# **IBIS Open Forum Minutes**

Meeting Date: **November 19, 2010** Meeting Location: **Teleconference** 

#### **VOTING MEMBERS AND 2010 PARTICIPANTS**

Radek Biernacki\*, Ming Yan, Fangyi Rao, Gilbert Berger, Agilent Amolak Badeasa, Jose Pino, Junaid Khan, Charles Lu, Xuliang Yuan, Ming-Chih Lin, David Huang, Avery Chung AMD Nam Nguyen, Tadashi Arai Danil Kirsanov, Baolong Li Ansys (Ansoft Corporation) Apple Computer (Matt Herndon) Applied Simulation Technology (Fred Balistreri) ARM (Nirav Patel) Terry Jernberg\*, Wenliang Dai, Ambrish Varma Cadence Design Systems Shisheng Wu, Lanbing Chen, Daisy Cheung, Fang Li, Sammi (Rong) Fu, William Fu, Weichun Ke, Ciron Wu, Jun Wu, Thunder Lay, Yukio Masuko **Cisco Systems** Syed Huq\*, Mike LaBonte\*, Tony Penaloza, Huyen Pham, Bill Chen, Ravindra Gali, Zhiping Yang Ericsson Anders Ekholm, Pete Tomaszewski Jon Burnett, Om Mandhana Freescale **Green Streak Programs** Lynne Green Hitachi ULSI Systems Yutaka Uematsu, Sadahiro Nonoyama Jinjun Li, Zhenghua Yuan, Wencuan Gong, Jun Li, Huawei Technologies Zhipeng Luo, Dunxiong Song, Xiaoqing Dong, Chuyao Liu, Xinhao Bai, Yinwei Yan, Xinyun Lao, Gang Li, Gang Zhu, Zhang Li IBM Adge Hawes\*, Greg Edlund\*, Hawk Lin, Kelvin Huang Infineon Technologies AG Christian Sporrer Intel Corporation Michael Mirmak\*, Myoung (Joon) Choi, Vishram Pandit, Richard Mellitz, Tommy Cheung, Jinsong Hu, Yuanming Li, Kevin Bavarm, Sylva Chen, Ruey-Wen Chien, Aaron W. Chiu, Jimmy Hsu, Lawrence Lo, Thomas (Yi-Ren) Su, Morgan Tseng, Keuweeh Tung, Haritha Yalavarthi Lance Wang\* IO Methodology LSI **Brian Burdick\*** Mentor Graphics Arpad Muranyi\*, Neil Fernandes, Zhen Mu, Jack Yang, Sophia Yang Randv Wolff\* Micron Technology Nokia Siemens Networks GmbH Eckhard Lenski\* Samtec (Corey Kimble) Signal Integrity Software Walter Katz\*, Mike Steinberger, Todd Westerhoff,

	Barry Katz
Sigrity	Brad Brim, Kumar Keshavan, Srdjan Djordjevic,
	Ben Franklin, Zhangmin Zhong, Raymond Y. Chen,
	Xianfeng Li, Haisan Wang, Polin Chi, Jack Lin,
	Joshua Luo
Synopsys	Ted Mido, Paul Lo, Geoffrey Ying, Frank Lee,
	Xuefeng Chen, Deng Shi
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino
Texas Instruments	Bonnie Baker, Alfred Chong*, Casey Morrison*,
	Srikanth Sundaram*
Toshiba	Yoshihiro Hamaji, Yasutaka Oodake, Yasuki Torigoshi,
(Toshiba I.S. Corp.)	Atsuko Baba
Xilinx	Mike Jenkins
ZTE	Jian Pang, Ping Wang, Shunlin Zhu,
	Zhiwei Yang, Jinku Guan, Wei Jia, Nan Jian,
	Guanghui Li, Xian Lu, Yingxin Wang, Bi Yi,
	Wei Zhou, Shunlin Zhu
Zuken	Michael Schaeder, Ralf Bruening, Hirohiko Matsuzawa,
(ZSAS)	Yuichi Nakajima, Seikou Go

### **OTHER PARTICIPANTS IN 2010**

Actel Acon (Advanced Connectek) Advantech AET, Inc. Ali Corp. Altek Corp. Altera **Apache Design Solutions** ASE Group **ASUSTek Computer** ATE Service Corporation Avago Avant Technology **Bosch Car Multimedia** Broadcom Canon CeraMicro Technology Chang-Gung University China Fastprint Curtiss-Wright Cybernet Systems

**Delta Network** 

(Prabhu Mohan) Norman Wu Josh Lin Mikio Kiyono Alifor Chen, Ping-Ying Kang, Yigong Lu Randy Hsiao, Collin Tseng John Oh, Hui Fu Shulong Wu Marco Cheng, AlexCC Wang, Paddy Wu David Chou, Yu-Ching Liao, Vincent Lu Yutaka Honda, Kevin Iida, Hiroyuki Itabashi Razi Kaw Megy Wang, Raymond Chen, Yao-Chang Chang, Jill Chen, Jyam Huang, Mandy Yang Rene Steinberg, Patric Kessler Mohammad Ali Shoji Matsumoto, Hiroto Tamaki, Masanao Yokoyama Vivian Wu Jefferson (Chzu-Chinag) Tseng Matthew Li, Mark Long John Phillips Takayuki Tsuzura Skipper Liang, Min-Hong Tsai

ECL, Inc. EDADOC Technology Etron eSilicon **EVOC Intelligent Technology** Exar Corp. Faraday Technology Flextronics Foxconn Technology Corp. Fujitsu Advanced Technologies (Fujitsu Semiconductors) (Fujitsu VLSI Limited) Giga-byte Technology Giga Hertz Technology Hanpu Electronics **Himax Technologies** Huawei Symantec Technologies **IBIDEN** ICT-Lanto Ili Technology Inventec

JEITA KEI Systems Layout Technology Leading Edge Lenovo Magna Design Automation Mindspeed Nanya Technology

National Semiconductor National Chao Tung University (NCTU) National University of Kaohsiung (NUK) NEC System Technologies Tom Iddings Yufeng Zheng Chunmu Lin, Stu Tsai Hanza Rahmai ChangQian Yu Helen Nguyen Way Chin-Wei Chang, Wells Jong, Jung-Chi Ho, Boris Tseng, Pao Sun Tommy Chan, Sam Chuang, John Lin, Trina Shih, Alan Sun, Devin Tsai, Cathy Tu, Panda Wang Cortex Chen, Ted Chou, Danny Ho, Sogo Hsu, Daniel Lai, Scott Li, Frank Pai, Weiliang Tseng, Eric Wu, Joyce Yeh Shogo Fujimori, Hikoyuki Kawata, Toshiro Sato Motoaki Matsumura Yuji Nakagawa, Kyota Shimizu Eric Chien, Corey Huang, Andy Lee, Alex Lu Ryuji Kawamura Chijiang Way, Pinting Hu Wei-De (Brian) Kuo Zihong Zhang, Jieping Zheng, Qinglin Zhou Yongyao Li, Guanghui Liu, Yalun Liu, Hongjun Bi, Senliang Han, Chuanbing Li, Qiangqiang Wang, Kang Wei Kiyohisa Hasegawa Steven Wong, Daniel Chen, Stone Lin, Alan Liu, Hwei Ho, Carr Wang, Stone Wieh Chia-Cheng (Trevor) Wu lan Chen, Elien Tseng Atsushi Ishikawa Shinichi Maeda Ken Chen **Pietro Vergine** Mandy Yang, Lu Zhang Anand Ramalingram Bobby Altaf Cheyen Huang, Yuwei Chen, Ching-Feng Chen, Yumin Chen, Argy Cheng, Raphael Huang, Chun-Huang Yu Hsinho Wu Cheng-Yuan Chin, Pan-Shine Wang Ming Haei Huang, Kao-Yi Wang Fumihiko Sakamoto

NetLogic Microsystems Eric Hsu, Edward Wu, Antonio Orphanou, Halil Civit NVidia Xianfeng Zhu NXP Semiconductors Gerald Krasemann Stanley Chu, Lawrence Ting Pegatron Corp. Politecnico di Torino Igor Stievano, Stefano Grivet-Talocia, Piero Triverio, Flavio Canavero Michael Chang Portwell Propogate Group Corp. (PGC) Wayne Tsai, Mage Wang Quanta Computer Willie Chen, Fanny Chou Ralink Technology Wilbur Hsu, Dean Yang Renesas Technology Takuji Komeda, Shinji Katayama Manfred Maurer, Michael Flint Siemens, AG. Yoshihiko Yamamoto Silvaco Simberian Yuriy Shlepnev Sony EMCS Corporation Masayoshi Murata Sony LSI Design Kei Kimura, Satoshi Maeda, Mie Nagatomo Span Systems Corporation Vidya (Viddy) Amirapu Summit Computer Systems **Bob Davis** Sunplus Technology Forrest Hsu, Shen Hsieh, Roger Li, Tommy Lin, Yi-Txeng Lin, Ing-June Lu Tabula David Banas TDK Yoshikazu Fujishiro TechAmerica (Chris Denham) **Towa Electronics** Yoshikazu Suzuki VIA Labs Sheng-Yuan Lee Vitesse Semiconductor Bob McDonough Winbond Electronics Corp. Jein-Cherng Lin Denis Chen, Passor Ho, Dirack Lai, Edward Pan Wistron Corp. YanHua Technology Xiuchun Pena ZyXEL Communications Corp. Frank Chang Independent AbdulRahman (Abbey) Rafiq, Robert Badal

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 10, 2010	202 943 238	IBIS

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

https://cisco.webex.com/cisco/j.php?J=202943238

All teleconference meetings are 8:00 AM to 9:55 AM 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

Alfred Chong from TI introduced himself. He is a systems engineer in a SerDes modeling group. He was been working on IBIS-AMI modeling for about 6 months. He is relatively new to IBIS-AMI and would like to learn more to better develop TI's AMI models. Casey Morrison and Srikanth Sundaram also introduced themselves. They are in an IP development team at TI, and they work with IBIS-AMI models. They have been developing them for a couple of years.

### **CALL FOR PATENTS**

Michael Mirmak called for any patents or pending patents related to the IBIS 3.2, IBIS 4.2, IBIS 5.0, Touchstone 2.0 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 22, 2010 IBIS Open Forum teleconference. The minutes were approved with no changes.

#### **MEMBERSHIP STATUS AND TREASURER'S REPORT**

Michael Mirmak reported that membership is stable. We will need to discuss our financial status and approve spending to zero out our account for the year. Bob Ross noted that there may be receipts from the Asian IBIS summits that need to be submitted quickly for reimbursement.

# WEB PAGE UPDATES

Syed Huq reported that he made minor updates to the roster and events pages.

#### MAILING LIST ADMINISTRATION

Mike LaBonte reported that things are going well overall. There were a few joins recently. There are 457 unique emails between the two mailing lists. He researched the allowed size of email archives and wondered if there was automatic partitioning software. Archiving is a manual process, and it has been a long time since the emails were archived into .txt files and

stored into directories sorted by year. He is planning to do this at some point.

### MODEL LIBRARY UPDATE

No update.

# MISCELLANY/ANNOUNCEMENTS

None.

### **OPENS FOR NEW ISSUES**

None.

### INTERNATIONAL/EXTERNAL ACTIVITIES

- DASC

Michael Mirmak reported no new updates – no new meetings since the last IBIS meeting. The DASC file and e-mail archive may be found at:

#### http://www.dasc.org/

#### - P1735 Encryption

No report from Syed Huq. Greg Edlund asked what this group is. Michael Mirmak responded that it is an IEEE interest group defining a standard encryption approach for VHDL-AMS and Verilog-AMS. The IEEE Study Group on Encryption web reflector archives are found at:

http://www.eda-stds.org/ip-encrypt/hm/

### -VHDL-AMS Table-Driven Models

Arpad Muranyi reported that he attended the last meeting. Comments collected during the vote for the "Table-driven Modeling in VHDL-AMS Requirements" document were discussed. There was also discussion on the various interpolation options of the table data. More information can be found at:

http://www.eda.org/twiki/bin/view.cgi/P10761/ProjectsArea#Table\_driven\_Modeling\_Champion\_J

#### -Conferences

EMCCompo2011, the 8<sup>th</sup> International Workshop on Electromagnetic Compatibility of Integrated Circuits, will be held in Dubrovnik, Croatia November 6-9, 2011. Organizers of the event have contacted the IBIS Open Forum to see if there is interest in having a tutorial session on IBIS. More information can be found at:

#### http://www.emccompo2011.org

The 2011 IEEE Workshop on Signal Propagation on Interconnects (SPI) will be held in Naples, Italy on May 8-11, 2011. The first call for papers went out. More information can be found at:

-Press Update None.

### **TECHAMERICA STATUS**

Michael Mirmak reported that he had no new updates from TechAmerica on items of general concern to IBIS. We will have a better look at our financial status once we close the year.

### VOTING REPRESENTATIVE LIST

Randy Wolff noted that he presented a spreadsheet at the last teleconference meeting showing each member company's primary and secondary contacts as found in the roster page on the IBIS website. It also showed who the usual IBIS Open Forum teleconference attendees are from each member company. We would like those who are usual participants to be listed as primary or secondary contacts to make sure they get TechAmerica ballots. Randy noted that TI and SiSoft updated their contacts on the roster. He took the AR to contact Nam Nguyen of AMD to encourage him to be AMD's primary or secondary contact on the roster.

### **IEC APPROVAL ACTIVITIES**

Randy Wolff reported that there was an IEC meeting in Seattle in October. Randy contacted Chris Denham for an update. Chris did not make any contact with TC93 working group members. Randy searched the internet for news related to the IEC meeting, and he came across a blog on the Mentor Graphics site from Dennis Brophy, chair of the TC93 working group 2. The blog mentions that IBIS 4.2 is on the work plan for standardization. Randy asked Chris Denham about contacting Dennis Brophy, but Chris has not responded. Randy plans to contact Dennis Brophy for more details.

#### SUMMIT STATUS

#### -China Summit Report

The meeting was held at the Four Points by Sheraton hotel in Shenzhen on Tuesday, November 9. The primary sponsor of the event was Huawei Technologies. Co-sponsors included Agilent Technologies, Ansoft, Cadence Design Systems, Cybernet, Intel, IO Methodology, Mentor Graphics, Signal Integrity Software (SiSoft), Sigrity, Synopsys and ZTE.

Michael Mirmak noted that there were very good presentations and attendance. He thanked the presenters and Bob Ross for all his help in organizing the events. He also thanked Lance Wang for his help with logistics and organization.

Bob Ross reported that there were 10 presentations and 81 attendees.

#### -Taiwan Summit Report

The meeting was held Friday, November 12 at the Sherwood Hotel in Taipei. Co-sponsors were Agilent Technologies, Avant Technology (IO Methodology), Foxconn, ICT-Lanto, Intel, Sigrity and Synopsys.

Bob Ross reported that there were 9 presentations and 118 attendees.

-Japan Summit Report

The meeting was held Monday, November 15 at the JEITA headquarters near Tokyo Station. Co-sponsors included Cadence, Sigrity and Zuken.

Bob Ross reported that there were 38 attendees and 9 presentations.

### -DesignCon 2011 Planning

DesignCon is January 31 – February 3, 2011. The Summit is scheduled for February 3. Michael Mirmak reported that we received a draft contract from UBM yesterday. He forwarded it to TechAmerica to make sure there are no legal issues. A summary of the contract is we list DesignCon in announcements and website and we get a conference room in the venue. We also receive a 30% discount on registration for IBIS members and free registration for the floor pass. We should send out a call for papers within the next three weeks.

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.

### **IBIS QUALITY TASK GROUP**

Mike LaBonte reported that the group is reviewing a BIRD from Anders Ekholm related to Golden Waveforms. The next meeting is November 23 and reoccurs every two weeks. He noted that the IBIS Quality Checklist for the Quality Specification 2.0 was promoted to the top level on the Quality website along with a presentation on how to use it.

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

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

#### **IBIS MODEL REVIEW TASK GROUP**

No update.

### ADVANCED TECHNOLOGY MODELING TASK GROUP

Arpad Muranyi reported that the group discussed the analog modeling BIRDs 119 and 121-124 in the last meeting. They are making some progress in discussions. The next meeting is November 30.

Task group material can be found at:

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

### INTERCONNECT TASK GROUP

Michael Mirmak reported that the group resumes meetings next week. They are discussing MCP and IBIS-ISS. They are close to finalizing IBIS-ISS.

Task group material can be found at:

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

### **NEW ISSUES**

None.

### BIRD113.3: WEAK PULL-UP AND WEAK PULL-DOWN RESISTANCE AND VOLTAGE

Greg Edlund reported that the BIRD has been stable since the last call. Minor editorial changes were made to the BIRD since it was submitted.

Greg moved to vote on inclusion of the BIRD in the next version of IBIS. Bob Ross seconded the vote.

The BIRD was approved with the following vote tally:

Agilent: yes Cadence: yes Cisco: yes IBM: yes Intel: yes IO Methodology: yes LSI: yes Mentor: yes Micron: yes Nokia Siemens Networks: yes SiSoft: yes Teraspeed: yes TI: abstain

### **BIRD114.3: IBIS-AMI DEFINITION CLARIFICATIONS**

Arpad Muranyi stated that he incorporated changes requested by Anders Ekholm regarding text strings and by Radek Biernacki related to the integer definition and use of 'token'. Radek thought the changes looked good.

Arpad moved that a vote be scheduled on BIRD114.3 for the next meeting. The motion was seconded by Radek. The motion was approved.

# BIRD116: ADD IBIS-ISS TO [EXTERNAL MODEL] AND [EXTERNAL CIRCUIT] AS A

### SUPPORTED LANGUAGE

Lance Wang suggested that the BIRD be put on hold until IBIS-ISS is approved. Radek Biernacki also liked this suggestion. Arpad Muranyi noted that he would like more feedback on the BIRD. Lance added that he did not have any issues with the content. Michael Mirmak noted that there may be discussion in the Interconnect task group about how this BIRD might affect changes to IBIS-ISS.

# BIRD117.2: PARAMETERIZE A\_TO\_D AND D\_TO\_A CONVERTERS

The group discussed waiting to vote on this BIRD until voting on BIRD116.

### **BIRD118.1: ANALOG PARAMETER ASSIGNMENTS**

No discussion.

#### **BIRD119: IBIS-AMI NEW RESERVED PARAMETERS**

Walter Katz noted confusion on how to use S-parameter files to represent the analog portion of the IBIS-AMI model. He will be presenting on this at the November 30 ATM meeting.

BIRD119 is actually replaced by BIRDs 121-124.

#### **BIRD120: IBIS-AMI FLOW CORRECTION**

Casey Morrison noted a concern on sections in the BIRD that require EDA tools to implement de-convolution, but the formula or procedure for doing this is not explained in the BIRD. He was concerned that EDA tools will give different results. Walter Katz noted that you can't return the impulse response of the filter in the flow, so this makes de-convolution necessary in certain circumstances. It is encouraged not to write models that require de-convolution. Walter thinks the BIRD adequately describes the combination of models that require de-convolution, so the user should avoid these situations. Walter noted that EDA vendors almost unanimously rejected the ability to return the impulse response of the filter.

BIRD121: IBIS-AMI NEW RESERVED PARAMETERS FOR DATA MANAGEMENT No discussion.

**BIRD122: IBIS-AMI NEW RESERVED PARAMETERS FOR ANALOG MODELING** No discussion.

**BIRD123: IBIS-AMI NEW RESERVED PARAMETERS FOR JITTER/NOISE** No discussion.

BIRD124: IBIS-AMI NEW RESERVED PARAMETERS FOR DEPENDENCY TABLES

No discussion.

### BIRD125: MAKE IBIS-ISS AVAILABLE FOR IBIS PACKAGE MODELING

Arpad Muranyi commented that IBIS-ISS defines useful features that would enhance current package modeling capabilities. This BIRD allows an IBIS-ISS subcircuit to be called through the [Define Package Model] syntax with a new [Package Circuit] keyword. This defines how the subcircuit connects between component pins and die pads.

Walter Katz noted that this proposal looks similar to MCP. A problem not addressed is when you have a package with many SerDes signals. One can represent the package with s4p and s12p files for uncoupled and coupled situations as well as having options for corner cases. We need a way to map these small models into modeling a large package, because IC vendors are supplying these models currently. Walter requested that a methodology be defined to handle this. Arpad noted that this BIRD could be extended to support this or another BIRD could be written to address it.

### **TSCHK2 BUG STATUS**

No new BUGs to report.

### **IBISCHK5 BUG STATUS**

No new BUGs to report.

#### **IBISCHK5 UPDATE STATUS**

Bob Ross reported that the developer submitted a 5.0.4 package for review. It will be reviewed and released shortly.

### **IBIS-ISS STATUS**

Michael Mirmak reported that the revision 0.7 draft is under review.

The work in progress document can be found in the following directory:

http://www.eda.org/ibis/ibis-iss\_wip/

### C\_COMP AND CORNER DISCUSSION

Not discussed due to time limitations.

#### **NEW TECHNICAL ISSUES**

Michael Mirmak reported that the TechAmerica technical writer is still working on updating the IBIS specification. He prepared preliminary documentation on how he would update the IBIS specification to a new style format. The document for review and comment is available at:

http://www.eda.org/ibis/reformat\_wip/IBIS\_5%200\_sample\_pages.pdf

### **NEXT MEETING**

A motion was made to hold the next teleconference meeting December 10, 2010 followed by January 7, 2011. The motion was seconded and approved.

The next IBIS Open Forum teleconference will be held December 10, 2010 from 8:00 to 10:00 AM US Pacific Standard Time. A vote on BIRD114.3 is scheduled.

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### NOTES

IBIS CHAIR: Michael Mirmak (916) 356-4261, Fax (916) 377-3788 <u>michael.mirmak@intel.com</u> Platform Applications Engineer, Intel Corporation 1900 Prairie City Rd., FM5-239 Folsom, CA 95630

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This meeting was conducted in accordance with the GEIA Legal Guides and GEIA Manual of Organization and Procedure.

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 (<u>ibis@eda.org</u>) IBIS Users' Group Reflector (<u>ibis-users@eda.org</u>) 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 EIA-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/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.eigroup.org/ibis/ibis.htm

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

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

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# **IBIS CURRENT MEMBER VOTING STATUS**

Standards									
	Interest	Ballot	November	November	November	November			
Organization	Category	Voting Status	9, 2010	12, 2010	15, 2010	19, 2010			
Advanced Micro Devices	Producer	Inactive	-	-	X	-			
Agilent Technologies	User	Active	Х	х	-	х			
Ansys	User	Inactive	Х	-	-	-			
Apple Computer	User	Inactive	-	-	-	-			
Applied Simulation Technology	User	Inactive	-	-	-	-			
ARM	Producer	Inactive	-	-	-	-			
Cadence Design Systems	User	Active	Х	Х	Х	Х			
Cisco Systems	User	Inactive	-	-	-	Х			
Ericsson	Producer	Active	Х	Х	Х	-			
Freescale	Producer	Inactive	-	-	-	-			
Green Streak Programs	General Interest	Inactive	-	-	-	-			
Huawei Technologies	Producer	Inactive	Х	-	-	-			
Hitachi ULSI Systems	Producer	Inactive	-	-	Х	-			
IBM	Producer	Active	-	Х	-	Х			
Infineon Technologies AG	Producer	Inactive	-	-	-	-			
Intel Corp.	Producer	Active	Х	Х	-	Х			
IO Methodology	User	Active	Х	Х	-	Х			
LSI	Producer	Inactive	-	-	-	Х			
Mentor Graphics	User	Inactive	Х	-	-	Х			
Micron Technology	Producer	Active	Х	Х	-	Х			
Nokia Siemens Networks	Producer	Inactive	-	-	-	Х			
Samtec	Producer	Inactive	-	-	-	-			
Signal Integrity Software	User	Inactive	-	-	-	Х			
Sigrity	User	Inactive	Х	Х	-	-			
Synopsys	User	Inactive	Х	-	-	-			
Teraspeed Consulting	General Interest	Active	Х	Х	Х	Х			
Texas Instruments	Producer	Inactive	-	-	-	Х			
Toshiba	Producer	Inactive	-	-	Х	-			
Xilinx	Producer	Inactive	-	-	-	-			
ZTE	User	Inactive	Х	-	-	-			
Zuken	User	Inactive	-	-	Х	-			

#### 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 TECHAMERICA 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.