



IBIS Open Forum Minutes

Meeting Date: **June 2, 2023**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2023 PARTICIPANTS

Altair	(JuneSang Lee)
AMD (Xilinx)	(Bassam Mansour)
Ansys	Curtis Clark*, Wei-hsing Huang
Applied Simulation Technology	(Fred Balistreri)
Aurora System	Dian Yang, Raj Raghuram
Broadcom	(Yunong Gan)
Cadence Design Systems	Kyle Lake*, Jared James, John Philips, Kristoffer Skytte
Celestica	(Sophia Feng)
Cisco Systems	(Stephen Searce), Hong Wu
Dassault Systemes	Stefan Paret, BAI Longfei
GE Healthcare Technologies	(Balaji Sankarshanan)
Google	(Hanfeng Wang)
Honeywell	Bavish Vazhayil
Huawei Technologies	Danilo Di Febo, Marco De Stefano, (Hang (Paul) Yan)
Infineon Technologies AG	(Christian Sporrer)
Instituto de Telecomunicações	(Abdelgader Abdalla), Joana Catarina Mendes
Intel Corporation	Chi-te Chen, Kingler Cai, Michael Mirmak*, Hsinho Wu*
Keysight Technologies	Ming Yan, Douglas Burns, Fangyi Rao, Pegah Alavi, Hee-Soo Lee, Heidi Barnes
Marvell	Steven Parker*
MathWorks	Graham Kus*, Walter Katz, Kerry Schotz
Micron Technology	[Randy Wolff], Justin Butterfield*, Akshay Shivaji Chaudhari, Dragos Dimitriu
MST EMC Lab	Chulsoon Hwang, Zhiping Yang*
SerDesDesign.com	John Baprawski
Siemens EDA	Arpad Muranyi*, Weston Beal*, Matthew Leslie, Mikael Stahlberg, Todd Westerhoff, Scott Wedge, Randy Wolff
STMicroelectronics	(Olivier Bayet), Rahul Kumar, Raushan Kumar, Manish-FTM Bansal, Sameer Vashishtha
Synopsys	Ted Mido*, (Tushar Pandey), Wael Dghais
Teraspeed Labs	Bob Ross*
Waymo	[Zhiping Yang], (Ji Zhang)
ZTE Corporation	(Shunlin Zhu)
Zuken	Michael Schäder, Markus Bücken, Ralf Brüning
Zuken USA	Lance Wang*

OTHER PARTICIPANTS IN 2023

Alphawave Semi	Adrien Auge, Todd Bermensolo
Ciena	Hugues Tournier
Hitachi Ltd.	Yutaka Uematsu
Honeywell	Bavish Vazhayil
India Institute of Technology	Jai Narayan Tripathi, Vinod Verma
Nokia	Ramiro Guzman
OMNIVISION	Sirius Tsang
Signal Edge Solutions	Ben Dannan
SI Guys	Donald Telian
Socionext, Inc.	Raymond Yakura
University of Illinois Urbana-Champaign	Jose Schutt-Aine
University of Tunisia, Electronic Laboratory	Malek Souilem
Unaffiliated	Will Hobbs, Mike LaBonte, Jon Powell, Stephen Peters

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

Lance Wang reported he would be chairing this IBIS Open Forum meeting on behalf of Randy Wolff. Graham Kus reported an attendance of 10 member companies meeting quorum.

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. Patents were/not declared.

REVIEW OF MINUTES AND ARS

Lance Wang called for review of minutes. Lance reported that the meeting minutes are delayed from previous meeting and summit.

- Arpad Muranyi to send email notice of nominations period for IBIS officer elections [AR]
 - o Arpad sent out the voting announcement and is collecting votes, email votes are collected. Bob Ross concurred that typically Officer elections are via email.

ANNOUNCEMENTS, CALL FOR ADDITIONAL AGENDA ITEMS

Lance Wang called for any announcements. There were none made.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported, For June 2, 2023, we have 28 voting members and a quorum of 8. (The renewal payment deadline was June 1, 2023.)

Currently we have 26 renewals and 2 new members (for a total of 28) for 2023.

These organizations will lose their official Voting status for all votes:

Analog Devices will be dropped as an official members after not responding to 3 attempts via email to request renewal.

Cadence Design Systems (payment activity is still in progress), but as of today, Cadence is not officially able to cast a vote, unless payment is received, at which point it could be counted. This is most likely due to SAE-ITC changing payment terms and accounting issues.

We are still waiting for another sponsorship payment for the European IBIS Summit.

Bob

\$15,975 Balance for 2023

\$21,025 Adjusted Balance for 2023 (Note, 2020 ZTE sponsorship moved forward to 2023)

WEBSITE ADMINISTRATION

Steven Parker reported that Michael Mirmak provided reference enabling legal clearance from Keysight for IBIS Open Forum to publish Touchstone-related data produced using Keysight laboratory instruments. Michael Mirmak recommended to post the literal documents alongside the data. Bob Ross asked to meet with Steven about a number of updates in a later offline meeting. For example, IBISCHK version description and other updates including removal of Analog Devices logo. Also regarding the previous IBIS Summit in May, the link after the minutes are provided in order to provide the link, especially to provide access to the summit recording.

MAILING LIST

Curtis Clark reported all new address updates seem to be complete due to recent moves by individuals, and the mailing list is generating very few bounces.

LIBRARY UPDATE

Zhiping Yang reported no updates to the library.

UNIVERSITY RELATIONS

Lance Wang reported on behalf of Chulsoon Hwang and asked for any updates. Bob Ross reported a private exchange that Professor Hwang hoped to meet with Professor Tripathi from the India Institute of Technology, attending a conference in India, and is not sure if this is an IEEE EMC conference, but hopes to meet with professor Tripathi and may relate to a pending BIRD we have and an IBIS Summit presentation from the Europe Summit. Zhiping Yang said the conference is called AP-EMC. It is a large conference and is talking with Chulsoon Hwang on a few topics but will be touching base with him in the next few weeks.

INTERNATIONAL/EXTERNAL ACTIVITIES

Conferences:

Lance Wang reported no updates.

Press Updates

No updates were reported.

Related Standards

Michael Mirmak reported on IEC 63055, DASC, there was a meeting yesterday morning, expecting an update on JEITA LPB in the next few days. They hope to have an official liaison from IBIS as an actual named individual to participate as an observer. That may be something the board needs to take up at some point.

IEEE IBIS Standardization

Lance Wang reported no action on this topic.

IBIS Summits:

IEEE EMC+SIPI summit out in August- 4 2023

Lance Wang asked Zhiping Yang to comment on arrangements. Zhiping reported that a room has been reserved for Friday, along with a discount code for conference registration with a group discount. He is not sure when first announcement would be sent out, but at that time the code would be provided. Weston Beal clarified this the conference in August 4, 2023 in Rapid City MI, so it probably needs to be announced. Lance stated we are waiting for Randy Wolff to return and then would decide when to make the announcement. Weston confirmed he would be attending in person and potentially would be able to run the meeting onsite. This is planned to be Hybrid Meeting along with an online link allowing attendees to join remotely. Lance asked if there were any other updates. Zhiping offered to answer any questions- but expressed he would not personally be attending but would help as best possible. Bob Ross asked if there would be refreshments provided. Zhiping said it would be part of the conference, and there would be some items for breakfast and a coffee break. Lance stated Dr. Hwang would be there along with EMC lab students. Bob Ross said Dr. Trapathi wants to attend but has problems with VISA and could not attend the previous IBIS Summit meeting in Portugal but there is a possibility he would attend also. Lance thanked everyone.

Link:

<https://spi2023.av.it.pt/submissions/>

QUALITY TASK GROUP

Bob Ross reported there are many topics/items in process. Some deal with the IBISCHK Parser. Currently Weston Beal is leading the effort toward an updated Quality Specification that adds Power Integrity guidance checks. Second, we dealt with BUG241 and BUG242 which would be classified today. Bob said we are also dealing with tentatively BUG243 which has not yet been uploaded but started with Graham Kus identify warnings during architecture compiles of IBISCHK. There are others that reported the warnings as well. This would be discussed in the quality meeting. BUG224 is Arpad Muranyi's issue introduced May 2nd, 2023, which was EMD check reporting an error message. Randy Wolff had reported a test case. Bob has not yet reviewed the test case. This is to be reviewed. Tentatively BUG245 would be the old platform issue for AMI and Weston Beal has been investigating that with our Parser Developer. Potentially one bug report but two messages. The bottom line is still dealing with a number of bug reports currently in the Quality committee. Lance asked if there were any questions. None were asked.

Note: The Quality task group checklist and other documentation can be found at:

http://www.IBIS.org/quality_wip/

ADVANCED TECHNOLOGY MODELING TASK GROUP

Arpad Muranyi reported we are meeting on Tuesdays Noon Pacific time (US). Kinger Cai is out, but we have the PSIJ draft on our list, and continue discussions on that. We discussed Michael

Mirmak proposal on test data/test load data for AMI models and at least have a way to confirm they work properly in tools. Arpad also mentioned that bob said Weston Beal is considering Power Integrity Quality Metric, Arpad script for customers to make EMD files to put them together. Arpad noticed it is easy to make EMD models with Die power not connected. But also has seen a variation where they do have power pins with VDD and VCC but only the power side- not the ground (sic) side- and that ends up with a floating IBIS model. Arpad would suggest to maybe check this in the Quality checks and would be able to check offline. Weston stated short answer it is in there, but would like to discuss if the details are correct. The concept is supported but would like to be sure the description is sufficient. Lance asked for any questions. There were none.

Note: Task group material can be found at:

http://www.IBIS.org/macromodel_wip/

INTERCONNECT TASK GROUP

Michael Mirmak reported to meet weekly Wednesdays at 8am US Pacific time, focus is an update to Touchstone that is being written by Arpad Muranyi to address the needed feature to early Touchstone where multiple reference resistances are needed- the original only provide one per all ports- the other would allow multiple per port, which requiring Touchstone 2.0, which would provide too much overhead. Michael stated we already know of one proprietary method that has been in industry for some years- for example. And that we maybe expect to finish up in a few weeks and return to "Touchstone 3.0" or at least next version of Touchstone document.

Note: Task group material can be found at:

http://www.IBIS.org/interconnect_wip/

EDITORIAL TASK GROUP

Michael Mirmak reported remains suspended as there are no documents for editing or vote, but would restart automatically if some arose. Lance asked for any questions. There were none.

Note: Task group material can be found at:

http://www.IBIS.org/editorial_wip/

NEW ADMINISTRATIVE ISSUES

Lance Wang reported there are upcoming officer elections. Arpad Muranyi reported announcing results of nomination and day after that announced start of voting period June 1, 2023. Arpad is collecting votes. Some have arrived already. In about two weeks will announce results of vote. Lance asked if there were questions. There were none.

Roll call: Graham Kus reported a mid-meeting count of 13 attendees, 10 member companies.

NEW AND REVISED *IRDS

None.

IRDS SCHEDULED FOR VOTE

None.

IRDS ELIGIBLE FOR VOTE

BIRD223: Add support for SPIM in IBIS (Cai et al)

Link: <https://ibis.org/birds/bird223.docx>

BIRD 223: Lance Wang noted Kinger Cai is not in attendance. Bob Ross recommended tabling the vote. Arpad Muranyi agreed and clarified we want to compare side by side with other BIRD related to this topic. Lance stated this will remain in eligible for vote area. Arpad encouraged people to take some time to read it over and it is a large BIRD and takes some time to understand the details and please review it.

BIRD224, by Liwei Zhao (Intel), Lance reported Liwei is not present and asked if Michael Mirmak had any comment. Michael stated he had not received any feedback so as we know there are no objections so this is still eligible for a vote. Lance asked if there were questions. There were none. Arpad Moved to schedule for vote, and Michael seconded. The Motion passed.

TABLED IRDS: (NO DISCUSSION WITHOUT MOTION TO "UNTABLE")

BIRD220: Pre-driver PSIJ Sensitivity Keyword (Ding et al)

Link:

<https://IBIS.org/birds/bird220.docx>

Lance reported this would remain tabled. He asked if there were any questions. There were none.

IBISCHK AND TSCHK PARSER AND BUG STATUS

IBISCHK Parser:

Bob Ross stated this would be BUG241: there is difficulty in EMD files. There is a statement that has been made legal, where in the EMD pin list, NC is a valid signal name, and NC is also a valid signal type. So the warning message associated with that should be removed. There is another elated one NC and NC is legal also. This bug is suggested to be Severity: "Severe" and Priority: "Medium" and classify it to be mitigated for the next release. Lance asked if there were any comments. There were none. Bob motioned to make this BUG Severe and Medium. Weston Beal seconded. There were no objections. The motion passed.

Next bug is BUG242: Bob Ross reported, it turns out the existing IBISCHK parser creates a warning message for a specification violation (pp 378) and the suggestion is to change this to an error message. There is a test case for this that was reviewed during the meeting. You can have a pin named NC with EMD pin list, with a signal name that is not NC. Such as RFU (reserved for future use) which might be an example of an NC pin. The caution is to identify if you really meant to do this or not. For Designator pin list, we would create a new error message, because we do not allow pin that is signal NC. This is also outlined in the test case. The proposal is to comply with the recent spec change where we allow NC for designator pin

list. And to change the incorrect caution message as an error message. The details have been vetted in the quality committee and are detailed in the BUG report. The proposal is to classify as Severity Severe and Priority as Medium. The plan is to then implement for IBISCHK 7.2 and above. Bob moved to make this classification. Michael Mirmak seconded. There were no objections. The motion passed.

TSCHK Parser:

No updated was reported.

NEXT MEETING

Lance Wang stated the next meeting would be June 23, 2023 and July 14, 2023. Lance asked if there were any additional items. There were none raised. Michael Mirmak motioned to adjourn. Arpad Muranyi seconded. There were no objections. The meeting was adjourned.

NOTES

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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:

<http://www.ibis.org/bugs/ibischk/>
<http://www.ibis.org/bugs/ibischk/bugform.txt>

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

<http://www.ibis.org/bugs/tschk/>
<http://www.ibis.org/bugs/tschk/bugform.txt>

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

<http://www.ibis.org/bugs/icmchk/>
http://www.ibis.org/bugs/icmchk/icm_bugform.txt

To report `s2ibis`, `s2ibis2` and `s2iplt` bugs, use the Bug Report Forms which reside at:

<http://www.ibis.org/bugs/s2ibis/bugs2i.txt>
<http://www.ibis.org/bugs/s2ibis2/bugs2i2.txt>
<http://www.ibis.org/bugs/s2iplt/bugsplt.txt>

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

<http://www.ibis.org/>

Check the IBIS file directory on [ibis.org](http://www.ibis.org) for more information on previous discussions and results:

<http://www.ibis.org/directory.html>

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

Organization	Interest Category	Standards Ballot Voting Status	Mar. 31, 2023	Apr. 21, 2023	May 10, 2023	May 12, 2023	June 2, 2023
Altair	User	Inactive	-	-	-	-	-
AMD (Xilinx)	Producer	Inactive	-	-	-	-	-
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 Systemes	User	Inactive	-	-	X	-	-
GE Healthcare Technologies	User	Active	-	-	-	-	-
Google	User	Inactive	-	-	-	-	-
Honeywell	User	Active	-	X	-	-	-
Huawei Technologies	Producer	Inactive	-	-	X	-	-
Infineon Technologies AG	Producer	Inactive	-	-	-	-	-
Instituto de Telecomunicações	User	Inactive	-	-	X	-	-
Intel Corp.	Producer	Active	X	X	X	X	X
Keysight Technologies	User	Inactive	X	-	-	-	-
Marvell	Producer	Active	X	-	-	-	X
MathWorks	User	Active	X	X	X	X	X
Micron Technology	Producer	Active	X	-	-	-	X
MST EMC Lab	User	Inactive	-	X	-	X	X
SerDesDesign.com	User	Inactive	-	-	-	-	-
Siemens EDA	User	Active	X	X	X	X	X
STMicroelectronics	Producer	Inactive	-	-	X	-	-
Synopsys	User	Active	X	X	X	X	X
Teraspeed Labs	General Interest	Active	X	X	X	X	X
Waymo	User	Active	-	-	-	-	-
ZTE Corp.	User	Inactive	-	-	-	-	-
Zuken	User	Active	X	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.