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Buffer Issue Resolution Document (BIRD)

BIRD ID#: {TBD}  
ISSUE TITLE: Clarification of Usage Out and InOut for IBIS AMI.  
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DATE SUBMITTED:  
DATE REVISED: April 15, 2011  
DATE ACCEPTED BY IBIS OPEN FORUM:

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STATEMENT OF THE ISSUE:

The definition of Usage Out and InOut parameters is unclear as to whether AMI\_Init and AMI\_GetWave are required to include all Out and InOut parameters in the AMI\_parameters\_out string, and what the simulator does with these output parameters.

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STATEMENT OF THE RESOLVED SPECIFICATIONS:

On pg. 140 insert after the following lines:

```
| Usage: (required for model specific parameters)
|   In   Parameter is required Input to executable
|   Out  Parameter is Output only from executable
|   Info Information for user or EDA platform
|   InOut Required Input to executable. Executable may return different
|         value.
```

inserted lines:

Algorithmic models may return (Usage Out) or (Usage InOut) parameters in the AMI\_parameters\_out argument of either the AMI\_Init, or the AMI\_GetWave functions, or both.

Each reserved parameter is described by the specification in detail so that the model writer and the EDA tool know which function's AMI\_parameters\_out argument returns any given parameter, what the meaning and format of the parameter is and how the EDA tool is expected to handle it.

The meaning of Model\_Specific parameters cannot be defined in a similar manner in the specification. However, EDA tool vendors are strongly encouraged to collect the information returned by Model\_Specific parameters of (Usage Out) or (Usage InOut) in a database and make it available to the user. Since each call to the AMI\_GetWave function may return a unique value in the AMI\_parameters\_out argument, EDA tools are encouraged to build a matrix for the database in which the parameters are organized in columns and the values collected from each AMI\_GetWave call are placed in the rows.

While EDA vendors may use techniques that best suit their product, it is expected that (Type String) parameters will be displayed in text display dialog(s) and/or text editor(s) and numeric and (Type Boolean) parameters might be post processed and/or displayed in a plotting utility.

Model\_Specific parameters must not be used for purposes which may alter past, present or future simulation results in any way. Algorithmic models are only allowed to influence simulation results through Reserved\_Parameters of (Usage Out) or (Usage InOut) whose features and requirements are fully described in this specification.

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ANALYSIS PATH/DATA THAT LED TO SPECIFICATION:

The existing IBIS specification lacks clear definition of Usage Out and InOut, when they must be included in the AMI\_parameters\_out string, and how the simulator is expected to use these outputs.

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ANY OTHER BACKGROUND INFORMATION:

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