IBIS Open Forum Minutes

Meeting Date: **January 8, 2021**
Meeting Location: **Teleconference**

VOTING MEMBERS AND 2021 PARTICIPANTS

ANSYS	Curtis Clark*
Applied Simulation Technology	(Fred Balistreri)
Broadcom	(Yunong Gan)
Cadence Design Systems	Zhen Mu*
Cisco Systems	(Stephen Scearce)
Dassault Systemes (CST)	(Stefan Paret)
Ericsson	(Guohau Wang)
Google	Zhiping Yang*
Huawei Technologies	(Hang (Paul) Yan)
IBM	(Greg Edlund)
Infineon Technologies AG	(Christian Sporrer)
Instituto de Telecomunicações	(Abdelgader Abdalla)
Intel Corporation	Hsinho Wu*, Michael Mirmak*
Keysight Technologies	Radek Biernacki*
Marvell	Steve Parker*
Maxim Integrated	Tushar Pandey*
Mentor, A Siemens Business	Arpad Muranyi*
Micron Technology	Randy Wolff*
MST EMC Lab	(Chulsoon Hwang)
NXP	(John Burnett)
SerDesDesign.com	(John Baprawski)
SiSoft (MathWorks)	Mike LaBonte*
Synopsys	Ted Mido*
Teraspeed Labs	Bob Ross*
Xilinx	(Romi Mayder)
ZTE Corporation	(Shunlin Zhu)
Zuken	(Michael Schäder)
Zuken USA	Lance Wang*

OTHER PARTICIPANTS IN 2021

Achronix Semiconductor	Hansel Dsilva*

In the list above, attendees at the meeting 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:

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

Curtis Clark declared that a quorum was 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 November 13, 2020 Virtual Asian IBIS Summit (Japan) and the November 20, 2020 Virtual Asian IBIS Summit (China). Mike LaBonte moved to approve both sets of minutes. Zhiping Yang seconded the motion. There were no objections.

Randy Wolff called for comments on the minutes of the December 4, 2020 IBIS Open Forum teleconference. Mike LaBonte moved to approve the minutes. Zhiping Yang seconded the motion. There were no objections.

Randy reviewed ARs from the previous meeting.

1. Zhiping Yang to send an email to SI-List and IBIS List asking IBIS model providers to send him any updates for the library pages [AR].
   Zhiping reported that this had been done. He said he had received several responses so far.

2. Bob Ross to contact SAE ITC about sending membership Invoices for 2021 [AR].
   Bob reported that this had been done, but he noted that invoices had not yet been sent.

3. Randy Wolff to send an email to the Open Forum announcing the BIRD208 vote [AR]. Randy reported that this had been done.

ANNOUNCEMENTS, **CALL FOR ADDITIONAL AGENDA ITEMS**
None.

MEMBERSHIP STATUS AND TREASURER'S REPORT
Bob Ross reported that we have 27 members. The quorum for meetings is 7. We had $28,435 cash flow for 2020 and a $26,335 adjusted balance for 2020. Total adjusted balance for 2021 is $3,350. These figures are all unchanged from the previous meeting.

Bob noted that we expect a deduction for SAE ITC 2020 Extra Charges in January or February 2021. Last year this charge was over $10,000. He said we also expect a new membership payment in 2021, and we expect a new Touchstone parser source code license payment in 2021 as well. Membership renewal invoices are expected to go out soon. Randy Wolff asked if SAE would break out individual items in their Extra Charges, e.g., Teams meeting hosting costs. Bob said they would.

Bob noted that the Interconnect task group has approximately $16,000 worth of possible ibischk parser development projects pending. He said we had taken in $33,000 for ibischk7 parser license sales, and we have only spent about $8,000 so far. Further discussion is in the ibischk section below.

WEBSITE ADMINISTRATION
Steve Parker reported that the website was up to date with respect to task groups' minutes and documents. A large update to the Interconnect task group work archives had recently been made in batch mode. Steve said he had not been in the practice of uploading every document sent to the Interconnect list, but after discussion with Michael Mirmak he will make that standard practice going forward. Steve noted that meeting minutes and recordings for the Asian Summits are available on the Past Summits pages.

Steve reported on ongoing efforts to improve the website. He and Mike LaBonte had discussed upgrading from the static html pages and incorporating php. He demonstrated some early work in this area and showed that the footer on the main IBIS page is now php based and automatically updates the copyright date, etc. He said these improvements should be transparent, but he asked people to let him know if they find any broken links or other problems.

MAILING LIST ADMINISTRATION
Mike LaBonte reported that mailing lists were operating smoothly. He pointed out that freelists also archives messages sent to the lists. He said the archives are not typically used, but users can check them if they suspect they're not receiving all emails. Mike said that message attachments are also archived. He noted that if you download an attachment from the archives, the filename of the downloaded file will be unexpected because of the way freelists stores

messages in folders by month and needs to avoid name collisions. Bob Ross and Mike noted that email addresses in the freelists archives are obfuscated to avoid having email addresses on an open webpage.

LIBRARY UPDATE

Zhiping Yang reported that he had emailed the SI-list and ibis-users explaining his initiative to update the IBIS Models page. He had received five responses. He said he has created a spreadsheet to track the information he receives, and he hopes we might eventually use that information to start a mailing list for IBIS Model providers. Bob Ross reminded everyone that we still focus exclusively on freely available models, and we don't promote commercial services for tools, models, etc. Bob noted that models that require an NDA are okay, as long as they are provided for free. Zhiping said that he was broadly classifying respondents into 4 groups, model makers, model providers, EDA vendors, and universities. He noted that the information he's gathering from respondents will not be published, but he hopes to use it to start a new email list. Randy Wolff said that once we publish another update to the models page, we can send another email to the larger lists to see if anyone wants to contribute. Steve Parker, Randy, and Bob also said we want to create a way to help people get the latest models without advertising any contact information and violating GDPR. One suggestion was to create a models@ibis.org address for inquiries, which we could then route to the appropriate model providers.

INTERNATIONAL/EXTERNAL ACTIVITIES

- Conferences

SPI2021 – the 25th IEEE Workshop on Signal and Power Integrity will be held as a virtual online conference on May 10-12, 2021. An IBIS Summit will be held after the event (tentative). More information is available at:

    https://spi2021.uni-siegen.de

IEEE EMC + SIPI Symposium 2021 (was planned for May 13-15, Raleigh, NC – now virtual from July 27-August 13, 2021):

    https://www.emc2021.emcss.org

EDI CON Online 2021 (August 4th, 11th, 18th, and 25th, 2021):

    https://www.edicononline.com

- Press Update
None

- Related standards
IEC 63055/IEEE 2401, JEITA "LPB"
Michael Mirmak reported that DASC had just met for the first time in 2021. Long time Chair Stan Krolikoski had stepped down, and Dennis Brophy is the new Chair. Michael noted that DASC had not heard from the P2401 LPB team in JEITA recently. They had expected the Asian IBIS Summits to contain an update, as in years past, but there had been no formal presentation

on LPB. Michael said that if we had received any indirect updates, he could relay them to DASC.

SUMMIT PLANNING AND STATUS
- DesignCon 2021 (April 13-15, 2021)
Randy Wolff noted that this was still up in the air. There had been no announcement about it being changed to virtual, but it seemed unlikely that it could be held as an in-person event in April. Bob Ross said we had tentatively assumed we would have an in-person IBIS Summit on Monday, April 12th (the only day available for us this year in the new venue). Randy said we can pull together a virtual summit fairly quickly, if it comes to that. We will wait until the next meeting to see if more information is available.

- SPI 2021 (May 10-12, 2021 entirely virtual)
Bob Ross said we would normally have planned an in-person summit on the afternoon of Wednesday the 12th. However, with the summit being virtual, the time-zone differences could be problematic. Randy Wolff suggested that he and Bob continue communicating with Michael Schäder and Ralph Bruening. He said we still have time to formally plan and execute a summit starting at the next Open Forum meeting.

- IEEE Power Standardization Sandpit
Zhiping Yang reported that 20 people from industry, academia, system and power companies, and battery companies had responded to his email announcing the planned sandpit. Zhiping said it is expected to be a 3 or 4 day event via video conference. He expects one overall initial session, and then they will decide how many sessions to divide into for particular subject areas. Zhiping said people can still sign up to join, and even those who can't attend are encouraged to respond if they are interested in the sandpit.

- IEEE EMC+SIPI (July 27-August 13, 2021 virtual)
Zhiping Yang said the three week event will combine what were to be separate US and European events. He said the plan is to schedule sessions so there is a 4 hour overlap during which both US and European participants can attend. Randy said we will probably want to align any IBIS summit with the "standards week" portion of the program again. Zhiping asked if we would want to do a workshop to help introduce and advocate for IBIS, and whether we would do a session with Technical Committee 10 for IBIS topics.

QUALITY TASK GROUP
Mike LaBonte reported that the group is meeting on Tuesdays at 8:00 a.m. PT. He noted three upcoming topics: handling of new BIRDs, BUG214 (limited parsing of IBIS-ISS), and coding practices for security to satisfy some source code licensee's requirements. (further discussion in the ibischk section below)

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 p.m. PT. The group had recently renewed discussions about issues with the current AMI flow for redrivers. Several proposals have been discussed, and they hope to choose a direction and start a new BIRD soon.

Task group material can be found at:

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

INTERCONNECT TASK GROUP
Michael Mirmak reported that the group meets at 8:00 a.m. PT on Wednesdays. He noted that the group is now working on a BIRD202.2. They are currently on draft 5, and all comments have now been resolved. They plan one more editorial pass and expect to submit BIRD202.2 to the Open Forum before the next meeting. They would then turn to addressing Touchstone updates.

Task group material can be found at:

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

EDITORIAL TASK GROUP
Randy Wolff reported that the task group remains suspended. They will likely start up soon, perhaps once BIRD202 is approved, to look at what will go into IBIS 7.1.

Task group material can be found at:

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

CHINA REGIONAL FORUM
Lance Wang reported that there were no new updates.

China Regional Forum material can be found at:

   http://www.ibis.org/china_forum/

NEW ADMINISTRATIVE ISSUES
- IBIS 7.0 Known Issues Document
Randy Wolff reported that he'd added a new entry (item #14) to the known issues document. During review of BIRD202's language, several instances of "in length" that were redundant had been found in IBIS 7.0 and should be removed.

BIRD208: CLOCK-DATA PIN RELATIONSHIP KEYWORD

Michael Mirmak summarized the BIRD, which had been introduced several meetings earlier. It introduces a new [Clock Pins] keyword, which simply identifies the fact that there is a clocking relationship between two pins. He said he had received no comments or questions.

Curtis Clark moved to vote on the BIRD. Zhiping Yang seconded the motion. There were no objections.

The roll call vote tally was:

ANSYS – yes
Cadence – yes
Google – yes
Intel – yes
Keysight – yes
Marvell – yes
Maxim Integrated – yes
Mentor – yes
Micron – yes
SiSoft – yes
Synopsys – yes
Teraspeed Labs – yes
Zuken – yes

The roll call vote concluded with a vote tally of Yes – 13, No – 0, Abstain – 0. The vote passed.

Randy Wolff took an AR to update the Date Revised field of the BIRD [AR]. Randy gave Steve Parker an AR to update the status of BIRD208 on the website [AR].

BIRD202.1: ELECTRICAL DESCRIPTIONS OF MODULES

Randy Wolff noted that BIRD202.2 will likely be introduced at the next meeting. He said it's a pretty major BIRD and noted that people can get the latest draft of BIRD202.2 from the Interconnect task group webpage.

BIRD166.4: RESOLVING PROBLEMS WITH REDRIVER INIT FLOW

Discussion was tabled.

BIRD181.1: I-V TABLE CLARIFICATIONS

Discussion was tabled.

BIRD190: CLARIFICATION FOR REDRIVER FLOW

Discussion was tabled.

IBISCHK PARSER AND BUG STATUS

Bob Ross said there were no new parser BUGs to report. However, he said they may introduce a security BUG soon. The Quality task group may need to work with one particular source code customer to get an updated listing of places in the ibischk code that fail the particular security utility's check. They may have to investigate purchasing a license for that tool, but before filing the BUG would need a list of the places in the ibischk7.0.2 source code that fail. Bob said that the timing of parser development may depend on this security issue, or we may decide to deal with it after the first release of ibischk7.1.

Bob suggested that we could now classify BUG214, "Connecting IBIS and Interconnect Models to IBIS-ISS", which is a proposed enhancement to add IBIS-ISS checking to the ibischk parser. This was discussed at the previous meeting. Bob moved to classify BUG214 as enhancement, medium priority, open, to be fixed in a release TBD. Curtis Clark seconded. There were no objections. Bob to update the status of BUG214 [AR].

Bob said he wasn't sure which version would make the most sense for introducing the enhancement for BUG214. Bob shared some ball park estimates from the parser developer:
- IBIS-ISS linkage checking (BUG214) - $4,560
- IBIS 7.1 expected BIRDs - $8,200
- Source code security upgrades $3,200

Bob noted that BUG214 was about half as much work as the entirety of the IBIS 7.1 BIRDs, and the logistics of the source code security project might cause a delay in ibischk7.1 if we included it.

NEW TECHNICAL ISSUES

- None.

NEXT MEETING

The next IBIS Open Forum teleconference meeting will be held on January 29, 2021. The following teleconference meeting is tentatively scheduled for February 19, 2021.

Curtis Clark moved to adjourn. Ted Mido 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 the official ibis@freelists.org and/or ibis-users@freelists.org email lists (formerly ibis@eda.org and ibis-users@eda.org).
- To subscribe to one of the task group email lists: ibis-macro@freelists.org, ibis-interconn@freelists.org, or ibis-quality@freelists.org.
- 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/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

Other trademarks, brands and names are the property of their respective owners.

SAE STANDARDS BALLOT VOTING STATUS

Organization	Interest Category	Standards Ballot Voting Status	November 13, 2020	November 20, 2020	December 04, 2020	January 08, 2021
ANSYS	User	Active	X	X	X	X
Applied Simulation Technology	User	Inactive	-	-	-	-
Broadcom Ltd.	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	X	X	X
Cisco Systems	User	Inactive	-	X	-	-
Dassault Systemes	User	Inactive	-	-	-	-
Ericsson	Producer	Inactive	-	-	-	-
Google	User	Active	-	-	X	X
Huawei Technologies	Producer	Inactive	-	-	-	-
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Instituto de Telecomunicações	User	Inactive	-	-	-	-
IBM	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	-	-	X	X
Keysight Technologies	User	Active	X	X	X	X
Marvell	Producer	Active	-	-	X	X
Maxim Integrated	Producer	Active	-	-	X	X
Mentor, A Siemens Business	User	Active	X	-	X	X
Micron Technology	Producer	Active	X	X	X	X
MST EMC Lab	User	Inactive	-	X	-	-
NXP	Producer	Inactive	-	-	-	-
SerDesDesign.com	User	Inactive	-	-	-	-
SiSoft	User	Active	X	X	X	X
Synopsys	User	Active	X	X	X	X
Teraspeed Labs	General Interest	Active	X	X	X	X
Xilinx	Producer	Inactive	-	-	-	-
ZTE Corp.	User	Inactive	-	X	-	-
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

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.