



IBIS Open Forum Minutes

Meeting Date: **August 23, 2024**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2024 PARTICIPANTS

Altair	(JuneSang Lee)
AMD (Xilinx)	(Bassam Mansour)
Analog Devices	Jermaine Lim-Abroguena, Toni Rose Racelis, Christine Bernal, Prachi Shukla, Aprille Hernandez-Loyola, Francis Ian Calubag, Marvin Sinues, Vincent Paul Sabillo, Esther Grace Falate, Keshav Mehrotra
Ansys	Curtis Clark*, Marco Occhiali
Ansys Japan	Satoshi Endo
Applied Simulation Technology	(Fred Balistreri)
Aurora System	(Dian Yang), Raj Raghuram
Broadcom	(Yunong Gan)
Cadence Design Systems	Kyle Lake*, Ambrish Varma, Jared James, John Phillips, Kristoffer Skytte, Baolong Li
Celestica	(Sophia Feng)
Cisco Systems	(Stephen Searce), Hong-Man Wu
Dassault Systemes	Stefan Paret, David Duque
GE Healthcare Technologies	(Balaji Sankarshanan)
Google	(Hanfeng Wang)
Huawei Technologies	(Hang (Paul) Yan)
Infineon Technologies AG	(Christian Sporrer)
Instituto de Telecomunicações	(Abdelgader Abdalla)
Intel Corporation	Michael Mirmak*, Hsinho Wu*, Kingler Cai, Chi-te Chen, Sleiman Bou-sleiman
Keysight Technologies	Pegah Alavi, Ming Yan, David Banas, Fangyi Rao, HeeSoo Lee, Heidi Barnes
Marvell	Steven Parker*, Shaown Huang, Wei Zhang
MathWorks	Graham Kus*, Walter Katz*
Micron Technology	Justin Butterfield
MST EMC Lab	Chulsoon Hwang*, Zhiping Yang*, Jiahuan Huang, Yifan Ding, Zheben Peng, Xiangrui Su, DongHyan "Bill" Kim
SI-Clarity	Douglas Burns*
Siemens EDA	Weston Beal*, Arpad Muranyi*, Randy Wolff, Matt Leslie, Scott Wedge, Todd Westerhoff, Zhichao Deng
STMicroelectronics	Anil-Kumar Dwivedi, Bhupendra Singh, Harsh Saini, Hemant Kumar Gangwar, Manda Padma Sindhuja, Manish Bansal, Nitin Kumar, Olivier Bayet, Pawan Verma, Pranav Singh, Rahul Kumar, Raushan Kumar, Shivam Soni, Gaurav Goel, Manisha Bisht, Charul Sharma, Manish Bansal, Mihir Pratap
Synopsys	Ted Mido*, (Andy Tai), Luis Simoes, Pedro Monteiro, Luis Neves, António Eustáquio, Diogo Coelho, Nuno Lima, Alexandre Brito
Teraspeed Labs	(Tom Dagastino), [Bob Ross]
Waymo	(Feng Wang), [Ji Zhang]
ZTE Corporation	(Zhongmin Wei), (Shunlin Zhu)
Zuken	(Ralf Brüning), Markus Bucker
Zuken USA	Lance Wang*

OTHER PARTICIPANTS IN 2024

Alphawave Semi	Adrien Auge, Todd Bermensolo
Anacom	Filipe Saraiva
Apple Inc.	Ying Cao
Applied Logix	Dan Chirpich
Ciena	Hugues Tournier, Kaisheng Hu
Hirel Logic	Jason Riddley
HRL Laboratories	John Carlson
Hitachi Ltd.	Yutaka Uematsu
IBM	Matteo Cocchini
Kandou	Sherman Chen
KEI Systems	Shinichi Maeda
KT Smart Future-Creations	Keita Miyasato
Meta	Ashkan Hashemi, Himashu Modi
Northrop Grumman Corp.	Will McCaffrey
Qualcomm	Scott Powers
Rivos	Yanshen Wang
Samsung Electronics	Jun-Bae Kim, Changsoo Yoon
SAE ITC	Tammy Patton, Rich Demary
Signal Edge Solutions	Benjamin Dannan
Si-Guys	Donald Telian
Socionext America	Futoshi Terasawa
Teraspeed Labs	[Bob Ross]
Toyobo Co.	Saki Kawano
University of Illinois Urbana-Champaign	Jose Schutt-Aine
UNIST	Jmgook Kim
Zhejiang University	Ling Zhang

In the list above, attendees present at the meeting are indicated by “.” Those submitting an email ballot for their member organization for a scheduled vote are indicated by “^.” Principal members or other active members who have not attended are in parentheses “().” Participants who no longer are in the organization are in square brackets “[].”

UPCOMING MEETINGS

The connection information for future IBIS teleconferences is as follows:

Microsoft Teams meeting

Join on your computer or mobile app

[Click here to join the meeting](#)

Join with a video conferencing device

106010980@teams.bjn.vc

Video Conference ID: 114 666 897 5

[Alternate VTC dialing instructions](#)

Or call in (audio only)

[+1 267-768-8015,554664847#](tel:+12677688015554664847) United States, Philadelphia

Phone Conference ID: 554 664 847#

[Find a local number](#) | [Reset PIN](#)

[Learn More](#) | [Meeting options](#)

All teleconference meetings are 8:00 a.m. to 9:55 a.m. US Pacific Time. Meeting agendas are typically distributed seven days before each Open Forum. Minutes are typically distributed within seven days of the corresponding meeting.

NOTE: "AR" = Action Required.

INTRODUCTIONS AND MEETING QUORUM

Roll Call: Graham Kus announced a total of TBD organization members attending with quorum of 7 met.

CALL FOR PATENTS

Lance Wang called for declaration of any patents or pending patents related to the IBIS, IBIS-ISS, ICM, or Touchstone 2.0 specifications.

REVIEW OF MINUTES AND ARs

- July 12, 2024 minutes: Curtis Clark motioned to approve, Zhiping Yang seconded. The motion passed.
- August 9, 2024 IBIS Summit at IEEE EMC+SIPI: These minutes are not yet available.

ANNOUNCEMENTS, CALL FOR ADDITIONAL AGENDA ITEMS

Lance Wang called for any new announcements. No new agenda items.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Randy Wolff reported via email 1 member renewal payment is still in progress (AMD). One new company joined at the one-half year rate (Signal Edge Solutions).

We have 28 members with a quorum of 7.

An IBISCHK7 parser source code license purchase is completed. The license source code agreement was signed and the invoice was paid (\$3,000). Source code was shared with the licensee.

A TSCHK2 parser source code license purchase is completed. The license source code agreement was signed. The invoice payment has not been paid yet (\$1,000). Source code was shared with the licensee.

\$12,705 Balance for 2024

\$22,155 Adjusted Net Income for 2024 (adding the 2024 IBIS membership renewals received in 2023)

WEBSITE ADMINISTRATION

Lance Wang reported for Steve Parker that 2 new logos have been added, SI-Clarity and Signal Edge Solutions. Lance reported that the Summit recordings are available on the ibis.org website. Lance stated that the Asian IBIS Summit Japan and Asian IBIS Summit China would be updated in the future as details become available. Lance asked for any questions, none were asked.

MAILING LIST

Curtis Clark reported that things are going smoothly with freelists.org. There are some new subscriptions. One subscriber is interested due to SPIM being announced. Lance asked for any questions, none were asked.

LIBRARY UPDATE

Zhiping Yang reported no updates on library status. Lance asked for any questions, none were asked.

INTERNATIONAL/EXTERNAL ACTIVITIES

IEC 63055/IEEE 2401, JEITA "LPB:"

- Michael Mirmak reported that for DASC. Next meeting is in September 2024, and updates would be available after that point.

Press Updates:

- No updates reported.

University Relations:

- Lance Wang stated that Professor Chulsoon Hwang was assisting with the Bob Ross scholarship as to the logistics with SAE ITC. Chulsoon stated that it would be helpful to have members share any of the presentations that may be applicable to University course work. Lance stated we look forward to working with University classwork development.

SUMMIT PLANNING AND REVIEW

IEEE EMC+SIPI 2024 IBIS Summit

Location:

- Was held 8-12pm August 9, 2024 in Phoenix, AZ (GMT-7, Note: Arizona does not observe US daylight time)

Notes:

- Lance Wang stated that many presentations mentioned IBIS.
- There were 22 in-person and 12 online attendees, which is a good attendance for the final day of the IEEE EMC+SIPI conference. Lance stated it may attract more people if we were able to have another session, a learning session, or move the Summit into the middle days of the conference. Lance stated this is also a problem with Designcon in California, where many people are already left due to the Summit being the day after the final conference day. Last year we had 30-40 attendees, and for the 30th anniversary there were approximately 50 attendees. However this is Silicon Valley, so many people are local for that conference.
- Lance stated that there were discussions on relatively new adoptive topics for IBIS including SPIM and PSIJ. Zhiping Yang stated that next year would be Raleigh, NC which would be East Coast US time zone.
- Lance thanked Zhiping for coordinating the room and refreshments for the IBIS Summit.

IBIS Summit Sponsors:

- IEEE EMC+SIPI is the main sponsor.

More information is available at the following link:

<https://www.emc2024.org/>

Asian IBIS Summits:

Lance Wang reported that the dates are now set as follows:

- Japan IBIS Summit (October 22, 2024)
- Lance stated this would be a Hybrid summit for the AM session only.
- China IBIS Summit (October 25, 2024)
- Lance stated this was in review process for the contract.

Lance stated that Sponsorship and program details would be sent out soon, perhaps as soon as next week via the IBIS email reflector on freelists.org. Lance stated to email himself or Randy Wolff with any questions.

QUALITY TASK GROUP

Weston Beal reported for Randy Wolff that there have not been meetings recently, and there are no new bug reports. Lance Wang asked if there were questions. None were asked.

Note: The Quality Task Group checklist and other documentation can be found at:

https://ibis.org/quality_wip/

ADVANCED TECHNOLOGY MODELING TASK GROUP

Arpad Muranyi reported that we skipped last week's meeting. Prior to that we discussed Kinger Cai's new proposal for power-delivery related simulations and additional elements for voltage regulators and related items. We are also working on PSIJ proposal, Arpad sent a model to Yifan Ding to support her experiments. Lance Wang asked if there were questions. None were asked.

Note: Task group material can be found at:

https://ibis.org/macromodel_wip/

INTERCONNECT TASK GROUP

Michael Mirmak reported that they held an informal meeting last session. Also, should have a new draft 9 for the next meeting. There was some discussion during the Summit.

Lance Wang asked for questions. None were asked.

Note: Task group material can be found at:

https://ibis.org/interconnect_wip/

EDITORIAL TASK GROUP

Michael Mirmak reported this is still suspended, but the first meeting to Friday September 6, 2024 from 8-9 PDT. Please check the email reflector for details and updates. Lance Wang asked for questions. None were asked.

Note: Task group material can be found at:

https://ibis.org/editorial_wip/

NEW ADMINISTRATIVE ISSUES

Lance Wang reported that SAE ITC held a meeting with IBIS Officers previous Tuesday August 20th 2024. There were many topics discussed. Lance reported that Tammy Patton asked to have slide deck filled out with some details about IBIS. Lance stated that to support that effort, we hope to have a brief meeting of the Officers to discuss the slide deck material after this meeting session.

ROLL CALL

Mid-meeting roll call: Graham Kus reported 9 member attendees meeting quorum of 7.

TECHNICAL DISCUSSION

No new items.

NEW AND REVISED IRDS

None.

IRDS ELIGIBLE FOR VOTE SCHEDULING

None.

IRDS SCHEDULED FOR VOTE

TSIRD7.2: Standardized Pole-Residue Representation of Touchstone Data

Arpad Muranyi reported this is the proposal to introduce Pole-Residue to the Touchstone specification, primarily to reduce file sizes and make it EDA tool independent, how the models are reduced. The proposal has been out since the beginning of this year. Arpad noted that the TSIRD7.2 is very similar to TSIRD7.1 due to the difference being a few format edits. Arpad noted there were no updated questions regarding TSIRD7.2. Arpad stated that the technical approach is not new, but this is to standardize the formatting of the file data. Lance Wang suggested that perhaps the parser for TSCHK could perform some checks. Arpad stated that we could potentially provide the parser developer some algorithms to implement.

Lance asked for questions and comments.

Link: <https://app.ibis.org/tsirds/>

Arpad Muranyi motioned to vote. Michael Mirmak seconded the motion. The motion passed.

The vote tally was:

- ANSYS – Yes
- Cadence – Yes
- Intel Corporation – Yes
- MathWorks – Yes
- MST EMC Lab – Yes
- SI-Clarity – Yes
- Siemens EDA – Yes
- Synopsys – Yes
- Zuken – Yes

The vote was 9 Yes, 0 No, 0 Abstain. The vote passed.

Lance Wang announced that TSIRD7.2 was adopted. Lance thanked everyone for their work on this TSIRD.

TABLED IRDS

BIRD220: Pre-driver PSIJ Sensitivity keyword.

Arpad Muranyi stated this was still being discussed.

Link: <https://ibis.org/birds/bird220.docx>

IBISCHK AND TSCHK PARSER AND BUG STATUS

Weston Beal reported that there are no new bugs reported for IBISCHK or TSCHK.

Lance asked if there were questions. None were asked.

NEW TECHNICAL ISSUES

Arpad Muranyi mentioned that in reading the AMI sections of the specification, the GetWave function is written as though it is an Rx model. However the Tx does not return clock ticks. So there could be an effort to clarify the discussion of GetWave regarding Tx and Rx to improve the clarity. Michael Mirmak asked if a BIRD would be needed. Arpad stated it would probably be appropriate, we are now starting the Editorial for IBIS 8.0, so this could be an editorial change or a normal BIRD. Michael asked if we could bring it up in Editorial. Arpad agreed and stated he would write up an email. Michael stated there was a precedent for introducing BIRD from editorial in the event we find there are more changes needed.

Lance asked if there were questions. None were asked.

NEXT MEETING AGENDA AND SCHEDULING

Lance Wang stated the next IBIS Open Forum meeting would be held as a teleconference meeting on September 13, 2024. The following meeting would be held October 4, 2024. Lance asked if there were any concerns. None were raised.

Arpad Muranyi motioned to adjourn. Doug Burns seconded the motion. The meeting adjourned.

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NOTES

IBIS CHAIR: Lance Wang (978) 633-3388

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Solutions Architect, Zuken USA
238 Littleton Road, Suite 100
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VICE CHAIR: Douglas Burns

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CEO and Signal and Power Integrity Consultant, SI-Clarity, LLC.

SECRETARY: Graham Kus

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Senior Engineer, The MathWorks, Inc.
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TREASURER: Randy Wolff

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Product Architect, Siemens EDA

LIBRARIAN: Zhiping Yang

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WEBMASTER: Steven Parker (845) 372-3294

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POSTMASTER: Curtis Clark

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This meeting was conducted in accordance with SAE ITC guidelines.

All inquiries may be sent to info@ibis.org. Examples of inquiries are:

- To obtain general information about IBIS.
- To ask specific questions for individual response.
- To subscribe to or unsubscribe from the official ibis@freelists.org and/or ibis-users@freelists.org email lists (formerly ibis@eda.org and ibis-users@eda.org):
 - <https://www.freelists.org/list/ibis>
 - <https://www.freelists.org/list/ibis-users>
- To subscribe to or unsubscribe from one of the Task Group email lists: ibis-macro@freelists.org, ibis-interconn@freelists.org, ibis-editorial@freelists.org, or ibis-quality@freelists.org:
 - <https://www.freelists.org/list/ibis-macro>
 - <https://www.freelists.org/list/ibis-interconn>
 - <https://www.freelists.org/list/ibis-editorial>
 - <https://www.freelists.org/list/ibis-quality>

- To inquire about joining the IBIS Open Forum as a voting Member.
- To purchase a license for the IBIS parser source code.
- To report bugs or request enhancements to the free software tools: ibischk7, tschk2, icmchk1, s2IBIS, s2IBIS2 and s2iplt.

The BUG Report Form for ibischk resides along with reported BUGs at:

<https://ibis.org/bugs/ibischk/>
<https://ibis.org/bugs/ibischk/bugform.txt>

The BUG Report Form for tschk2 resides along with reported BUGs at:

<https://ibis.org/bugs/tschk/>
<https://ibis.org/bugs/tschk/bugform.txt>

The BUG Report Form for icmchk resides along with reported BUGs at:

<https://ibis.org/bugs/icmchk/>
https://ibis.org/bugs/icmchk/icm_bugform.txt

To report s2IBIS, s2IBIS2 and s2iplt bugs, use the Bug Report Forms which reside at:

<https://ibis.org/bugs/s2IBIS/bugs2i.txt>
<https://ibis.org/bugs/s2IBIS2/bugs2i2.txt>
<https://ibis.org/bugs/s2iplt/bugsplt.txt>

Information on IBIS technical contents, IBIS participants and actual IBIS models are available on the IBIS Home page:

<https://ibis.org/>

Check the IBIS file directory on IBIS.org for more information on previous discussions and results:

<https://ibis.org/directory.html>

Other trademarks, brands and names are the property of their respective owners.

SAE STANDARDS BALLOT VOTING STATUS (attendee X; absent -)

Organization	Interest Category	Standards Ballot Voting Status	May 31, 2024	June 21, 2024	Aug 9, 2024	Aug 23, 2024
Altair	User	Inactive	-	-	-	-
AMD (Xilinx)	Producer	Inactive	-	-	-	-
Analog Devices	Producer	Inactive	-	-	X	-
Ansys	User	Active	X	X	X	X
Applied Simulation Technology	User	Inactive	-	-	-	-
Aurora System	User	Inactive	-	-	-	-
Broadcom Ltd.	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	X	X	X
Celestica	User	Inactive	-	-	-	-
Cisco Systems	User	Inactive	-	-	-	-
Dassault Systems	User	Inactive	-	-	-	-
GE Healthcare Technologies	User	Inactive	-	-	-	-
Google	User	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	-	-	-	-
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	-	X	X
Keysight Technologies	User	Inactive	-	-	-	-
Marvell	Producer	Inactive	-	X	X	X
MathWorks	User	Active	X	X	X	X
Micron Technology	Producer	Inactive	-	-	-	-
MST EMC Lab	User	Active	X	X	X	-
SI-Clarity	User	Active	X	X	X	X
Siemens EDA	User	Active	X	X	X	X
STMicroelectronics	Producer	Inactive	-	-	X	-
Synopsys	User	Active	X	X	X	X
ZTE Corp.	User	Inactive	-	-	-	-
Zuken	User	Active	X	X	X	X

= Temporarily not a voting member

Criteria for SAE member in good standing:

- Must attend two consecutive meetings to establish voting membership.
- Membership dues current
- Must not miss two consecutive meetings (voting by email counts as attendance)

Interest categories associated with SAE standards ballot voting are:

- Users - members that utilize electronic equipment to provide services to an end user.
- Producers - members that supply electronic equipment.

General Interest - members are neither producers nor users. This category includes, but is not limited to, government, regulatory agencies (state and federal), researchers, other organizations, and associations, and/or consumers.