed? **answer ???** **A string is anything between two double quotes. Anything legal in IBIS except a double quote is allowed in that string.** - clarify rules on how it is extracted from an .AMI file	5.1			
33	**AMI parameters in / out** - describe what the purpose of parameters out is	5.1			

34	Usage related questions - clarify (Fangyi)
	1. If a parameter is of Usage Info, shall it be included in the input parameter string to the Init call?
	2. If a parameter is of Usage Out, shall it be included in the input parameter string to the Init call?
	3. If a parameter is of Usage InOut, shall it be included in the input parameter string to the Init call?
	4. If a parameter is of Usage Info or Out, can its sub-parameter be of Usage In?
	
	Walter: According to pg. 140 "Clearly In and InOut are required to be in the input parameters string. Well-written EDA tool should not put Info and Out in the input parameter string. Well-written DLL's should ignore Info and Out parameters in the input parameter string, or any other parameter that is not specified in the AMI file that the EDA tool passes to it. Well-written DLLs should put all Out and InOut parameters in the output parameter string. Well-written EDA tools should ignore In and Info parameter and other unknown parameters in the output parameter string. Well-written EDA tools should expect that all InOut and Out parameters are in the output parameter string, but handle gracefully when these Out and InOut parameters are not returns in the output parameter string.
	
	Regarding question 4, your question is worded in a misleading way. "sub-parameter" is not defined in IBIS 5.0. I believe that the following explanation does represent the in
	
	The current specification is clear that various combinations of question 4 are problematic. Assuming that parameter can be In, InOut, Info, or Out, and its sub parameter ca
	
	| 2. Parameter name/value pairs are always enclosed in parentheses, with the
	| value separated from the name by white space.
	
	One problematic example:
	
	 (root
	      (Model_Specific
	         (Xyz (Usage In) (Type Integer) (Range 0 0 5) (Description "Xyz configuration")
	             (Abc (Usage In) (Type Integer) (Range 0 –10 10) ("Description Xyz Abc control"))
	          )
	       )
	  )
	
	The following input parameter string would violate the 2. rule above: (root (Xyz 3 (Abc -5)))
	The following avoids the .2 rule, but violates various rules about describing parameters tree structures (two branches with the same name): (root (Xyz 3) (Xyz (Abc -5)))
	I tried to clear this up in the BIRD that I proposed in March. It said:
		5.1			

35	**Add: "It is only the leaves of a parameter tree that can have Usage defined for them"**	5.1			
36	Change "parameter" to "AMI parameter" in: | A leaf is a **parameter** if the leaf only contains sub-parameters. | | A parameter tree contains a root, branches and leaves. A branch of the parameter tree is | an AMI Parameter, if it has one of the following leaves:				
37					
38					
39					
40	**List from existing BIRD draft (as of February 23, 2010)**				
41	remove branches: Reserved_Parameters, Model_Specific		5.1+		
42	remove reserved parameters: Tx_Jitter, Rx_Clock_PDF	**???**			
43	remove keywords: Format, Gaussian, Table, DjRj, Dual-Dirac	**???**			
44	add keyword: Array		5.1+		
45					

46	Scott's suggestion:
	1) clarification
	    - top level clarification BIRD -> full document, rewrite 5.0 with clarifications
	        - subset -> clarification sub-BIRD-s to clarify specific things (clock_time, flow, etc…)				

47	2) new stuff in separate BIRD-s (justification and proposed solutions)				
48					

	Description	Clarification or correction	New feature	BIRD file name	Date done
1	**IBISv5.0 AMI specification BIRD task list**				
49	Bob's suggestion: One BIRD that would be needed as a starting point is to correct/clarify Section 6c statements and examples according to these rules that were agreed upon for releasing the parser.				