**IBIS Open Forum Minutes**

Meeting Date: **October 4, 2024**

Meeting Location: **Teleconference**

**VOTING MEMBERS AND 2024 PARTICIPANTS**

|  |  |
| --- | --- |
| Altair | (JuneSang Lee) |
| AMD (Xilinx) | (Bassam Mansour) |
| Analog Devices | Jermaine Lim-Abroguena, Toni Rose Racelis, Christine Bernal, Prachi Shukla, Aprille Hernandez-Loyola, Francis Ian Calubag, Marvin Sinues, Vincent Paul Sabillo, Esther Grace Falate, Keshav Mehrotra |
| Ansys | Curtis Clark\*, Marco Occhiali |
|  Ansys Japan | Satoshi Endo |
| Applied Simulation Technology | (Fred Balistreri) |
| Aurora System | (Dian Yang), Raj Raghuram |
| Broadcom | (Yunong Gan) |
| Cadence Design Systems | Kyle Lake\*, Ambrish Varma, Jared James, John Phillips, Kristoffer Skytte, Baolong Li |
| Celestica | (Sophia Feng) |
| Cisco Systems | (Stephen Scearce), Hong-Man Wu |
| Dassault Systemes | Stefan Paret, David Duque |
| 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\*, Kinger Cai, Chi-te Chen, Sleiman Bou-sleiman |
| Keysight Technologies | Pegah Alavi, Ming Yan, David Banas, Fangyi Rao, HeeSoo Lee, Heidi Barnes |
| Marvell | Steven Parker, Shaowu Huang, Wei Zhang |
| MathWorks | Graham Kus\*, Walter Katz\* |
| Micron Technology | Justin Butterfield |
| MST EMC Lab | Chulsoon Hwang\*, Zhiping Yang\*, Jiahuan Huang, Yifan Ding, Zheben Peng, Xiangrui Su, DongHyan "Bill" Kim |
| SI-ClaritySiemens EDASTMicroelectronics | Doug Burns\*Weston Beal\*, Arpad Muranyi\*, Randy Wolff\*, Matt Leslie, Scott Wedge, Todd Westerhoff, Zhichao DengAnil-Kumar Dwivedi, Bhupendra Singh, Harsh Saini, Hemant Kumar Gangwar, Manda Padma Sindhuja, Manish Bansal, Nitin Kumar, Olivier Bayet, Pawan Verma, Pranav Singh, Rahul Kumar, Raushan Kumar, Shivam Soni, Gaurav Goel, Manisha Bisht, Charul Sharma, Manish Bansal, Mihir Pratap |
| Synopsys | Ted Mido\*, (Andy Tai), Luis Simoes, Pedro Monteiro, Luis Neves, António Eustáquio, Diogo Coelho, Nuno Lima, Alexandre Brito |
| Teraspeed Labs | (Tom Dagastino), [Bob Ross] |
| Waymo | (Feng Wang), [Ji Zhang] |
| ZTE Corporation | (Zhongmin Wei), (Shunlin Zhu) |
| Zuken Zuken USA | (Ralf Brüning), Markus BückerLance Wang\* |

**OTHER PARTICIPANTS IN 2024**

|  |  |
| --- | --- |
| Alphawave Semi | Adrien Auge, Todd Bermensolo |
| Anacom | Filipe Saraiva |
| Apple Inc. | Ying Cao |
| Applied Logix | Dan Chirpich |
| Ciena | Hugues Tournier, Kaisheng Hu |
| Hirel Logic | Jason Riddley |
| HRL Laboratories | John Carlson |
| Hitachi Ltd. | Yutaka Uematsu |
| IBM | Matteo Cocchini |
| Kandou | Sherman Chen |
| KEI Systems | Shinichi Maeda |
| KT Smart Future-Creations | Keita Miyasato |
| Meta | Ashkan Hashemi, Himanshu Modi |
| Northrop Grumman Corp. | Will McCaffrey |
| Qualcomm | Scott Powers |
| Rivos | Yanshen Wang |
| Samsung Electronics | Jun-Bae Kim, Changsoo Yoon |
| SAE ITC | Tammy Patton\*, Rich Demary |
| Signal Edge Solutions | Benjamin Dannan |
| Si-Guys | Donald Telian |
| Socionext America | Futoshi Terasawa |
| Teraspeed Labs | [Bob Ross] |
| Toyobo Co. | Saki Kawano |

|  |  |
| --- | --- |
| University of Illinois Urbana-Champaign | Jose Schutt-Aine |
| UNIST | Jingook Kim |
| Zhejiang University | Ling Zhang |

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](https://nam10.safelinks.protection.outlook.com/ap/t-59584e83/?url=https%3A%2F%2Fteams.microsoft.com%2Fl%2Fmeetup-join%2F19%253ameeting_MmIwNzhhNmItNzA1NC00ZTg1LWE0MDMtNGFiYzg1NDQ3MmE5%2540thread.v2%2F0%3Fcontext%3D%257b%2522Tid%2522%253a%2522fcbfc6fa-e20b-4a1d-b629-1b8e17697dbc%2522%252c%2522Oid%2522%253a%25227735c7ad-2577-4290-9e27-bce52c296030%2522%257d&data=04%7C01%7Ccurtis.clark%40ansys.com%7C31ef953a4d93460c286f08d90345d1fb%7C34c6ce6715b84eff80e952da8be89706%7C0%7C0%7C637544421277314270%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=zAeh7fCRElDR1NAQiiqHUfTwbTIg%2BkEQnkgGnEn65Kk%3D&reserved=0)

**Join with a video conferencing device**

106010980@teams.bjn.vc

Video Conference ID: 114 666 897 5

[Alternate VTC dialing instructions](https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fsupport.bluejeans.com%2Fknowledge%2Fvtc-dial-in-options-for-teams&data=04%7C01%7Ccurtis.clark%40ansys.com%7C31ef953a4d93460c286f08d90345d1fb%7C34c6ce6715b84eff80e952da8be89706%7C0%7C0%7C637544421277324259%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=1kD4GmLd%2BbdzErQBSHS1UPBmh0y5G8PlDlZUtMSsxkQ%3D&reserved=0)

**Or call in (audio only)**

+1 267-768-8015,554664847#   United States, Philadelphia

Phone Conference ID: 554 664 847#

[Find a local number](https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdialin.teams.microsoft.com%2Fd1ae197a-e3fc-4c53-90b6-39fdeba65bc1%3Fid%3D554664847&data=04%7C01%7Ccurtis.clark%40ansys.com%7C31ef953a4d93460c286f08d90345d1fb%7C34c6ce6715b84eff80e952da8be89706%7C0%7C0%7C637544421277324259%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=N5Ha2rFhHG%2FIXyLoSEfS%2B1XYjLP9c1I8%2B%2BKSMNVgqgM%3D&reserved=0) | [Reset PIN](https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fmysettings.lync.com%2Fpstnconferencing&data=04%7C01%7Ccurtis.clark%40ansys.com%7C31ef953a4d93460c286f08d90345d1fb%7C34c6ce6715b84eff80e952da8be89706%7C0%7C0%7C637544421277334256%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=iKkTEbcyELtfgSacAxVtz%2BCU%2Fmsr5%2Bb04%2Bwg8PpOSH4%3D&reserved=0)

[Learn More](https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Faka.ms%2FJoinTeamsMeeting&data=04%7C01%7Ccurtis.clark%40ansys.com%7C31ef953a4d93460c286f08d90345d1fb%7C34c6ce6715b84eff80e952da8be89706%7C0%7C0%7C637544421277334256%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=2Udj6qD9gLjqoYgziYRQlGCwj7uJH4%2FQCDhrtMrFYdk%3D&reserved=0) | [Meeting options](https://nam10.safelinks.protection.outlook.com/?url=https%3A%2F%2Fteams.microsoft.com%2FmeetingOptions%2F%3ForganizerId%3D7735c7ad-2577-4290-9e27-bce52c296030%26tenantId%3Dfcbfc6fa-e20b-4a1d-b629-1b8e17697dbc%26threadId%3D19_meeting_MmIwNzhhNmItNzA1NC00ZTg1LWE0MDMtNGFiYzg1NDQ3MmE5%40thread.v2%26messageId%3D0%26language%3Den-US&data=04%7C01%7Ccurtis.clark%40ansys.com%7C31ef953a4d93460c286f08d90345d1fb%7C34c6ce6715b84eff80e952da8be89706%7C0%7C0%7C637544421277344253%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=C5t3AZlfs3uti2goGqd28L%2FvDdjsizM1qfsUE05mJS4%3D&reserved=0)

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: Graham Kus announced a total of 9 organization members attending with quorum of 7 met.

**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.

**REVIEW OF MINUTES AND ARs**

- August 9, 2024 IBIS Summit at IEEE EMC+SIPI 2024 – pending update.
- August 23, 2024 IBIS Open Forum Teleconference – pending update.
- September 13, 2024 IBIS Open Forum Teleconference – pending update.

- Lance to address broken recording links for August 9, 2024 IBIS Summit.

**ANNOUNCEMENTS, CALL FOR ADDITIONAL AGENDA ITEMS**

Lance Wang called for any new announcements. No new agenda items.

**MEMBERSHIP STATUS AND TREASURER'S REPORT**

No updates from SAE ITC on open items since the September 13 update. 1 member renewal payment is still in progress (AMD) and a 2nd for a Parser license. A TSCHK2 parser source code license purchase is completed, but the invoice payment has not been recorded yet ($1,000). We have 28 members with a quorum of 7.

No change since September 13:

**$13,255** Balance for 2024

**$22,705** Adjusted Net Income for 2024 (adding the 2024 IBIS membership renewals received in 2023)

**WEBSITE ADMINISTRATION**

Lance Wang reported for Steve Parker that website status: IBIS Summit registration for Shanghai is live. The upcoming IBIS Events page has been updated with Sponsorship information for both the Japan and China IBIS Summits. Also, Steve has paid annual hosting fee to Bluehost and is seeking re-imbursement. Most recent minutes received from Secretary have been posted. For Web 2024, there is a plan to move to app based upload of meeting minutes by ourselves and not require Steve to conduct the task.

No questions were asked.

**MAILING LIST**

Curtis Clark reported nothing new to report.

**LIBRARY UPDATE**

Zhiping Yang reported no updates.

**INTERNATIONAL/EXTERNAL ACTIVITIES**

Lance Wang reported that the IEEE has a new conference regarding Interconnect with a new conference starting this year regarding the topic. This will be held in China the end of October or beginning of November. Lance is considering next year, whether to hold an IBIS summit with the IEEE event at that time. Zhiping stated the name is IEEE Workshop for Advanced Interconnect. This year is November 6-8 in China arranged by Professor Lee. The plan is to hold this annually as a conference. Lance stated we would like to determine whether it could be a co-sponsored event.

* Link: <http://www.wai-emc.com/>

On another topic, Zhiping stated he attended a conference related to JEDEC on Automotive and Memory related topics:

* Link: <https://www.jedec.org/Automotive-Electronics-Forum-attendees-only-2024-San-Jose>

IEC 63055/IEEE 2401, JEITA "LPB:"

* Lance Wang reported on behalf of Michael Mirmak there are no updates.

Press Updates:

* No updates reported.

University Relations:

* No updates reported.

**SUMMIT PLANNING AND REVIEW**

Asian IBIS Summits:

Lance Wang reported that the dates are now set as follows:

* Link: [www.ibis.org/events](http://www.ibis.org/events)

Japan IBIS Summit (October 22, 2024)

* Location: JEITA Office Building, Tokyo, Japan & Online.

Lance stated this conference would be translated.

* Sponsors:
* ANSYS, Inc.
* Apollo Giken Co.,Ltd.
* IBIS Open Forum
* JEITA EC Center
* Keysight Technologies Japan K.K.
* Seiko Epson Corporation
* Toshiba Corporation
* Zuken Inc.

China IBIS Summit (October 25, 2024)

* Location: Parkyard Hotel, Shanghai, PR China

Lance stated there are 20+ registered at present. There are 4 Sponsors that are committed:

* Sponsors:
* Ansys
* Empyrean Technology
* Aurora System
* Cadence Design Systems

Notes: Lance reported there may be issues with time zones, as this would be midnight East-Coast US time. There may be presentations that are presented by proxy; with questions answered after the event.

**QUALITY TASK GROUP**

Randy Wolff reported there is main work on the Parser Specification for each of the new BIRDs that will be part of IBIS 8.0. Main thing is discussing BIRD229.1 – how the Parser can impute data to the .dll/.so files in order to check for the AMI value root\_name, in order to make sure the Parser checks the root\_name AMI value matches the AMI file.

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

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

**ADVANCED TECHNOLOGY MODELING TASK GROUP**

Arpad Muranyi reported we are meeting on Tuesdays at Noon Pacific time. In the last few meetings discussed 2 topics. BIRD220.1 proposals. We asked Yifan Ding to run a few more experiments on PSIJ parameters would or would not work. A new draft could be submitted to open forum soon. Another from Michael Mirmak, parser related, regarding to what the meaning of Ramp numbers are, in presence of other parameters. As we were looking into all those, we discovered quite a few areas in the specification that may need clarification. We are discussing those details.

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

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

**INTERCONNECT TASK GROUP**

Michael Mirmak reported via email: no update to interconnect.

There was discussion about Touchstone S-Parameter vs. RLC models of ports vs. return path.

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

 [https://ibis.org/interconnect\_wip/](https://ibis.org/macromodel_wip/)

**EDITORIAL TASK GROUP**

Michael Mirmak reported via email: the team is working on a third draft of IBIS 8.0. All approved BIRDs since IBIS 7.2 have been integrated, as have all known issues in IBIS 7.2. Significant editing is still needed to ensure consistency between the largest BIRDs and the rest of the document. Meetings continue every Friday at 8am when the Open forum is not scheduled.

Randy Wolff stated there is much work to do and help is appreciated.

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

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

**NEW ADMINISTRATIVE ISSUES**

IBIS membership structure change discussions

* IBIS parser source-code purchase price change
* Lance Wang reported that there was consideration whether to have different pricing for large company/high seat count vs. small company/low seat count.
* Randy Wolff stated that we are waiting to get more information on budgeting and actual costs are from SAE-ITC, which would help define these metrics.
* There was additional discussion on Budget topic which was tabled for an Officer’s meeting at a later date.

**ROLL CALL**

Mid-meeting roll call: Graham Kus reported 9 member attendees meeting quorum requirements.

**TECHNICAL DISCUSSION**

No new items.

**NEW AND REVISED IRDs**

None.

**IRDS ELIGIBLE FOR VOTE**

None.

**IRDS SCHEDULED FOR VOTE**

None.

**TABLED IRDS**

BIRD220: Pre-driver PSIJ Sensitivity keyword.

Arpad Muranyi stated this was still being discussed.

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

**IBISCHK AND TSCHK PARSER AND BUG STATUS**

Randy Wolff reported working on specification for IBISCHK 8. There may be a bug submitted soon depending on discussions in ATM regarding Ramp keyword. Nothing submitted yet.

**NEW TECHNICAL ISSUES**

None.

**NEXT MEETING AGENDA AND SCHEDULING**

Lance Wang stated the next IBIS Open Forum meeting would be held as a teleconference meeting on November 1, 2024. The following meeting would be held November 22, 2024. Lance asked if there were any concerns. None were raised.

Arpad Muranyi motioned to adjourn. Doug Burns seconded the motion. The meeting adjourned.

========================================================================

**NOTES**

IBIS CHAIR: Lance Wang (978) 633-3388

lance.wang@ibis.org

Solutions Architect, Zuken USA

238 Littleton Road, Suite 100

Westford, MA 01886

VICE CHAIR: Douglas Burns

vice-chair@ibis.org

CEO and Signal and Power Integrity Consultant, SI-Clarity, LLC.

SECRETARY: Graham Kus

graham.kus@ibis.org

Senior Engineer, The MathWorks, Inc.

3 Apple Hill Drive

Natick, MA 01760

TREASURER: Randy Wolff

randy.wolff@siemens.com

Product Architect, Siemens EDA

LIBRARIAN: Zhiping Yang

YangZhip@mst.edu

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: 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](https://ibis.org/%20bugs/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** | **Aug 9, 2024** | **Aug 23, 2024** | **Sept 13, 2024** | **Oct 4, 2024** |
| Altair | User | Inactive | - | - | - | - |
| AMD (Xilinx) | Producer | Inactive | - | - | - | - |
| Analog Devices | Producer | Inactive | X | - | - | - |
| 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 Systems | User | Inactive | - | - | - | - |
| GE Healthcare Technologies | User | Inactive | - | - | - | - |
| Google | User | Inactive | - | - | - | - |
| Huawei Technologies | Producer | Inactive | - | - | - | - |
| Infineon Technologies AG | Producer | Inactive | - | - | - | - |
| Intel Corp. | Producer | Active | X | X | X | X |
| Keysight Technologies | User | Inactive | - | - | - | - |
| Marvell | Producer | Inactive | X | X | - | - |
| MathWorks | User | Active | X | X | X | X |
| Micron Technology | Producer | Inactive | - | - | - | - |
| MST EMC Lab | User | Inactive | X | - | - | - |
| SI-Clarity | 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 |
| 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.