



IBIS Open Forum Minutes

Meeting Date: **January 5, 2024**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2024 PARTICIPANTS

Altair	(JuneSang Lee)
AMD	(Bassam Mansour)
Ansys	Curtis Clark*
Applied Simulation Technology	(Fred Balistreri)
Aurora System	(Dian Yang)
Broadcom	(Yunong Gan)
Cadence Design Systems	Kyle Lake*
Celestica	(Sophia Feng)
Cisco Systems	(Stephen Searce)
Dassault Systemes	(Stefan Paret)
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*
Keysight Technologies	(Ming Yan)
Marvell	(Steven Parker)
MathWorks	(Graham Kus)
Micron Technology	(Justin Butterfield)
MST EMC Lab	Chulsoon Hwang*, Zhiping Yang*
Siemens EDA	Weston Beal*, Randy Wolff*
STMicroelectronics	(Olivier Bayet)
Synopsys	Ted Mido*, (Andy Tai)
Teraspeed Labs	Bob Ross*
Waymo	(Feng Wang), [Ji Zhang]
ZTE Corporation	(Zhongmin Wei), (Shunlin Zhu)
Zuken	(Ralf Brüning)
Zuken USA	(Lance Wang)

OTHER PARTICIPANTS IN 2024

SAE-ITC (Tammy Patton)

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: Meeting quorum met with 7 member companies represented.

Randy Wolff ran the meeting in Lance Wang's absence.

CALL FOR PATENTS

Randy Wolff called for declaration of any patents or pending patents related to the IBIS, IBIS-ISS, ICM, or Touchstone 2.0 specifications. None were announced.

REVIEW OF MINUTES AND ARS

- November 14, 2023 Asian IBIS Summit in Tokyo
 - o Bob Ross moved to approve the minutes. Curtis Clark seconded the motion. Minutes were approved.
- November 17, 2023 IBIS Open Forum teleconference
 - o Delayed due to request to update the attendee list to include the full attendance list after the Japan IBIS Summit.
- December 8, 2023 IBIS Open Forum teleconference
 - o Delayed due to request to update the attendee list to include the full attendance list after the Japan IBIS Summit.

ARs:

- Lance to send solicitation email for BIRD227 vote - done

ANNOUNCEMENTS, CALL FOR ADDITIONAL AGENDA ITEMS

Randy Wolff called for any new announcements. None were announced.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported the year 2023 closes with 29 voting Members.

Thanks to Tammy Patton for helping to process nine IBIS Membership renewals for December 2023.

We now have 28 IBIS voting members, and the new quorum for voting is 7. SerDesDesign.com has chosen not to renew. They should not be listed as a Voting Member, and their logo should be removed from the IBIS home page. Another member is not likely to rejoin.

The parser developer has been paid \$1,500 for IBISCHK721. We also expect an SAE ITC 2023 assessment to be entered after SAE ITC closes the accounting books. The amount is usually available around February 2024.

\$22,504 Balance for 2023

\$19,904 Adjusted Balance for 2023 (with 2020 \$2,000 ZTE sponsorship moved forward to 2023 and subtracting 2024 dues payments)

\$1,750 Balance for 2024

\$9,400 Adjusted Balance for 2024 (adding the 2024 IBIS membership renewals received in 2023)

WEBSITE ADMINISTRATION

Randy Wolff reported on behalf of Steve Parker that the Japan IBIS Summit page was updated and a link to the old TSIRDS page was updated.

Weston Beal requested the "IBIS Celebrates 30 Years!" banner on the home page get removed. Randy also noted the meeting time for the DesignCon IBIS Summit needed updating to start at 8:00am.

Randy to request website updates from Steve Parker [AR].

MAILING LIST

Curtis Clark reported there are no issues with freelists.org. A couple of long-term subscribers bounced, so he will reach out to see if there are any issues to resolve.

LIBRARY UPDATE

Zhiping Yang reported no updates on the library. He plans to look at the links in the next month for any broken links.

UNIVERSITY RELATIONS

Zhiping Yang reported on behalf of Professor Chulsoon Hwang no updates.

INTERNATIONAL/EXTERNAL ACTIVITIES

- Conferences

SPI2024 – the 28th IEEE Workshop on Signal and Power Integrity will be held in Lisbon, Portugal on May 12-15, 2024. An IBIS Summit will be held after the event. More information is available at:

<https://spi2024.av.it.pt/>

- Press Update

No updates reported.

- Related Standards: IEC 63055/IEEE 2401, JEITA "LPB"

Michael Mirmak reported no LPB update. The DASC membership has been notified about the February and May IBIS Summits and calls for papers. Next DASC meeting is February 1, 2024.

- University Relations

Chulsoon Hwang reported no updates.

SUMMIT PLANNING AND REVIEW

DesignCon IBIS Summit 2024 (Santa Clara, CA)

Location:

- February 2, 2024, Mission Towers I, First Floor Training Room, 3975 Freedom Circle, Santa Clara, CA
- (Parking is complimentary in garage, Mention "MathWorks or IBIS Summit" for directions from security desk if necessary).

Sponsors:

- IBIS Open Forum

Co-Sponsors:

- The MathWorks, Inc.
- Keysight Technologies
- Siemens EDA
- Others to be determined.

Notes: Randy Wolff reported this is planned to be a Hybrid Summit, 8am-4pm Pacific time US, which would be 11am-7pm Eastern time US. Randy thanked MathWorks, Keysight Technologies, and Siemens EDA for sponsoring the Summit. The Summit is open for further Sponsorship.

We have time for more presentations. Bob Ross noted about 6 presentations are planned so far. Randy noted he was close to finalizing the catering contract, with costs around \$2,400.

SPI IBIS Summit

Location:

- May 15, 2024, Lisbon, Portugal. Wednesday afternoon, after SPI closes.

Notes: Bob Ross noted we need to determine our cost estimate before voting to approve spending. Randy Wolff reported that he had been working with the SPI organizers to schedule a meeting room and start the planning process. Zuken is planning to be a co-sponsor.

More information on the IBIS Summit is available here:

<https://spi2024.av.it.pt/ibis-summit/>

QUALITY TASK GROUP

Bob Ross reported that the group released the IBISCHK7.2.1 parser. They have also worked on the Touchstone 2.1.0 parser specification. It passed SAE ITC legal review. The parser developer is working on a quote and had some questions about versions of toolsets to use (such as gcc). Weston Beal has been working on a presentation for the DesignCon IBIS Summit on the updates to the Quality checklist.

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

https://ibis.org/quality_wip/

ADVANCED TECHNOLOGY MODELING TASK GROUP

Randy Wolff reported that the group has mostly been working on reviewing BIRD229. The task group will resume normal meetings next week.

Note: Task group material can be found at:

https://ibis.org/macromodel_wip/

INTERCONNECT TASK GROUP

Randy Wolff reported that the task group has been discussing the pole residue format proposals. The task group will resume normal meetings next week.

Note: Task group material can be found at:

https://ibis.org/interconnect_wip/

EDITORIAL TASK GROUP

The group remains suspended.

Note: Task group material can be found at:

https://ibis.org/editorial_wip/

NEW ADMINISTRATIVE ISSUES

None.

ROLL CALL

Mid-meeting roll call: Randy Wolff reported 7 member companies with a quorum.

TECHNICAL DISCUSSION

Touchstone 2.1 Draft 3 Review

Link: https://ibis.org/touchstone_ver2.1/

Randy Wolff reported that Touchstone 2.1 Draft 3 was submitted shortly after the last IBIS Open Forum meeting and includes some minor editorial updates from Draft 2 such as updating the Table of Contents and changing the location of the References section. The main change from Touchstone 2.0 adds support to the option line (# line) for per-port reference resistances, essentially to bring into alignment with EDA tools that support reference impedances “per port”. 4 TSIRDs are supported in this specification.

Randy noted that the link on the last page of the document to supported TSIRDs (<https://ibis.org/tsirds>) should be updated to <https://app.ibis.org/tsirds/>.

Bob Ross motioned to schedule a vote on Touchstone 2.1 for the next Open Forum meeting. Kyle Lake seconded the motion.

Lance Wang to send out vote solicitation email [AR].

NEW AND REVISED *IRDs

BIRD229: AMI Test Data Support

Link: <https://ibis.org/birds/bird229.docx>

Randy Wolff provided a short summary of the BIRD. Michael Mirmak is expected to provide a more detailed summary of the BIRD in the next meeting.

IRDS SCHEDULED FOR VOTE

BIRD227: AMI Ignore Block Feature

Link: <https://ibis.org/birds/bird227.docx>

Randy Wolff provided a quick summary of the BIRD and the new IBIS-AMI parameter Adaptation_Valid. He noted the BIRD was scheduled for a vote. Curtis Clark noted the benefit is that the new parameter, if not supported, works seamlessly even if an EDA tool doesn't support it, since it does not affect the behavior of Ignore_Bits. The model is just less efficient in simulation.

Curtis motioned to vote on approval of BIRD227. Weston Beal seconded the motion.

Ballot results:

- Ansys – Yes
- Cadence – Yes
- Intel Corporation – Yes
- MST EMC Lab – Yes
- Siemens EDA – Yes
- Synopsys – Yes
- Teraspeed Labs – Yes

The vote passed with a tally of TBD – 7 Yes, 0 – No, 0 – Abstain.

Randy announced that BIRD227 is approved.

Lance Wang to update the approval status of BIRD227 on the website [AR].

IRDS ELIGIBLE FOR VOTE

BIRD220: Pre-driver PSIJ Sensitivity Keyword

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

Randy Wolff motioned to table the BIRD. Kyle Lake seconded. There were no objections.

BIRD228: Pin Name Field Extension

Link: <https://ibis.org/birds/bird228.docx>

Randy Wolff summarized the BIRD. It extends the number of characters for pin_name from 5 to 20. Several other keywords besides [Pin] are affected by this change, and the BIRD details all the necessary changes.

Kyle Lake motioned to schedule a vote on BIRD228 for the next IBIS Open Forum meeting. Bob Ross seconded the motion. There were no objections.

Lance Wang to send vote solicitation email for BIRD228 [AR].

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

No updates reported.

IBISCHK AND TSCHK PARSER AND BUG STATUS

Bob Ross reported the Quality task group is reviewing requirements for the TSCHK2.1 contract. Development of the new parser for Touchstone 2.1 supports 4 TSIRDS and 2 BUG reports. BUG5 is a code change for faster file reading. BUG6 is a finite list of security improvements.

Randy Wolff reported that all but one BUG is closed for IBISCHK with the 7.2.1 release. BUG227 for checking the root name of .ami files is still open and dependent upon the approval of BIRD229.

NEW TECHNICAL ISSUES

None.

NEXT MEETING AGENDA AND SCHEDULING

The next IBIS Open Forum teleconference meeting would be held as a teleconference meeting on January 26, 2024, and the following date as IBIS Summit during DesignCon February 2, 2024.

Bob Ross motioned to adjourn. Curtis Clark seconded the motion. The meeting adjourned.

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NOTES

IBIS CHAIR: Lance Wang (978) 633-3388

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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	Nov 14, 2023	Nov 17, 2023	Dec 8, 2023	Jan 5, 2024
Altair	User	Inactive	-	-	-	-
AMD (Xilinx)	Producer	Inactive	-	-	-	-
Ansys	User	Active	-	X	X	X
Applied Simulation Technology	User	Inactive	-	-	-	-
Aurora System	User	Inactive	-	-	-	-
Broadcom Ltd.	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	X	-	X
Celestica	User	Inactive	-	-	-	-
Cisco Systems	User	Inactive	-	-	-	-
Dassault Systemes	User	Inactive	-	-	-	-
GE Healthcare Technologies	User	Inactive	-	-	-	-
Google	User	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	-	-	-	-
Infineon Technologies AG	Producer	Inactive	-	X	-	-
Instituto de Telecomunicações	User	Inactive	-	-	-	-
Intel Corp.	Producer	Active	-	X	X	X
Keysight Technologies	User	Inactive	X	-	-	-
Marvell	Producer	Inactive	-	-	-	-
MathWorks	User	Active	-	X	X	-
Micron Technology	Producer	Inactive	X	-	-	-
MST EMC Lab	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
Teraspeed Labs	General Interest	Active	X	X	X	X
Waymo	User	Inactive	-	-	-	-
ZTE Corp.	User	Inactive	-	-	-	-
Zuken	User	Active	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.