**IBIS Open Forum Minutes**

Meeting Date: **November 20, 2015**

Meeting Location: **Teleconference**

**VOTING MEMBERS AND 2015 PARTICIPANTS**

Altera [David Banas], Masashi Shimanouchi, Hsinho Wu\*

 Amanda Liao

ANSYS Curtis Clark\*, Miyo Kawata, Toru Watanabe

Applied Simulation Technology Fred Balistreri, Norio Matsui

Avago Technologies Minh Quach, Leif Zweidinger

Cadence Design Systems Brad Brim\*, Joshua Luo, Ken Willis, Joy Li, Ambrish Varma

 Aileen Chen, Lanbing Chen, Wei Dai, Zhiyu Guo

 Jinsong Hu, Rachel Li, Ping Liu, Yubao Meng

 Zuli Qin, Haisan Wang, Yitong Wen, Clark Wu

 Janie Wu, Benny Yan, Haidong Zhang, Wenjian Zhang

 Zhangmin Zhong, Kent Ho, Thunder Lay, Skipper Liang

 Jack WC Lin, Paddy Wu, Candy Yu, Morihiro Nakazato

Cisco Systems David Siadat, Rockwell Hsu, Bidyut Sen, Xu Yan

CST Stefan Paret, Matthias Troescher

Ericsson Anders Ekholm, Zilwan Mahmod, Feng Shi

 Wenyan Xie, David Zhang

Huawei Technologies Xiaoqing Dong, Peng Huang, Shuyao Liu

 Huichao Weng, Peng Xiao, Mala Yu, Cheng Zhang

 Gezi Zhang, Zhengyi Zhu

IBM Adge Hawes\*, Luis Armenta, Dale Becker

Infineon Technologies AG Christian Sporrer

Intel Corporation Michael Mirmak, Todd Bermensolo, Nhan Phan

 Gianni Signorini, Chunlei Guo, Shaowu Huang

 Denis Chen, Jimmy Hsu, Cucumber Lin, Ken Liu

 Thonas Su, Morgan Tseng

IO Methodology Lance Wang\*

Keysight Technologies Radek Biernacki\*, Pegah Alavi, Colin Warwick

 Jian Yang, Nicholas Tzou, Heidi Barnes, Dave Larson

 Kyla Thomas, Fangyi Rao, Yi Wang, Xianzhao Zhao

 Nina Lai, Ming-Chih Lin, Isabella Wan

Maxim Integrated Products Mahbubul Bari, Don Greer, Joe Engert, Joe Rayhawk

 Yan Liang\*

Mentor Graphics Arpad Muranyi\*, Ed Bartlett, Vladimir Dmitriev-Zdorov

 Kenji Kushima

Micron Technology Randy Wolff\*

 Micron Memory Japan Masayuki Honda, Toshio Oki, Tadaaki Yoshimura

Signal Integrity Software Mike LaBonte\*, Walter Katz\*, Todd Westerhoff

 Mike Steinberger

Synopsys Ted Mido\*, Rita Horner, William Lau, Scott Wedge

 Michael Zieglmeier, Joerg Schweden, Xuefeng Chen

 Lianpeng Sang, Kevin Li\*

Teraspeed Labs Bob Ross\*, Tom Dagostino

Toshiba Yoshinori Fukuba, Masato Kanie, Fumuhide Noro

 Yui Shimizu, Atsushi Tomishima, Yasuki Torigoshi

 Toshiba Information Systems Mari Kuroki

 Toshiba Memory Systems Kenichi Kanehara

 Toshiba Semiconductor & Storage Yasunobu Umemoto

Xilinx (Raymond Anderson)

ZTE Corporation Tao Guo, Fengling Gao, Lili Wei, Bi Yi, Shunlin Zhu

Zuken Michael Schaeder, Markus Buecker, Griff Derryberry

 Ralf Bruening, Kiyohisa Hasegawa, Yoshiaki Manage

**OTHER PARTICIPANTS IN 2015**

Abeism Corporation Noboyuki Kiyota

Advanced Semiconductor Jane Yan

 Engineering

Alpine Giken Norio Mashiko

AMD Tadashi Arai

Amphenol TCS Kenneth Cheng

Apollo Giken Co. Satoshi Endo, Naoya Iisaka, Toshiki Tamura

ASUSTek Computer Weisheng Chiang, David Chou, Eric Hsieh, Landy Kao

 Peter Lee, Hank Lin, Vincent Lu, Bin-Chyi Tseng

ATE Service Corp. Honda

Avago Technologies David Carkeek, James Church

Avant Technology Jyam Huang, Chloe Yang

Avnet Electronics Marketing Hung-Yi Lin

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Casio Computer Co. Yasuhisa Hayashi

Celestica Sophia Feng, Lei Liu

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 Company, Institute #52

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 Stefanie Schatt

Cybernet Systems Shinobu Kokuatsu, Takayuki Tsuzura

Denso Corp. Osamu Seya

Digital Corp. Hiroaki Fujita

eASIC David Banas

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Foxconn Technology Daniel YT Lai, Mandy HY Su, Alex SY Tang

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 Akiko Tsukada

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Lattice Semiconductor Xu Jiang

Leading Edge Pietro Vergine

Lenovo John Lin, Alan Sun

Lite-On Technology John Chuang, Dong-Ru Lyu

Marvell Weizhe Li, Xike Liu, Fang Lv, Jie Pan, Banglong Qian

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Meidensha Corp. Liew Nelson

Microchip Technology Jeffrey Chou

Missouri University of Science Albert Ruehli

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Murata Manufacturing Co. Satoshi Arai

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 Jordan Hsu, Andre Huang, Min Lun Lan

 Chih Wei Shen, Zuo Xin Ye

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NEC Engineering Masahiko Kuroda

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NXP Yanbin Chen

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Panasonic Industrial Devices, Kazuki Wakabayashi

 Systems and Technology Co.

Pegatron Corp. Aje Chang, Stanley Chu, Gavin Lin

Polar Rick Cheng

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 Irwin Xue

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Rambus John Yan, Joohee Kim, Sujit Kumar

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 Yuji Hara, Hiroki Ikeda, Takuya Kitsukawa

 Nobuo Nakane, Seigo Tanaka, Yoshikazu Tadokoro

 Jyunko Tanaguchi

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SAIC Motor Weng Yang

Sanei Hytechs Co. Hiroyuki Kai

Saxa Takayuki Ito

Seiko Epson Corp. Ryoichi Okada

Shanghai Faith Information Miao He, Bihui Shao, Shuai Wang

Shanghai Lefu Educational Peter Sun, Leo Yi

 Technology

Siemens AG Boris Kogan, Michael Flint

Silvaco Japan Co. Atsushi Hasegawa, Yoshinori Kanno

 Yoshihiko Yamamoto

Simberian Yuriy Shlepnev

SMICS Xuejiao Qi

Socionext Shinichiro Ikeda, Motoaki Matsumura, Megumi Ono

 Yumiko Sugaya, Yukiko Tanaka, Kazuo Toda

 Kohichi Yasuda

Sohwa & Sophia Technologies Tomoki Yamada

Sony LSI Design Toru Fujii, Naoyuki Morinaga, Satoshi Tago

Spreadtrum Communications Linping Chen, Yanbiao Chu, Lily Dai, Junyong Deng

 Steven Guo, Weiquan Jia, Xiaobin Lu, Mengying Ma

 Ye Ping, Zheng Qin, Baoqin Su, Tim Wang, Nikki Xie

 Honggiu Xu, Eric Zhang

Sunplus Technology Forest Hsu, Yi-Tzeng Lin

Technische Universität Jan Preibisch

###  Hamburg-Harburg

Teledyne LeCroy Yanan Cui, Derek Hu, Cici Wang, Yifeng Wu

TFF Tektronix Comp. Katsuhiko Suzuki

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Torex Semiconductor Hiroyuki Nakano

University of Illinois Jose Schutt-Aine

Via CPU Jonathan Wei

VIA Labs Sheng-Yuan Lee

Vitesse Siris Tsang

Winbond Electronics Yu-Min Hou, Albert Lee

Wiwynn Corp. Scott CH Lee, Kevin TK Wang

Xpeedic Technology Wenliang Dia, Qionghui Gui, Zhouxiang Su

 Mingcan Zhao

Zhejiang Uniview Technologies Busen Cai, Weiqi Chen

ZI Consulting Iliya Zamek

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

December 18, 2015 205 475 958 IBIS

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

 <https://ciscosales.webex.com/ciscosales/j.php?J=205475958>

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. When calling into the meeting, follow the prompts to enter the meeting ID. For new, local international dial-in numbers, please reference the bridge numbers provided by Cisco Systems at the following link:

 <http://www.cisco.com/web/about/doing_business/conferencing/index.html>

NOTE: "AR" = Action Required.

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**INTRODUCTIONS AND MEETING QUORUM**

Kevin Li of Synopsys introduced himself. He is in the SI/PI group doing work involving creating IBIS-AMI models and IBIS models. These models cover SerDes and consumer PHY products.

Randy Wolff declared that a quorum was reached and the meeting could begin.

**CALL FOR PATENTS**

Mike LaBonte called for declaration of any patents or pending patents related to the IBIS 3.2, IBIS 4.2, IBIS 5.1, IBIS 6.1, Touchstone 2.0, IBIS-ISS 1.0 or ICM 1.1 specifications. No patents were declared.

**REVIEW OF MINUTES AND ARS**

Randy Wolff called for comments regarding the minutes of the October 23, 2015 IBIS Open Forum teleconference. Radek Biernacki moved to approve the minutes. Curtis Clark seconded the motion. There were no objections. Randy called for comments regarding the minutes of the October 28, 2015 IBIS Open Forum Summit at EPEPS. Randy noted that Bob Ross had commented by email that “PAM-4” should be changed to “PAM4”. Bob moved to approve the minutes with the noted change. Lance Wang seconded the motion. There were no objections.

Randy reviewed ARs from the previous meeting.

1. Mike LaBonte will rename “Working Directories” as “Site Map” on the website [AR].

Mike reported that he did this during the last meeting.

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

None.

**MEMBERSHIP STATUS AND TREASURER'S REPORT**

Bob Ross reported that membership stands at 24 members and the treasury balance is $70,972 including a recent sponsorship payment. There are a few payments to make for the balance of the Sherwood hotel payment for Taipei and the website charges. Mike LaBonte noted he already received a payment from SAE of $851.28 for the website charges. Bob has an AR with SAE to provide a membership list of people to invoice for 2016 membership dues [AR]. Bob noted we need to discuss if the membership for 2016 will stay at $900. Also, Rita Gerber, our SAE financial contact is retiring. Phyllis Gross is her replacement. Bob will begin working with her for invoicing. Bob noted we should be up to date with SAE on financials except for the previously mentioned payments as well as a payment to the parser developer. Lance Wang noted that we still owe something to the Parkyard hotel in Shanghai. We are waiting for a payment from Cadence directly to the hotel before finding out the final bill. Bob noted that we essentially broke even on all the last four summits.

**WEBSITE ADMINISTRATION**

Mike LaBonte reported that he made a few changes that relate to items to be discussed in the rest of the meeting. He noted that he is going to take down the contents at eda.org and set it up to redirect to the new website. Sometime later this year eda.org will shut down permanently.

**MAILING LIST ADMINISTRATION**

Curtis Clark reported that there have been some email address changes. Things are generally going smoothly with Freelists. He has not looked further into using the available ibis.org email addresses.

**LIBRARY UPDATE**

Mike LaBonte reported that the library page has been updated by Anders Ekholm. The new page is wrapped in the IBIS frame. It also uses a shaded table format. All the links have been checked. Yan Liang asked if he should inform the IBIS librarian if updates are needed. Mike encouraged this.

**INTERNATIONAL/EXTERNAL ACTIVITIES**

- Conferences

None.

- Press Update

None.

**SUMMIT PLANNING AND STATUS**

- EPEPS Summit Review

EPEPS took place October 25-28, 2015 in San Jose, CA. IBIS hosted a Summit meeting on Wednesday, October 28, 2015 in the afternoon at the DoubleTree by Hilton hotel. Mike LaBonte thanked Bob Ross for taking the lead in organizing the Summit. Bob Ross reported that the event was very successful. He planned for about 20 attendees and there were about 34 attendees. He invited many EPEPS attendees. We received an invitation to host a Summit in conjunction with EPEPS 2016 in San Diego, CA. Bob thanked the sponsors Keysight Technologies, Mentor Graphics and Synopsys. Walter Katz added that about 300 people total attended EPEPS. Mike added that we got good support from EPEPS including advertising of the IBIS Summit in the EPEPS agenda.

- Asian IBIS Summit (Shanghai) Review

The Shanghai meeting was held Monday, November 9, 2015 at the Parkyard hotel. Huawei Technologies was the major sponsor along with co-sponsors Cadence Design Systems, IO Methodology, Keysight Technologies, Synopsys, Teledyne LeCroy and ZTE Corporation. Mike reported that we had 94 attendees. He thought it was a great meeting overall. About half the presentations were in English and half in Chinese. The discussion and questions were better for the presentations in Chinese. There was good discussion after the presentations.

During a lunch conversation, some of the vendor companies expressed interest in expanding the Summit. Most other IBIS Summits are co-located with other conferences. The vendors are interested in having a greater presence. There is interest in having another entity host an event co-located with the IBIS Summit. Mike also thanked Bob for his help organizing all the Summits in Asia.

Lance Wang noted that during the discussion time, they polled how many people were using IBIS-AMI models and the Touchstone 2 format. A number of companies in China are using IBIS-AMI models. Issues they have are quality of the models. People were asking how to validate and correlate models with the real system. A Marvell attendee shared how Marvell makes IBIS-AMI models. The process they have is to ask the algorithm designers to make the IBIS-AMI models. The designer is responsible for correlating the results with the systems. An Ericsson attendee commented they have a process to validate the models they receive, however they are ok to do the IBIS-AMI TX models, but it is hard to correlate the RX models. IBIS-AMI models give the system designer opportunity to work on simulation, however no companies use IBIS-AMI models for signoff of SerDes systems.

Bob asked Lance how many vendor tables there were. Lance noted there were 4.

- Asian IBIS Summit (Taipei) Review

The Taipei meeting was held Friday, November 13, 2015 at the Sherwood hotel. Mike noted there were 73 attendees. He thought the meeting went well. There were some of the same presentations as the Shanghai Summit. There were three vendor tables.

Lance noted that fewer companies in Taipei were using IBIS-AMI models than in Shanghai. There were many questions about correlation and validation of standard IBIS models. There were also comments that the IBIS cookbook needs to be updated, including for power aware models and IBIS-AMI models.

Bob thanked the sponsors IO Methodology, Keysight Technologies and Synopsys.

- Asian IBIS Summit (Tokyo) Review

The Tokyo meeting was held Monday, November 16, 2015. Mike reported that in the morning before the Summit there was an IBIS workshop on basic IBIS with about 90 attendees. He noted there is an IBIS Promotions Working Group within JEITA that helped to organize the event. Mike commented that the relationship between IBIS and JEITA is good.

Bob thanked the co-sponsors ANSYS Corporation, Cadence Design Systems, Cybernet Systems, Keysight Technologies, Mentor Graphics Corporation, Toshiba and Zuken.

- DesignCon 2016 IBIS Summit

DesignCon will be held January 19-21, 2016. Friday, January 22, 2016 is scheduled for the Summit meeting. Mike reported that the meeting room will be in the Hyatt in the Bayshore room. The final agreement with UBM has been signed. Keysight is a sponsor. Bob noted that the first announcement will go out today.

- European IBIS Summit at SPI 2016

An IBIS Summit will be co-hosted with the IEEE Workshop on Signal and Power Integrity (SPI). The Summit will take place on May 11, 2016 in Turin, Italy. Mike noted that some logistics are being worked through for getting an invoice and making payment.

Sponsorship opportunities for all upcoming IBIS summits are available, with sponsors receiving free mentions in the minutes, agenda, and other announcements. Contact the IBIS Board for further details.

**QUALITY TASK GROUP**

Mike LaBonte reported that the group is meeting on Tuesdays at 8:00 a.m. PT. The group has not met in a while due to the Summits travel. He noted that ibischk 6.1.0 is about to be released and a user guide update is needed for it. An updated spreadsheet of messages is also needed.

The ibischk6 user guide work in progress can be reviewed at:

<http://www.ibis.org/ibischk6/ibischk_6.0.0_UserGuide_wip1.pdf>

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 is meeting regularly on Tuesdays at 12:00 p.m. PT. December 1, 2015 will be the next meeting. The group is discussing the new Redriver flow BIRD and the ground cleanup in the specification. He requested those attending the meeting to familiarize themselves on the ground issues in the specification to help with the cleanup.

Task group material can be found at:

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

**INTERCONNECT TASK GROUP**

Arpad Muranyi reported that the group is meeting on Wednesdays at 8:00 a.m. PT. The next meeting is December 2, 2015. The last meeting was short due to the absence of Michael Mirmak. Mike LaBonte noted that there was a presentation from Walter Katz on the interconnect modeling proposal given in the Summits. There was a question about modeling of chip capacitors as well as modeling of multi-chip packages. Mike noted that the chip capacitors could be modeled as part of the package. Walter commented that multi-chip packages will be modeled in an extension of EBD.

Task group material can be found at:

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

**NEW ADMINISTRATIVE ISSUES**

- Second revision of IBIS Policies and Procedures

Mike LaBonte reported that the draft Policies and Procedures update is on the website for review. The document can be found at:

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

Mike noted that we do need a vote on the IBIS dues, so we should do this in the next meeting. Bob Ross added that we are getting some more financial information from SAE next week. There is probably no reason to make a change to the dues amount.

Bob moved to schedule a vote on the dues amount in the next Open Forum teleconference. Radek Biernacki seconded the motion. There were no objections.

**BIRD179: NEW IBIS-AMI RESERVED PARAMETER SPECIAL\_PARAM\_NAMES**

Arpad Muranyi noted that there has been no new discussion on the BIRD.

Walter Katz moved to vote on the BIRD in the next Open Forum meeting. Arpad Muranyi seconded the motion. There were no objections.

**BIRD125.1: MAKE IBIS-ISS AVAILABLE FOR IBIS PACKAGE MODELING**

Discussion was tabled.

**BIRD128.2: ALLOW AMI\_PARAMETERS\_OUT TO PASS AMI\_PARAMETERS\_IN DATA ON CALLS TO AMI\_GETWAVE**

Discussion was tabled.

**BIRD145.3: CASCADING IBIS I/O BUFFERS WITH [EXTERNAL CIRCUIT]S USING THE [MODEL CALL] KEYWORD**

Discussion was tabled.

**BIRD147: BACK-CHANNEL SUPPORT**

Discussion was tabled.

**BIRD158.3: AMI TOUCHSTONE ANALOG BUFFER MODELS**

Discussion was tabled.

**BIRD161.1: SUPPORTING INCOMPLETE AND BUFFER-ONLY [COMPONENT] DESCRIPTIONS**

Discussion was tabled.

**BIRD163: INSTANTIATING AND CONNECTING [EXTERNAL CIRCUIT] PACKAGE MODELS WITH [CIRCUIT CALL]**

Discussion was tabled.

**BIRD164: ALLOWING PACKAGE MODELS TO BE DEFINED IN [EXTERNAL CIRCUIT]**

Discussion was tabled.

**BIRD165: PARAMETER PASSING IMPROVEMENTS FOR [EXTERNAL CIRCUIT]S**

Discussion was tabled.

**BIRD166: RESOLVING PROBLEMS WITH REDRIVER INIT FLOW**

Discussion was tabled.

**IBISCHK6 PARSER AND BUG STATUS**

Bob noted that ibischk 6.1.0 source code was received before the last meeting, but it was decided to test the code further before release. Bob has checked the code and found several bugs. He recommends releasing the 6.1.0 release, noting several bugs to be fixed.

BUG151, BUG155, BUG159, BUG160, BUG161 and BUG162 have been fixed in the ibischk 6.1.0 code. They will be documented as closed as of today.

Mike LaBonte noted that Michael Mirmak has encouraged use of bug tracker software such as Mantis. We might want to move to something like this in the future.

Mike asked about BUG163, which was reported by the parser developer. Bob noted that the parser developer has fixed this bug in his code, but he is waiting on the release of that code until further bugs can be looked at.

Bob summarized the new bug, BUG164. Radek Biernacki commented that there should be a warning issued, not an error. Bob noted that he thought this case is legal in IBIS 6.0. Radek noted that Usage Dep was not legal in IBIS 6.0. It was introduced in IBIS 6.1. Bob thought the 6.1 parser should continue to issue an error if Usage Dep is in an IBIS 6.0 file. After further discussion Bob determined that this was not a bug, and the bug should be classified as not a bug. After further discussion, it was determined to still be a bug. Bob moved to classify the bug as Moderate severity, Medium priority and Open status. Walter Katz seconded the motion. There were no objections.

Bob summarized BUG165. Walter commented that this is a useful check for the parser to perform. Walter moved to classify the bug as Moderate severity, Medium priority and Open status. Bob seconded the motion. There were no objections.

Bob summarized BUG166. The .ami extension required for an [Algorithmic Model] file is not checked. Walter moved to classify the bug as Moderate severity, Medium priority and Open status. Bob seconded the motion. There were no objections.

Bob summarized BUG167. Some errors are not being reported for PAM4 models with thresholds either missing or incorrect. Walter moved to classify the bug as Moderate severity, Medium priority and Open status. Bob seconded the motion. There were no objections.

Radek and Walter thanked Bob for his detailed testing of the new parser.

Mike noted that there are no cases where the parser calls a good IBIS model bad. Bob moved to release the 6.1.0 parser on the website. Walter seconded the motion. There were no objections.

Bob will send the parser source code to the parser licensees [AR]. Mike will update the bug page with the classifications of BUG164, BUG165, BUG166 and BUG167 [AR].

Bob discussed payment of the parser developer. Bob moved to ask the parser developer to send an invoice for payment. Walter seconded the motion. There were no objections.

Radek asked if we should expect an update to the parser to fix the new bugs. Bob responded that we do expect an update to address the new bugs.

**NEW TECHNICAL ISSUES**

None.

**NEXT MEETING**

The next IBIS Open Forum teleconference meeting will be held December 18, 2015. A vote is scheduled on the IBIS dues for 2016 and on BIRD179. The following IBIS Open Forum teleconference meeting will be held January 8, 2016.

Radek Biernacki moved to adjourn. Arpad Muranyi seconded the motion.

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**NOTES**

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This meeting was conducted in accordance with ANSI guidance.

All inquiries may be sent to ibis-info@freelists.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](http://www.ibis.org/%20bugs/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>

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**IBIS – SAE STANDARDS BALLOT VOTING STATUS**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Organization** | **Interest Category** | **Standards Ballot Voting Status** | **November 9, 2015** | **November 13, 2015** | **November 16, 2015** | **November 20, 2015** |
| Altera | Producer | Inactive | X | - | - | X |
| ANSYS | User | Active | - | - | X | X |
| Applied Simulation Technology | User | Inactive | - | - | - | - |
| Avago Technologies | Producer | Inactive | - | - | - | - |
| Cadence Design Systems | User | Active | X | X | X | X |
| Cisco Systems | User | Inactive | X | - | - | - |
| CST | User | Inactive | - | - | - | - |
| Ericsson | Producer | Active | X | X | X | - |
| Huawei Technologies | Producer | Inactive | X | - | - | - |
| IBM | Producer | Inactive | - | - | - | X |
| Infineon Technologies AG | Producer | Inactive | - | - | - | - |
| Intel Corp. | Producer | Inactive | - | X | - | - |
| IO Methodology | User | Active | X | X | X | X |
| Keysight Technologies | User | Active | X | X | X | X |
| Maxim Integrated Products | Producer | Inactive | - | - | - | X |
| Mentor Graphics | User | Active | - | - | X | X |
| Micron Technology | Producer | Active | - | - | X | X |
| Signal Integrity Software  | User | Active | X | X | X | X |
| Synopsys | User | Inactive | X | - | - | X |
| Teraspeed Labs | General Interest | Inactive | - | - | - | X |
| Toshiba | Producer | Inactive | - | - | X | - |
| Xilinx | Producer | Inactive | - | - | - | - |
| ZTE | User | Inactive | X | - | - | - |
| Zuken | User | Inactive | - | - | X | - |

**I/O Buffer Information Specification Committee (IBIS)**

Criteria for 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 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.