**IBIS Open Forum Minutes**

Meeting Date: **December 18, 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**

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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

Bayside Design Elliot Nahas

Canon Yuji Ishikawa, Syoji Matsumoto, Hitoshi Matsuoka

Casio Computer Co. Yasuhisa Hayashi

Celestica Sophia Feng, Lei Liu

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 Company, Institute #52

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Continental Automotive Felix Goelden, Markus Bebendorf, Sebastian Groener

 Stefanie Schatt

Cybernet Systems Shinobu Kokuatsu, Takayuki Tsuzura

Denso Corp. Osamu Seya

Digital Corp. Hiroaki Fujita

eASIC David Banas

Edadoc Bruce Wu, H. Zhang

Eizo Corp. Akinobu Nishio

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

Freescale Jon Burnett, Takahiro Sato, Koji Tsutsui

Fujitsu Advanced Technologies Shogo Fujimori, Hikoyuki Kawata

Fujitsu Interconnect Technologies Koji Akaishi, Hiromi Hayasaka, Masaki Kirinaka

 Akiko Tsukada

Fujitsu Semiconductor Hirokazu Yamazaki

Galbi Research Dave Galbi

Gigabyte Technology Eric Chien

H3C Technologies Xinyi Hu, Lingqin Kong, Haye Lee

Hamamatsu Photonics Akahiro Inoguchi

Hewlett Packard Passor Ho, Corey Huang

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Hitachi Kokusai Electric Katsuya Konno

Hitachi ULSI Systems Co. Sadahiro Nonoyama

Honeywell International Molly Xu

IB-Electronics Makoto Matsumuro

IDEMWorks Alessandro Chinea, Michelangelo Bandinu

Independent Tim Wang Lee

Instituto de Telecomunicações Wael Dghais

Integrated Device Technology Billy Chen

Jabil Design Services Lurker Li

Japan Radio Co. Takashi Sato

JVC Kenwood Corp. Hidetoshi Suzuki

KEI Systems Shinichi Maeda

Konica Minolta Hideki Nomoto

Kyocera Circuit Solutions Kiyoiko Kaiya

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

 Yuyang Wang

Mediatek Delbert Liao

Megachips Corp. Kousuke Egami

Meidensha Corp. Liew Nelson

Microchip Technology Jeffrey Chou

Missouri University of Science Albert Ruehli

 and Technology

Modech Yudai Ashi, Minoru Tanaka

Murata Manufacturing Co. Satoshi Arai

Nanya Technology Corp. Ching-Feng Chen, Chi-Wei Chen, Taco Hsieh

 Jordan Hsu, Andre Huang, Min Lun Lan

 Chih Wei Shen, Zuo Xin Ye

NEC Corp. Atsushi Kato

NEC Engineering Masahiko Kuroda

NEC Space Technologies Syuiichi Koreeda, Akiko Murakami

Nikon Corporation Manabu Matsumoto

Novatek Microelectronics Willy Lin, Frank Pai

NXP Yanbin Chen

Oki Electric Industry Co. Atsushi Kitai

Olympus Corp. Kazuhiro Sakamoto

Panasonic Corp. Naoyuki Aoki, Yoshitaka Kawaguchi, Atsushi Nakano

Panasonic Industrial Devices, Kazuki Wakabayashi

 Systems and Technology Co.

Pegatron Corp. Aje Chang, Stanley Chu, Gavin Lin

Polar Rick Cheng

Politecnico di Torino Stefano Grivet-Talocia

Qualcomm Technologies Senthil Nagarathinam, Kevin Roselle, Robin Han

 Irwin Xue

Quanta Computer Eriksson Chuang, Randy Wang

Rambus John Yan, Joohee Kim, Sujit Kumar

 Wendem Beyene

Raytheon Joseph Aday

Renesas System Design Corp. Kazunori Yamada

Ricoh Company Yasuhiro Akita, Kazumasa Aoki, Miyoko Goto

 Yuji Hara, Hiroki Ikeda, Takuya Kitsukawa

 Nobuo Nakane, Seigo Tanaka, Yoshikazu Tadokoro

 Jyunko Tanaguchi

Rohm Co. Asuma Imamura, Toshirou Okubo, Noboru Takizawa

SAE International Chris Denham, Logen Johnson

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

Tokyo Kogyo Boyeki Shokai Tadanori Kanemura

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

January 8, 2016 205 475 958 IBIS

January 22, 2016 IBIS Summit at DesignCon – no teleconference

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**

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 November 9, 2015 IBIS Open Forum Summit in Shanghai. Brad Brim moved to approve the minutes. Bob Ross seconded the motion. There were no objections. Randy called for comments regarding the minutes of the November 13, 2015 IBIS Open Forum Summit in Taipei. Brad Brim moved to approve the minutes. Bob Ross seconded the motion. There were no objections. Randy called for comments regarding the minutes of the November 16, 2015 IBIS Open Forum Summit in Tokyo. Brad Brim moved to approve the minutes. Bob Ross seconded the motion. There were no objections. Randy called for comments regarding the minutes of the November 20, 2015 IBIS Open Forum teleconference. Brad Brim moved to approve the minutes. Bob Ross seconded the motion. There were no objections.

Randy reviewed ARs from the previous meeting.

1. Bob Ross to provide a membership list to SAE of people to invoice for 2016 membership dues [AR].

Bob reported this as done. The invoices will be sent out in January.

1. Bob Ross to send parser source code to the parser licensees [AR].

Bob reported this as done.

1. Mike LaBonte to update the bug page with the classifications of BUG164, BUG165, BUG166 and BUG167 [AR].

Mike reported this as done. Bob made some updates to the documents and Mike updated the web page.

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

None.

**MEMBERSHIP STATUS AND TREASURER'S REPORT**

Bob Ross reported that the treasury stands at $63,627. This is based on payments made including to the parser developer. $10,800 of Summit payments and prepayments still need to be made. We will be getting some income from sponsorship support for DesignCon. The next cycle of membership renewal will be starting and will bring in more income. We ended the year with 24 members. Mike LaBonte asked if we will inquire about membership with more than the 24 current members. Bob noted he will ask one other company that has been a member but did not renew last year.

**WEBSITE ADMINISTRATION**

Mike LaBonte reported that the website has been mostly static. He discussed a Wiki possibility for the webpage. Mike will create an example Wiki page for some content on our webpage to review [AR].

**MAILING LIST ADMINISTRATION**

Curtis Clark reported that a couple addresses have dropped along with a couple joins. Curtis noted that with Freelists, any emails coming into the ibis-info account must be seen by a moderator and are not automatically forwarded to an email account. Mike LaBonte was the only moderator and did not see a recent email that came in. This has been fixed to have more than one person as moderator. Mike noted he is updating the website to use info@ibis.org now that he has found ways of filtering spam in the ibis.org inbox. Bob Ross asked if the ibis-info@freelists.org email will be discontinued. Mike responded that it will remain active and is useful for testing settings.

**LIBRARY UPDATE**

No update.

**INTERNATIONAL/EXTERNAL ACTIVITIES**

- Conferences

None.

- Press Update

None.

**SUMMIT PLANNING AND STATUS**

- DesignCon 2016 IBIS Summit

DesignCon will be held January 19-21, 2016. Friday, January 22, 2016 is scheduled for the Summit meeting. Mike LaBonte noted this is the day after DesignCon ends. We are supposed to put a banner and link onto our web page, but those have not been supplied by UBM yet. One of the upcoming UBM newsletters is supposed to mention IBIS, and Mike is working with UBM on this. Mike mentioned there is room for more presentations. Bob Ross noted he has penciled in about 25 attendees and 8 presentations so far. The next announcement should go out today. Lance Wang reported that he has 30 people registered so far. Keysight is a sponsor.

- 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. Bob noted that we still need to arrange for payment for the room.

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 remains focused on IBISCHK issues. There has been discussion about a presentation from Xilinx and Cisco on IBIS correlation being discussed in the task group. This may happen after the presentation is given at the DesignCon Summit.

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

<http://www.ibis.org/ibischk6/old_v601/ibischk_6.0.1_UserGuide_wip2.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. The next meeting is January 5, 2016. The main topic being discussed is the cleanup of the ground language in the specification. The discussion is technical in nature for now, and it was decided to keep the discussion in the ATM task group. The work may transfer to the Editorial task group at some point. Michael Mirmak asked about discussion of the redriver BIRD. Arpad noted that there has been some offline discussion, and we are waiting on Fangyi Rao to provide some feedback after the holidays. The backchannel proposal is waiting for Cadence to provide an update. Arpad noted that other ideas on the backchannel proposal are welcome.

Task group material can be found at:

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

**INTERCONNECT TASK GROUP**

Michael Mirmak reported that the group is meeting on Wednesdays at 8:00 a.m. PT. The next meeting is January 6, 2016. The group most recently reviewed draft 27 of the Interconnect BIRD. A draft 28 is in progress. There is one technical issue to resolve involving bus\_labels. There are two proposals being looked at.

Task group material can be found at:

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

**NEW ADMINISTRATIVE ISSUES**

- Scheduled vote to establish dues for 2016 membership

Bob Ross moved to keep the dues at $900 for 2016. Radek Biernacki seconded the motion. Michael Mirmak asked if SAE had any plans to charge IBIS. Mike LaBonte responded that this has not been discussed yet. So far SAE seems satisfied with the money we are bringing into our account.

The vote passed with the following vote tally:

Altera – yes

ANSYS – yes

Cadence – yes

Intel – yes

IO Methodology – yes

Keysight – yes

Mentor – yes

Micron – yes

SiSoft – yes

Teraspeed Labs – yes

- Second revision of IBIS Policies and Procedures

Mike LaBonte noted that the draft Policies and Procedures update is on the website for review. He plans to review the document in more detail at the next teleconference meeting. He will be making an update to the section documenting the spending limit requiring a roll call vote of members for approval. The document can be found at:

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

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

Arpad Muranyi noted there have been no recent comments or discussion on the BIRD.

Arpad moved to accept BIRD179. Randy Wolff seconded the motion.

The vote passed with the following vote tally:

Altera – abstain

ANSYS – yes

Cadence – yes

IBM – yes

Intel – abstain

IO Methodology – yes

Keysight – yes

Mentor – yes

Micron – yes

SiSoft – yes

Teraspeed Labs – yes

Mike LaBonte will change the status of the BIRD online [AR].

**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 Ross introduced BUG168. IBISCHK6 adds checks on package model RLC matrices. Some models started failing the new checks for the capacitance matrix due to numerical precision issues. A tolerance will be introduced to the on-diagonal capacitance value when comparing to the sum of the off-diagonal capacitances. Other issues were found in checking the resistance and inductance matrices, so the proposed solution is to disable the error reporting for the diagonal dominance checks on these matrices. Radek Biernacki commented that some of these checks go beyond the scope of the parser, and he didn’t think they should issue errors for the checks. Randy Wolff asked about the purpose of a caution message. Bob noted that cautions only show up with the –caution flag. A warning or note is needed for visibility in most cases. The resolution will be noted as issuing a warning when the checks are violated for the inductance and resistance matrices. An error will be issued for the capacitance matrix check when the check result is outside of the tolerance. The message printout also needs added digits. The bug will be classified as Severe severity, High priority and Open status.

Bob introduced BUG169. The parser is not issuing an error message for off-diagonal capacitance values in the package model that are positive. The bug was classified as Moderate severity, Medium priority and Open status.

Mike LaBonte introduced BUG170. This bug only affects those with the parser source code. A code fix was suggested as well in the report. The bug was classified as Moderate severity, Low priority and Open status.

Bob Ross introduced BUG171. The parser issues a warning for IBIS version 6.0 models that include an I/O model and the Executable subparameter. This prohibition started in IBIS 6.1. Radek stated that he thought IBIS 6.0 and earlier models should not be checked for this. Bob thought that this statement needs to be added in the specification. Mike noted that the file could be modified to change I/O to Input or Output. Bob noted this issue doesn’t make a file upwards compatible, so changes to the file would be needed to have separate Rx and Tx models. The bug will be classified as Severe severity, High priority and Open status.

Bob reported that the developer is ready to make a release next week. He has been notified about BUG168 and BUG169, but small changes will be needed to the tolerance value. We need to ask for inclusion of BUG170 and BUG171 fixes. The next release should then fix bugs 163-171.

Bob will update the status of all bugs on the webpage [AR].

**NEW TECHNICAL ISSUES**

None.

**NEXT MEETING**

The next IBIS Open Forum teleconference meeting will be held January 8, 2016. The following IBIS Open Forum teleconference meeting will be held February 5, 2016. The IBIS Summit at DesignCon will be held January 22, 2016. No teleconference will be available for the Summit meeting.

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**NOTES**

IBIS CHAIR: Mike LaBonte

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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 13, 2015** | **November 16, 2015** | **November 20, 2015** | **December 18, 2015** |
| Altera | Producer | Active | - | - | X | X |
| ANSYS | User | Active | - | X | X | X |
| Applied Simulation Technology | User | Inactive | - | - | - | - |
| Avago Technologies | Producer | Inactive | - | - | - | - |
| Cadence Design Systems | User | Active | X | X | X | X |
| Cisco Systems | User | Inactive | - | - | - | - |
| CST | User | Inactive | - | - | - | - |
| Ericsson | Producer | Inactive | X | X | - | - |
| Huawei Technologies | Producer | Inactive | - | - | - | - |
| IBM | Producer | Active | - | - | X | X |
| Infineon Technologies AG | Producer | Inactive | - | - | - | - |
| Intel Corp. | Producer | Inactive | X | - | - | 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 | X |
| Micron Technology | Producer | Active | - | X | X | X |
| Signal Integrity Software  | User | Active | X | X | X | X |
| Synopsys | User | Inactive | - | - | X | - |
| Teraspeed Labs | General Interest | Active | - | - | X | X |
| Toshiba | Producer | Inactive | - | X | - | - |
| Xilinx | Producer | Inactive | - | - | - | - |
| ZTE | User | Inactive | - | - | - | - |
| 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.