Top 10 Issues As Seen During IBIS Model Reviews

Lynne Green

www.GreenStreakPrograms.com

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The IBIS Model Review Committee

- Chair receives IBIS files
  - Table-based models
    - VHDL-AMS / Verilog-AMS
    - Touchstone
  - Files are parsed
- Graphical checks are performed
- Files are distributed to reviewers
- Issues communicated to originator
Current Reviewers

Green Streak Programs (chair)
Cadence Design Systems
IO Methodology
Mentor Graphics
Signal Integrity Software
Sigrity
Zuken
The Good News

• Migration from s2ibis2 to s2ibis3
• More files passing ibischk4

The Bad News

• Everyone still has a “little list”
• Some old (well-known?) issues
• Some new ones
The “Top 10”: Headers & Setup

1. Characters other than [A-Z a-z 0-9 ,-.]  
   Especially parentheses  
   Mainly in [Notes] and [Copyright]
2. No [Notes] or [Source]  
   Other than legal disclaimer
3. TYP [Temperature] near room temperature
4. Rref above 200 Ohms
The “Top 10”: Data

5. Non-monotonicity in total current
6. I-V tables not passing through 0A at 0V
   Data extraction or reference voltage?
   More common in differential I/O
7. Clamp tables not covering -Vcc to +2Vcc
8. Clamp tables with no points between 0V and 2Vcc
9. Waveform tables ending too soon or too late
10. Other unexpected data table characteristics
The Facts of Life (or at least IBIS)

- More people are using the IBIS Cookbook
- More people are running ibischk4
- Model makers AND their managers need training
- Differential models need more care
- Things are getting noticeably better
- The model review committee is still needed