

# **IBIS Open Forum Minutes**

Meeting Date: December 5, 2014 Meeting Location: Teleconference

#### **VOTING MEMBERS AND 2014 PARTICIPANTS**

David Banas, Kundan Chand, Hsinho Wu Altera

**ANSYS** Lan Chen, Minggang Hou, Jianbo Liu, Peng Wang

Shulong Wu, Guoli Yin, Jizhi Zhao, Tommy Chien

Elly Dong, Milkman Hsuan, Winny Huang Stanley Hangwei Kuo, James Wang

Jean Yacchin Wang, Jerry Wang, Benson Peishen Wei Jack Wu, Tinghao Yeh, Tohru Watanabe, Shigeru Sano

Curtis Clark\*

Applied Simulation Technology

Fred Balistreri, Norio Matsui

Cadence Design Systems Ambrish Varma, Brad Brim\*, Joy Li, Kumar Keshavan

> Ken Willis, Yingxin Sun, Joshua Luo, John Phillips Aileen Chen, Lanbing Chen, Zhiyu Guo, Jinsong Hu

Rachel Li, Lavia Liu, Ping Liu, Yubao Meng Feng Miao, Zuli Qin, Haisan Wang, Hui Wang

Yitong Wen, Clark Wu, Benny Yan Rong Zhang, Wenjian Zhang, Alex Zhao

Zhangmin Zhong, Kent Ho, Thunder Lay, Skipper Liang

Paddy Wu, Candy Yu, Ian Yu, Ikuo Masuko

Morihiro Nakazato

Ericsson Anders Ekholm, Zilwan Mahmod, Feng Shi

Wenyan Xei

Huawei Technologies Jinjun Li, Xiaoging Dong, Zanglin Yuan, Han Li

> Haiping Cao, Yu Chen, Peng Huang, Hongxing Jiang Xueping Jiao, Aojie Li, Xusheng Liu, Zipeng Luo Longfang Lv, Luya Ma, Xiao Peng, Wenju Sheng Jianhua Wang, Shengli Wang, Huichao Weng

Zhengrong Xu, Gezi Zhang, Zhenyi Zhu

Infineon Technologies AG (Christian Sporrer)

Michael Mirmak\*, Jon Powell, Riaz Naseer **Intel Corporation** 

> Udy Shrivastava, Mustafa Yousuf, Jimmy Jackson Pietro Brenner, Todd Bermensolo, Denis Chen Jimmy Hsu, Cucumber Lin, Jeff Loyer, Thomas Su

Lance Wang\*, Michelle Coombs IO Methodology

**Keysight Technologies (Agilent)** Radek Biernacki\*, Nilesh Kamdar, Colin Warwick

> Graham Riley, Pegah Alavi, Fangyi Rao Heidi Barnes, Dimitrios Drogoudis, Tao Zhang

Xianzhao Zhao

LSI (Avago) Xingdong Dai, Min Huang, Anaam Ansari, Brian Burdick

Venkatesh Avula

Maxim Integrated Products Hassan Rafat

Mentor Graphics Arpad Muranyi\*, John Angulo, Fadi Deek, Chuck Ferry

Thomas Groebli, Larry Shi, Kenji Kushima

Kazuhiro Kadota

Micron Technology Randy Wolff\*

Micron Akita Katsunobu Noguchi

Micron Memory Japan Fumiyuki Osanai, Hiromasa Takeda

Qualcomm Jaimeen Shah, Srinivasa Rao, Senthil Nagarathinam

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

Michael Steinberger

Synopsys Ted Mido\*, Scott Wedge, Kevin Cameron, Rita Horner

Xuefeng Chen, Jinghua Huang, Lianpeng Sang

Deng Shi

Teraspeed Labs Bob Ross\*, Tom Dagostino, Scott McMorrow

(Teraspeed Consulting Group)

Toshiba Hiroyuki Ikegami, Toshihiro Tsujimura, Hideo Oie\*

Masato Kanie, Atsushi Tomishima

Yasuki Torigoshi

Toshiba Information Systems Yasuyuki Inaba, Mari Kuroki

Toshiba Microelectronics Jyunya Masumi

Toshiba Semiconductor & Storage Toru Amamoto, Yoshinori Fukuba, Shinya Harada

Yasunobu Umemoto

Xilinx Ravindra Gali

ZTE Corporation Fengling Gao, Lili Wei, Zhongmin Wei

Changgang Yin, Shunlin Zhu

Zuken Michael Schaeder, Amir Wallrabenstein, Griff Derryberry

Reinhard Remmert, Kiyohisa Hasegawa

#### **OTHER PARTICIPANTS IN 2014**

3M Shiang Yao
Advanet Kohji Tomita
Advantest Corporation Yasutaka Aoki

ADVLSI Pierre Dermy, Juanna Gao

AET Chihiro Ueda Alcatel-Lucent Yishan Li AMD Tadashi Arai

Amlogic Jiaxing Ye, Weiguo Zhu Apollo Giken Co. Naoya Iisaka, Satoshi Endo

Avant Technology Jiaying Sun, Jyam Huang, Chloe Yang

Azuma Co. Teruaki Hirose

Canon Yuji Ishikawa, Kenta Koshida, Syoji Matsumoto

Takeshi Nagata

Carleton University Ramachandra Achar

Casio Computer Yasuhisa Hayashi, Ikuo Imada

Celestica Lei Liu, Xu Yan
Chinese Academy of Engineering Anju Tan, Liang Yin

Physics (CAEP), Institute of

Electronic Engineering (5th Institute)

Cisco Systems Hongxian Yin Continental Automotive Catalin Negrea **CST** Stefan Paret Shinobu Koakutsu Cybernet Systems Design Methodology Lab Motoh Tanaka **ECL** Advantage Thomas Iddings **EMC** Corporation Sherman Chen Hiroshi Sakai Flatoak Co.

Freescale Semiconductor Asher Berkovitz, Takahiro Sato

Fujitsu Advanced Technologies Shogo Fujimori, Kazuhiro Kanai, Kumiko Teramae

Hidenobu Shiihara

Fujitsu Interconnect Technologies Syunsuke Fujisawa

Fujitsu Laboratories Toshiki Iwai
Fujitsu Limited Kohichi Yoshimi
Fujitsu Microelectronics Solutions Yutaka Ide

Fujitsu Semiconductor Jyunko Nakamoto, Yu Kamata, Fumiyo Kawafuji Fujitsu VLSI Hiroki Kubota, Yuji Nakagawa, Hajime Ohmi

Fuji Xerox Advanced Technology Ryota Seki, Satoshi Kodama

Fuji Xerox Manufacturing Rumi Maeda Fuzhou Rockchip Electronics Xinjun Wang

Gigabyte Technology Eric Chien, Mountain Lin, Alex Lu

Giga Hertz Technology Chisato Kawamura H3C Xinyi Hu, Xiaoqun Li Hamamatsu Photonics K.K. Akahiro Inoguchi

Hangzhou Hikvision Digital Wenquan Hu, Jia Zhang

Technology

Hewlett Packard Ting Zhu

Himax Technologies Brian Kuo, Ren-Yu Wang, Josh Wu

Hisense Group Golden Qian
Hitachi Information & Yoshifumi Takada

Communication Engineering

Hitachi ULSI Systems Co. Hiroshi Uematsu, Sadahiro Nonoyama

Hoei Co. Tatsuya Chiba Hong Kong University Lijun Jiang

Hon-Hai Precision (Foxconn) Ryan Lung-Yu Hou, Daniel Ying-Tso Lai

Chris Chia-Nan Pai

IBM Adge Hawes
ILI Technology Corp. Chia-Cheng Wu
Innotech Corporation Sinobu Seki
Instituto de Telecomunicações Wael Dghais
Japan Radio Co. Hiroto Katakura

JEITA Yousuke Kanamaru, Ryosuke Miyagawa

Akahito Nagamoto, Kyouji Yamazaki

JONHON Guoqi Zhou

JVC Kenwood Corporation Hidetoshi Suzuki

KEI Systems Shinichi Maeda

KSK Co. Yutaka Shishido

Lapis Semiconductor Katsuhiro Hisaka

Lattice Semiconductor Xu Jiang

Lenovo John Lin, Alan Sun LUXSHARE-ICT Jet Shen, Chenhui Zeng

Macronix Microelectronics Donghe Tang

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

Yuyang Wang, Liang Wu

MD Systems Hidetoshi Ogawa Mediatek Alice Lin, Delbert Liao Megachips Corp. Kenichiro Kobayashi

Mellanok Technologies Piers Dawe

Microsemi Nizar Abdallah, Ann Lau

Modech Yasuo Kawahara, Masanori Shimasue, Minoru Tanaka

Montage Technology Xiaoliang Xu

Murata Manufacturing Satoshi Arai, Naoki Iida, Kingo Kurotani

Nanium Abel Janeiro

Nanya Technology Corp. Chi-Wei Chen, Aiden Hsu, Tingshuo Hsu, Andre Huang

Raphael Huang, Tian-De Huang, Zuo Xin

NEC Corp. Yasuyuki Chiba NEC Engineering Masahiko Kuroda

Nikon Corporation Kazuomi Tominaga, Manabu Matsumoto

Olympus Corp. Kazuhiro Sakamoto Oracle Stephan Mueller

Panasonic Semiconductor Daisuke Matsuoka, Masaya Sumita

Solutions Co.

Pangeya Edgar Aguirre

Pegatron Corp. Lance Chang, Stanley Chu, Gavin Lin

Pioneer Corp. Kenji Sakamoto
Pioneer Micro Technology Corp. Minoru Nakahara
Private Seijyu Ichijyo
Proficient Design Kishor Patel

Renesas Electronics Genichi Tanaka, Masayasu Koumyo, Ryuichi Oikawa

Kenzo Tan, Hiroyuki Uchida

Renesas System Design Corp. Kazunori Yamada

Ricoh Company Yasuhiro Akita, Kazumasa Aoki, Masahiko Banno

Miyoko Goto, Takefumi Takizawa

Rockchip Jiayi Song

Rohm Co. Noboru Takizawa SAE International Chris Denham

Sanei Hytechs Co.
Seiko Instruments
Shimadzu Corp.
Sony LSI Design
Success International Corporation
Hiroyuki Kai
Masaya Murata
Kazuo Nakajima
Satoshi Tago
Tatsuo Futai

Sunplus Technology Forest Hsu, Yi-Tzeng Lin

Tabula Ben Zhou

Technische Universität Hamburg Torsten Reuschel

Teledyne LeCroy Larry Cao, Derek Hu, Joyce Yin

Towa Electronics Yoshikazu Suzuki University of Illinois José Schutt-Ainé

VIA Terence Hsieh, Justin Hsu

Via CPU Leon Liang Vitesse Siris Tsang

Wadow Kazuhiko Kusunoki

Winbond Electronics Albert Lee

Wiwynn Corp. Scott CH Lee, Kevin TK Wang

Xpeedic Technology Wenliang Dia, Feng Ling, Zhouxiang Su

Yamanashi Avionics Co. Yasunori Yamashita Zhejiang Uniview Technologies Fei Ye, Feng Ye

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 9, 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

Michael Mirmak declared that a quorum was reached and the meeting could begin.

Curtis Clark introduced himself. He works on SI products and support for traditional IBIS and AMI models at ANSYS. He has attended IBIS ATM task group meetings for several years and has worked on BIRDs and BUGs.

#### **CALL FOR PATENTS**

Michael Mirmak called for any patents or pending patents related to the IBIS 3.2, IBIS 4.2, IBIS 5.1, IBIS 6.0, 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 24, 2014 IBIS Open Forum teleconference. The minutes were approved without changes. He then called for comments regarding the minutes of the November 14, 2014 Asian IBIS Summit in Shanghai. The minutes were approved without changes. He then called for comments regarding the minutes of the November 17, 2014 Asian IBIS Summit in Taipei. The minutes were approved without changes.

#### **ANNOUNCEMENTS**

None.

# **CALL FOR ADDITIONAL AGENDA ITEMS**

Bob Ross requested time to discuss social media.

## MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported no change in membership with 22 paid members. The treasury sits at \$41,185. The growth is due to Asian Summit expenses for China being paid from the account Lance Wang holds instead of from SAE. \$21,600 is the accumulation of dues, \$5,400 is from parser sales and \$14,185 is from Summit accumulation. We are still waiting on the Taipei Summit hotel balance from Michael Mirmak. Bob is also working on parser license issues holding up some potential parser payments. He noted that he does not know how we settle with SAE for any yearly dues. Michael asked if SAE is expecting the same payment required from TechAmerica. Bob responded that Chris Denham of SAE has not given a specific assessment.

## WEB PAGE AND MAILING LIST ADMINISTRATION

Mike LaBonte reported that he has a standing item to investigate what platform we might

migrate our web pages to. He has had some conversations with SAE. We actually have a web page at SAE, but it only offers a few basic things such as the ability to upload documents. We will have to look elsewhere for a more professional website platform.

Some people in Asia at the Summits commented that they would like more use of social media for IBIS. Michael Mirmak said that the assumption that email and the web as the primary source for IBIS announcements and discussions are not enough. Using social media for events announcements and real time discussion of issues was thought to be better. Michael noted that we'd need to support several social media platforms to be effective worldwide. Mike has looked into services such as LinkedIn, Sina Weibo, Twitter, WhatsApp and others. Our current emails would need to be posted as web pages with links posted to social media. Lance Wang reported that he heard in Asia that a lot of engineers use mobile platforms and use social media for announcements. Email in China, even from freelists usually goes into junk folders in company email filters. Social media could be used a lot for meeting announcements, BIRDs, officer voting, etc. This could be more effective for Asia. Which social media platform to pick is another discussion.

Mike reported that a yahoo-based email sent to the IBIS list did not go to about 10% of the list recipients. Mike has looked into freelists services for our IBIS emails. Our task groups already use freelists. Also, freelists allows messages to get manually cross-posted to social media sites.

#### LIBRARY UPDATE

No update.

# INTERNATIONAL/EXTERNAL ACTIVITIES

- Conferences

Michael Mirmak mentioned the China Semiconductor Industry Association ICCAD conference in Hong Kong December 11-12. The EDA Center of the Chinese Academy of Sciences is involved in the conference and has a lot of EDA and IBIS info on its website. More information is available at:

http://www.cicmag.com/bbx/856303-856303.html http://www.eda.ac.cn/

- Press Update None.

## **ORGANIZATIONAL ACTIVITIES**

Bob Ross noted we need to decide on our dues for next year. Bob moved to keep the dues at \$900 for 2015. This is for membership only and does not include a parser license. Radek Biernacki seconded the motion. There were no objections.

Michael Mirmak noted that our current charter goes back about 20 years. There has been work

by the board to turn the charter into an updated policies and procedures document. A major change is to allow online voting for officers' elections. Some details are still being worked out. A vote to change the charter will be difficult to hold since it requires significant member company participation, but it should happen early next year. Bob requested that the officers meet soon to finalize the proposed charter changes.

#### **SUMMIT PLANNING AND STATUS**

#### - Asian IBIS Summit Reports

Michael Mirmak thanked Lance Wang, Bob Ross and Anders Ekholm for their help organizing and running the events. Bob noted that the Shanghai Summit had 11 presentations and 98 people, the Taipei Summit had 8 presentations and 59 attendees, and the Yokohama Summit had 9 presentations and 111 people attending. Bob thanked the sponsors again. Lance commented that Yokohama was only a half day Summit but had 9 presentations. Lance added that Lanbing Chen noted at the Shanghai Summit that we have a vendor neutral presentations requirement, but Lanbing asked if we could allow presentations of test cases that had more vendor-specific content. This would be more like DesignCon. Bob noted that this could be useful for attendees, but we need to see if it is allowed by SAE rules. He had concerns about vendors becoming too competitive with their presentations. Michael asked Bob to take an AR to see what is allowed by SAE rules. Arpad Muranyi wondered if this could lead to inclusion of vendor-specific language in the IBIS specification, such as HSPICE compatibility in the [External Model]. Michael asked if there were any discussions in the ATM task group about a BSS element. Arpad noted that this hasn't been discussed in awhile. Michael asked Lance to take an AR to find out about preferences for including vendor material such as having breakout sessions or a second day of a Summit to cover vendor specific material.

# - DesignCon Planning

Michael reported that an IBIS Summit is tentatively scheduled for Friday, January 30, 2015. Colocation with DesignCon is not currently finalized. Arpad asked if Monday could be a possibility, since late Friday travel is difficult for East Coast attendees. Michael responded that DesignCon would not be running on Monday. Tuesday would conflict with tutorials. Bob moved to schedule the Summit for Friday, January 30, 2015. Brad Brim seconded the motion. There were no objections.

#### - DAC Summit and Poll

Bob noted there was a question of whether or not to hold a Summit at DAC. He sent out a poll. It had limited response but showed there was little interest in a Summit at DAC. DAC located in San Francisco is also not convenient for the San Jose community. Bob moved to not hold a Summit at DAC in 2015. Mike LaBonte seconded the motion. There were no objections.

#### - EPEPS Summit

Bob sent out a poll in the last week to see if there was any interest in holding a Summit at EPEPS in 2015. He noted that several IBIS participants attended EPEPS in 2014. IBIS was specifically invited to attend and hold a Summit in 2015. Lance Wang noted that the date at the end of October is too close to the Asian IBIS Summits, so that might limit attendance from those traveling to Asia.

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. They are continuing to look at IBISCHK issues. Work on documenting the IBISCHK6 messages continues.

The work in progress can be reviewed at:

http://www.eda.org/ibis/ibischk6/ibischk 6.0.0 UserGuide wip1.pdf

The Quality Task Group checklist and other documentation can be found at:

http://www.eda.org/ibis/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 last meeting for this year is on December 9. Enhancement to the C\_comp model is the main discussion topic. Next Tuesday the group will resume discussion of backchannel modeling with a presentation from SiSoft on industry needs.

Task group material can be found at:

http://www.eda.org/ibis/macromodel\_wip/

# **INTERCONNECT TASK GROUP**

Michael Mirmak reported that the group is also discussing C\_comp enhanced modeling and looking at boundaries of buffers, on-die interconnect and packages. The group is meeting regularly on Wednesdays at 8:00 a.m. PT.

Task group material can be found at:

http://www.eda.org/ibis/interconnect\_wip/

## **NEW ADMINISTRATIVE ISSUES**

None.

# **BIRD174: QUOTE CHARACTER CLARIFICATIONS**

Arpad Muranyi introduced the BIRD. It is a clarification of the use of quote characters in IBIS. This BIRD clearly states that only the baseline ASCII character set is allowed, so this will specifically prohibit certain double quote characters. Radek Biernacki thought that the parser checked for this already, so this clarification would follow the parser. Radek noted that the

Editorial task group will need to make sure all examples in the specification are consistent with this BIRD requirement. Bob Ross responded to a question Arpad posed in the BIRD that, yes, file extensions are fixed in IBIS. He noted that file extensions are mentioned specifically in the BIRD, so that list may need to be updated in the future. Radek noted that the sentence could be changed to not include a specific list of IBIS file types to be more generic. Arpad thought that taking the list out from this part of the text may not help much in terms of not having to update the list when new file types are added, since it would have to be defined at least once somewhere in the specification.

Bob moved to schedule a vote on a modified BID174.1 at the next IBIS Open Forum meeting. Radek Biernacki seconded the motion. There were no objections.

Ted Mido noted that use of the back-quote `character is troublesome and suggested that Arpad check for use of this.

# 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.

# **BIRD157: PARAMETERIZE [DRIVER SCHEDULE]**

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 reported that IBISCHK 6.0.1 was released and the executables are available on the IBIS website. BUG155 was not fixed in this release although the fix was requested.

## **NEW TECHNICAL ISSUES**

None.

## **NEXT MEETING**

The next IBIS Open Forum teleconference meeting will be held January 9, 2015. The DesignCon IBIS Summit will be held January 30, 2015. No teleconferences will be available for the Summit meeting. The following IBIS Open Forum teleconference meeting will be held February 6, 2015.

Mike LaBonte moved to adjourn. Brad Brim seconded the motion. There were no objections.

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#### **NOTES**

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This meeting was conducted in accordance with ANSI guidance.

The following e-mail addresses are used:

## majordomo@eda.org

In the body, for the IBIS Open Forum Reflector: subscribe ibis <your e-mail address>

In the body, for the IBIS Users' Group Reflector: subscribe ibis-users <your e-mail address>

Help and other commands: help

ibis-request@eda.org

To join, change, or drop from either or both: IBIS Open Forum Reflector (<a href="mailto:ibis@eda.org">ibis@eda.org</a>) IBIS Users' Group Reflector (<a href="mailto:ibis-users@eda.org">ibis-users@eda.org</a>) State your request.

## ibis-info@eda.org

To obtain general information about IBIS, to ask specific questions for individual response, and to inquire about joining the IBIS Open Forum as a full Member.

# ibis@eda.org

To send a message to the general IBIS Open Forum Reflector. This is used mostly for IBIS Standardization business and future IBIS technical enhancements. Job posting information is not permitted.

#### ibis-users@eda.org

To send a message to the IBIS Users' Group Reflector. This is used mostly for IBIS clarification, current modeling issues, and general user concerns. Job posting information is not permitted.

#### ibis-bug@eda.org

To report ibischk parser BUGs as well as tschk2 parser BUGs. The BUG Report Form for ibischk resides along with reported BUGs at:

http://www.eda.org/ibis/bugs/ibischk/ http://www.eda.org/ibis/bugs/ibischk/bugform.txt

The BUG Report Form for tschk2 resides along with reported BUGs at:

http://www.eda.org/ibis/tschk\_bugs/ http://www.eda.org/ibis/tschk\_bugs/bugform.txt

#### icm-bug@eda.org

To report icmchk1 parser BUGs. The BUG Report Form resides along with reported BUGs at:

http://www.eda.org/ibis/icm\_bugs/ http://www.eda.org/ibis/icm\_bugs/icm\_bugform.txt

To report s2ibis, s2ibis2 and s2iplt bugs, use the Bug Report Forms which reside at:

http://www.eda.org/ibis/bugs/s2ibis/bugs2i.txt http://www.eda.org/ibis/bugs/s2ibis2/bugs2i2.txt http://www.eda.org/ibis/bugs/s2iplt/bugsplt.txt

Information on IBIS technical contents, IBIS participants and actual IBIS models are available on the IBIS Home page:

# http://www.eda.org/ibis

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

http://www.eda.org/ibis/directory.html

Other trademarks, brands and names are the property of their respective owners.

**IBIS - SAE STANDARDS BALLOT VOTING STATUS** 

Organization	Interest Category	Standards Ballot Voting Status	November 14, 2014	November 17, 2014	November 20, 2014	December 5, 2014
Altera	Producer	Inactive	14, 2014	17, 2014	20, 2014	5, 2014
ANSYS	User	Active	X	X	X	X
Applied Simulation Technology	User	Inactive	^	^	^	^
	User	Active	X	X	X	X
Cadence Design Systems		Active		X	X	^
Ericsson	Producer		X	Χ	X	-
Huawei Technologies	Producer	Inactive	X	-	-	-
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Inactive	-	X	-	X
IO Methodology	User	Active	-	Χ	Χ	Χ
Keysight Technologies (Agilent)	User	Inactive	X	-	-	X
LSI (Avago)	Producer	Inactive	-	-	-	-
Maxim Integrated Products	Producer	Inactive	-	-	-	-
Mentor Graphics	User	Active	X	-	Χ	Χ
Micron Technology	Producer	Active	-	-	Χ	Χ
Qualcomm	Producer	Inactive	-	-	-	-
Signal Integrity Software	User	Inactive	-	-	-	Χ
Synopsys	User	Inactive	Χ	-	-	Χ
Teraspeed Labs	General Interest	Inactive	-	-	-	X
Toshiba	Producer	Active	-	-	Χ	Χ
Xilinx	Producer	Inactive	-	-	-	_
ZTE	User	Inactive	Χ	-	-	_
Zuken	User	Inactive	-	-	Χ	-

# 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.