IBIS Open Forum Minutes

Meeting Date: **December 4, 2020**
Meeting Location: **Teleconference**

VOTING MEMBERS AND 2020 PARTICIPANTS

ANSYS	Curtis Clark*, Wei-hsing Huang, Marko Marin Shai Sayfan-Altman, Zilwan Mahmod, Baolong Li Usman Saeed, Miyo Kawata
Applied Simulation Technology	(Fred Balistreri)
Broadcom	James Church, Jim Antonellis
Cadence Design Systems	Zhen Mu, Ambrish Varma, Jared James Kumar Keshavan, Ken Willis, Suomin Cui Takuya Moriya, Tadaaki Yoshimura, Benny Yan Shuyuan Du, Yitong Wen
Cisco Systems	Stephen Scearce, Hong Wu, Han Gao, Hannah Bian Jun (Gene) Zhang
Dassault Systemes (CST)	Stefan Paret
Ericsson	[Anders Ekholm], Sungjoo Yu, Thomas Ahlstrom
Google	Zhiping Yang*, Shuai Jin, Zhenxue Xu, Hanfeng Wang Songping Wu, Yimajian Yan
Huawei Technologies	(Hang (Paul) Yan)
IBM	[Michael Cohen], Greg Edlund
Infineon Technologies AG	(Christian Sporrer)
Instituto de Telecomunicações	(Abdelgader Abdalla)
Intel Corporation	Hsinho Wu*, Michael Mirmak, Adrien Auge Fernando Mendoza, Taeyoung Kim, Wendem Beyene Oleg Mikulchenko, Nhan Phan, Ifiok Umoh Subas Bastola, Kinger Cai
Keysight Technologies	Radek Biernacki*, Hee-Soo Lee, Todd Bermensolo Graham Riley, Pegah Alavi, Fangyi Rao Stephen Slater, Toshinori Kageura, Hiroaki Sasaki Satoshi Nakamizo, Toshinobu Sanuki, Jiarui Wu Xiuguo Jiang, Jiajie Zhao
Marvell	Steve Parker*, Johann Nittmann, Shaowu Huang
Maxim Integrated	Joe Engert, Charles Ganal, Dzung Tran, Yan Liang Tushar Pandey*
Mentor, A Siemens Business	Arpad Muranyi*, Raj Raghuram, Todd Westerhoff Weston Beal, Kunimoto Mashino, Kenji Kushima
Micron Technology	Randy Wolff*, Justin Butterfield, Larry Smith Vijay Kanagachalam, Jingwei Cheng, Mike Bi Kane Wang, Pallas Fei, Tree Li, Cheng Zhang

	Yinchu Zhao, Chunqiang Weng, Jizhe Xing
Micron Memory Japan, G.K.	Masayuki Honda, Mikio Sugawara
MST EMC Lab	Chulsoon Hwang, Anfeng Huang, Bo Pu, Jiayi He Yin Sun
NXP	John Burnett
SerDesDesign.com	John Baprawski
SiSoft (MathWorks)	Mike LaBonte*, Walter Katz, Graham Kus
Synopsys	Ted Mido*, Andy Tai, Kevin Li, Wen (Claire) Cao, Lan Ni Xuefeng Chen, Jianguo Zhou, Jinghua Huang
Teraspeed Labs	Bob Ross*
Xilinx	Ravindra Gali
ZTE Corporation	Jinlong Li, Kaige Qiao, Changgang Yin
Zuken	Michael Schäder, Kazunari Koga, Kensuke Yoshijima Takayuki Shiratori
Zuken USA	Lance Wang*

OTHER PARTICIPANTS IN 2020

3M China R&D Center	Yao Shiang
A&D Print Engineering Co.	Ryu Murota
Abeism Corp.	Nobuyuki Kiyota
Accton	Tariq Abou-Jeyab
Achronix Semiconductor	Hansel Dsilva
AET	Chihiro Ueda
Amazon Lab126	John Yan
AMD Japan	Tadashi Arai
Apollo Giken Co.	Satoshi Endo
Apple	Jin Shi, Jun Xu
ARRL (IEEE EMC)	Ed Hare
Astrodesign	Yoshiaki Nishi
ATE Service Corp.	Yutaka Honda
Aurora Innovation	Jianming Li
Aurora System	Hiroshi Ishikawa
Avnet K.K.	Shinya Ishizuka
Canon	Soh Hoshi, Satoru Ishikawa, Shinichi Ohno
Canon Components	Takeshi Nagata
Casio Computer Co.	Yasuhisa Hayashi
Celestica	Sophia Feng, Lurker Li, Shelly Cheng, Phil Wang Teddy Gao
Christie Digital Systems	Mingchang Wang
Ciena	Kaisheng Hu
Clarion Co.	Takatsugu Yasui
CMK Products Corp.	Masaki Abe, Motoshi Nakamura
Cybernet Systems Co.	Takayuki Tsuzura, Shiho Nagae, Akio Yanagi
D-CLUE Technologies Co.	Kenzo Tan

De Montfort University (IEEE EMC)	Alistair Duffy
Denso Corp.	Hyounson Che, Koji Ichikawa
Design Methodology Lab	Motoh Tanaka
Eizo Corp.	Masaru Tamai
Exponential Failure Analysis Associates (IEEE EMC)	Vignesh Rajamani
ETS-Lindgren	Janet O'Neil
Facebook	Xin Chang
Forum Engineering	Minoru Nakahara
Fuji Xerox Manufacturing Co.	Rumi Maeda
Fujitsu	Kumiko Teramae, Ikuo Ohtsuka, Hirokazu Hidaka Takashi Kobayashi
Fujitsu Advanced Engineering	Kazuhiro Kamegawa
Fujitsu Advanced Technologies	Hideki Takauchi, Magumi Nagata, Yuji Sawa
Fujitsu Interconnect Technologies	Toru Kuraishi, Masaki Kirinaka, Akiko Tsukada Manabu Fukuzawa, Hiromi Kurokawa Syunsuke Fujisawa
Fujitsu Optical Components	Masaki Kunii
Furuno Electric Co.	Naoaki Sasao
Global Unichip Japan	Masafumi Mitsuicshi, Shingo Sakai
Hamamatsu Photonics K.K.	Hidetoshi Nakamura, Ryouji Yamamoto
Hitachi	Kenichi Ishino
Hitachi Solutions Technology	Sadahiro Nonoyama
Hoei Co.	Tatsuya Chiba
Holor Technology	Kimihiro Ogawa
Hoya Corp.	Masayuki Hagiwara
Huawei	Zhenxing Hu
IB Electronics	Makoo Matsumuro
Innotech Corp.	Shinobu Seki
Japan Radio Co.	Hiroto Katakura, Takashi Sato
Jujube	Taiji Hosaka
JVC Kenwood Corporation	Yasutoshi Ojima
Kandou Bus	Sherman Chen
KEI Systems	Shinichi Maeda
Keyence Corporation	Takashi Moro
Kioxia Corporation	Yasuo Otsuka, Minori Yoshitomi, Takayuki Mizogami Masato Kanie
Kioxia Systems Co.	Tomomichi Takahashi, Yukio Tanoue, Jyunya Shibasaki Eiji Kozuka
Konika Minolta	Takayuki Suzuki
Lemonade Social Media	Rachel Norrod
Megachips Corporation	Tomochika Kitamura, Takahito Fukushima
Meiko Electronics Co.	Kiyoshi Baba
Mitsuba Corp.	Dai Yanagisawa, Yuko Kakubari

Mitsubishi Electric Corp.	Yusuke Suzuki
Mitsubishi Electric Engineering Co.	Yasuhiro Segawa, Minehiko Horii
Modech	Tadashi Aoki
Murata Manufacturing Co.	Shigeaki Hashimoto
NEC Platforms	Yusuke Onodera
Nikon Corporation	Manabu Matsumoto
Nissan Motor Corp.	Hidenari Nakashima
Oki Electric Industry Co.	Atsushi Kitai, Kenichi Saito
OmniVision	Sirius Tsang
Panasonic Corporation	Kenkichi Hirano, Shinichi Tanimoto, Minori Harada
Pioneer Corp.	Yuichi Tamura
Privatech	Kazuo Ogasawara
PWB Corp.	Toru Ohhisa
Qualcomm	Kevin Roselle, Sunil Gupta, Yi Cao
Renesas Electronics Corp.	Genichi Tanaka, Kazunori Yamada, Masato Suzuki Kazuyuki Sakata
Ricoh Co.	Yasumasa Yamataki, Miyoko Goto, Toshihiko Makino Kurose Koji
Rion Co.	Katsuya Nakao
RITA Electronics	Takahide Nozaki
Rockwell Automation	Meilin Wu
Rohm Co.	Noboru Takizawa, Nobuya Sumiyoshi
Ryosan Co.	Takahiro Sato
SAE ITC	Jose Godoy
Samsung	Wonsuk Choi
San Jose State University	Vincent Tam
SAXA	Takayuki Ito, Takayuki Sato
Seagate	Preetesh Rathod, Alex Tain, Karthik Chandrasekar Emmanuel Atta
Seiko Epson Corp.	Shinichiro Kawano, Toshiyuki Nishiyama, Ryuichi Okada Kenichiro Yajima
Shanghai Weikong Industrial Co.	Bin Zhang
Shimadzu Corp.	Kazuo Nakajima
Shinko Electric Industries Co.	Takumi Ikeda, Manabu Nakamura
Signal Metrics	Ron Olisar
Silvaco Japan Co.	Yoshiharu Furui, Yoshihiko Yamamoto Atsushi Hasegawa, Yoshinori Kanno
SK Hynix Memory Solutions	Jongchul Shin, Alex Lee, James Yu
Socionext	Matsumura Motoaki, Shinichiro Ikeda Takafumi Shimada, Hajime Ohmi, Jyunko Nakamoto Shizue Katoh, Makoto Kumazawa, Masatomo Ichioka Fumiyo Kawatsuji, Megumi Ohno, Yukiko Tanaka Yumiko Sugaya, Osamu Ninomiya
Sohwa & Sophia Technologies	Tomoki Yamada
Sony Global Manufacturing &	Takashi Mizoroki

Operations Corporation	
Sony LSI Design	Toru Fujii, Kazuki Murata
SPISim	[Wei-hsing Huang]
Technopro Design Co.	Mai Fukuoka
Tektronix Co.	Takafumi Watanabe
Teradyne	Dongmei Han, Edward Pulscher, Sheri Zhuang Tomoo Tashiro, Paul Carlin, Tao Wang
TFF Tektronix Co.	Katsuhiko Suzuki
Tokairika Co.	Furuna Yamamoto
Tokyo Drawing	Naoya Iisaka, Masahiko Nakamura
Toshiba	Yasuki Torigoshi
Toshiba Development & Engineering Corp.	Nobuyuki Kasai
Toshiba Electronic Device Solutions Corp.	Youichi Sato

Toshiba Electronic Devices &
    Storage Corp.
	Yoshinori Fukuba, Toshihiro Tsujimura
	  Atsushi Tomishima, Takahiro Aoki

Unaffiliated	Colin Brench
University of Florida	Shuo Wang
Unknown Affiliation	Y Ao, Knox Yan, Joyce X, Jeff X
Xpeedic Technology	Wei He, Zhouxiang Su
XTUS	Sejin Pak
Yamaha Corporation	Tetsuya Kakimoto
Yazaki Parts Co.	Kenichi Fujisawa

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:

https://tinyurl.com/IBISOFfridayTeams

Join Microsoft Teams Meeting

Conference ID: 803 509 041#

Local numbers | Learn more about Teams | Meeting options

Join with a video conferencing device

106010980@teams.bjn.vc VTC Conference ID: 1143484747

Alternate VTC dialing instructions

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 October 30, 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. Randy Wolff to send an email to the Open Forum announcing the 2021 membership dues vote [AR].
    Randy reported that this had been done.

2. Randy Wolff to send an email to the Open Forum announcing the BIRD202.1 update [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 have $28,435 cash flow for 2020 and a $26,335 adjusted balance for 2020. These figures are down $350 and $2,800 respectively from the previous meeting. These figures reflect a $350 payment to Mike LaBonte to reimburse him for the bluehost webhosting payment, a 2020 summit sponsorship payment of $2,000 being moved to 2021 (2020 summit was virtual), and one $900 annual membership fee being split into $450 in 2020 and $450 in 2021 based on the new half-rate academic membership. Total adjusted balance for 2021 is now $3,350.

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 once the dues are formally approved, and we expect a new Touchstone parser source code license payment in 2021 as well. Membership renewal invoices are expected to go out by the beginning of January.

WEBSITE ADMINISTRATION

Steve Parker reported that the website was up to date with respect to task groups' minutes and documents. Updates had been made to the Past Summits and Upcoming Events pages. A new logo for Intel had been provided per their corporate requirements and added to the "Our Members" section of the home page. He had received a new library file from Zhiping Yang and updated the Models page on the website. Steve noted that he has additional updates and cleanup for the Summits pages, and he plans to introduce some PHP functionality to help streamline routine processes for updating the pages.

Bob Ross noted that a top level directory for the RAIL specification now exists at:
https://ibis.org/rail/

He asked if a link to it existed on the website. Steve suggested that we could add a link to it from the Specifications page. Arpad Muranyi and Mike LaBonte agreed, and they suggested that the "Other Emerging I/O Specifications:" section be renamed "Other Specifications:" and the link to the RAIL specification be added there. Bob asked that the RAIL directory be added to the site map as well. Steve agreed to make these changes.

MAILING LIST ADMINISTRATION

Mike LaBonte reported that mailing lists were generally operating smoothly. Mike recalled that he had reported last summer that some users might not have been receiving ibis messages because the freelists server appeared on a blacklist. He had emailed the users in question to see if they were receiving IBIS messages, but they had never responded. Mike noted that the freelists server is still on that blacklist, but we are no longer seeing any bounce back messages related to it. As a year-end status summary, Mike noted that the ibis and ibis-users lists each have 290 subscribers. Between the two lists there are 345 unique addresses.

LIBRARY UPDATE

Zhiping Yang reported that he had run the script and generated new library supplier information, which Steve Parker had uploaded to the site. Zhiping noted that he had removed some stale links and cleaned up the company list based on mergers, etc. He said there may be more cleanup next time. Zhiping suggested that it might be best if the companies themselves provided the links to their models and could update the model library page. He said he had searched some of the companies' websites for IBIS models without success. Mike LaBonte noted that we once had a roster page, which member organizations could update with their statements on their relationship to IBIS and the names of their primary contacts. This page had to be taken down based on GDPR, but the webmaster had been able to periodically email the contacts for updated information on models, etc. Randy Wolff said that we might want to review our processes for maintaining the model providers lists. Randy suggested that we could send an email to the IBIS list and the SI-List to make sure people are aware of the Models page and ask model providers to contact us with any updates. Mike and Zhiping agreed. Zhiping to send an email to the IBIS list and SI-List asking IBIS model providers to send him any updates for the library pages [AR].

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
Randy Wolff noted an SAE-ITC press release had announced the recently completed IBIS Summits in Asia:

> https://www.edacafe.com/ (Summit Press Release)

Randy noted an IEEE EMC Magazine article on the inaugural EMC+SIPI IBIS Summit:

> https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9241569&tag=1

Bob Ross noted an article that mentioned the use of IBIS [Ramp] data:
Printed Circuit Design & Fab Circuits Assembly, November 2020
"It's About Time: Let's Automate High-Speed Constraints", Charles Pfeil, pp. 24-25

> https://digital.upmediagroup.com/issue/november-2020/its-about-time-lets-automate-high-speed-constraints/

- Related standards
None.

SUMMIT PLANNING AND STATUS
- Asia Summits
Japan (November 13, 2020):
Randy Wolff reported that the Japan virtual summit had gone well. We had 163 attendees representing 95 organizations. He noted that the Past Summits page on the website contains a recording of the entire meeting and recordings of individual presentations. Bob Ross said the virtual meeting had been successful, and there were good discussions. Randy thanked Ted Mido for help with translations. He said JEITA had done a nice job hosting the meeting with the Webex events platform.

China (November 20, 2020):

Randy reported that the China virtual summit had gone well. We had 46 attendees representing 17 organizations. For this summit, the Past Summits page on the website contains a recording of the entire meeting. The content was presented in a mix of English and Mandarin. Randy thanked Zuken for providing the GoToMeeting platform for the virtual summit.

Randy said that because the recordings are available, the minutes for the Japan and China summits will focus on attendee lists and capturing some of the question and answer session discussions. Randy thanked all of the presenters.

QUALITY TASK GROUP
Mike LaBonte reported that the group is meeting on Tuesdays at 8:00 a.m. PT. They are currently discussing how to check .iss files included by IBIS files, and they are capturing their proposal in a BUG214 (enhancement). (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. There are no clear solutions yet, but new ideas are being explored. On the topic of GDDR6x modeling, Randy Wolff had given a presentation on some simulation results comparisons for a GDDR6x scenario.

Task group material can be found at:

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

INTERCONNECT TASK GROUP
Randy Wolff 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 and addressing some of Arpad Muranyi's comments from his latest review of BIRD202.1. He said they hope to have BIRD202.2 out for voting early in 2021. Arpad Muranyi asked if anyone, outside of the normal Interconnect task group attendees, had a chance to read and review BIRD202.1 yet.

Task group material can be found at:

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

EDITORIAL TASK GROUP
Randy Wolff reported the task group remains suspended.

Task group material can be found at:

CHINA REGIONAL FORUM

Lance Wang reported that there had been no new activities other than the virtual summit.

China Regional Forum material can be found at:

NEW ADMINISTRATIVE ISSUES

- 2021 Membership Dues

Bob Ross moved to set dues for 2021 at $900 for a full membership (same as the rate for 2020) and a half-price rate for an academic membership. Mike LaBonte seconded. There were no objections.

The roll call vote tally was:

ANSYS – yes
Cadence – yes (by email)
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.

BIRD202.1: ELECTRICAL DESCRIPTIONS OF MODULES

Randy Wolff noted that BIRD202.1 had been introduced at the previous meeting. He said that the Interconnect task group is currently working on BIRD202.2, and he asked if anyone else had any questions or feedback on BIRD202.1. There were no questions at that time.

BIRD208: CLOCK-DATA PIN RELATIONSHIP KEYWORD

Randy Wolff 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 it could be helpful for automating the setup of timing simulations for DDR5 or other clock forwarded interfaces. Randy said the proposal had been thoroughly review in the ATM task group, and he thought it was safe to schedule a vote for the next meeting.

Bob Ross moved to schedule a vote on the BIRD at the January 8, 2021 IBIS Open Forum teleconference. Curtis Clark seconded. There were no objections. Randy to send an email to the Open Forum announcing the vote [AR].

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. The Interconnect task group had completed the BUG214 report. BUG214, "Connecting IBIS and Interconnect Models to IBIS-ISS", is a proposed enhancement to add IBIS-ISS checking to the ibischk parser. Bob characterized it as a set of specifications for linking IBIS to IBIS-ISS models. He said that currently ibischk only checks for the existence of a referenced IBIS-ISS file. The new proposal would:
- Check the subcircuit call line only
    - subcircuit name, nodes (or terminals)
    - parameters that are passed into the subcircuit (we only support string or numeric)
        - not checking parameter value, only whether it's a number or a string
- Checking invoked automatically if an IBIS-ISS model is used in an Interconnect model or multi-lingual model.
    - .ibs files or .ims files
    - name and number of terminals
    - checks for prohibited use of global node 0
- For multi-lingual models, the check would apply retroactively to IBIS 6.0 models.
- For .ims files the check applies retroactively to IBIS 7.0.

In the example accompanying BUG214, Bob noted that there might be an issue with the Touchstone file that is supposed to represent a two-port series short that is open to ground.

Bob said the Interconnect task group would like to send the proposal to the developer so he can start to scope it out. He said he thought IBIS 7.1 items mentioned in the future enhancements section of BUG214 (e.g., BIRD200, BIRD202.x) should probably be considered. Mike LaBonte

said he had some concerns about this from a timing standpoint. He said that once IBIS 7.1 is approved, people will be in a hurry for a new parser. Since we aren't sure how big a development effort this will be, we might want to consider starting development of the IBIS 7.0 portion of BUG214 now (perhaps an ibischk7.0.3). We may not want to start development on this with respect to IBIS 7.1 features until they are fully approved, but we may not want to incur the delay in releasing an ibischk7.1 that this project might cause.

Bob suggested we classify BUG214 as enhancement, medium, open, but he said we did not need to formally vote on the classification yet.

Mike said that he had been thinking about this project in terms of 3 types of mistakes a model maker could make while developing a model using IBIS-ISS.

1. HSPICE or some other tool that supports a superset of IBIS-ISS might have been used during development. Therefore, the .iss files might accidentally contain non-IBIS-ISS constructs.
2. The top level test circuits may have been generated by hand, or by a program that isn't yet IBIS-ISS validated. Thus, the interface between .ibs/.ims and .iss could be incorrect.
3. The tested files may be packaged into a released set that has not been unpacked and tested in a known good IBIS simulator. Files could be missing, at the wrong level, etc.

Mike emphasized that BUG214 is only designed to address issue 2. It does not catch issues 1 and 3. He asked everyone to let the Interconnect task group know how important you think issue 1, 3, or any other issues may be to check.

NEW TECHNICAL ISSUES
- None.

NEXT MEETING
The next IBIS Open Forum teleconference meeting will be held on January 8, 2021. The following teleconference meeting is tentatively scheduled for January 29, 2021.

Mike LaBonte moved to adjourn. Ted Mido seconded the motion. The meeting 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: 01-720
      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: Curtis Clark
curtis.clark@ansys.com
ANSYS, Inc.
150 Baker Ave Ext
Concord, MA 01742

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: Mike LaBonte
mlabonte@sisoft.com
IBIS-AMI Modeling Specialist, SiSoft
1 Lakeside Campus Drive
Natick, MA 01760

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	October 30, 2020	November 13, 2020	November 20, 2020	December 04, 2020
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	Inactive	X	-	-	X
Huawei Technologies	Producer	Inactive	-	-	-	-
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Instituto de Telecomunicações	User	Inactive	-	-	-	-
IBM	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Inactive	X	-	-	X
Keysight Technologies	User	Active	X	X	X	X
Marvell	Producer	Inactive	X	-	-	X
Maxim Integrated	Producer	Inactive	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.