



IBIS Open Forum Minutes

Meeting Date: **January 6, 2023**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2023 PARTICIPANTS

AMD (Xilinx)	(Bassam Mansour)
Analog Devices (Maxim Integrated)	(Tushar Pandey)
ANSYS	Curtis Clark*
Applied Simulation Technology	(Fred Balistreri)
Aurora System	(Dian Yang)
Broadcom	(Yunong Gan)
Cadence Design Systems	(Zhen Mu), Kyle Lake*
Celestica	(Sophia Feng)
Cisco Systems	(Stephen Scearce)
Dassault Systemes	(Stefan Paret)
Google	(Hanfeng Wang)
Huawei Technologies	(Hang (Paul) Yan)
Infineon Technologies AG	(Christian Sporrer)
Instituto de Telecomunicações	(Abdelgader Abdalla)
Intel Corporation	Chi-te Chen*, Hsinho Wu*, Michael Mirmak*
Keysight Technologies	(Ming Yan)
Marvell	Steven Parker*
MathWorks	Graham Kus*, Walter Katz*
Micron Technology	Randy Wolff*
MST EMC Lab	(Chulsoon Hwang)
SerDesDesign.com	(John Baprawski)
Siemens EDA	Arpad Muranyi*, Weston Beal*
STMicroelectronics	(Olivier Bayet)
Synopsys	Ted Mido*
Teraspeed Labs	Bob Ross*
Waymo	Zhiping Yang
ZTE Corporation	(Shunlin Zhu)
Zuken	(Michael Schäder)
Zuken USA	Lance Wang*

OTHER PARTICIPANTS IN 2023

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

Graham Kus declared that a quorum had been reached.

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. No patents were declared.

REVIEW OF MINUTES AND ARS

Randy Wolff called for comments on the minutes of the Japan IBIS Summit on November 11, 2022: Motion to approve made by Curtis Clark, seconded by Graham Kus. The motion carried. Randy then called for comments on minutes for the IBIS teleconference on December 9, 2022: motion to approve Curtis, seconded by Graham. The motion carried.

The Minutes are available at the following link:

<https://ibis.org/minutes/>

Randy reviewed ARs from the previous meeting.

ARs:

- Graham Kus to get specifics on DesignCon IBIS Summit meeting room for A/V and catering vendors [AR]
 - Completed
- Bob Ross to work on cleaning up the old BUG reports so they're more consistent [AR]
 - Completed
- Steve Parker to update the presentation links on the Japan IBIS Summit page [AR]
 - Completed and links updated
- Randy Wolff to ping SAE ITC about IEEE IBIS standardization progress [AR]
 - Open
- Steve Parker to add Keysight to the sponsors list on the DesignCon Summit page [AR]

- Completed
- Randy Wolff and Steve Parker to update the status of BIRD221 on the website [AR]
 - Completed
- Randy Wolff and Steve Parker to update the status of BIRD222 on the website [AR]
 - Completed
- Randy Wolff to send an email announcement about the availability of the IBIS 7.2 draft [AR]
 - Completed

ANNOUNCEMENTS, CALL FOR ADDITIONAL AGENDA ITEMS

Randy Wolff asked for any announcements. There were no topics announced.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported for 2022, we close with 29 members.

Bob reported that Luminous has decided not to renew in 2023. So we now have 28 members and a quorum of 7. The Luminous logo and link should be removed from the IBIS Home page per IBIS Open Forum Membership Policy. Stephen Parker acknowledged it will be removed [AR].

MathWorks purchased the IBISCHK7 and TSCHK2 parser licenses (\$3000 and \$1000)

Membership renewals are slowly trickling in. Currently we have 4 renewals for 2023.

We still expect about \$6000 assessment by SAE ITC for 2022 services recorded on December 31 when the numbers are available in 2023.

The parser developer for IBISCHK7 V711 has been paid \$1500.00. The Ledger shows this payment.

IBIS Renewal Invoices have been sent in December, 2022.

\$26,561 Balance for 2022

\$25,311 Adjusted Balance for 2022

\$1,800 Balance for 2023

\$6,850 Adjusted Balance for 2023 (Note, 2020 ZTE sponsorship moved forward to 2023)

WEBSITE ADMINISTRATION

Steven Parker reported that Randy already covered a number of items from the [AR]s. One is that we added DesignCon 2023 banner with a link to jump to the site with embedded code. Other than that, have updated minutes for task groups and open forum, that concludes the updates.

Bob submitted that Siemens can be added as a co-sponsor. Steven took an action to add Siemens to the website as a sponsor [AR]. There were no further questions.

MAILING LIST ADMINISTRATION

Curtis Clark reported that the freelists.org system was operating normally. He reported that Siemens added as a subscriber.

LIBRARY UPDATE

Randy Wolff reported for Zhiping Yang and said there were no new updates.

INTERNATIONAL/EXTERNAL ACTIVITIES

Conferences:

Press Updates

Randy Wolff reported an article came out for the IEEE EMC magazine, a link to the information about IBIS's participation in the IEEE EMC+SIPI event follows.

IEEE EMC Magazine Q3 2022 table of contents:

Link: https://engage.ieee.org/rs/756-GPH-899/images/EMC_3rdQtr2022-blast.pdf

2022 EMC+SIPI Article on IBIS:

Link: <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9982579&tag=1>

Related Standards

Randy Wolff reported for Michael Mirmak said there were no new updates to report.

IEEE IBIS Standardization

Randy Wolff reported that he had emailed our parent organization, SAE ITC, about this again. He still had received no response and will ping them again to see if this topic is being addressed [AR].

IBIS Summits:

DesignCon 2023 IBIS Summit (Santa Clara, CA):

Randy Wolff reported that Lance Wang is responsible for planning this event. This will be a hybrid summit.

Discussion about transportation from convention center, transportation in general, lunch catering, and how many people at the convention center vs. other hotels around the area.

Randy reported that Will Hobbs reached out to mention IBIS is having 30th anniversary. Officially 1993 April 23 IBIS version 1.0 was introduced June 17, 1993 held at DAC Dallas and IBIS Open Forum had its roots in an IO modelling summit in December 1992. In summary, there has been 30 years of IBIS Open Forum and plan to celebrate this.

Donald Telian may attend the meeting as a founding member.

Lance reported there are 3 presentations confirmed.

QUALITY TASK GROUP

Bob Ross reported that quotes for Parser development are out. Checks for Power Integrity in the checklist. Arpad Muranyi asked whether the new parser was released? Bob confirmed that the Parser was released with source code links to the owners of the parser license. Bob asks about Mac and Intel architecture builds for parser, which remain open items for builds. When it comes to the User Guide, there may be a need to work with Mike LaBonte, because it is a semi-automated process, but there are many error codes that may have to be resolved, and he had a good method for that.

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 that the previous two meetings were cancelled, the next meeting is January 10th 2023. Before this meeting we were discussing proposals by Kinger Cai on PSIJ and integration to the IBIS specification. He is soliciting or requesting feedback drafts are posted because we are basically trying to clean up things and make sure it is all done right, please provide us comments and feedback so we can improve it. There were no further questions.

Note: Task group material can be found at:

http://www.ibis.org/macromodel_wip/

INTERCONNECT TASK GROUP

Randy Wolff reported for Michael Mirmak that this task group is still suspended due to activity in Editorial Task Group. If this group is to be restarted it would be January 11th, 2023 pending Michael sending out an agenda.

Note: Task group material can be found at:

http://www.ibis.org/interconnect_wip/

EDITORIAL TASK GROUP

Randy Wolff reported for Michael Mirmak that there would be some meetings once the IBIS 7.2 draft was approved. Arpad Muranyi asked about a few editorial issues caught, will there be a meeting or simply an update without a meeting? Randy responded that we will continue to review the existing draft in the event there may be more fixes, and then hold a vote at that point. The plan of record is to leave this decision to Michael as editor. Bob Ross asked about draft 5 vs. draft 6. Arpad responded wouldn't we have to do another review cycle in going to draft 6. Bob replied to the new draft would back-fill all changes. Most would be minor, such as font and formatting changes rather than technical content. Also by combining so many BIRDs into draft 5, many issues were caught and resolved. Randy concluded that it remains up to Michael to establish the draft versioning.

Note: Task group material can be found at:

http://www.ibis.org/editorial_wip/

NEW ADMINISTRATIVE ISSUES

Randy Wolff asked if there were any new issues. None were raised.

Roll call: Graham Kus reported a mid-meeting count of 13 in attendance.

IBIS 7.2 DRAFT REVIEW

There was discussion on when to hold a scheduled vote on IBIS 7.2 draft specification. Arpad Muranyi moved to schedule a vote on the IBIS 7.2 draft, to be held during the January 27, 2023 IBIS Open Forum teleconference. Randy Wolff seconded. The motion carried. Randy to send out a vote solicitation email on IBIS 7.2 one week before the meeting [AR].

NEW AND REVISED *IRDS

Randy Wolff reported that in various BIRDS there are some issues. For example if keyword "Modulation_Levels" is specified then keyword "PAM_Thresholds" is also required- this would be an example clarification. There may be other clarifications of this nature as well moving forward. Bob Ross agreed there are multiple toggles where one IBIS keyword requires another. Arpad Muranyi agreed with making this clearer- and asked whether we have counted how many might be needed to be addressed- potentially the entire specification, and whether there is a task to review this or generate a list. Randy clarified that this would be an action for the next draft of the Editorial Task Group.

IRDS SCHEDULED FOR VOTE

No items were discussed.

IRDS ELIGIBLE FOR VOTE

BIRD220: Pre-driver PSIJ Sensitivity Keyword is eligible to vote.

Randy Wolff discussed that this BIRD is still being edited. Bob Ross reported that there is pending work by King Cai to vet some portions of the BIRD220. Arpad Muranyi said there should be more consideration especially when there is another BIRD available coming soon that is similar topic, PSIJ topics, but the two proposals are different- Time domain vs. Frequency Domain. We will have to take a good look at it to decide if both should exist or if we can make do with one or the other, things of that nature. Arpad motioned to table the BIRD220. Bob seconded. There were no objections. The motion carried.

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

No items were discussed.

IBISCHK AND TSCHK PARSER AND BUG STATUS

Bob Ross reported that there are no new bug reports, but we may still be dealing with a platform issue and may need some technical assistance. We reviewed the Parser contract for IBISCHK 7.2. An example Parser contract and set of directives with regards to BIRDS was discussed. Randy Wolff clarified that basically parts of the BIRDS were imported, and each technical item was addressed for the benefit of the Parser Developer to quote based on scope. Bob and

Randy presented a set of BIRD specifications and corresponding Rules, as well as scope for the Parser Developer to consider as to what the Parser needs to do to operate correctly. There would be an action item from Quality Task Group to get a quote [AR].

NEW TECHNICAL ISSUES

The IBIS 7.2 draft(s) may be found here:

https://ibis.org/ver7.2_wip/

NEXT MEETING

Randy Wolff stated that the next IBIS Open Forum meeting date would be January 27, 2023. The following meeting would be the IBIS Summit. The next Open Forum meeting is scheduled for February 17, 2023.

Graham Kus motioned to adjourn. Curtis Clark seconded. The meeting was adjourned.

NOTES

IBIS CHAIR: Randy Wolff (208) 363-1764

rrwolff@micron.com

Principal Engineer, Silicon SI Group, Micron Technology, Inc.
8000 S. Federal Way
P.O. Box 6, Mail Stop: 1-802
Boise, ID 83707-0006

VICE CHAIR: Lance Wang (978) 633-3388

lance.wang@ibis.org

Solutions Architect, Zuken USA
238 Littleton Road, Suite 100
Westford, MA 01886

SECRETARY: Graham Kus

graham.kus@ibis.org

Senior Engineer, The MathWorks, Inc.
3 Apple Hill Drive
Natick, MA 01760

TREASURER: Bob Ross (503) 246-8048

bob@teraspeedlabs.com

Engineer, Teraspeed Labs
10238 SW Lancaster Road
Portland, OR 97219

LIBRARIAN: Zhiping Yang (650) 214-0868

zhipingyang@google.com

Sr. Hardware Manager, Google LLC
1600 Amphitheatre Parkway
Mountain View, CA 94043

WEBMASTER: Steven Parker (845) 372-3294

sparker@marvell.com

Senior Staff Engineer, DSP, Marvell

2070 Route 52

Hopewell Junction, NY 12533-3507

POSTMASTER: Curtis Clark

curtis.clark@ansys.com

ANSYS, Inc.

400 Fifth Avenue

Suite 500

Waltham, MA 02451

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: `ibischk6`, `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/bugspl.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>

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. 11, 2022	Nov. 18, 2022	Dec. 9, 2022	Jan. 6, 2023
AMD (Xilinx)	Producer	Inactive	-	-	-	-
Analog Devices (Maxim Integrated)	Producer	Inactive	-	-	-	-
ANSYS	User	Active	X	X	X	X
Applied Simulation Technology	User	Inactive	-	-	-	-
Aurora System	User	Inactive	X	-	-	-
Broadcom Ltd.	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Inactive	X	-	-	-
Celestica	User	Inactive	-	-	-	-
Cisco Systems	User	Inactive	-	-	-	-
Dassault Systemes	User	Inactive	-	-	-	-
Google	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	X	-	-	-
Luminous Computing	General Interest	Inactive	-	-	-	-
Marvell	Producer	Active	-	X	X	X
MathWorks	User	Active	-	X	-	-
Micron Technology	Producer	Active	X	X	X	X
MST EMC Lab	User	Inactive	-	-	-	-
SerDesDesign.com	User	Inactive	-	-	-	-
Siemens EDA (Mentor)	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	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.