**IBIS Open Forum Minutes**

Meeting Date: **December 10, 2021**

Meeting Location: **Teleconference**

**VOTING MEMBERS AND 2021 PARTICIPANTS**

|  |  |
| --- | --- |
| Analog Devices (Maxim Integrated) | Tushar Pandey, Pawan Sai, Yan Liang, Glenn Amparo, Jermaine Lim\*, Rolynd Aquino |
| ANSYS | Curtis Clark\*, Wei-Hsing Huang, Miyo Kawata |
| Applied Simulation Technology | (Fred Balistreri) |
| Broadcom | (Yunong Gan) |
| Cadence Design Systems | Zhen Mu\*, Ryo Sato, Takuya Moriya, Tadaaki Yoshimura, Morihiro Nakazato, Masahiro Nakahara, Yitong Wen |
| Celestica | (Sophia Feng^) |
| Cisco Systems | (Stephen Scearce), Guobing Han |
| Dassault Systemes (CST) | Stefan Paret, David Duque, Longfei Bai |
| Ericsson | (Guohua Wang) |
| Google | Zhiping Yang\*, Songping Wu |
| Huawei Technologies | Hang (Paul) Yan, Kai Zhao, Liqing Guang, Peng Xiao, Wei Gao, Hai Wen, Xiaojun Zhou, Xusheng Liu, Xing Wang, Zhang Hui |
| Infineon Technologies AG | (Christian Sporrer^) |
| Instituto de Telecomunicações | (Abdelgader Abdalla) |
| Intel Corporation | Hsinho Wu\*, Michael Mirmak\* |
| Keysight Technologies | Radek Biernacki\*, Fangyi Rao, Pegah Alavi, Todd Bermensolo, Majid Ahadi Dolatsara, Xiuguo Jiang, Jiarui Wu |
| Keysight Technologies Japan K.K. | Toshinori Kageura, Yoshio Akashi, Satoshi Nakamizo |
| Luminous Computing | David Banas |
| Marvell | Steven Parker\* |
| MathWorks (SiSoft) | Mike LaBonte\*, Walter Katz\* |
| Micron Technology | Randy Wolff\*, Justin Butterfield\*, Aniello Viscardi, Akshay Shivaji Chaudhari, Dragos Dimitriu, Chunqiang Weng, Hongyan Li, Tree Li, Zhang Cheng |
| Micron Memory Japan, G.K. | Masayuki Honda, Mikio Sugawara |
| MST EMC Lab | Chulsoon Hwang, Anfeng Huang, Yifan Ding, Ling Zhang |
| NXP | Jon Burnett |
| SerDesDesign.com | (John Baprawski) |
| Siemens EDA (Mentor) | Arpad Muranyi\*, Weston Beal |
| Siemens AG | Franz Pfleger, Sebastien Kollinger |
| Siemens Electronic Design Automation Japan K.K. | Kunimoto Mashino |
| STMicroelectronics | (Gerard Mas), (Olivier Bayet^) |
| Synopsys | Ted Mido\*, Andy Tai, Claire Cao, Jinghua Huang, Kevin Li, Xuefeng Chen, Yuyang Wang, Zhishuan Ye |
| Teraspeed Labs | Bob Ross\* |
| Xilinx | (Romi Mayder) |
| ZTE Corporation | Bowen Shen, Changgang Yin, Dongdong Ye, Liqiang Meng, Xiaoxuan Liu, Hongbin Shi, Jian Huang, Jinlong Li |
| Zuken | Michael Schäder, Chithrupa Ramesh |
| Zuken USA | Lance Wang\* |
| Zuken Japan | Kensuke Yoshijima, Shiratori Takayuki |

**OTHER PARTICIPANTS IN 2021**

|  |  |
| --- | --- |
| A&D Print Engineering Co., Ltd. | Ryu Murota, Minoru Hasegawa |
| Achronix Semiconductor | Hansel Dsilva |
| AET, Inc. | Keisuke Tqahara |
| Alibaba, Inc. | Cassie Yan |
| AMD Japan | Tadashi Arai |
| Analog Devices | Patrick Deroy |
| Apollo Giken Co., Ltd. | Satoshi Endo |
| ATE Service Corporation | Yutaka Honda |
| Aurora System Inc. | Hitoshi Ishikawa |
| AVL Software and Functions | Wolfgang Röhrner |
| Blue Ocean Smart System | Junyong Deng |
| Canon Components Inc. | Takeshi Nagata |
| Canon Inc. | Syouji Matsumoto, Satoru Ishikawa |
| Ciena | Taha Kheyar, Kaisheng Hu |
| CMK Corporation | Motoshi Nakamura, Masaki Abe |
| Continental Automotive | Julnar Musmar, Stefanie Schatt |
| Cybernet Systems Co., Ltd. | Shiho Nagae, Takayuki Tsuzura |
| D-Clue Technologies Co., Ltd. | Kenzo Tan |
| De Montfort University (IEEE EMC) | Alistair Duffy |
| Denso Corporation | Koji Ichikawa |
| Elite Material Co. | Nick Huang |
| Empyrean | Chenghan Jia, Jiajie Zhao, Yuting Yin, Tao Zhang |
| Eswin | Sitao Chen |
| Extreme Networks | Robert Haller |
| Faurecia Clarion Electronics Co., Ltd. | Yasui Takatsugu |
| Fujifilm Manufacturing Co., Ltd. | Rumi Maeda |
| Fujitsu Interconnect Technologies Limited | Manabu Fukuzawa |
| Fujitsu Limited | Takashi Kobayashi, Hideki Takauchi, Yoshio Nabeyama, Makoto Yoshino |
| Fujitsu Optical Components Limited | Masaki Kunii |
| Fujitsu Interconnect Technologies Limited, Japan | Masaki Kirinaka |
| Fulhan | Zhengyi Zhu |
| Furukawa Electric Co., Ltd. | Takumi Ohuchi |
| H3C | Xinyi Hu, Muwang Ye, Zixiao Yang |
| Hamamatsu Photonics K.K. | Akihiro Inoguchi |
| Hamburg University of Technology | Cheng Yang |
| Harbin Institute of Technology | Gang Zhang |
| Hitachi, Ltd. | Goro Hamamoto, Keisuke Yamamoto |
| HOEI Co., Ltd. | Tatsuya Chiba |
| Hoya Corporation | Masayuki Hagiwara |
| IB-Electronics | Makoto Matsumuro |
| Innotech Corporation | Shinobu Seki, Tasuku Kanomata |
| Integran Co., Ltd. | Norio Miyamoto |
| Interchip Corporation | Satoshi Fujita, Hiroaki Takahashi |
| IT-Beratung-Maurer | Manfred Maurer |
| Japan Aviation Electronics Industry Limited | Kentaro Toda |
| Japan Radio Co., Ltd. | Hiroto Katakura, Takashi Sato, Youichi Suzuki |
| JEDAT Inc. | Nobuto Ono |
| JEITA | Akihiko Kawasaki, Kyoji Yamazaki, Hisashi Saito |
| Jujube LLC | Taiji Hosaka |
| JVC Kenwood Corporation | Yasutoshi Ojima, Hidetoshi Suzuki, Takuo Fujimura |
| Kandou Bus | Sherman Chen |
| KEI Systems | Shinichi Maeda |
| Keita Smart Mirai Creations Co., Ltd. | Keita Miyasato |
| Keyence Corporation | Tomoh Uchida |
| Kioxia Corporation | Masato Kanie, Jyuichiro Noda,  Takaya Yamamoto, Mohamedo Mansuru, Minori Yoshitomi, Takayuki Mizogami |
| Kioxia Systems Co., Ltd. | Jyun Shibasaki, Tomomichi Takahashi, Yukio Tanoue |
| Konica Minolta, Inc. | Takeshi Nomura |
| Kyocera Corporation | Aki Tanaka |
| MD Systems Co., Ltd. | Hidetoshi Ogawa |
| Megachips Corporation | Tomochika Kitamura |
| Mercury Systems | Vincent Tam |
| Microchip Norway | Lars Snith |
| Mitsubishi Electric Corporation | Yusuke Suzuki, Masaki Watanabe |
| Mitsubishi Electric Corporation | Yasuhiro Segawa |
| Mitsumine-Denshi Co., Ltd. | Ryouichi Nakahigashi |
| Modech Inc. | Tadashi Akio |
| Molex Japan LLC | Masashi Iwata |
| Murata Manufacturing Co., Ltd. | Hideki Miyazawa, Seiji Hidaka, Shigeaki Hashimoto |
| NTT Electronics Cross Technologies Corporation | Megumi Nagata |
| Panasonic Corporation | Shinichi Tanimoto, Shingo Enomoto, Atsushi Nakano |
| Politecnico di Torino | Stefano Grivet-Talocia, Paolo Manfredi, Alessandro Zanco, Felipe Treviso, Marco Destefano, Riccardo Trinchero, Tomasso Bradde |
| PWB Corporation | Toru Ohhisa |
| Renesas Electronics Corporation | Kazuyuki Sakata, Masato Suzuki, Kazuaki Tsuchiyama, Kazunori Yamada, Jyunichi Yamada, Billy Chen, Mengting Liao |
| Ricoh Company, Ltd. | Toshihiko Makino, Hisao Kurosu, Nobuo Nakane, Miyoko Goto |
| Ricoh Electronic Devices Co., Ltd. | Takeshi Hara |
| Rohm Co., Ltd. | Nobuya Sumiyoshi, Kenichi Ozaki |
| RTC | Ken Whigham |
| SAXA, Inc. | Takayuki Ito, Takayuki Sato |
| Schneider Electric Japan Holdings Ltd. | Hiroaki Fujita |
| Seiko Epson Corporation | Toshiyuki Nishiyama |
| Sihi Semiconductor | Ying He |
| Shimadzu Corporation | Kazuo Nakajima |
| Silvaco Japan Co., Ltd | Yoshihiko Yamamoto |
| Simberian | Yuriy Shlepnev |
| Socionext Inc. | Shizue Kato, Hajime Ohmi, Motoaki Atsumura, Megumi Ohno, Ayako Kitamoto |
| Sohwa & Sophia Technologies | Tomoki Yamada |
| Sony Global Manufacturing & Operations Corporation | Yuichi Ikeya, Atsushi Yoshimoto |
| Sony LSI Design Inc. | Kazuki Murata, Toru Fujii |
| Sony Semiconductor Manufacturing Corporation | Kengo Imazato |
| Technopro Design Company | Mai Fukuoka |
| Teikyo Heisei University | Kohtaro Hachiya |
| Tektronix & Fluke Corporation | Katsuhiko Suzuki |
| Tektronix Company | Takafumi Watanabe |
| Teradyne | Tao Wang, Tomoh Tashiro |
| Tokyo Drawing Ltd. | Masahiko Nakamura |
| Tomen Devices Corporation | Kinji Mitani |
| Toshiba Corporation | Yasuki Torigishi |
| Toshiba Development & Engineering Corporation | Nobuyuki Kasai, Nobuhiro Tsuruta |
| Toshiba Electronic Devices & Storage Corporation | Atsushi Tomishima, Toshihiro Tsujimura, Yoshinori Fukuba |
| University of Illinois, Urbana | Jose Shutt-Ainé, Xinying Wang |
| WADOW | Kazuhiko Kusunoki |
| Xpeedic | Bing Sun, Chengzhi Hu, Huashan Cui, Max Cang, Qiujie Zhang, Ruijie Zhao, Sophia Gui, Wei He, Yiwei Yang, Yunbing Xia, Zhouxiang (Zachary) Su, Wenliang Dai, Yan Liu |
| Yamaha Corporation | Hiroyuki Kai, Tetsuya Kakimoto |
| Yazaki Parts Co., Ltd. | Kenichi Fujisawa |
| Yokogawa Electric Corporation | Daisuke Kamezawa |

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](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**

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**Or call in (audio only)**

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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.

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**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 November 12, 2021 IBIS Asian Summit (Japan). Lance Wang moved to approve the minutes, Curtis Clark seconded the motion. There were no objections.

Randy called for comments on the minutes of the November 19, 2021 IBIS Asian Summit (China). Lance moved to approve the minutes, Curtis seconded the motion. There were no objections.

Randy called for comments on the minutes of the November 19, 2021, IBIS Open Forum teleconference. Curtis moved to approve the minutes. Arpad Muranyi seconded the motion. There were no objections. Bob Ross commented that the DOCX file had not yet been posted online.

Randy reviewed ARs from the previous meeting.

* Randy Wolff to check on DesignCon room availability and cost for either Monday or Friday [AR].  
  Randy said this was done
* Randy Wolff to send email ballot for IBIS 7.1 approval [AR].  
  Randy said this was done. Some member companies had no one subscribed, and Randy had reached out to them.
* Randy Wolff to suggest dates for 3 potential 2022 summits [AR].  
  Randy said we had updated information, but no dates yet.

**ANNOUNCEMENTS**, **CALL FOR ADDITIONAL AGENDA ITEMS**

None.

**MEMBERSHIP STATUS AND TREASURER'S REPORT**

Bob Ross reported that our account balance was $27,743, with a balance adjusted for 2021 of $28,193. Bob had moved $2,900 to apply to 2022. One member had prepaid for 2022 membership dues, and there may be another prepayment. Total membership status was unchanged, with 29 members, and a quorum of 8. 27 members paid in 2021 including two from 2020 prepayments. Waymo would be split off from Google in 2022, but Zhiping Yang would remain affiliated with Google until their separate payment was received in 2022. A 2021 half year member may or may not rejoin in 2022.

A full payment of $17,500.00 for ibischk7 version 7.1.0 was expected to be made by the end of the year. That was budgeted for 2021 by SAE ITC as a capital expense. SAE ITC will deduct a charge for their services sometime around February of 2022.

Radek Biernacki asked if the new IBICHK code have been accepted and the parser development payment had had been made. Bob said the final code had not yet been received. A few changes still had to be made. Delivery had been expected in the current week, hopefully it would happen the following week.

**WEBSITE ADMINISTRATION**

Steven Parker reported he added the Analog Devices logo, replacing the Maxim Integrated logo. The events list had been updated. The Free Tools link was changed. There was an email forwarder issue for [info@ibis.org](mailto:info@ibis.org), emails received at that address were not being distributed to the intended people. Steve was working with BlueHost to fix that.

**MAILING LIST ADMINISTRATION**

Curtis Clark reported that all was well. New subscribers had been added for some member organizations to ensure they would receive ballot notices. Bob Ross said they were still trying to find a contact person for Ericsson.

**LIBRARY UPDATE**

Zhiping Yang reported that no one had sent an updated information. He and Randy Wolff encouraged people to try adding models to the open-source model website. People could contact Zhiping with questions. Bob Ross asked if there was a link to the GitHub repository on our web pages. Randy Wolff checked, there was not. Bob said the links on the page should be checked, but that required some caution.

Zhiping Yang to send models page updates to Steve Parker [AR]

Steve Parker to update Models page [AR]

**INTERNATIONAL/EXTERNAL ACTIVITIES**

- Conferences

Randy Wolff said we were not tracking any new conferences.

- Press Updates

None.

- Related standards

IEC 63055/IEEE 2401, JEITA “LPB”

Michael Mirmak reported that there was no update.

**SUMMIT PLANNING AND REVIEW**

Randy Wolff said minutes from recent summits were all posted. He thanked the presenters. There had been 148 attending the Japan summit, and 64 attending the China summit.

Randy said he had contacted Suzanne Deffree of Informa Markets about DesignCon. They had a Hyatt room available Friday, April 8, 2022, at no cost to IBIS. The room would hold up to 80 people. We would cover AV, food, and beverage costs. We needed to get back to Informa before too long. Randy leaned toward holding a hybrid event, with both in-person and remote attendees. Bob Ross agreed with that.

**QUALITY TASK GROUP**

Mike LaBonte said the group meets on Tuesdays at 9:00 a.m. PT. Weston Beal had joined to discuss possible enhancements to the IBIS Quality Specification and the associated checklist. Mike said the Quality Task Group had formed in 2002 to produce those documents, and newer IBIS specifications had keywords that might be added.

Michael Mirmak had joined to discuss a new enhancement request for IBISCHK, to check for consistency between the root name in AMI files and the AMI\_parameters\_in and AMI\_parameters\_out DLL strings.

The group continued to oversee the next ibischk release, ibischk7.1.0. Details would be discussed later in the meeting.

Bob Ross said the root name consistency requirement should be clearly stated in IBIS. Arpad Muranyi asked if the DLL functions would be executed. Mike said they would. Radek Biernacki said we may not need the requirement to have consistency. Arpad said he had seen models that had problems when there was a mismatch. Walter Katz felt the specification already required matching. Arpad asked if the issue was about requiring the DLL to check for what it expected. Walter said the DLL and AMI file were paired together, and that set the expectation that the DLL would look for a root name matching the AMI root name. Michael Mirmak said checking by the DLL would not be required. Walter agreed, saying the DLL could check but did not have to. He suggested continuing discussion in the ATM group. Randy Wolff agreed.

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, but the group had decided to take the rest of the year off. Meetings would resume in January of 2022.

Task group material can be found at:

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

**INTERCONNECT TASK GROUP**

Michael Mirmak reported that the Interconnect task group remained suspended. Its former time slot was being used by the Editorial task group.

Task group material can be found at:

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

**EDITORIAL TASK GROUP**

Michael Mirmak reported that the previous two meetings had been cancelled, with the draft IBIS 7.1 submitted for approval. They would decide by email if more meetings would be needed, based on changes to be made as a result of the voting process.

Task group material can be found at:

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

**NEW ADMINISTRATIVE ISSUES**

None

**IBIS 7.1 RATIFICATION**

Randy Wolff showed draft 20 of IBIS 7.1. He said it had been out for review, and a notice of planned vote had been sent. Michael Mirmak said no comments had been received. Radek Biernacki thanked the Editorial Group, saying they had done a good job and there was quite a bit to read. Randy said the new specification had 403 pages. Bob Ross said only one sentence had changed from draft 19 to 20. Michael listed the few changes required to convert the draft to an official specification for posting as a final document. He clarified that no additional requested changes would need to be edited in after a vote, draft 20 incorporated all requested changes.

Arpad Muranyi moved to vote to approve the draft as official IBIS 7.1. Walter Katz seconded the motion.

The roll call vote tally was:

* Analog Devices - yes
* ANSYS – yes
* Cadence – yes
* Celestica – yes (email vote)
* Google – yes
* Infineon Technologies – yes (email vote)
* Intel – yes
* Keysight – yes
* Marvel – yes
* MathWorks – yes
* Micron – yes
* Siemens EDA – yes
* ST Microelectronics – yes (email vote)
* Synopsys – yes
* Teraspeed Labs – yes
* Zuken – yes

The vote concluded with a tally of Yes – 16, No – 0, Abstain – 0. The motion passed.

Randy had not seen the emailed vote from ST Microelectronics. Mike LaBonte said it had been sent by Olivier Bayet to Mike and to chair@ibis.org.

Arpad suggested looking at the open BIRDs to see which ones we might consider rejection votes for, and which to update for acceptance votes. Randy showed the list. Arpad said BIRD 211.3 would need page number updates, and then it should be ready for a vote.

Arpad asked if an editorial meeting was needed. Michael said he would make the document changes, and a brief meeting might be called for.

We discussed press coverage for the new specification. Randy said he would email the IBIS reflector and contact SAE ITC about a press release. He would also contact SI Journal and possibly other magazines about writing an article.

Michael Mirmak to send official IBIS 7.1 document [AR]

Randy Wolff to announce approval of IBIS 7.1 to email reflector [AR]

Randy Wolff to contact SAE ITC about IBIS 7.1 press release [AR]

Randy Wolff to contact press outlets about IBIS 7.1 article [AR]

Steve Parker to update IBIS website for IBIS 7.1 [AR]

**BIRD211.3: IBIS AMI REFERENCE FLOW IMPROVEMENTS**

Discussion was tabled.

**BIRD213: EXTENDING IBIS-AMI FOR PAMn ANALYSIS**

Discussion was tabled.

**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.

**BIRD210: NEW REDRIVER AMI FLOW**

Discussion was tabled.

**REVIEW OF IBIS 7.1 DRAFT**

**IBISCHK AND TSCHK PARSER AND BUG STATUS**

Bob Ross said we were waiting for the next code drop from the developer, which hopefully would be final. Some last-minute fixes were small, such as not having the new command line arguments in the help text. A problem parsing multiple spaces in a “.subckt” line was fixed. The Quality group would approve the code release for contract fulfillment. SAE ITC would make the payment. The programs would be made available for download. Source code would be distributed to IBISCHK7 parser licenses.

Bob said some EDA tools depended on the matching of AMI root names and what the DLL expected. He said IBIS should clearly require that before any IBISCHK change would be considered.

Arpad asked when IBISCHK7.1.0 would be released. Bob said it should be not many days after it was received from the developer. Randy Wolff felt it could be released as early as next week. He said there was more complexity in the software than anticipated.

Bob said the linkage checking between IBIS and Touchstone files also required more work than expected. Randy said the specification was better due to what had been found.

Michael Mirmak asked which task group should address the root name issue. Mike LaBonte suggested starting with ATM. Once the requirement was settled, possibly requiring a BIRD, it could be taken up by the Quality group as an IBISCHK change.

**NEW TECHNICAL ISSUES**

Walter Katz said the interconnect group might address new Touchstone changes. He said in IBIS you could update the version in an existing file, and it would still pass IBISCHK. He felt the same should be true for Touchstone 2.1. He said that was not the case for Touchstone 2.0, which required new keywords. Walter suggested that after making that change, enhancements could be added. Arpad asked if that was possible, due to an order of ports requirement. Walter said without [Number of Ports] the file name would give the port count. Randy Wolff said the low adoption of Touchstone 2.0 was a problem, and any new changes should consider that.

**NEXT MEETING**

The next IBIS Open Forum teleconference meeting would be held on January 7, 2022. The following teleconference meeting was tentatively scheduled for January 28, 2022.

Randy thanked everyone for the year of work on IBIS.

Randy Wolff moved to adjourn. Radek Biernacki seconded the motion. The meeting adjourned.

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**NOTES**

IBIS CHAIR: Randy Wolff (208) 363-1764

[rrwolff@micron.com](mailto: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](mailto:lance.wang@ibis.org)

Solutions Architect, Zuken USA

238 Littleton Road, Suite 100

Westford, MA 01886

SECRETARY: Mike LaBonte

[mlabonte@](mailto:mikelabonte@eda.org)mathworks.com

Senior Engineer

1 Lakeside Campus Drive

Natick, MA 01760

TREASURER: Bob Ross (503) 246-8048

[bob@teraspeedlabs.com](mailto:bob@teraspeedlabs.com)

Engineer, Teraspeed Labs

10238 SW Lancaster Road

Portland, OR 97219

LIBRARIAN: Zhiping Yang (650) 214-0868

[zhipingyang@google.com](mailto:zhipingyang@google.com)

Sr. Hardware Manager, Google LLC

1600 Amphitheatre Parkway

Mountain View, CA 94043

WEBMASTER: Steven Parker (845) 372-3294

[sparker@marvell.com](mailto:sparker@marvell.com)

Senior Staff Engineer, DSP, Marvell

2070 Route 52

Hopewell Junction, NY 12533-3507

POSTMASTER: Curtis Clark

[curtis.clark@ansys.com](mailto:curtis.clark@ansys.com)

ANSYS, Inc.

150 Baker Ave Ext

Concord, MA 01742

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:

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Check the IBIS file directory on ibis.org for more information on previous discussions and results:

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**SAE STANDARDS BALLOT VOTING STATUS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Organization** | **Interest Category** | **Standards Ballot Voting Status** | **(Summit)**  **November 12, 2021** | **(Summit) November 19, 2021** | **November 19, 2021** | **December 10, 2021** |
| Analog Devices (Maxim Integrated) | Producer | Active | - | - | X | X |
| ANSYS | User | Active | - | - | X | X |
| Applied Simulation Technology | User | Inactive | - | - | - | - |
| Broadcom Ltd. | Producer | Inactive | - | - | - | - |
| Cadence Design Systems | User | Active | X | X | X | X |
| Celestica | User | Inactive | - | - | - | X |
| Cisco Systems | User | Inactive | - | X | - | - |
| Dassault Systemes | User | Inactive | - | - | - | - |
| Ericsson | Producer | Inactive | - | - | - | - |
| Google | User | Active | - | - | X | X |
| Huawei Technologies | Producer | Inactive | - | X | - | - |
| Infineon Technologies AG | Producer | Inactive | - | - | - | X |
| Instituto de Telecomunicações | User | Inactive | - | - | - | - |
| Intel Corp. | Producer | Active | - | - | 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 | - | X | - | - |
| NXP | Producer | Inactive | - | - | - | - |
| SerDesDesign.com | User | Inactive | - | - | - | - |
| Siemens EDA (Mentor) | User | Active | X | - | X | X |
| STMicroelectronics | Producer | Inactive | - | - | - | 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 (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.