



## IBIS Open Forum Minutes

Meeting Date: **January 27, 2023**

Meeting Location: **Teleconference**

### VOTING MEMBERS AND 2023 PARTICIPANTS

Altair	(JuneSang Lee)
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	Kyle Lake*
Celestica	(Sophia Feng)
Cisco Systems	(Stephen Searce)
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

Honeywell	Bavish Vazhayil*
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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](tel: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.

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## INTRODUCTIONS AND MEETING QUORUM

Curtis Clark 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 January 6, 2023, IBIS Open Forum teleconference. Curtis Clark moved to approve the minutes. Kyle Lake seconded the motion. There were no objections.

The Minutes are available at the following link:

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

Randy reviewed ARs from the previous meeting.

1. Randy Wolff to ping SAE ITC about IEEE IBIS standardization progress [AR]  
Randy reported that he had contacted SAE ITC. A half-hour meeting with SAE ITC was scheduled for the afternoon of January 27th, and Randy expected to provide an update at the next meeting.
2. Steve Parker to add Siemens to the sponsors list on the DesignCon Summit page [AR]  
Randy reported that this was done.
3. Steve Parker to remove the Luminous Computing logo from the home page [AR]  
Randy reported that this was done.
4. Bob Ross to get a quote on the IBISCHK 7.2 parser [AR]  
Bob reported that the request for a quote had been sent to the parser developer.

5. Randy Wolff to send vote solicitation email for IBIS 7.2 ratification [AR]  
Randy reported that this was done.

## **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 that for 2022, we closed with 29 members. Luminous had decided not to renew in 2023, but we have a new member, Altair, that has joined for 2023. We are back to 29 members and a quorum of 8.

Membership renewals are slowly trickling in. Currently we have 9 renewals for 2023 and the new membership for Altair.

We still expect an assessment of about \$6000 from SAE ITC, for 2022 services, to be recorded on December 31, 2022, when the final 2022 numbers are made available later in 2023.

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**\$26,561** Balance for 2022

**\$25,311** Adjusted Balance for 2022

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**\$6,800** Balance for 2023

**\$11,850** Adjusted Balance for 2023 (Note, 2020 ZTE sponsorship moved forward to 2023)

## **WEBSITE ADMINISTRATION**

Randy Wolff reported for Steve Parker. He said that Steve had added Altair's logo to the website's main page. Randy noted that the most recent IBIS Open Forum teleconference minutes had not yet been uploaded to the site.

## **MAILING LIST ADMINISTRATION**

Curtis Clark reported that the freelists.org system was operating normally. No new subscribers had enrolled, and no one had unsubscribed.

## **LIBRARY UPDATE**

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

## **INTERNATIONAL/EXTERNAL ACTIVITIES**

### Conferences:

SPI2023 – the 27th IEEE Workshop on Signal and Power Integrity (May 07-10, 2023, Aviero, Portugal):

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

### Press Updates

None.

### Related Standards

None.

### IEEE IBIS Standardization

Randy Wolff reported that a meeting had been scheduled with SAE ITC representatives for later that afternoon, and Randy said he would provide an update at the next meeting [AR].

### IBIS Summits:

DesignCon 2023 IBIS Summit (February 3, 2023, Santa Clara, CA):

Randy Wolff asked that anyone planning to attend contact Lance Wang to register. Randy said he would be sending out the final agenda later that day [AR]. MathWorks is providing a Teams meeting, and a link to the meeting will be sent to registered participants on Wednesday, February 1<sup>st</sup>.

Randy and Bob Ross noted that catering is our only expense for this summit, as MathWorks is providing the meeting room. The catering quote was approximately \$3500 not including gratuity for the onsite server. Bob moved to authorize an expenditure for the DesignCon IBIS Summit catering not to exceed \$4,000. Arpad seconded the motion. There were no objections. Bob and Randy noted that after accounting for sponsorship payments, the net expenditure for IBIS for this summit would be approximately \$2,000.

Randy noted that Donald Telian and Will Hobbs would attend and participate in a presentation with Arpad Muranyi on the history of IBIS. There will be a cake in celebration of IBIS's 30<sup>th</sup> anniversary.

IEEE SPI 2023 IBIS Summit (tentatively May 10, 2023, Aviero, Portugal):

Randy reported that the organizers of the symposium had reached out to us to see about planning another IBIS Summit in conjunction with the symposium. Randy and Bob said they were in favor of holding the summit. Bob said he would respond to the organizers and confirm our interest in holding a summit [AR]. Bob and Randy said they would get more details on the expected cost to hold the summit [AR]. Randy said the summit is typically held in the afternoon local time, which is not great for US based attendees. Bob said he was not sure whether the organizers would provide support for a hybrid meeting or only an in-person meeting.

### **QUALITY TASK GROUP**

Bob Ross reported that the group had sent out a request for a quote for ibischk parser development for IBIS 7.2. He reported that we will likely stop providing macOS parser executables, as we no longer have a resource who can build them. The group still needs to develop the user guide for ibischk7.1.1.

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

[http://www.ibis.org/quality\\_wip/](http://www.ibis.org/quality_wip/)

## **ADVANCED TECHNOLOGY MODELING TASK GROUP**

Arpad Muranyi reported that the group's next two regularly scheduled meetings had been cancelled because of DesignCon, and the next meeting will be held on February 14<sup>th</sup>, 2023. The group had been working on Kinger Cai's Standard Power Integrity Modeling (SPIM) BIRD proposal, and he asked everyone to review the latest draft and provide feedback. The group had also recently discussed Arpad's proposal to add support for multi-level signaling devices to standard IBIS [Model]s.

**Note:** Task group material can be found at:

[http://www.ibis.org/macromodel\\_wip/](http://www.ibis.org/macromodel_wip/)

## **INTERCONNECT TASK GROUP**

Michael Mirmak reported that this task group was still suspended due to activity in the Editorial Task Group. This group is expected to restart after DesignCon, assuming IBIS 7.2 is approved, and the Editorial task group can be suspended.

**Note:** Task group material can be found at:

[http://www.ibis.org/interconnect\\_wip/](http://www.ibis.org/interconnect_wip/)

## **EDITORIAL TASK GROUP**

Michael Mirmak reported that the group had met to finalize the latest draft of IBIS 7.2, which was scheduled for an approval vote later in this meeting. Once IBIS 7.2 is approved, Editorial will be suspended, and the Interconnect task group will resume.

**Note:** Task group material can be found at:

[http://www.ibis.org/editorial\\_wip/](http://www.ibis.org/editorial_wip/)

## **NEW ADMINISTRATIVE ISSUES**

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

Roll call: Curtis Clark reported a mid-meeting count of 11 in attendance.

## **IBIS 7.2 APPROVAL VOTE**

Randy Wolff shared the latest version of IBIS 7.2, draft7, which had been sent out a week earlier. He reviewed the differences between draft7 and the previously posted draft5. Randy noted that the changes in draft7 were highlighted in yellow. The changes were predominantly minor editorial changes, but he noted that Examples for Usage Out PAMn AMI parameters had been changed. Since the model returns Usage Out parameters, the Editorial task group had decided that Examples should not demonstrate any particular syntax, as the values in the .ami file are merely placeholders.

Michael Mirmak moved to vote to approve IBIS 7.2. Bob Ross seconded the motion. Without objection, Randy Wolff conducted a roll call vote. The motion passed with 9 Yes votes, 0 No

votes, and 0 abstentions. Michael Mirmak to prepare the official IBIS 7.2 by updating the ratified date and removing “draft7” [AR]. Steve Parker to post IBIS 7.2 and update the banner on the IBIS home page [AR]. Randy Wolff to send an email announcement once IBIS 7.2 is posted [AR].

ANSYS	Yes
Cadence	Yes
Intel Corporation	Yes
MathWorks	Yes
Micron Technology	Yes
Siemens EDA	Yes
Synopsys	Yes
Teraspeed Labs	Yes
Zuken USA	Yes (email vote)

#### **NEW AND REVISED \*IRDS**

No items were discussed.

#### **IRDS SCHEDULED FOR VOTE**

None.

#### **IRDS ELIGIBLE FOR VOTE**

No items were discussed.

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

No items were discussed.

#### **IBISCHK AND TSCHK PARSER AND BUG STATUS**

Bob Ross reported that there were no new bug reports. Bob said the request for a quote from the parser could now refer to the newly approved IBIS 7.2. Randy Wolff noted that the BIRDs contained in IBIS 7.2 should have their Supporting Version column updated on the BIRDs page. Randy Wolff and Steve Parker to update the Supporting Version column for IBIS 7.2 BIRDs [AR].

#### **NEW TECHNICAL ISSUES**

None.

## NEXT MEETING

The DesignCon IBIS Summit will be held on February 3, 2023. Randy Wolff stated that the next IBIS Open Forum meeting date would be February 17, 2023. The following IBIS Open Forum meeting is scheduled for March 17, 2023.

Arpad Muranyi moved to adjourn. Curtis Clark seconded. The meeting was adjourned.

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## NOTES

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This meeting was conducted in accordance with SAE ITC guidelines.

All inquiries may be sent to [info@ibis.org](mailto: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](mailto:ibis@freelists.org) and/or [ibis-users@freelists.org](mailto:ibis-users@freelists.org) email lists (formerly [ibis@eda.org](mailto:ibis@eda.org) and [ibis-users@eda.org](mailto: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](mailto:ibis-macro@freelists.org), [ibis-interconn@freelists.org](mailto:ibis-interconn@freelists.org), [ibis-editorial@freelists.org](mailto:ibis-editorial@freelists.org), or [ibis-quality@freelists.org](mailto: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](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](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	Nov. 18, 2022	Dec. 9, 2022	Jan. 6, 2023	Jan. 27, 2023
Altair	User	Inactive	-	-	-	-
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	-	-	-	-
Broadcom Ltd.	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	-	-	X	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	-	-	-	-
Marvell	Producer	Active	X	X	X	-
MathWorks	User	Active	X	-	X	X
Micron Technology	Producer	Active	X	X	X	X
MST EMC Lab	User	Inactive	-	-	-	-
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	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.