



IBIS Open Forum Minutes

Meeting Date: **December 13, 2019**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2019 PARTICIPANTS

ANSYS	Curtis Clark*, Marko Marin, Miyo Kawata Toru Watanabe, Akira Ohta, Bailing Zhang, Xi Wu Xin Sun, Jack Wu, Gregory Liao, Frances Peng Joan Chen, Ruby Wu
Applied Simulation Technology	(Fred Balistreri)
Broadcom	(Yunong Gan)
Cadence Design Systems	[Brad Brim], Ambrish Varma, Ken Willis Yingxin Sun, Zhen Mu, Jinsong Hu, Skipper Liang Zuli Qin, Haisan Wang, Hui Wang, Yaofei Wang Yitong Wen, Binyue (Kathy) Yang, Zhangmin Zhong George Zhu, Eric Lu, Frank Pai, Jessica Yeh Sylvia Kao, Nemo Hsu, Tric Chiang, Morihiro Nakazato
Cisco Systems	Hannah Bian, Guobing (Robin) Han, Wei Li Zongyuan Liu, Sijie Mao, Jun (Gene) Zhang
Dassault Systemes (CST)	Stefan Paret, Longfei Bai
Ericsson	Anders Ekholm, Anders Vennergrund, Felix Mbairi Hui Zhou, Inmyung Song, Mattias Lundqvist Wenyan Xie, Zilwan Mahmod, Nan Hou, Amy Zhang
Google	Zhiping Yang, Songping Wu
Huawei Technologies	Antonio Cicomancini, Haiping Cao, Peng Huang Hongxing Jiang, Chunhai Li, Shengli (Victory) Wang Zhengrong Xu, Hang (Paul) Yan, Chen (Jeff) Yu Zhengyi Zhu, Tianqi Fang
Futurewei Technologies	Albert Baek
IBM	Michael Cohen, Greg Edlund
Infineon Technologies AG	Anke Sauerbrey, Pietro Brenner, Francesco Settino
Instituto de Telecomunicações	(Abdelgader Abdalla)
Intel Corporation	Hsinho Wu, Michael Mirmak*, Nhan Phan Kinger Cai, Eddie Frie, Wendem Beyene Yuanhong Zhao, Bruce Qin, Kai Yuan, Denis Chen Neo Hsiao
Keysight Technologies	Radek Biernacki*, Hee-Soo Lee, Stephen Slater Jian Yang, Ming Yan, Pegah Alavi, Jiarui Wu Jiajie Zhao, Nash Tu, Toshinori Kaeura Satoshi Nakamizo
Marvell (was GLOBALFOUNDRIES)	Steve Parker*

Marvell (past non-voting status)	Johann Nittmann, Jianping Kong, Banglong Qian Songjie (Jacky) Wang
Maxim Integrated	Joe Engert, Yan Liang, Charles Ganai
Mentor, A Siemens Business	Arpad Muranyi, Raj Raghuram, Weston Beal Vladimir Dmitriev-Zdorov, Mikael Stahlberg Todd Westerhoff, Ed Bartlett, Nitin Bhagwath Kunimoto Mashino
Micron Technology	Randy Wolff*, Justin Butterfield, Jingwei Cheng Zack Yang, Cheng Zhang
Micron Memory Japan, G.K.	Masayuki Honda, Mikio Sugawara
NXP	(John Burnett)
SiSoft (MathWorks)	Mike LaBonte*, Graham Kus, Walter Katz*
SPISim	Wei-hsing Huang*
Synopsys	Ted Mido*, Adrien Auge, John Ellis, Sam Sim Scott Wedge, Claire (Wen) Cao, Kevin Li, Lan Ni Yu Wang, Jianguo Zhou, Xuefeng Chen Yuyang Wang, Jinhua Huang
Teraspeed Labs	Bob Ross*
Xilinx	Ravindra Gali
ZTE Corporation	Shunlin Zhu, Fengling Gao, Yuling Li, Dongdong Ye
Zuken	Michael Schäder, Crab Chen, Yoshio Nakajima Deva Yang, Kevin Yang, Kiyohisa Hasegawa Kensuke Yoshijima, Takayuki Shiratori
Zuken USA	Lance Wang*

OTHER PARTICIPANTS IN 2019

51Semicon	Guorong Ao, Yan Huang
A&D Print Engineering Co.	Ryu Murota
ADLINK Technology	Rain Chen, Robert Hsu, Ned (Nanku) Lu
Advanced Micro Devices (AMD)	Hellen Lo
Aisin Seiko Co.	Kouji Kumagawa
AMD Japan	Tadashi Arai
Amkor Technology	Ian Yu
Apollo Giken Co.	Satoshi Endo, Toshiki Tamura, Yuzo Morimasa
ASRock Rack Inc.	Eric Chien
ASUSTek Computer	KT Chen, Nick Chan, Eric Hsieh, Nick KH Huang
AVL	Wolfgang Röhrner
Bitmain Technology Holding Co.	Pan Jiang, Yuanyang Qing, Huichao (Whisper) Weng
Canon	Syoji Matsumoto, Hiroaki Kitazawa, Shinichi Ohno Sou Hoshi, Keisuke Ikemiya, Yusuke Matsudo
Canon Components	Takeshi Nagata
Carleton University	Ram Achar
Celestica	Sophia Feng, Bowen Shi, Jimmy Zhang
Chiptops	Darcy Liu

Clarion Co.	Takatsugu Yasui
Compal Electronics	Cortex Chen, Arthur Hsu
Continental	Stefanie Schatt
Cybernet Systems Co.	Takayuki Tsuzura, Shiho Nagae
D-CLUE Technologies Co.	Osamu Takeuchi
Design Methodology Lab	Motoo Tanaka
Fujitsu Advanced Technologies	Hideki Takauchi, Kumiko Teramae, Akiko Tsukada Masaki Tankaa, Takashi Kobayashi, Masaki Kirinaka
Furuno Electric Co.	Naoaki Sasao
Gifu University	Toshikazu Sekine
GIGABYTE Technology	Eddie Lin
Global Unichip Japan	Masafumi Mitsuishi
Hamamatsu Photonics K.K.	Ryuji Yamamoto
Hewlett Packard Enterprise	Corey Huang, Cucumber Lin, Edward Pan
Hirosaki University	Toshiki Kanamoto
Hitachi	Norio Chujo
Hitachi Automotive Systems	Naomi Shiga
Hitachi Solutions Technology	Sadahiro Nonoyama
Hoei Co.	Tatsuya Chiba
Hoya Corporation	Toshiaki Yamabe
HTC Corporation	Andrew Huang
iITAC Computing Technology	Ella Wang
Iluvatar	Luping Liu
Inspur Technologies Co.	Steven Ho, Rock Wang
Institute for Information Industry	Joseph Yang
Independent	Tadashi Aoki
Inventec	Peng Zhong
IO Methodology	[Lance Wang]
ITEC	Hiroshi Ishikawa
Japan Display	Tetsuhisa Yamada
Japan Radio Co.	Takashi Sato
JEITA/EC Center	Akihiko Kawasaki, Kyoji Yamazaki, Hisashi Saito
John Baprawski, Inc.	John Baprawski
JVC Kenwood Corporation	Hidetoshi Suzuki, Takuo Fujimura
Hamburg University of Technology	Til Hillebrecht
KEI Systems	Shinichi Maeda
Keyence Corporation	Takanari Yasumura
Key-System Co.	Shinichi Maeda
Kingston Technology	Hardy Chang, CF Chen, Mars Ho
Kioxia Corporation	Minori Yoshitomi, Yoshiaki Yoshihara, Yasuhiko Iguchi Ryuki Kubohara, Masato Kanie
Kioxia Systems Co.	Yukio Tanoue, Jyunya Shibasaki, Tomomichi Takahashi
Kyocera Corporation	Seisuke Noguchi, Ayaka Nishi
Lenovo	Aje Chang, Alan Sun, John Liu
Macnica	Hidemichi Tanaka

MD Systems Co.	Hideaki Kouzu
Megachips Corporation	Tomochika Kitamura
MiTAC	Ivan (Weichen) Huang
Mitsubishi Electric Corporation	Yusuke Suzuki, Akihito Kobayashi
Mitsumine-Denshi Co.	Ryoichi Nakahigashi
Mobile Techno Corporation	Makoto Kaise
Modech	Yoichi Sakuraba
Molex Japan	Hiroyuki Yajima, Syoji Somekawa
Murata Manufacturing Co.	Shigeaki Hashimoto, Ryo Yokoyama Kazutaka Mukaiyama
Nanya Technology Corp.	Hsing Chen, Taco (Changqun) Hsieh, Andre Huang Raphael Huang, Thomas Huang, George Lee Tom Lee, Benson Peng
NEC Platforms	Tsuneo Kikuchi, Atsushi Kato
New H3C Group	Zixiao Yang, Muwang Ye
Nikon Corporation	Manabu Matsumoto
Nissan Motor Corporation	Hidenari Nakashima
Novatek	Josh Wu
Nvidia Corp.	Norman Chang, David Chen, Chiayuan Hsieh Richie Lu, Chihwei (Jason) Tsai
Oji Holdings Corporation	Yoshikazu Fujishiro
Oki Electric Industry Co.	Atsushi Kitai
Olympus Digital System Design Corporation	Ken Saito
OmniVision	Sirius Tsang, Baohua Tu, Wenhui Shang, Bibo Ping Wei Li, Xuanjiang Shen
Panasonic Corporation	Kenkichi Hirano, Atsushi Nakano
Politecnico di Torino	Stefano Grivet-Talocia, Paolo Manfredi Alessandro Zanco
PWB Corporation	Toru Ohhisa
Qualcomm	Kevin Roselle
Quanta Computer	Joseph Huang, Kyle Lin
Raytheon	Joseph Aday
Renesas	Genichi Tanaka
Renesas Electronics Corporation	Kazuyuki Sakata, Genichi Tanaka
Ricoh Co.	Kazuki Murata, Masahiko Banno, Koji Kurose
Rohm Co.	Nobuya Sumiyoshi
Ryosan Co.	Takahiro Sato, Kouji Tsutsui (Jose Godoy)
SAE ITC	Yang Weng
SALE	Takayuki Ito
SAXA	Alex Tain
Seagate	Manabu Nakamura
Shinko Electric Industries Co.	Nike Yang
Shinewave (Xiangwei International)	Ron Olisar
Signal Metrics	

Silvaco Japan Co.	Yoshiharu Furui
Socionext	Megumi Ono, Motoaki Matsumura, Yuji Nakagawa Hajime Ohmi, Ide Yutaka, Yumiko Sugaya Megumi Usui, Fumiyo Kawafuji
Sohwa & Sophia Technologies	Tomoki Yamada
Sony Global Manufacturing & Operations Corporation	Taku Masuko
Sony LSI Design	Toru Fujii, Satoshi Ishigami, Kazuki Murata
Sony Semiconductor Solutions Corporation	Kunio Gosyo
STMicroelectronics	Olivier Bayet, Aurora Sanna
Syswave	Kazuo Ogasawara
Tamagawa Denki Co.	Yasumitsu Matsuura, Yuki Sato
TDK Corporation	Eriko Ajioka
Technopro Design Co.	Shintaro Kaji, Mai Fukuoka
Teikyo Heisei University	Kotaro Hachiya
Tektronix Co.	Takafumi Watanabe
Tokyo Drawing	Naoya Iisaka
Tokyo Rikosha Co.	Toshio Umesawa
Tomen Devices Corporation	Kinji Mitani
Toshiba	Imi Hitoshi, Torigoshi Yasuki
Toshiba Devices Corporation	Kinji Mitani
Toshiba Development & Engineering Corp.	Nobuyuki Kasai
Toshiba Electronic Device Solutions Corp.	Satoshi Kameda
Toshiba Electronic Devices & Storage Corp.	Atsushi Tomishima, Yasunobu Umemoto, Hitoshi Imi
Towa Electronics Co.	Yoshikazu Suzuki
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Université de Bretagne Occidentale	Mihai Telescu
University of Cassino	Antonio Maffucci
University of Toronto	Fadime Bekmambetova
University of Zagreb	Adrijan Baric
U-PKG	Jiancai San
Xpeedic	Cunhui Gui
Yamaha Corporation	Tetsuya Kakimoto
Yazaki Parts Co.	Kenichi Fujisawa
Zhaoxin (Shanghai Zhaoxin Semiconductor)	Zhen (Caffrey) Fu, Chuanyu (Liam) Li
Zuiki	Kon Kou

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 bridge numbers for future IBIS teleconferences are as follows:

Date	Meeting Number	Meeting Password
January 10, 2020	624 227 121	IBISfriday11

For teleconference dial-in information, use the password at the following website:

<http://tinyurl.com/IBISfriday>

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 1, 2019 IBIS Asia Summit in Shanghai, the November 4, 2019 IBIS Asia Summit in Taipei, and the November 8, 2019 IBIS Asia Summit in Tokyo. Lance Wang moved to approve the minutes. Mike LaBonte seconded the motion. There were no objections.

Randy Wolff called for comments on the minutes of the November 22, 2019 IBIS Open Forum teleconference. Mike LaBonte moved to approve the minutes. Michael Mirmak seconded the motion. There were no objections.

Randy reviewed ARs from the previous meeting.

1. Randy Wolff to find out what organizations were involved in creating JEP30 and who would make use of it [AR].
Randy noted that he had found a contact at Micron with more information, but that contact had just returned from vacation. Randy said he expected to have more information at the next meeting. He said this was in progress and should remain an active [AR].

2. Michael Mirmak to check on the cost of making IEEE 2401 available via the IEEE Get Program [AR].
Michael noted that Ethernet (IEEE 802), for example, is available via the IEEE Get Program. He noted that getting anything into the IEEE Get program relies on some organization covering the cost. He noted that depending on whether it's a single document or a family of standards the cost is typically around \$40,000 to \$50,000. Randy noted that it would be helpful for us to have access to IEEE 2401, but that cost is probably prohibitive for us. Michael noted that IEEE 2401 is currently at draft 2. There are currently no plans to get it into the IEEE Get Program, though this could change later.
3. Steve Parker to add the Asia Summits for 2020 to the Upcoming Events page's Unscheduled Recurring IBIS meetings section [AR].
Steve reported that this had been done. He also noted that he had gotten the 2019 Asia Summits booklets from Bob Ross and posted them to the Past Summits pages.
4. Steve Parker to add an announcement of the new ibischk7 release at the top of the home page [AR].
Steve reported that this had been done. He also noted that he had added an announcement for the DesignCon 2020 Summit to the home page.
5. Randy Wolff to follow up with Kevin Li of Synopsys about interest in leading an ATM-like task group in Asia [AR].
Randy reported that he had exchanged emails with Kevin, and Kevin has some interest in possibly leading a group like that. Mike noted that we had tried to form a group like this before. We had formed a China regional forum in 2016 based on requests from the region, but it had not gone anywhere. He suggested that perhaps we could reuse the infrastructure, mailing lists, etc., we had set up for that. Bob noted that having Synopsys (Kevin Li) take a leadership role might be helpful. Two of the companies in the original China regional forum were competitors and couldn't even email each other, which may have stalled the development. Randy noted that Kevin had expressed concern that with multiple countries in Asia the meetings might have to be in English, which could present a problem. Lance noted that probably only Taiwan and China could be combined because of the language issues. Randy noted that he planned further discussions with the IBIS Board and Task Group Chairs to outline how this group might be organized and led. [AR]
6. Randy Wolff to send thank you notes to the Asia IBIS Summit presentation authors and speakers [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 26 members. We have \$22,231 cash flow for 2019 and a \$24,981 adjusted balance for 2019. These numbers reflect additional sponsorship income and the payment of \$9,425 to Randy Wolff for reimbursement for Asian IBIS Summit credit card expenses. Overall the Asian IBIS Summits showed a net profit of \$2,477.

We have nine fully signed agreements, and these organizations will receive the parser code:

ANSYS

Cadence Design Systems

Dassault Systemes

Keysight Technologies

Intel

Julin (Shanghai) Microelectronics

Mentor, A Siemens Business

Synopsys

Zuken

We expect one or two more parser license payments before the end of 2019, and at least one pushed out until 2020. Bob noted that he had asked Phyllis Gross to send out membership renewal notices for 2020. He asked members to follow up internally as soon as the invoice is received. He noted that he sees more companies using an accounting dictated 45 to 60 day payment process.

WEBSITE ADMINISTRATION

Steve Parker noted that the website was up to date with respect to BIRDS, minutes, summit information, etc. He had posted additional information for the Asian Summits and updated sponsorship information for the upcoming DesignCon 2020 Summit.

Steve noted that he had asked corporate for approval to add the Marvell logo to the IBIS home page. Bob Ross noted that Marvell had been a member in the past. He suggested Steve might simply add "Marvell" in text to the home page, as we had done for other member organizations until they had approved use of their logos. Curtis Clark asked if the meeting minutes should continue to preserve the separation of Marvell, formerly GLOBALFOUNDARIES, the member organization, and Marvell the non-voting participant organization. Steve thought they could be merged. Bob asked that we preserve the separation until the new 2020 membership year. Curtis said he could preserve the separation for this meeting's minutes and merge them next time. Steve said this was fine with him.

MAILING LIST ADMINISTRATION

Mike LaBonte noted that mailing lists were operating normally. He had reviewed the current subscriber lists, and we have 358 addresses subscribed. He noted that there are probably slightly fewer individuals, as some people might subscribe with multiple addresses. Mike noted that there are 90 addresses that are only subscribed to task groups and not to the main ibis and ibis-users lists. Mike noted that the total number of subscribers had remained fairly constant in recent years. The total of 358 represented a drop of 4 in the subscriber count over the past 2 years.

LIBRARY UPDATE

No update.

INTERNATIONAL/EXTERNAL ACTIVITIES

- Conferences

Bob Ross and Randy Wolff noted that the website for the 24th IEEE Workshop on Signal and Power Integrity (SPI 2020) is now active. Randy noted that the call for papers had gone out.

<https://spi2020.uni-siegen.de/>

- Press Update

Randy noted a new DesignCon 2020 press release that included the comment Informa Markets (formerly UBM) had solicited from him regarding the value of DesignCon.

<http://www.globenewswire.com/news-release/2019/10/31/1938949/0/en/DesignCon-Presents-2020-Conference-Programming-Exploring-the-Evolving-Electronics-Design-Landscape-for-its-25th-Edition.html>

- Related standards

IEC 63055/IEEE 2401, JEITA “LPB”

Michael Mirmak noted that he had nothing new to report. He said that in the new year IEEE 2401 and several others would go in front of the highest levels of the IEEE Standards Board for approval, and he could report back once he has information on scheduled dates or decisions.

SUMMIT PLANNING AND STATUS

- Asia Summits 2019 Review

Randy Wolff noted that we had reviewed the summits at the last teleconference, but that he had not discussed the vendor-specific presentation portions because Lance Wang had chaired them. Lance noted that this was the first year we had introduced the vendor-specific “product promotion” sessions and that these were only held in Shanghai and Taipei. He noted that Cadence and ANSYS had participated at both, and Keysight had participated in Shanghai. Lance noted that the primary goals were increasing the sponsorship revenue to offset summit costs and improving attendance in Asia. Lance said that based on attendance the product promotion presentations appear to have been a success. He noted that approximately 80 percent of summit participants stayed for the presentations, and there were robust question and answer sessions. Lance said we would likely continue the program next year and work even more on organizing the vendor tables to ensure they promote the product promotion sessions and the IBIS summit itself.

Randy noted that in Taipei there had been some discussion about how to get attendees to come in from other cities. Lance noted that the Taipei summit is typically at the Sherwood Hotel in downtown Taipei City. He said that many companies are located in Shinzu, about a 45 minute drive from Taipei. Bob Ross noted that we had once held a summit in Shinzu, but attendance had been low. Lance agreed and noted that semiconductor vendors in Shinzu typically will travel to Taipei, but systems vendors located in Taipei had not traveled to Shinzu. Lance noted that one option that had been suggested was to provide a bus from Shinzu to Taipei, but we would have to keep an eye on summit sponsorship money to see if we could fit that into the budget.

Bob noted that some sponsors in Taipei had chosen not to give product promotion presentations

this year, but next year they may do so. Bob and Randy thanked Lance for his efforts organizing, chairing, and running the sessions.

- DesignCon 2020 Summit (January 31, 2020)

Randy noted that the summit is held on Friday, the day after DesignCon ends. Randy said that a new room has been arranged. We will now be in Ballroom G, which is a bigger room than the 209-210 combination we have used in the past. There should be seating for at least 90 people in the classroom setting, and we will have tables in the back and refreshments in the hall outside. Currently the official sponsors include the IBIS Open Forum, Cadence, Keysight, and Synopsys. Randy noted that we will send out 3 emails as part of our agreement with Informa Markets, and the first one had gone out already.

Bob noted that we are now asking for presentations to be submitted for the summit. Bob noted that we already have one presentation from Marvell and Cadence, one from JEITA on IBIS v7.0 collaboration with IEEE 2401, and one expected from JEITA on BIRD198. Bob asked that attendees let Lance and Bob know they plan to attend.

- IEEE SPI Summit 2020

Bob noted that we will plan for a formal vote on this summit early in 2020. Bob expects to formally move to schedule the vote at the meeting on January 10th. He will move to vote on holding the summit on May 20th at a cost not to exceed \$2,500. He noted that the cost includes a 1,500 Euro fee plus refreshments on top of what SPI will be providing. Bob noted that once the summit is formally approved he will ask for the SPI2020 banner to be added to the Upcoming Events page as is done for DesignCon.

QUALITY TASK GROUP

Mike LaBonte reported that the group is meeting on Tuesdays at 8:00 a.m. PT. The group continues to focus on ibischk 7.0. Recently discussions have been focused on BUG207 and BUG208.

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 was not able to join the meeting. Randy Wolff reported that the group meets on Tuesdays at 12:00 p.m. PT. The group had recently been discussing a variety of topics including editorial changes to the DC_Offset BIRD, which Bob Ross noted had recently been submitted to the Open Forum as BIRD197.6 (see below), the review of a new response from the authors of BIRD198, and Walter Katz's proposal for enhancing the AMI back channel interface (BCI) to work in statistical mode. Walter noted that he hopes the back channel proposal will be submitted and have an official BIRD number by DesignCon. He noted that ATM is also working on a DDR5 DQ Write protocol for back channel. We have one controller vendor and one memory vendor involved and would welcome input from more.

Randy noted that the meeting on December 17th will be the last ATM meeting of 2019.

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. Michael noted that Walter Katz has been serving as chief editor for the EMD proposal, which is now on draft 27. He noted that there are a few definitional issues to be resolved, e.g., terminals vs. pins, and the basic definitions of “connection” and “component” are being reviewed and may affect the rest of IBIS.

Michael noted that the meeting on December 18th will be the last Interconnect meeting of 2019, and they have an informal goal of having the EMD BIRD submitted by DesignCon.

Task group material can be found at:

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

EDITORIAL TASK GROUP

Michael Mirmak reported the task group remains suspended.

Task group material can be found at:

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

NEW ADMINISTRATIVE ISSUES

-None.

BIRD197.6: NEW AMI RESERVED PARAMETERS DC_OFFSET

Walter Katz summarized the newly submitted version. He noted that ATM had gotten agreement from controller, memory, and EDA vendors on how the EDA tool generates the value as an input and what the EDA tool can do with the value when it plots the resulting outputs of the AMI_Init and AMI_GetWave functions. Bob Ross noted that this version had removed a sentence originally proposed by Michael Mirmak, and he asked for confirmation that Michael no longer wanted this sentence. Michael confirmed this was correct. Bob noted one minor editorial issue, on item 2c the units (V) were missing. It should say “0.5 V”. Walter moved to schedule a vote on this BIRD, with the change noted by Bob, at the next meeting on January 10th, 2020. Michael seconded. There were no objections. Randy Wolff 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.

BIRD198: KEYWORD ADDITIONS FOR ON DIE PDN (POWER DISTRIBUTION NETWORK) MODELING

Discussion was tabled. Randy Wolff reported that a new response from the authors is being reviewed in the ATM task group.

IBISCHK PARSER AND BUG STATUS

Bob Ross noted that there are now two open bugs:

1. BUG207 – submitted by Randy Wolff and reviewed briefly at an earlier meeting.
2. BUG208 – submitted by Arpad Muranyi and involving a hang in the Interconnect Model parsing.

BUG208 now has an officially submitted test case, which is a simplified version of the example provided by Arpad. Bob noted that the test case hangs ibischk 7.0, and it is related to Interconnect Model syntax (BIRD189). If you have two Interconnect Models in an Interconnect Model Set, the parser hangs. Bob noted that Mike LaBonte had diagnosed the issue as a pointer that wasn't being incremented and noted a fix. Mike said that we could have considered its Severity "Fatal", but he found that Fatal had never been used before, though it probably could have been. Bob moved to classify BUG208 as Severe, High Priority, Open, and fix at next release. Walter Katz seconded. There were no objections.

Bob noted that we now have 9 parser license contracts for ibischk7. He noted that he had privately issued the BUG208 fix to source code owners already, and that he would like to immediately issue a 7.0.1 release to fix only BUG208.

BUG207 is still in debate in the Quality task group, and Bob noted that they still haven't come to agreement on whether it's a BUG and should be addressed. He noted that it relates to a change in the checking of Submodels. He noted that current behavior of the parser is that only the main Model without the Submodel is considered when the parser checks for endpoint agreement of the Ramp specification and the static I/V tables. He said that Randy's BUG207 proposed a special case for which a certain type of Submodel would be included when that check is performed. Bob said he was not yet ready to classify it. Randy agreed that more discussion is needed and noted that he doesn't want to break existing models. Randy noted that they might even wait until DesignCon and provide more information there. Bob said this was a possible topic for one of his DesignCon presentations and that he was still leaning toward not considering it a bug.

NEW TECHNICAL ISSUES

None.

NEXT MEETING

The next IBIS Open Forum teleconference meeting will be held on January 10, 2020. The following teleconference meeting is tentatively scheduled for February 21, 2020. Note that the DesignCon 2020 IBIS Summit will be held on January 31, 2020.

Randy Wolff wished everyone Happy Holidays and thanked everyone for their work on IBIS this year.

Mike LaBonte moved to adjourn. Curtis Clark 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/bugspl.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](http://www.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	November	November	November	December
			4, 2019	8, 2019	22, 2019	23, 2019
ANSYS	User	Active	X	X	X	X
Applied Simulation Technology	User	Inactive	-	-	-	-
Broadcom Ltd.	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	X	X	-
Cisco Systems	User	Inactive	-	-	-	-
Dassault Systemes	User	Inactive	-	-	-	-
Ericsson	Producer	Inactive	X	X	-	-
Google	User	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	-	-	-	-
Infineon Technologies AG	Producer	Inactive	-	-	X	-
Instituto de Telecomunicações	User	Inactive	-	-	-	-
IBM	Producer	Inactive	-	-	X	-
Intel Corp.	Producer	Active	X	-	X	X
Keysight Technologies	User	Active	X	X	X	X
Marvell (GLOBALFOUNDRIES)	Producer	Active	-	-	X	X
Maxim Integrated	Producer	Inactive	-	-	-	-
Mentor, A Siemens Business	User	Active	-	X	X	-
Micron Technology	Producer	Active	X	X	X	X
NXP	Producer	Inactive	-	-	-	-
SiSoft	User	Active	-	-	X	X
SPISim	User	Active	-	-	X	X
Synopsys	User	Active	-	X	X	X
Teraspeed Labs	General Interest	Active	-	-	X	X
Xilinx	Producer	Inactive	-	-	-	-
ZTE Corp.	User	Inactive	-	-	-	-
Zuken	User	Active	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.