IBIS-ATM Task Group Report

DesignCon 2026 Hybrid IBIS Summit
Santa Clara, CA

February 27, 2026

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Progress report since the DesignCon 2025 IBIS Summit

- **BIRDs approved since February 2025**
  - **233 AMI Ts2file Analog Model for Single-ended Buffers**
- **No BIRDs were rejected since February 2025**

BIRD 233 arrived too late to be included in IBIS 8.0

Pending BIRDs, BIRD drafts, potential discussion topics

- **223.1 Add support for SPIM in IBIS**
- **226 PSIJ Sensitivity**

Both of the above BIRDs were *approved* a long time ago, but they were not included in IBIS 8.0 (released in December 2025) because technical issues were found in BIRD 223.1

- **Update the AMI model examples**
- **Consider adding support for C-phy modeling**
- **Encryption (IEEE 1735)**
- **Multi-level analog buffer modeling (PAMn, C-phy, etc.)**
- **AMI_GetWave block size with continually adapting models**
- **How to handle missing min/max data?**
- **Fixing [Clock Pins]**

What did we do in IBIS-ATM all year?

- **Around February 2025 Arpad Muranyi (Siemens EDA) started working on a "cleaned-up version" of BIRD 223.1**
  - **No technical changes were intended**
    - **make it easier to read / understand**
    - **make it more consistent with the IBIS style**
    - **provide better keyword descriptions**
    - **eliminate any ambiguities**
  - **This raised a lot of questions for Kinger Cai (Arm) starting serious on and off-line discussions**
- **Walter Katz (MathWorks) requested support for a wider variety of PI analysis practices than BIRD 223.1 supports**
  - **Arpad's clean-up effort turned into a new PI proposal, co-authored with Walter**
- **The goal became to support everything that BIRD 223.1 proposed but extend it to support a broader audience**
  - **This proposal and its evolving versions were presented at every IBIS Summit since May 2025**

Additional features proposed by Walter

- **Support PI modeling for people who do things differently**
- **Add S-parameter shorthand notations (N+1 and N)**
- **Add support for TD analysis**
- **Add SPICE subcircuit support in AC and TD analysis**
  - **Remove individual pin requirement restriction in DC (support pin clusters too)**
  - **Add support for S-parameter models in DC**
- **Add current level definitions with user definable patterns for TD analysis**
- **Separate “connectivity” and “data” (targets and rules)**
  - **Support independent definitions for multiple PDN models and multiple sets of targets and rules, so that they can be mixed and matched in various combinations**

BIRD 223.1 is also evolving

- **Kinger expressed strong opposition against some of Walter's proposals**
  - **S-parameter shorthand notations (N+1 and N)**
  - **S-parameter PDN models for DC analysis**
  - **Current level definitions with user definable patterns in TD**
  - **The question was raised "why", if Walter's proposal supports everything that is in BIRD 223.1**
- **On the other hand, Kinger is also willing to make improvements and add new features to BIRD 223.1**
  - **Fix language problems**
  - **Improve keyword hierarchy (reorganize things)**
  - **Add support for TD (time domain) analysis**
  - **Add support for SPICE subcircuits in AC and TD analysis**
  - **Abandon connection by terminal name to SPICE subcircuits**
- **Arpad spent several months with Kinger and Chi-te Chen (Asus) to rewrite BIRD 223.1**
  - **An updated BIRD draft was introduced in IBIS-ATM on February 17, 2026 (last week)**

Time for decisions

- **We tried to solicit feedback from industry experts but did not receive a lot of detailed comments yet**
  - **The proposals are very large (takes a lot of time to learn and understand the details)**
  - **These techniques are not very widespread yet (too early?)**
- **But we now have two improved proposals which need to be reviewed and compared carefully**
  - **There are areas where the two proposals are converging**
  - **But there are areas where they remain different**
  - **Can we resolve the differences and make a unified proposal?**
- **If a unified proposal is not possible, we will have to make a choice between the two**

<u>Please help us in this review and decision-making process! The outcome is to benefit the engineering community (not the IBIS officers)…</u>

Questions / comments?