IBIS Accuracy at IBM

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The Past Four Years

- 11/97  IBIS User’s Group
- 01/99  I/O Buffer Accuracy Handbook
- 01/99  Test board
- 09/00  16831 Accuracy Report
- 12/00  ack program
- 05/01  IBIS and SPICE checklists
- 08/01  BIRD 70, Golden Waveforms
IBM: IBIS Producer

Quality that leads the industry
- ASX2IBIS batch processor
- Behavioral vs. circuit model correlation
- Extraction of $C_{\text{comp}}$ from circuit model
- Extraction of $V_{\text{inl}}$ and $V_{\text{inh}}$ from dc transfer curves

Hats off to Jerry Hayes of IBM Microelectronics in Burlington, VT.
ASX2IBIS Process Flow

ASX=CKT SIM; FOM=FIGURE OF MERIT; BIO=BEHAVIORAL I/O MODEL
Vinl and Vinh Extraction

![Graph showing Vinl and Vinh Extraction](image)
IBM: IBIS Consumer

Laundry List of Common Problems

- Missing min and max values
- Bogus C_comp values (not extracted from SPICE)
- Missing Vinl and Vinh
- Bogus Vinl and Vinh values (0.8 V and 2.0 V)
- Missing Cref, Rref, Vref, and Vmeas
- Min AC Endpoints not within v of (v,t) on VI curve
- Missing VT tables
Hall of Horrors: The Good
Hall of Horrors: The Bad
Hall of Horrors: The Ugly

![Graph showing voltage vs. time with legend GOOD and UGLY]
Parting Advice to IBIS Users…

- “Put it in the purchase spec.”
- Call out the IBIS checklist.
- Require Golden Waveforms.