IBIS Open Forum Minutes

Meeting Date: **October 27, 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 Scearce), Hong Wu
Dassault Systemes	Stefan Paret, Longfei Bai
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, Kinger 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 Bücker, 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
SAE-ITC	Tammy Patton
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#   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

Randy Wolff reported he would be conducting the meeting as Co-Chair, as Chair Lance Wang was not available.

Roll Call: Graham Kus reported 6 attendees and that quorum was not reached.
Bob Ross noted this would mean motions could be conducted but voting could not be conducted.
Randy acknowledged this status and continued the meeting.

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. Patents were not declared and there was no comment raised regarding specifications.

REVIEW OF MINUTES AND ARS
- Minutes for October 6, 2023:
- Bob Ross recommended uploading to the reflector, before adopting the minutes.

ARs:
- None Listed

ANNOUNCEMENTS, **CALL FOR ADDITIONAL AGENDA ITEMS**

Randy Wolff called for any new announcements. Graham Kus asked about coverage for travel as representative to the IBIS DesignCon Summit 2024 due to employer travel restrictions. Randy took an AR to discuss offline [AR].

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported that there are no changes in the numbers from the last report. He was informed after that Steven Parker was paid the $347.88 for the ibis.org URL charge.

We still expect payments for the Asian IBIS Summit (Shanghai) based on the number of participants or minimum contract charge. We also expect another Shanghai sponsorship payment – approximately $1500, in progress.

We anticipate the dues will be set to $900. This would require an official vote in an upcoming meeting. Bob noted that at least one Member company starts the fiscal year November 1, and would recommend voting on this soon.

We expect to pay the parser developer for IBISCHK721 in 2023 approximately $1500 based on email vote.

$17,245 Balance for 2023. This does not include payments for Steven Parker relating to the ibis.org domain.

$22,295 Adjusted Balance for 2023 (Note, 2020 ZTE sponsorship moved forward to 2023).

WEBSITE ADMINISTRATION

Randy Wolff reported for Steven Parker that there were no updates at this time. Bob Ross recommended that Sponsors be added to upcoming events; the Sponsors listing is incomplete especially regarding the Asian IBIS Summits. Lance Wang to send Steve Parker list of Sponsors on Website [AR].

MAILING LIST

Curtis Clark reported going smoothly. One message voting to approve parser funding seemed delayed and looked at the header; looks like Outlook.com accepting from Freelists.org. Long story short, site outage; otherwise going smoothly. Freelists.org is providing great support.

LIBRARY UPDATE

Randy Wolff reported on behalf of Zhiping Yang reported no updates at this time.

PRESS UPDATES

Randy Wolff reported that there is an effort to publish to the IEEE-EMC Society magazine an article on IBIS.

UNIVERSITY RELATIONS

Randy Wolff reported behalf of Professor Chulsoon Hwang no updates.

INTERNATIONAL/EXTERNAL ACTIVITIES

Randy Wolff reported no updates at this time.

SUMMIT PLANNING AND REVIEW

Asian IBIS Summit (Shanghai, China)
Location:
- Parkyard Hotel, Shanghai, November 10, 2023, 8:30am-5pm
Sponsors:
- IBIS Open Forum
- ANSYS China
- Cadence Design Systems
- Empyrean
- ZTE Corporation
- Others to be determined.

Randy Wolff reported the China Summit is nearly complete in regards to agenda; 1 or 2 papers could be added. Bob Ross reported there are currently 8 presentations. We still need several of them to be submitted, however. Also, 2 more Sponsors need to be added to China Summit. We have to work on the agenda for China IBIS Summit. Randy stated the China summit would be only in-person, non-hybrid.

Asian IBIS Summit (Tokyo, Japan)
Location:
- Tokyo, November 14, 2023 9:00-12:00 (JST)
Sponsors:
- IBIS Open Forum
- Japan Electronic and Information Technology Industries Association (JEITA)
Co-Sponsors:
- ANSYS, Inc.

- Apollo Giken Co.
- Keysight Technologies Japan K.K.
- Seiko Epson Corporation
- Toshiba Corporation
- Zuken Inc.
- Others to be determined.

Randy reported that the Japan summit would support both in-person and remote attendance.

DesignCon IBIS Summit 2024 (Santa Clara, CA)
Location:
- February 2, 2024, Mission Towers, First Floor Training Room, 3975 Freedom Circle, Santa Clara CA
Sponsors:
- IBIS Open Forum
Co-Sponsors:
- The MathWorks, Inc.
- Others to be determined.

Randy took an AR to ask Design Con for partnership agreements [AR]. He related to make sure that there is a cohesive announcement and foster partnership. Also that Lance Wang to be noted as the IBIS Committee Chair and also to work with DesignCon representatives to work up sponsorship/partnership agreement. Graham Kus noted that the IBIS Summit would be hosted by MathWorks per vote at the previous Open Forum meeting. To be held February 2nd at Mission Towers Complex, 3975 Freedom Circle, Santa Clara CA. The location is within 2 miles of the Santa Clara Convention center and parking is complimentary.

QUALITY TASK GROUP

Bob Ross reported working on a Touchstone 2.1 Parser technical specification. This would be put into the pending 2.1 pending parser contract.

No new bugs are being discussed.

The Parser contract would deal with Touchstone checks for code cleanup and security checks.

Bob Ross reported the Parser in C++ is well structured in his opinion, so the contract would be amended to reflect the test cases are embedded in the parser as before. There are other details but this is the topic at present. We would send this off after review and scoping for price and timeline.

Randy asked for questions. None were asked.

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

 https://www.ibis.org/quality_ver3.0/

ADVANCED TECHNOLOGY MODELING TASK GROUP

Arpad Muranyi reported the meetings are on Tuesdays at 12:00 noon Pacific Time, as usual. Recent discussions included the proposal from Michael Mirmak on testing AMI models with clearly defined test loads and simulation parameters. Another proposal from Alaeddin

Aydiner was also discussed on making Ignore_Bits more flexible (rather than the current hard-coded approach with a single Ignore_Bits value in the .ami files).

Randy Wolff asked for questions. None were asked.

Note: Task group material can be found at:

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

INTERCONNECT TASK GROUP

Randy Wolff reported on behalf of Michael Mirmak that Touchstone 2.1 Draft submitted to Open Forum, and that Touchstone 3 was in discussion.

Bob Ross asked if this had been sent to the reflector; it had not yet. It would be as a work-in-progress. Randy agreed it should be sent out officially through the email list.

Note: Task group material can be found at:

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

EDITORIAL TASK GROUP

Michael Mirmak reported no updates.

Note: Task group material can be found at:

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

NEW ADMINISTRATIVE ISSUES

Randy Wolff reported finding a typo in IBIS Version 7.2, bringing the total revision list to 4 items so far. This was added to the known issues document found at this link:
https://ibis.org/ver7.2/ver7_2_known_issues.docx

ROLL CALL

Mid-meeting roll call: Graham Kus took the roll call and reported 6 attendees; quorum had not been reached for this meeting by this time.

TECHNICAL DISCUSSION

Touchstone 2.1 Draft Review

Randy Wolff reported in terms of syntax there is really no change; lots of editing and cleaning up of equations and BIRDs issues with examples. It is now a much cleaner document in that regard; but not much difference in terms of syntax; they are essentially compatible. What Touchstone 2.1 adds support for is to essentially create a de-facto Touchstone 1.1 file that supports per-port resistances on the Option line. This is the main change shown in the Option line definition in the specification.

Randy commented this support was added because some EDA tools were adding custom non-standard syntax and this adds official support for this functionality.

The parser that would be developed would now support new conversions; some Touchstone 2 files could be converted to Touchstone 1.1 syntax. That originally could not be done with per-port reference resistances; could not down-convert but now can do it to Touchstone 1.1 syntax. Some of the converters are normalized vs. non-normalized in the formats. This refers to the reference resistance. Some new examples; also there is revised syntax, such as for port notations in the document. The revised document shows various equations in word-editable format and is overall cleaned-up from an editorial perspective.

Randy asked for comments.

Bob Ross thanked Michael Mirmak for converting equations into Word equation format to foster editorial updates going forward.

Arpad Muranyi stated he thought the only technical change was the addition of per-port reference resistance on the option line. The rest of the changes are editorial corrections and clarifications. Arpad recommended this version to be released relatively soon. Meanwhile work continues on the pole-residue and port mapping proposals for Touchstone 3.x.

Bob Ross commented that with Touchstone 3.x, the TSCHK parser would be developed as a cost; and would require some cost for purchasing. Randy agreed that due to paying a parser developer for the code, it would be required to convey the costs to members.

NEW AND REVISED *IRDS
No new or revised IRDS reported for this meeting.

IRDS SCHEDULED FOR VOTE
No IRDS scheduled for voting this meeting.

IRDS ELIGIBLE FOR VOTE

BIRD220: Pre-driver PSIJ Sensitivity Keyword

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

BIRD223.1 Add support for SPIM in IBIS

Link: https://ibis.org/birds/bird223.1.docx

BIRD226 PSIJ Sensitivity

Link: https://ibis.org/birds/bird226.docx

Bob Ross motioned that BIRD223.1 be scheduled to vote for the next IBIS Open Forum meeting. Graham Kus seconded the motion. There were no objections. The motion passed.

Randy Wolff asked if there were motions for BIRD220 or BIRD226. No motions were made.

There was discussion about why no motions were being made. It was suggested that ATM add these BIRDs to agenda to resolve the stall on how to move forward. Curtis Clark commented that BIRD226 and BIRD220 may involve double counting, but that Kinger Cai may push on BIRD226 as he comes back. Bob Ross commented that one BIRD is more involved in IBIS Keyword complexity than the other. Whereas BIRD220 involves an additional keyword, where conversely BIRD226 involves many more keywords to parse by EDA vendors and would require their input.

Bob commented that some of these would be in IBIS 8.0 and others may be pushed to IBIS 8.1.

(Graham Kus noted that Michael Mirmak and Walter Katz joined the meeting).

It was noted that Michael Mirmak joined. Randy Wolff recognized Michael for any comments. There was group discussion on BIRDs eligible to vote and other briefings on topic coverage. There were no new status updates or motions.

Randy Wolff asked if there were questions. None were asked.

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

Randy Wolff reported no tabled IRDs.

IBISCHK AND TSCHK PARSER AND BUG STATUS

IBISCHK Parser: Bob Ross reported that there is a delivery date of November 3rd, which is flexible. Also, we are working on a parser definition for TSCHK210 to be coupled with Touchstone version 2.1. The specification adds to the Option line, per-port reference resistances, and that touches several other areas that are in the technical specification for the developer to handle.

Randy Wolff asked if any questions. None were asked.

NEW TECHNICAL ISSUES

Randy Wolff reported no new Technical Issues.

NEXT MEETING AGENDA AND SCHEDULING

Randy Wolff announced that the next IBIS Open Forum teleconference meeting would be held as a teleconference meeting November 17, 2023, and the following date of December 8, 2023.

Michael Mirmak motioned to adjourn. Arpad Muranyi seconded the motion. The motion passed. The meeting was 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:

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 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	Aug 25, 2023	Sept 15, 2023	Oct 6, 2023	Oct 27, 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	-
Celestica	User	Inactive	-	-	-	-
Cisco Systems	User	Inactive	-	-	-	-
Dassault Systemes	User	Inactive	-	-	-	-
GE Healthcare Technologies	User	Inactive	-	-	-	-
Google	User	Inactive	-	-	-	-
Honeywell	User	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	-	-	-	-
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Instituto de Telecomunicações	User	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	X	X	X
Keysight Technologies	User	Inactive	-	-	-	-
Marvell	Producer	Inactive	-	X	-	-
MathWorks	User	Active	-	X	X	X
Micron Technology	Producer	Inactive	-	X	-	-
MST EMC Lab	User	Active	X	X	X	-
SerDesDesign.com	User	Inactive	-	-	-	-
Siemens EDA	User	Active	X	X	X	X
STMicroelectronics	Producer	Inactive	-	-	-	-
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.