

IBIS Chair's Report

Douglas Burns

Chair, IBIS Open Forum

IEEE EMC SIPI 2025 Hybrid IBIS Summit

Raleigh, NC

August 22, 2025

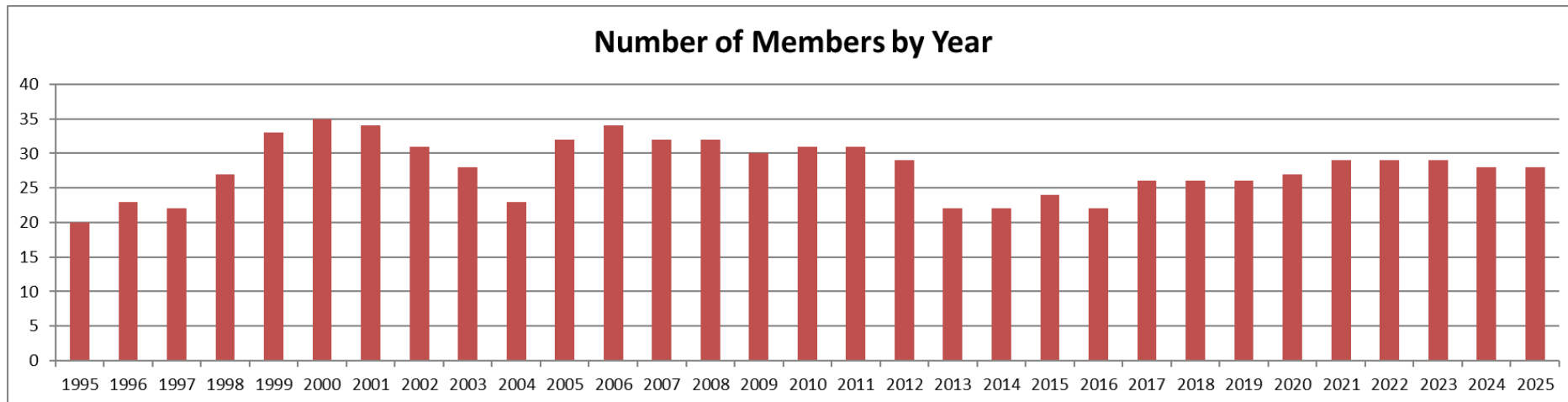


An SAE Industry Technologies Consortia Program

27 IBIS Members (Organization-based)



Synopsys and Ansys
Merged into one company



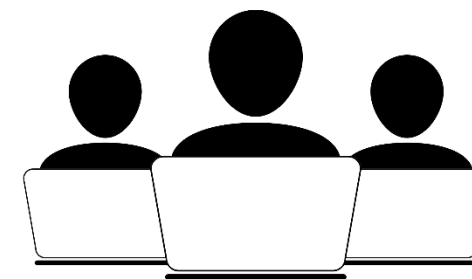
IBIS Officers June 2024- May 2025



Chair: *Douglas Burns, SI-Clarity*
Vice-Chair: *Walter Katz, Mathworks*
Secretary: *Graham Kus*
Treasurer: *Randy Wolff, Siemens EDA*
Librarian: *Zhiping Yang, MST*
Postmaster: *Curtis Clark, ANSYS*
Webmaster: *Steve Parker, Marvell*

- University Relations: *Chulsoon Hwang, MST*
- IEEE DASC IBIS Liaison: *Michael Mirmak, Intel*
- Social Media: *Edna Moreno*

Elected

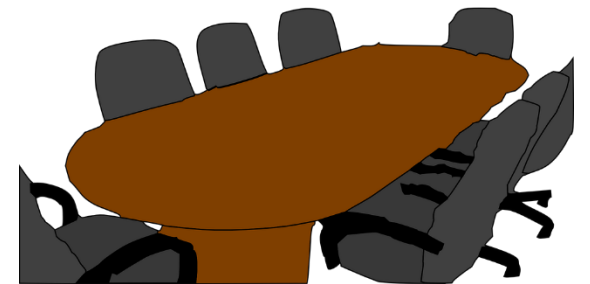


Appointed

IBIS Meetings



- Weekly teleconferences
 - Quality task group (Tuesdays, 09:00 PT)
 - Advanced Technology Modeling (ATM) task group (Tuesdays, 12:00 PT)
 - Interconnect task group (Wednesdays, 08:00 PT)
 - Editorial task group
- IBIS Open Forum teleconference every 3 weeks (Fridays, 08:00 PT)
- IBIS Summit meetings (USA and international)
 - DesignCon, IEEE SPI, IEEE EMC+SIPI, Shanghai, Tokyo (JEITA-organized)
- Participants: ~290 in 2024



SAE ITC



- SAE Industry Technologies Consortia is the parent organization of the IBIS Open Forum
- IBIS is assisted by SAE employees Tammy Patton, Phyllis Gross, and Rich Demary
- SAE ITC provides financial, legal, and other services
- <https://www.sae-itc.com/>



Task Groups



- Advanced Technology Modeling Task Group
 - Chair: Arpad Muranyi, Siemens EDA
 - https://ibis.org/atm_wip/
 - Develop non-interconnect technical BIRDs
- Editorial Task Group
 - Chair: Michael Mirmak, Intel
 - https://ibis.org/editorial_wip/
 - Produce IBIS specification documents
- Interconnect Task Group
 - Chair: Michael Mirmak, Intel
 - https://ibis.org/interconn_wip/
 - Develop on-die/package/module/connector interconnect modeling BIRDs
- Quality Task Group
 - Acting Chair: Randy Wolff, Siemens EDA
 - https://ibis.org/quality_wip/
 - Oversee IBISCHK parser testing and development



BIRD = Buffer Issue Resolution Document

IBIS Milestones



I/O Buffer Information Specification

Other Work

- 1993-1994 **IBIS 1.0-2.1:**
 - Behavioral buffer model (fast simulation)
 - Component pin map (easy EDA import)
- 1997-1999 **IBIS 3.0-3.2:**
 - Package models
 - Electrical Board Description (EBD)
- 2002-2006 **IBIS 4.0-4.2:**
 - Receiver models
 - AMS languages
- 2007-2012 **IBIS 5.0-5.1:**
 - IBIS-AMI SerDes models
 - Power-aware model
- 2013-2015 **IBIS 6.0-6.1:**
 - PAM4 multi-level signaling
 - Power delivery package models
- 2019 **IBIS 7.0:**
 - Back-channel time-domain support
 - Interconnect modeling using IBIS-ISS and Touchstone
- 2021 **IBIS 7.1:**
 - DDRx IBIS-AMI support
 - Electrical Module Description (EMD)
 - IBIS-AMI back-channel statistical optimization
- 2023 **IBIS 7.2:**
 - Redriver simulation flow fixes
 - PAMn IBIS-AMI support
- 2025 **IBIS 8.0**
 - In progress
- 1995: **ANSI/EIA-656 (IBIS 2.1 International standard)**
- 1999: **ANSI/EIA-656-A (IBIS 3.2 International standard)**
- 2001: **IEC 62014-1 (IBIS 3.2 International standard)**
- 2003: **Interconnect Model Specification (ICM 1.0)**
- 2006: **ANSI/EIA-656-B (IBIS 4.2 International standard)**
- 2009: **Touchstone 2.0**
 - Official Touchstone donated from Agilent/Keysight
- 2011: **IBIS-ISS 1.0 (Interconnect SPICE Subcircuit)**
 - Subset of HSPICE
- 2024: **Touchstone 2.1**
 - Clarify S-parameter Definition
 - [End] Keyword Corrections and Other Editorial Changes
 - Per Port Reference Resistance on the Option Line
 - Clarify File Extension Rule for Touchstone 1.0 and 1.1 Files
- **IBISCHK:** IBIS file syntax parser
 - Current version 7.2.1
 - Source code available for purchase
 - Compiled executables available free of charge
- **TSCHK2:** Touchstone 2.1 file syntax parser
 - Current version 2.1.0
 - Source code available for purchase
 - Compiled executables available free of charge



- BIRDS planned for IBIS 8.0
 - <https://ibis.org/birds/>

ID#	Issue Title	Requester	Date Submitted	Date Accepted	Supporting Version
232	Clarification of Ts4file and Non-AMI Feature Relationships	Michael Mirmak, Intel Corporation	19-Nov-24	21-Feb-24	
231	Clarifications on AMI Block Concepts	Michael Mirmak, Intel Corporation	26-Mar-24	31-May-24	
230.1	Adding a Definitions Section to IBIS	Michael Mirmak, Intel Corporation	19-Mar-24, 30-Apr-24	31-May-24	
229.1	AMI Test Data Support	Michael Mirmak, Intel Corp.	19-Dec23, 13-Feb-24	19-Apr-24	
228	Pin Name Field Extension	Michael Mirmak, Intel Corporation	5-Dec-23	26-Jan-24	
227	AMI Ignore Block Feature	Alaeddin A. Aydiner, Sai Zhou, Intel Corp.	14-Nov-23	5-Jan-24	
225	Clarification for bus_label rules	Arpad Muranyi, Weston Beal, Randy Wolff, Siemens EDA	11-Jul-23	15-Sep-23	
224	New AMI Reserved Parameters for Ts4file port order	Liwei Zhao, Intel Corp.; Michael Mirmak, Intel Corp.	25-Apr-23	23-Jun-23	

- IBIS BIRDS 223.1 and 226 have been delayed until IBIS 8.1



- Touchstone 2.1 specification passed January 2024
- Open TSIRDs:
 - <https://app.ibis.org/tsirds/>

Touchstone Issue Resolution Documents (TSIRD)

To submit an TSIRD to the IBIS Open Forum, please use the [TSIRD Template Rev. 1.0](#).

ID#	Issue Title	Requestor	Date Submitted	Date Accepted	Supported Version
8	Option line changes	Arpad Muranyi, Siemens EDA	March 20 2024	May 10 2024	
7.2	Standardized Pole-Residue Representation of Touchstone Data	Arpad Muranyi, Siemens EDA	February 14, 2024; May 7, 2024; June 3, 2024	August 23, 2024	



IBISCHK Development

- The latest parser (7.2.1) was delivered on December 21, 2023
- 10 Open BUGS (246 – 255)
 - <https://ibis.org/bugs/ibischk/>

ID#	Title	Requester	Date Submitted	Severity	Priority	Status	Date Closed	Supported Version
255	Incorrectly harsh Warning about mixing C_comp and C_comp *	Curtis Clark, Ansys, Inc.	June 26, 2025	MODERATE	MEDIUM	OPEN		
254	AMI Reserved Parameter Repeater Type erroneously reported as missing	Arpad Muranyi, Siemens EDA	April 24, 2025	MODERATE	LOW	OPEN		
253	Non-comments allowed after [End Interconnect Model Set] keyword	Justin Butterfield, Chinmaya Patra, Bibhu Panda; Micron Technology	March 31, 2025	MODERATE	MEDIUM	OPEN		
252	Incorrect BCI Interpretation Invalidates All Tx Models	Michael Mirmak, Intel Corporation	March 17, 2025	SEVERE	HIGH	OPEN		
251	Missing Repeater Type not seen through Model Selector	Arpad Muranyi, Siemens EDA	November 15, 2024	SEVERE	HIGH	OPEN		
250	Incorrect [Diff Pin] caution report	Michael Mirmak, Intel Corp.	July 1, 2024	ANNOYING	LOW	OPEN		
249	Memory leaks caused by algmod.c, ami.c and cmn.c	Michael Mirmak, Intel Corporation	March 28, 2024	ANNOYING	LOW	OPEN		
248	Crash Caused by iassert macro and abort()	Michael Mirmak, Intel Corporation	March 19, 2024	FATAL	MEDIUM	OPEN		
247	Changing BOOL from Type Enum to Int	Michael Mirmak, Intel Corporation	March 19, 2024	ENHANCEMENT	LOW	OPEN		
246	Clarification on Slash Characters and Parser Usage	Michael Mirmak, Intel Corporation	December 22, 2023	MODERATE	MEDIUM	OPEN		

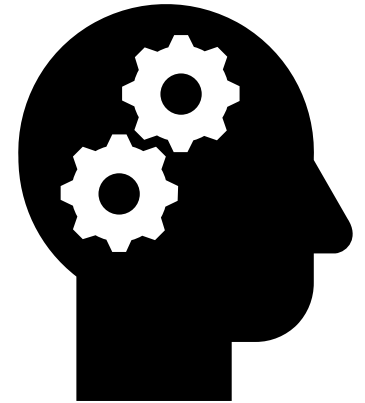
Recent and Future Developments in IBIS



- IBIS Open Forum's task groups are discussing these topics:
 - Expanded system-level perspective
 - Clock/data relationships, timing information, equalization training
 - Power Integrity focused modeling
 - Generalized Power Integrity Model (PIM) discussions (Significant Focus this Fall) with Goal of IBIS 8.1 Release
 - Multi-level analog buffer modeling
 - Interconnect Modeling
 - Touchstone 3.0 port mapping support
 - Quality and Testing
 - IBISCHK8 Parser Development
- What else should we be looking at? Bring your ideas!

Participation in IBIS

- The success of IBIS depends on active participation and volunteering
- Bringing your ideas and talents to IBIS
 - Task groups for technical discussions and document editing
 - IBIS email reflectors
 - Open Forum teleconferences for event planning and voting
 - Summit presentations
 - IBIS Board and task group volunteering
 - Writing BIRDs – Buffer Issue Resolution Documents
 - Official method for submitting a proposed change to the IBIS specification
 - Many developed collaboratively in task groups
 - Discussed and voted on in Open Forum meetings
- Social Media:
 - What topics to promote for increased exposure



IBIS Website Resources



IBIS Summits →

Task Group Info →

Member FAQ →

Spec documents →

*IRDs →

Email support →

Syntax Parser Downloads →

The IBIS Open Forum is the industry organization responsible for the management of the [IBIS specifications and standards](#) including IBIS, IBIS-AMI, IBIS-ISS, ICM, and Touchstone. The Open Forum meets every three weeks by teleconference. Membership is open to all interested companies. If you are interested in joining the IBIS Open Forum, please contact the [IBIS Open Forum Chair](#) or [any of the IBIS Officers](#).



Thank You



An SAE Industry Technologies Consortia Program

IBIS Open Forum:

Web: <https://ibis.org>

Email: info@ibis.org

We welcome participation
by all IBIS model makers,
EDA tool vendors, IBIS model
users, and interested parties.