

# IBIS Open Forum Minutes

Meeting Date: **August 5, 2011**

Meeting Location: **Teleconference**

## VOTING MEMBERS AND 2011 PARTICIPANTS

Agilent	Radek Biernacki*, Fangyi Rao, Amolak Badesha
AMD	Nam Nguyen*
Ansys (Ansoft)	Samuel Martens
Apple Computer	(Matt Herndon)
Applied Simulation Technology	Norio Matsui
Cadence Design Systems	Terry Jernberg, Ambrish Varma, Dennis Nagle, Martin Biehl, Yukio Masuko
Cisco Systems	Syed Huq, Mike LaBonte*, Luis Boluna, Ashwin Vasudevan, Zhiping Yang
Ericsson	Anders Ekholm
Freescale	(Jon Burnett)
Green Streak Programs	Lynne Green
Huawei Technologies	Xiaoqing Dong
IBM	Adge Hawes*, Greg Edlund*
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak*, Udy Shrivastava, Heather Monigan*
IO Methodology	Lance Wang
LSI	Brian Burdick*
Mentor Graphics	Arpad Muranyi*, Ed Bartlett, Vladimir Dmitriev-Zdorov, Steve Kaufer, Chuck Ferry
Micron Technology	Randy Wolff*, Andrea Spiezia, Roberto Izzi, Aniello Viscardi, Giovanni Guerra, Francesco Madonna, Giuseppe Fusillo
National Semiconductor	Hsinho Wu, Pegah Alavi, John Goldie
Nokia Siemens Networks GmbH	Eckhard Lenski*
Signal Integrity Software	Walter Katz*, Todd Westerhoff, Mike Steinberger, Barry Katz
Sigrity	Raymond Chen, Kumar Keshavan, Yingxin Sun
Synopsys	Andy Tai, Ted Mido, Scott Wedge
Teraspeed Consulting Group	Bob Ross*, Kellee Crisafulli, Tom Dagostino, Scott McMorro
Texas Instruments	Casey Morrison, Alfred Chong
Toshiba	(Tetsuya Endo)
Xilinx	(Raymond Anderson)
ZTE	(Huang Min)
Zuken	(Michael Schaefer)

## OTHER PARTICIPANTS IN 2011

AET	Mikio Kiyono
Altera	Hui Fu, Zhuyuan Liu, Julia Nekrylova
Arrow Electronics	Ian Dodd*
Avago	Weiping He, Minh Quach, Sari Tocco
Bayside Design	Elliot Nahas
Broadcom	Mohammad Ali
CST	Martin Schauer
Exar Corporation	Helen Nguyen
Granite River Labs	Johnson Tan, Mike Engbretson, Quintin Anderson
High Speed Design Center	Ben Chia
ICT-Lanto	Steven Wong
JEITA	Atsushi Ishikawa
KEI Systems	Shinichi Maeda
Maxim Integrated Products	Hassan Rafat
Mindspeed	Jeff Li, Lyn Wang
NetLogic	Ryan Coutts, Antonis Orphanou
Oracle	Gustav Blando
Politecnico di Torino	Igor Stievano, Stefano Grivet-Talocia
Pristine Signals	AbdulRahman (Abbey) Rafiq
QLogic	David Choe, James Zhou*
Renesas Electronics	Takuji Komeda
Samsung Electronics	Il Seong
Siemens	Manfred Maurer
Simberian	Yuriy Shlepnev
ST Microelectronics	Fabio Brina, Alan Smith
TechAmerica	(Chris Denham)
Thales Communication	Alexandre Amedeo, Cyrip Chastang
University of Illinois	Jose Schutt-Aine
University of L'Aquila	Danilo di Febo
Vitesse Semiconductor	Siris Tsang
Independent	Yoichi Niioka

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
August 26, 2011	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 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](http://www.cisco.com/web/about/doing_business/conferencing/index.html)

NOTE: "AR" = Action Required.

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## **INTRODUCTIONS AND MEETING QUORUM**

Heather Monigan of Intel introduced herself. She is a senior analog engineer in the architecture group. She has worked on fast SATA and is currently working on channel characterization for SAS.

James Zhou of QLogic introduced himself. He is a principle SI engineer involved in storage and networking products in the 16Gbps range. His SI group works on high speed SerDes and DDR3 memory bus design and analysis. He uses IBIS models for many simulations.

## **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 July 15, 2011 IBIS Open Forum teleconference. The minutes were approved without changes.

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

Bob Ross reported that there is potentially a new member joining at the half year rate. There is still no report from TechAmerica for a financial update. It is time to move our request to a higher level. Bob will send Michael Mirmak questions including a request to confirm payments of 11 members. Michael noted that we can setup a meeting directly with the CFO of TechAmerica. We are still at 29 members assuming all have paid. Michael will setup a meeting with TechAmerica to discuss these issues.

## **WEB PAGE UPDATES**

Mike LaBonte reported that the events page was updated related to the summits. TechAmerica created a LinkedIn group, and we have a subgroup for IBIS. Mike is now the manager for it. He has looked it over but not done anything with it yet. If we are going to make use of it, we will need to put an IBIS logo on the page and potentially modify the group description. Should it

continue to be open to allow anyone with a LinkedIn account to join the group? Since it was created less than a week ago, he has gotten many email notifications, and it appears that messages related to TechAmerica's LinkedIn groups are being sent to him. Mike would like to close the group, because over time most open groups become 50% full of people that appear to have no relation to the group. Randy Wolff asked if Mike might ask those who wish to join the group what their affiliation to IBIS is. Mike responded that he sometimes does this with the mailing list, so he could apply the same policy to the LinkedIn group. Michael Mirmak suggested that Mike make sure there are no issues with the approach according to TechAmerica's policy. Mike decided that he would close the list.

## **MAILING LIST ADMINISTRATION**

Mike LaBonte reported that the mailing list is running smoothly lately.

## **MODEL LIBRARY UPDATE**

Michael Mirmak reported for Anders Ekholm that a model library update is in progress.

## **MISCELLANY/ANNOUNCEMENTS**

None.

## **OPENS FOR NEW ISSUES**

Bob Ross requested time to discuss an ibischk parser project update including more BUGs.

## **INTERNATIONAL/EXTERNAL ACTIVITIES**

### **- DASC**

Michael Mirmak noted that he and several officers attended the DASC meeting on August 4. There was a discussion on IEC involvement that will be described later in the meeting. The next meeting will be in September. The DASC file and e-mail archive may be found at:

<http://www.dasc.org/>

### **- P1735 Encryption**

No update. 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 noted that the last meeting was cancelled, so he has no update.

More information can be found at:

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

- Conferences

The IEEE EMC International Symposium 2011 will be held August 14-19, 2011 in Long Beach, California. Michael Mirmak noted that there will be several topics related to IBIS and Signal Integrity. More information can be found at:

<http://www.emc2011.org>

The 1<sup>st</sup> International IEEE Workshop on Chip-Packaging Co-Design for High Performance Electronic Systems will be held September 19-20, 2011 in Santa Clara, California. Arpad Muranyi noted there may be topics of interest to IBIS. More information can be found at:

<http://ieee-cpcw.org>

EPEPS (Electrical Performance of Electronic Packaging and Systems) will be held October 23-26 in San Jose, California but will not feature an official IBIS presence. The event will take place too close to the IBIS Summits planned for Asia. More information can be found at:

<http://epeps.ece.illinois.edu/>

EMCCompo2011, the 8<sup>th</sup> International Workshop on Electromagnetic Compatibility of Integrated Circuits, will be held in Dubrovnik, Croatia, November 6-9, 2011. More information can be found at:

<http://www.emccompo2011.org>

EDAPS (Electrical Design of Advanced Packaging & Systems) will be held December 12-14 in Hangzhou, PRC. More information can be found at:

<http://www.edaps2011.org>

Official IBIS participation is not planned for any of the events above, though individual papers and discussion on IBIS are encouraged. These are events with refereed submissions, with deadlines either pending or already passed.

- Press Update  
None.

## **IEC APPROVAL ACTIVITIES**

Randy Wolff reported that he and several other IBIS officers attended the DASC meeting on August 4, 2011. Dennis Brophy, the US representative to the IEC gave a presentation on the relationship between the IEC and IEEE and how international standardization through IEC works. Michael Mirmak questioned Dennis on how IBIS could get standardized by the IEC. Dennis noted that there was a National Body meeting of the IEC next week, and this would be the opportune time for IBIS to describe their intentions and make sure they are added to the agenda of the international meeting of the IEC in Seoul, South Korea in September. Randy contacted Dennis by email and received more details on the two IEC meetings. Randy and Michael plan to dial-in to the meeting next week, and Michael will be available to dial-in to the Korean meeting next month. Michael emailed Stan Krolikoski of DASC. Stan wrote that there is potential for IBIS to standardize through IEEE without being a member of IEEE or organized under IEEE. Then IBIS could take advantage of the dual logo processes between IEEE and

IEC. Bob Ross noted that it appears that ANSI has lost its clout with IEC and also that there are only 4 active members of IEC now.

## **TECHAMERICA UPDATE**

Michael Mirmak noted that all related topics have been covered already.

KAVI members' login is at:

<http://workspace.techamerica.org/apps/org/workgroup/ibis-members>

## **SUMMIT STATUS**

- Asian IBIS Summit – Shanghai

The Shanghai IBIS Summit is scheduled for Tuesday, November 15 at the Parkyard Hotel. The event is carrying over 9 sponsors of the previous 12. Sponsors include Huawei Technologies, Agilent Technologies, Ansys, Cadence Design Systems, Intel Corp., IO Methodology, Sigrity, Synopsys, ZTE Corporation and others to be determined.

- Asian IBIS Summit – Tokyo/Yokohama

The meeting has been moved to November 18 in Yokohama and corresponds with a JEITA conference. The meeting may run from 1:30pm to 6:00pm.

- Asian IBIS Summit – Taipei

The meeting is scheduled for November 21. There are 7 sponsors including Agilent Technologies, Avant Technology (IO Methodology), Cadence, Foxconn Technology Group, Intel Corporation, Sigrity, Synopsys and others to be determined.

Announcements will start going out in August for all the Summits. Michael Mirmak asked Mike LaBonte to add these events to the LinkedIn page.

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

## **IBIS QUALITY TASK GROUP**

Mike LaBonte reported that Syed Huq has created WebEx accounts using his Cisco account, and Syed has created WebEx meetings in the past. As Webmaster, Mike should create these meetings, but he does not have access to WebEx through Cisco now. He noted that he will need help with setting up meetings now.

Mike reported that the Quality task group has defined a Quality Issue Log (QUAIL). The QUAIL is similar to a BIRD but applies to the Quality specifications. As QUAILS are created for new Quality specifications, should votes on inclusion of QUAILS come into the Open Forum or remain in the Quality task group? Bob Ross preferred that the process remain in the Quality task group. Michael Mirmak agreed. Mike added that in the last meeting they looked at existing proposals for circuit interconnection standards for review and to get ideas of how to create the

test circuit description (will be based on IBIS-ISS). At the next meeting they plan to discuss ideas for quality checks related to AMI – led by Greg Edlund.

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

[http://www.eda.org/ibis/quality\\_wip/](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 is continually working on issues and updates were made to existing BIRDS to discuss today, all related to IBIS-AMI.

Task group material can be found at:

[http://www.eda.org/ibis/macromodel\\_wip/](http://www.eda.org/ibis/macromodel_wip/)

#### **INTERCONNECT TASK GROUP**

Michael Mirmak reported that the group has suspended the meeting to use the time slot for Editorial task group meetings. Actions are pending on Touchstone and IBIS-ISS in the Open Forum.

Task group material can be found at:

[http://www.eda.org/ibis/interconnect\\_wip/](http://www.eda.org/ibis/interconnect_wip/)

#### **IBIS EDITORIAL TASK GROUP**

Michael Mirmak reported that the group is meeting on Wednesdays at 9AM PDT. The first pass through of the new IBIS 5.0 draft is in progress.

The current IBIS 5.0 reformatting documentation can be reviewed at the following new location:

[http://www.eda.org/ibis/editorial\\_wip/](http://www.eda.org/ibis/editorial_wip/)

The old link is being maintained, to avoid breaking existing references:

[http://www.eda.org/ibis/reformat\\_wip/](http://www.eda.org/ibis/reformat_wip/)

#### **NEW ADMINISTRATIVE ISSUES**

None.

**BIRD116: ADD IBIS-ISS TO [EXTERNAL MODEL] AND [EXTERNAL CIRCUIT] AS A SUPPORTED LANGUAGE**

Walter Katz and Arpad Muranyi moved that BIRDS 116-118, 121-125, 128, 129 and 131 be tabled. Bob Ross seconded the motion. No objections were raised.

**BIRD117.3: PARAMETERIZE A\_TO\_D AND D\_TO\_A CONVERTERS**

Discussion was tabled.

**BIRD118.2: ANALOG PARAMETER ASSIGNMENTS**

Discussion was tabled.

**BIRD121.1: IBIS-AMI NEW RESERVED PARAMETERS FOR DATA MANAGEMENT**

Discussion was tabled.

**BIRD122: IBIS-AMI NEW RESERVED PARAMETERS FOR ANALOG MODELING**

Discussion was tabled.

**BIRD123.1: IBIS-AMI NEW RESERVED PARAMETERS FOR JITTER/NOISE**

Discussion was tabled.

**BIRD124: IBIS-AMI NEW RESERVED PARAMETERS FOR DEPENDENCY TABLES**

Discussion was tabled.

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

Discussion was tabled.

**BIRD127.1: IBIS-AMI TYPOGRAPHICAL CORRECTIONS**

Arpad Muranyi reported that he is working on a 127.2 version that is being reviewed in the IBIS ATM task group.

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

Discussion was tabled.



**BIRD129: ADD “POLARITY” ARGUMENT TO D\_TO\_A CONVERTERS**

Discussion was tabled.

**BIRD 131: IBIS-AMI REPEATERS**

Discussion was tabled.

**BIRD132: CLARIFICATION OF THE TABLE FORMAT FOR IBIS\_AMI**

Bob Ross noted that he has not received any further comments on the BIRD. Key items are clarification of the AMI table format structures and clarification of what gets sent to/from the executable model when a table is encountered. Only for Table is the Type argument in the AMI language modified to accept a different column.

Arpad Muranyi moved to vote on the BIRD for inclusion in IBIS 5.1. Mike LaBonte seconded.

The vote passed with the following tally:

Agilent – yes

Cisco – yes

IBM – yes

Intel – yes

LSI – abstain

Mentor – yes

Micron – yes

Nokie Siemens networks – yes

SiSoft – yes

Teraspeed – yes

**BIRD133: MODEL CORNER C\_COMP**

Bob Ross noted that there have been some clarification comments made, but we need to decide if the BIRD should be voted on or revised. Arpad Muranyi questioned where the discussion should best take place. Bob suggested that the ATM task group could make comments, but it is a general BIRD that maybe fits in best with the general Open Forum. Bob noted that the BIRD is meant to fix a syntactical issue to guarantee that the correct C\_comp value is associated with the correct simulation corner. Arpad moved to table further discussion. Radek Biernacki seconded. There were no objections. Bob suggested discussion move to the IBIS reflector.

**BIRD135.1: ADD BOOLEAN TO BNF FOR IBIS-AMI**

Arpad Muranyi noted that in this updated version he added a sentence to paragraph 8 that defines the empty string concept - that empty string literals are denoted by two successive double quote characters. Bob Ross noted that this was a minor change that he supports. Bob moved to schedule the BIRD for a vote at the next meeting. Radek Biernacki seconded. There were no objections.

#### **BIRD136: DEFINING RELATIONSHIPS BETWEEN TYPE AND FORMAT**

Arpad Muranyi noted that there has not been any recent discussion on the BIRD. This BIRD establishes rules of what combinations of formats and data types are allowed. Bob Ross moved to schedule the BIRD for a vote at the next meeting. Arpad seconded. There were no objections.

#### **BIRD137.1: AMI\_PARAMETERS\_IN, AMI\_PARAMETERS\_OUT, MSG CLARIFICATIONS**

Arpad Muranyi noted that discussion on the empty string concept resulted in the latest revision to the BIRD. Strings will always have to be passed into and out of the model and if nothing else the root name of the tree will be there. The new requirement is that there will always be a valid string. Radek Biernacki wondered if the BIRD should be voted on at the next meeting or if we should wait another meeting. Michael Mirmak noted that according to our rules we can vote on it at the next meeting. Arpad added that it helps the Editorial task group to have the BIRDS approved sooner rather than later. Arpad Muranyi moved to schedule the BIRD for a vote at the next meeting. Bob Ross seconded. There were no objections.

#### **BIRD138: IBIS-AMI SECTION 6C TABLES UPDATE**

Bob Ross noted that he would like to wait until other BIRDS are approved before discussing this further. Bob moved to table discussion on the BIRD. Arpad Muranyi seconded. There were no objections.

#### **BIRD139.1: RESERVED\_PARAMETERS ORDER**

Bob Ross reported that this BIRD requires that the Reserved\_Parameters section be included before the Model\_Specific section. Bob moved to table discussion on the BIRD. Radek Biernacki seconded. There were no objections.

#### **BIRD140: FORMAT CORNER AND RANGE CLARIFICATION FOR IBIS-AMI**

Arpad Muranyi introduced the BIRD. The specification is not clear about how Corner parameters are selected. This BIRD is a clarification to describe that whatever model the tool is put into for simulation will automatically select one of the three parameters of Corner. The corner parameter describes typ, slow and fast values. This does not map exactly to typ, min and max in IBIS so it is up to the EDA software to choose the correct value. Radek Biernacki commented that we may not need the BIRD at all if at some point we clean up the whole typ, min and max issue. Arpad noted that the BIRD is still required, as it clarifies how the tool should automatically select the corner. Radek said this is still not precise and he thinks it is better to leave the specification alone. Bob Ross moved to table discussion on the BIRD. Arpad Muranyi seconded. There were no objections.

#### **BIRD141: [COMPOSITE CURRENT] CLARIFICATIONS**

Randy Wolff introduced the BIRD. He noted that Lance Wang was trying to create an IBIS 5.0 model that included [Composite Current] data and was using a best-points fit algorithm. The

algorithm was applied separately to the I-T and V-T data, so these curves had different time points. The ibischk5 parser came up with an error, as the current specification states that the V-T and I-T curves should include the identical time points. This requirement is unnecessarily restrictive. This BIRD removes this requirement. The BIRD also fixes a statement that incorrectly says that [Composite Current] waveform data is not allowed under all V-T tables.

Bob Ross noted that we will be relaxing a requirement in the specification. Bob moved to table discussion on the BIRD. Randy Wolff seconded. There were no objections.

#### **BIRD142: CLARIFICATIONS OF [TEST DATA] AND [TEST LOAD] SCOPING**

Mike LaBonte noted that he and Bob Ross worked on this BIRD with the help of the Quality task group. [Test Load] and [Test Data] in the current spec are not scoped properly. These keywords should be considered as top level keywords and not hierarchical keywords under [Model]. The descriptions of these keywords will be moved to a new section 6d of the specification. Clarifications of this BIRD will end up with voiding BUG104. If [Test Data] were to be considered related to a specific [Model], then it should be clarified that [Test Data] should be included after other [Model] keywords. Michael Mirmak noted that the new material is not noted as being new by \* in the BIRD. Mike LaBonte will remove the statement about inclusion of \* in the BIRD. Randy Wolff asked if the parser should then check for specific ordering of [Test Data] under [Model]. Mike noted that this will need to be looked at further.

#### **BIRD143: CORRECTING THE RULES FOR AMI\_CLOSE**

Arpad Muranyi introduced the BIRD. It makes AMI\_Close required for all situations. Arpad moved to table discussion on the BIRD. Bob Ross seconded. There were no objections.

#### **IBISCHK5 BUG STATUS**

BUG129 was created by Lance Wang. The BUG describes how identical [Composite Current] time points are erroneously required between I-T and V-T tables. Bob Ross noted that this relates to BIRD141 – rigidly enforced alignment of I-T and V-T curves in IBIS 5.0. This will reduce the message from error to caution. If BIRD141 is approved for IBIS 5.1, the note message will be removed for ibischk5.1. Bob moved to classify the BIRD as severity moderate, priority medium, and open status. Randy Wolff seconded. There were no objections.

Bob reported that BUG120 was found to not be a BUG, but it was suggested to include a message in the parser. Bob said that the message was not necessary. Bob moved to officially classify BUG120 as “Not A BUG”. Walter Katz seconded. There were no objections.

#### **TSIRD3: CLARIFY S-PARAMETER DEFINITION**

Michael Mirmak described the TSIRD as clarifying that S-parameters are based on power waves and not voltage waves. It also adds some equations and references.

#### **IBIS-ISS SPECIFICATION DRAFT 1.5 REVIEW**

Bob Ross noted that this is the first call for comments. Michael Mirmak added that this

document is eligible for consideration as a specification from IBIS. He entertained a call for comments which will lead to an eventual vote. Arpad Muranyi moved to schedule a vote at the next meeting. There was no second. Bob Ross moved to bring up the second call for comments at the next meeting and include it earlier in the agenda to allow more time for discussion. Walter Katz seconded. There were no objections.

The IBIS-ISS draft 1.5 specification is available at:

[http://www.eda.org/ibis/ibis-iss\\_wip/](http://www.eda.org/ibis/ibis-iss_wip/)

## **NEW TECHNICAL ISSUES**

None.

## **NEXT MEETING**

The next IBIS Open Forum teleconference will be held August 26, 2011 from 8:00 to 10:00 AM US Pacific Time. Votes on BIRD135.1, BIRD136 and BIRD137.1 are scheduled.

## **NOTES**

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

The following e-mail addresses are used:

[majordomo@eda.org](mailto: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](mailto:ibis-request@eda.org)

To join, change, or drop from either or both:  
IBIS Open Forum Reflector ([ibis@eda.org](mailto:ibis@eda.org))  
IBIS Users' Group Reflector ([ibis-users@eda.org](mailto:ibis-users@eda.org))  
State your request.

[ibis-info@eda.org](mailto: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](mailto: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](mailto: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](mailto: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/)  
[http://www.eda.org/ibis/tschk\\_bugs/bugform.txt](http://www.eda.org/ibis/tschk_bugs/bugform.txt)

[icm-bug@eda.org](mailto: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/)  
[http://www.eda.org/ibis/icm\\_bugs/icm\\_bugform.txt](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/bugspl.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>

To create an account on the TechAmerica KAVI workspace, check out:

<http://workspace.techamerica.org/kwspub/join/>

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## IBIS CURRENT MEMBER VOTING STATUS

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

Organization	Interest Category	Standards Ballot Voting Status	June 7, 2011	June 24, 2011	July 15, 2011	August 5, 2011
Advanced Micro Devices	Producer	Active	-	X	X	X
Agilent Technologies	User	Active	X	X	X	X
Ansys	User	Inactive	-	-	-	-
Apple Computer	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	-	-	-	-
Cadence Design Systems	User	Inactive	X	X	-	-
Cisco Systems	User	Active	X	-	X	X
Ericsson	Producer	Inactive	X	-	-	-
Freescale	Producer	Inactive	-	-	-	-
Green Streak Programs	General Interest	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	-	-	-	-
IBM	Producer	Active	-	X	-	X
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	X	X	X
IO Methodology	User	Active	X	X	X	-
LSI	Producer	Inactive	-	-	-	X
Mentor Graphics	User	Active	X	X	X	X
Micron Technology	Producer	Active	-	-	X	X
National Semiconductor	Producer	Inactive	-	-	-	-
Nokia Siemens Networks	Producer	Active	-	X	-	X
Signal Integrity Software	User	Active	X	X	X	X
Sigrity	User	Inactive	X	-	-	-
Synopsys	User	Inactive	-	-	-	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
Texas Instruments	Producer	Inactive	-	-	-	-
Toshiba	Producer	Inactive	-	-	-	-
Xilinx	Producer	Inactive	-	-	-	-
ZTE	User	Inactive	-	-	-	-
Zuken	User	Inactive	-	-	-	-

#### 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.