



IBIS Open Forum Minutes

Meeting Date: **April 22, 2022**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2022 PARTICIPANTS

Analog Devices (Maxim Integrated)	Tushar Pandey, Jermaine Lim
ANSYS	Curtis Clark*
Applied Simulation Technology	(Fred Balistreri)
Broadcom	(Yunong Gan)
Cadence Design Systems	Zhen Mu*, Jared James, Ken Willis
Celestica	(Sophia Feng)
Cisco Systems	(Stephen Searce)
Dassault Systemes	(Stefan Paret)
Ericsson	(Guohua Wang)
Google	(Hanfeng Wang)
Huawei Technologies	(Hang (Paul) Yan)
Infineon Technologies AG	(Christian Sporrer)
Instituto de Telecomunicações	(Abdelgader Abdalla)
Intel Corporation	Hsinho Wu, Michael Mirmak*, Jingbo Li, Liwei Zhao
Keysight Technologies	Radek Biernacki*, Ming Yan, Fangyi Rao, Majid Ahadi Dolotsara, Pegah Alavi, Saish Sawant
Luminous Computing	(David Banas)
Marvell	Steven Parker*
MathWorks	Mike LaBonte*, Walter Katz*
Micron Technology	Randy Wolff*, Aniello Viscardi, Justin Butterfield
MST EMC Lab	(Chulsoon Hwang)
SerDesDesign.com	John Baprawski
Siemens EDA	Arpad Muranyi*, Weston Beal, Amin Maher, Scott Wedge, Steve Kaufer, Todd Westerhoff, Vladimir Dmitriev-Zdorov
STMicroelectronics	(Olivier Bayet)
Synopsys	Ted Mido*
Teraspeed Labs	Bob Ross*
Xilinx	(Bassam Mansour)
Waymo	Zhiping Yang*
ZTE Corporation	(Shunlin Zhu)
Zuken	(Michael Schäder)
Zuken USA	Lance Wang*

OTHER PARTICIPANTS IN 2022

Amazon Lab126	Ashkar Hashemi
Ciena	Hugues Tournier
IBM	Greg Edlund
Mercury Systems	Vincent Tam
National Central University, Taiwan	Chiu-Chih Chou
OVT	Sirius Tsang
SAE ITC	José Godoy
SeriaLink Systems	Aleksey Tyshchenko, David Halupka

University of Colorado, Boulder, ECEE
University of Illinois

Eric Bogatin
José Schutt-Aine

In the list above, attendees 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#

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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

Mike LaBonte 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 April 1, 2022, IBIS Open Forum teleconference. Curtis Clark moved to approve the minutes. Lance Wang seconded the motion. There were no objections.

Randy said the April 8 DesignCon summit minutes had just been sent out. They would be reviewed in the next meeting.

Randy reviewed ARs from the previous meeting.

- Randy Wolff to announce ISSIRD template format vote [AR]
Randy said this was done.
- Randy Wolff to update BIRD211.4 to reflect approved status [AR]
Randy said this was done.
- Randy Wolff to send vote solicitation for BIRD218 [AR]
Randy said this was done.
- Michael Mirmak to add note to TSIRD 4 that no parser change is required [AR]
Arpad Muranyi said that was still being discussed.
- Randy Wolff to send vote solicitation for BIRD166.4, BIRD190, and BIRD210 [AR]
Randy said this was done.

ANNOUNCEMENTS, CALL FOR ADDITIONAL AGENDA ITEMS

None

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported that we still had 22 renewed and new members. One of 29 prior year members planned to drop membership. Unpaid returning companies would be dropped from membership at the end of May. We had a balance of \$19,293 (rounded) for 2022, and a balance adjusted for 2022 attribution of \$22,543 (rounded). A balance of \$450 was attributed to 2023. Bob said the progress of incoming membership renewal payments was slower than usual. There would be a \$5,119 charge for the DesignCon summit. Bob had prepared a summit budget, effectively zero due to expectations for no in-person summits.

WEBSITE ADMINISTRATION

Steven Parker reported that the BIRDS page had been updated and the minutes page was up to date. The summit page had DesignCon rolled to the bottom and SPI moved up top. Steve thanked Mike LaBonte for filling in during DesignCon. Randy Wolff said the TSCHK page might change at some point.

MAILING LIST ADMINISTRATION

Curtis Clark reported that all was well. Bounces had slowed down. We had one new email list subscriber.

LIBRARY UPDATE

Zhiping Yang said there was not much activity. He had requested a full chip IBIS model from Broadcom and was unable to get it, although they had IBIS-AMI models. Bob Ross would contact Zhiping about that.

Lance Wang asked if Google and Waymo had separate memberships. Bob said they did. He noted that Google had not yet attended a meeting. Randy Wolff said the IBIS home page should make it more obvious how to join IBIS activities.

INTERNATIONAL/EXTERNAL ACTIVITIES

- Conferences

The IEEE SPI 2022 conference would be held in Siegen, Germany, May 22 to 25.

26th IEEE Workshop on Signal and Power Integrity, May 22 to 25, 2022

<https://spi2022.uni-siegen.de/>

The IEEE EMC+SIPI would be held in Spokane, Washington, August 1 to 5.

IEEE International Symposium on Electromagnetic Compatibility, Signal & Power Integrity (EMC+SIPI), August 1-5, 2022

<https://emc2022.emcss.org>

- Press Updates

Zhiping Yang asked if there had been a response about Randy Wolff's offer to publish an IBIS 7.1 article in the IEEE EMC Society quarterly newsletter. Randy said he would contact them again.

- Related standards

IEC 63055/IEEE 2401, JEITA "LPB"

No update.

- IEEE IBIS Standardization

Randy said we were exploring IEEE standardization. He had emailed SAE ITC to see if they had issues or advice about that, and he was waiting for the response. There were many open questions. Zhiping Yang thanked Randy. He said IEEE seemed open to the idea. One question was about IEEE membership payment requirements. Arpad Muranyi suggested pursuing standardization for IBIS 7.2, not IBIS 7.1. Randy agreed, saying it gave an opportunity to address known IBIS 7.1 editorial issues. The timing would be good.

SUMMIT PLANNING AND REVIEW

Randy Wolff said the DesignCon hybrid event had some AV issues. He said we had paid \$2,500 for AV, and the sound quality was not good enough. Zhiping Yang asked if that had been our first hybrid event. Randy said it was. Zhiping said we would need to work on how to run future hybrid events. Randy said we would need roving microphones and better execution of AV operation. He said one room was good, two would have seemed too empty. Zhiping felt we should review the timing.

Randy said our IEEE SPI summit would be virtual. It had been too difficult to plan a hybrid event, especially across many time zones. It would be held the day after the workshop, so SPI attendees would have time to return home before the summit. Randy said we were a little late for sending the first announcement. Bob Ross said we were seeking presentations. We had three candidate presentations so far. One question was whether to repeat DesignCon presentations. Bob would contact the Torino attendees. He said we could end early if we did not have a full program. Arpad asked if there was enough value having a virtual-only meeting. He said the value for conferences like SPI was utilizing the people attending there. Randy said there was also value in maintaining our long relationship with SPI, about 25 years of continuous co-located summits. Bob said the SPI agenda had not yet been published. Randy showed the page, which had only a preliminary guide. Bob said SPI itself was hybrid.

Bob asked if the IEEE EMC+SIPI conference should be discussed. Zhiping Yang said he could see about reserving a room. Randy suggested taking more time to consider. Randy said a proposal for a short course in which he would have presented had not been accepted for the conference. He asked if a summit room should be reserved. That would have to be done by the end of the month. There would be no charge. Bob said Friday would be best. Zhiping said that should be easy to book, asking how many people we would expect. Bob said the “Ask the IBIS Experts” panel should bring in some people interested in IBIS. Bob requested at least some classroom setup with tables, not all theater style. Randy said the DesignCon summit had been set up for 40 people. Zhiping would request that. Bob said our summit would probably be hybrid.

QUALITY TASK GROUP

Mike LaBonte said the group meets on Tuesdays at 9:00 a.m. PT. They had been discussing five IBISCHK bugs, which Bob Ross would discuss later in the meeting. Mike was attempting to create a prototype of an IBISCHK that would check root names in IBIS-AMI models.

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 group meets on Tuesdays at 12:00 a.m. PT. They were trying to finalize the PAMn BIRD213. The root name requirements discussion was ongoing. They were addressing Ted Mido’s question about changing Ignore_Bits to symbols. Arpad said a clarification sentence would be added, and the IBIS-AMI Ignore_Bits parameter would not be renamed.

Task group material can be found at:

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

INTERCONNECT TASK GROUP

Michael Mirmak reported the group was meeting on Wednesdays at 8:00 a.m. PT. The focus was on Touchstone port naming and the TSIRD draft. Michael thanked Randy Wolff for covering for him in the upcoming weeks.

Task group material can be found at:

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

EDITORIAL TASK GROUP

Randy Wolff reported that the group remained suspended. Arpad Muranyi asked if editorial work could be resumed in Michael Mirmak’s absence. Michael had no objection.

Task group material can be found at:

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

NEW ADMINISTRATIVE ISSUES

- ISSIRD Template Vote

Randy Wolff showed the document. He said it had been reviewed a few times. Arpad Muranyi said he had used the new template and found some strange behavior regarding horizontal lines in the document. It gave him the impression that more information was needed somewhere. Michael Mirmak said there might be a system-dependent behavior problem. Randy said that could be fixed later. Arpad moved to approve the template. Michael seconded the motion. Randy asked if there were objections. There were none.

Randy showed the IBIS Specification page, noting that there was no place for IBIS-ISS changes. That would be added.

Randy Wolff and Steven Parker to make web changes for new ISSIRD template document [AR]

- TSIRD Template Review

Randy showed the document, noting it was similar to the BIRD template. Michael Mirmak moved to schedule a vote to approve it in the next meeting. Arpad seconded the motion. There were no objections.

Randy Wolff to announce vote for new TSIRD template document [AR]

- New BIRD template

Randy showed a new BIRD template, reviewing the changes made, which were largely editorial. He said using the new template would make the work of the Editorial Task Group easier later on. Arpad asked how the template would be accessed, saying there was inconsistency among various web pages with associated template documents. He suggested adding links to the home page navigation bar, adding TSIRDs and ISSIRDs below BIRDs. Randy showed where various links were found, describing changes that would be made. He said the IBIS-ISS page needed to be in HTML format; currently it was a directory listing. Bob Ross agreed.

- IBIS 7.1 Known Issues

Randy showed the document, reviewing item #10 from Ted Mido. He said it was not yet posted online.

- Officer elections

Randy said nominations would open May 17. He asked Radek Biernacki if he could serve again as returning officer. Radek said he could not in that time frame. He noted that the nomination start date should be May 16, which fell on a Monday. Randy said there would be an opening for the Secretary position. Bob believed that most of the current officers would be able to serve again. He said we might consider reorganizing the positions to be more effective. Mike LaBonte said he would not be running for the Secretary position in the upcoming elections.

NEW AND REVISED *IRDS:

None

***IRDS SCHEDULED FOR VOTE:**

BIRD218: DESIGNATOR PIN LIST RELAXATION

Randy Wolff showed the BIRD. Arpad Muranyi said he had received no questions or comments since the vote was scheduled. He summarized the changes. Radek Biernacki moved to vote to approve. Arpad Muranyi seconded. Randy conducted a roll call vote.

The roll call vote tally was:

1. ANSYS – yes
2. Cadence – yes
3. Intel – yes
4. Keysight – yes
5. MathWorks – yes
6. Micron Technology – yes
7. Siemens EDA – yes
8. Synopsys – yes
9. Teraspeed Labs – yes
10. Zuken – yes

The vote passed.

Randy Wolff to provide updated BIRD218 reflecting approval [AR]

BIRD166.4: RESOLVING PROBLEMS WITH REDRIVER INIT FLOW

BIRD190: CLARIFICATION FOR REDRIVER FLOW

BIRD210: NEW REDRIVER AMI FLOW

Randy Wolff moved to vote on all three BIRDS simultaneously by acclamation, noting that the expectation was to reject all three due to the acceptance of BIRD211.4. Walter Katz agreed. Michael Mirmak asked if the IBIS Policies and Procedures had any requirement regarding BIRD votes. Randy and Mike LaBonte said there were none. Arpad Muranyi seconded the motion. Randy asked if there were any objections to rejecting all three BIRDS. There were none.

Randy Wolff to provide updated BIRDS 166.4, 190, and 210 reflecting rejections [AR]

***IRDS ELIGIBLE FOR VOTE:**

BIRD213: EXTENDING IBIS-AMI FOR PAMn ANALYSIS

Arpad Muranyi said work was still in progress in the ATM Task Group.

BIRD219: AMI PARAMETER ROOT NAME CLARIFICATIONS

Michael Mirmak said he had sent list emails asking about refinements. It should be finalized in ATM the next week.

TSIRD4: [END] KEYWORD CORRECTIONS AND OTHER EDITORIAL CHANGES

Randy Wolff asked Michael Mirmak about his AR to add a note. Michael said that had not been done. Michael asked if TSIRD4 should be delayed until the new template was approved. Randy felt it should. Bob Ross said work to use the template could be done any time. Arpad

Muranyi said use of the templates was not required. Michael said no questions or comments had been received, outside of the AR.

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

BIRD181.1: I-V TABLE CLARIFICATIONS

Walter Katz asked what bad thing would happen if we rejected the BIRD. Bob Ross said it had a number of valid corrections, but we had over-reached. He suggested rejecting the BIRD and starting over. Arpad Muranyi said the specification had changed since the BIRD was written, and page number references would be off. Mike LaBonte said the BIRD made changes to many places in the specification.

Walter moved to untable the BIRD, suggesting a future vote to reject. Bob seconded. There were no objections. Walter moved to schedule a vote in the next Open Forum meeting by acclimation. Bob preferred a roll call vote with email vote solicitation. Arpad Muranyi seconded. Without objection the motion passed.

Randy Wolff to solicit email votes for BIRD181.1 [AR]

IBISCHK AND TSCHK PARSER AND BUG STATUS

Bob Ross said he had two bug reports drafted but not yet posted. They would be BUG232 and BUG233. He was waiting for confirmation on BUG232 before posting it. Yingxin Sun had found a problem when IBISCHK was embedded in another program and a file was checked by absolute path. Yingxin had found the exact error in the source code.

BUG233 was submitted by John Angulo and Arpad Muranyi. There was a null pointer problem when a subparameter was omitted. Bob said IBISCHK would hang and had to be killed. Mike asked if Arpad Muranyi had also found it would hang. He said yes, a dialog would appear for John Angulo, who was running it in an IBIS editor program. Running from DOS gave different behavior.

Bob said there was another bug related to links to other files given by absolute paths. He said the disposition of BUG227, about root name checking, had not been fully resolved. Bob said there would be a parser update once those bugs were classified.

NEW TECHNICAL ISSUES

None

NEXT MEETING

The next IBIS Open Forum teleconference meeting would be held on May 13, 2022. The following IBIS Open Forum teleconference meeting was tentatively scheduled for June 3, 2022.

Arpad Muranyi moved to adjourn. Randy Wolff seconded the motion. The meeting 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. 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/bugsp1t.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

Organization	Interest Category	Standards Ballot Voting Status	March 11, 2022	April 1, 2022	April 8, 2022	April 22, 2022
Analog Devices (Maxim Integrated)	Producer	Inactive	-	-	-	-
ANSYS	User	Active	X	X	X	X
Applied Simulation Technology	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	-	-	-	-
Ericsson	Producer	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	Active	X	X	X	X
Luminous Computing	General Interest	Inactive	-	-	-	-
Marvell	Producer	Active	-	X	-	X
MathWorks (SiSoft)	User	Active	X	X	X	X
Micron Technology	Producer	Active	X	X	X	X
MST EMC Lab	User	Inactive	-	-	-	-
SerDesDesign.com	User	Inactive	-	-	X	-
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	-	X	-	X
Xilinx	Producer	Inactive	-	-	-	-
ZTE Corp.	User	Inactive	-	-	-	-
Zuken	User	Active	X	X	X	X

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.