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

Abeism Corporation	Noboyuki Kiyota
Advanced Semiconductor Engineering	Jane Yan
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
Chinese Electronics Technology Company, Institute #52	Shujun Wei
Ciena	Kaisheng Hu
Compal Electronics	Rick Wu, Ian Yu
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
Himax Technologies	Renee Li, Josh Wu
Hitachi Information & Communication Engineering	Yoshifumi Takada
Hitachi	Yasuo Yahagi
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 and Technology	Albert Ruehli
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, Systems and Technology Co.	Kazuki Wakabayashi
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 Technology	Peter Sun, Leo Yi
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 Hamburg-Harburg	Jan Preibisch
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.

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.
2. Bob Ross to send parser source code to the parser licensees [AR].
   Bob reported this as done.
3. 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.

==

NOTES

IBIS CHAIR: Mike LaBonte
mlabonte@sisoft.com
IBIS-AMI Modeling Specialist, Signal Integrity Software
6 Clock Tower Place, Suite 250
Maynard, MA 01754

VICE CHAIR: Lance Wang (978) 633-3388
lwang@iometh.com
President/CEO, IO Methodology, Inc.
PO Box 2099
Acton, MA 01720

SECRETARY: Randy Wolff (208) 363-1764
rrwolff@micron.com
Principal Engineer, Silicon SI Group Lead, Micron Technology, Inc.
8000 S. Federal Way
P.O. Box 6, Mail Stop: 01-711
Boise, ID 83707-0006

TREASURER: Bob Ross (503) 246-8048
bob@teraspeedlabs.com
Engineer, Teraspeed Labs
10238 SW Lancaster Road
Portland, OR 97219

LIBRARIAN: Anders Ekholm (46) 10 714 27 58, Fax: (46) 8 757 23 40
ibis-librarian@ibis.org
Digital Modules Design, PDU Base Stations, Ericsson AB
BU Network
Färögatan 6
164 80 Stockholm, Sweden

WEBMASTER: Mike LaBonte
mlabonte@sisoft.com
IBIS-AMI Modeling Specialist, Signal Integrity Software
6 Clock Tower Place, Suite 250
Maynard, MA 01754

POSTMASTER: Curtis Clark
curtis.clark@ansys.com
ANSYS, Inc.
150 Baker Ave Ext
Concord, MA 01742

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

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

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.