IBIS-ATM task group report

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• **Address remaining topics in the AMI Task List spreadsheet**
  - ✓ define relationship between “Type” and “Format”
  - ✓ what are the allowed combinations?
  - ✓ can AMI_Init only modify the first column of impulse_matrix?
    • ✓ how about cross talk columns?
  - ✓ define how to generate impulse response
    • ✓ this may become part of the analog BIRDs
  - ✓ work out the syntax details for “Table”
  - ✓ ✓ some additional text clarifications

• **We are beginning to see the light at the end of the tunnel…**
Achievements

- New IBIS-AMI related BIRDs submitted since DesignCon 2011
  - BIRD 112: IBIS-AMI Clock Times Clarification
  - BIRD 114.3: IBIS-AMI Definition Clarifications
  - BIRD 115: Clarifying Min/Tip/Max in IBIS-AMI
  - BIRD 116: Add IBIS-ISS to [External Model] and [External Circuit]
  - BIRD 117.3: Parameterize D_to_A and A_to_D Converters
  - BIRD 118.2: Analog Parameter Assignments
  - BIRD 120.1: IBIS-AMI Flow Correction
  - BIRD 121.1: IBIS-AMI New Reserved Parameters for Data Management
  - BIRD 122: IBIS-AMI New Reserved Parameters for Analog Modeling
  - BIRD 123.1: IBIS-AMI New Reserved Parameters for Jitter/Noise
  - BIRD 124: IBIS-AMI New Reserved Parameters for Dependency Tables
  - BIRD 125: Make IBIS-ISS Available for Package Modeling
  - BIRD 126: IBIS-AMI New Reserved Parameter AMI_Version
  - BIRD 127.1: IBIS-AMI Typographical Corrections
  - BIRD 128: Allow AMI_parameters_out to pass AMI_parameters_in data to AMI_GetWave
  - BIRD 129: Add “polarity” argument to D_to_A Converters
  - BIRD 130: Crosstalk Clarification With Respect to AMI
  - BIRD 131: IBIS-AMI Repeaters
  - BIRD 132: Clarification of the Table Format for IBIS-AMI
  - BIRD 134: AMI Function Return Value Clarification

Analog [Model] improvements

“New Reserved Parameters” BIRDs

New since DesignCon 2011
Work in progress (for near term 5.1? adoption)

- Finish corrections to Table 1 – 3 in the specification (pg. 148-149)
- Finish Format Table and Type relationship clarifications
- Define how channel impulse response is generated

- New ambiguities were discovered which need clarification
  - **AMI_parameters_out**
    - is it optional or required for AMI_Init?
    - argument is required in AMI_Init or AMI_GetWave function call
    - null pointer or empty string is allowed if model doesn’t have anything to return
  - **msg (AMI_Init argument)**
    - where is memory allocated or deallocated?
    - is this available for AMI_Init only or can AMI_GetWave use it also?
    - should AMI_close always be required?
  - define Boolean in BNF
  - spell out the rules for “Format Corner”
    - where does the control value come from?
    (typ/min/max/slow/fast settings in EDA tool)
- Four more were classified as “new feature” for later consideration
  - what should the tool do without clock times?
  - “Labels” BIRD draft from Walter
  - need to spell out which function returns (Usage Out) parameters
  - Model_Specific parameters should not be used as (Usage Out) or (Usage InOut)
Work in progress (for later 5.2? adoption)

• The analog modeling BIRDs are being discussed
  • this is done on a “time permitting” bases
  • the discussions on the package modeling proposal from Walter “migrated” into the Interconnect Group

• Data Management and Dependency Table BIRDs
  • need more discussion, but didn’t have much activity on these yet

• Jitter/Noise parameters
  • discussions are slowly moving forward