# IBIS Open Forum Minutes

Meeting Date: **October 1, 2010**
Meeting Location: **Teleconference**

**VOTING MEMBERS AND 2010 PARTICIPANTS**

| | |
|---|---|
| Agilent | Radek Biernacki, Ming Yan, Fangyi Rao, Gilbert Berger, Amolak Badeasa, Jose Pino, Junaid Khan |
| AMD | Nam Nguyen* |
| Ansys (Ansoft Corporation) | Danil Kirsanov |
| Apple Computer | (Matt Herndon) |
| Applied Simulation Technology | (Fred Balistreri) |
| ARM | (Nirav Patel) |
| Cadence Design Systems | Terry Jernberg, Wenliang Dai, Ambrish Varma |
| Cisco Systems | Syed Huq*, Mike LaBonte*, Tony Penaloza, Huyen Pham, Bill Chen, Ravindra Gali, Zhiping Yang |
| Ericsson | Anders Ekholm, Pete Tomaszewski |
| Freescale | Jon Burnett, Om Mandhana |
| Green Streak Programs | Lynne Green |
| Hitachi ULSI Systems | Yutaka Uematsu |
| Huawei Technologies | (Jinjun Li) |
| IBM | Adge Hawes*, Greg Edlund* |
| Infineon Technologies AG | Christian Sporrer |
| Intel Corporation | Michael Mirmak*, Myoung (Joon) Choi, Vishram Pandit, Richard Mellitz |
| IO Methodology | Lance Wang* |
| LSI | Brian Burdick* |
| Mentor Graphics | Arpad Muranyi*, Neil Fernandes, Zhen Mu |
| Micron Technology | Randy Wolff* |
| 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 |
| Synopsys | Ted Mido, Paul Lo, Geoffrey Ying, Frank Lee |
| Teraspeed Consulting Group | Bob Ross*, Tom Dagostino |
| Texas Instruments | Bonnie Baker |
| Toshiba | Yoshihiro Hamaji |
| Xilinx | Mike Jenkins |
| ZTE | (Huang Min) |
| Zuken | Michael Schaeder, Ralf Bruening |

**OTHER PARTICIPANTS IN 2010**

Actel                              (Prabhu Mohan)
AET, Inc.                          Mikio Kiyono
Altera                             John Oh, Hui Fu
Avago                              Razi Kaw
Bosch Car Multimedia               Rene Steinberg, Patric Kessler
Broadcom                           Mohammad Ali
Curtiss-Wright                     John Phillips
ECL, Inc.                          Tom Iddings
eSilicon                           Hanza Rahmai
Exar Corp.                         Helen Nguyen
ICT-Lanto                          Steven Wong
JEITA                              Atsushi Ishikawa
Leading Edge                       Pietro Vergine
Magna Design Automation            Anand Ramalingram
Mindspeed                          Bobby Altaf
National Semiconductor             Hsinho Wu
NetLogic Microsystems              Eric Hsu, Edward Wu, Antonio Orphanou, Halil Civit
NXP Semiconductors                 Gerald Krasemann
Politecnico di Torino              Igor Stievano, Stefano Grivet-Talocia, Piero Triverio,
                                     Flavio Canavero
Renesas Technology                 Takuji Komeda
Siemens, AG.                       Manfred Maurer, Michael Flint
Simberian                          Yuriy Shlepnev
Span Systems Corporation           Vidya (Viddy) Amirapu
Summit Computer Systems            Bob Davis
Tabula                             David Banas
TechAmerica                        (Chris Denham)
Vitesse Semiconductor              Bob McDonough
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
October 22, 2010          207 673 626               IBIS

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

https://cisco.webex.com/cisco/j.php?J=209356282

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.

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**INTRODUCTIONS AND MEETING QUORUM**
No new participants.

**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 September 10, 2010 IBIS Open Forum teleconference.  The minutes were approved without changes.

**MEMBERSHIP STATUS AND TREASURER'S REPORT**
Michael Mirmak reported that we still have 31 members.  We have received a few updates from TechAmerica on financials.  We have more income this year than budgeted spending.  Expect proposals over the next meetings for how to spend the surplus.

Bob Ross reported that we have another parser purchase in process.

**WEB PAGE UPDATES**
Syed Huq reported that some updates were made for broken links.  He will be sure to have the teleconference info updated on the web before the next meeting.

**MAILING LIST ADMINISTRATION**
Mike LaBonte rehashed that at the last meeting he said he would report at subsequent IBIS meetings how many emails have gone out to the mailing lists since the last meeting.  He reported that the ibis@eda.org list had 28 emails and the ibis-users@eda.org list had 31 emails.

He is getting about 100 bounced messages per week.  Besides that, everything is running fine.

**MODEL LIBRARY UPDATE**

No report.


**MISCELLANY/ANNOUNCEMENTS**
None.


**OPENS FOR NEW ISSUES**
Bob Ross requested that time be allotted to discuss BIRD116 and BIRD117.  Also, time for a discussion on C_comp was requested.


**INTERNATIONAL/EXTERNAL ACTIVITIES**
- DASC
Michael Mirmak noted that the most recent meeting was yesterday.  Nothing of relevance to IBIS was discussed.  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 reported that he missed the last meeting.  Meetings are once a month on the first Monday of the month.  Michael Mirmak asked if they have a reflector and IEEE designation.  Arpad is getting emails regularly, but he is not sure about an IEEE designation.  More information can be found at:

   http://www.eda.org/twiki/bin/view.cgi/P10761/ProjectsArea#Table_driven_Modeling_Champion_J

-Conferences
The IEEE Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS) is October 24-27, 2010 in Austin, Texas.  There is one presentation by SiSoft related to IBIS-AMI models.  More information can be found at the following link:

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

EMCCompo2011, the 8th 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


-Press Update

None.

**TECHAMERICA STATUS**
Michael Mirmak reported that TechAmerica contracted with an external company to change their balloting system to be closer to other organizations such as DASC.  Training sessions have happened over the last few weeks.  We do not know when the system will go live for use by our committees and working groups.

Bob Ross suggested that the system be used just for official balloting and not for small votes in working groups.  He noted that the new system allows for comments to be entered when voting. Michael added that the voting does not have to be just yes/no choices but can be free-form now.  Votes can also be started early and kept open for a long period of time.

Bob noted that we need to change a few of our web documents with the new TechAmerica physical address.  Bob also asked if anyone was planning to go to the IEC/TechAmerica conference in Seattle in October.  Michael planned to look into this further.

**CHARTER DISCUSSION**
Michael Mirmak noted that our current charter is a bit out of date.  Some of the voting rules conflict with TechAmerica rules and may prevent use of the new TechAmerica balloting system. He suggested that we update the charter to reflect how we follow the GEIA manual of rules and procedures.

**IEC APPROVAL ACTIVITIES**
Randy Wolff reported that he has received no responses to his emails to IEC members.  He noted that there is an IEC meeting in Seattle in October.  He felt that our best bet at advancing IEC standardization would be to have a representative from IBIS attend the meeting.  Michael Mirmak was looking into this.  The TC93 working groups have meetings on Friday, October 8 – Sunday, October 10.

Bob Ross noted that TechAmerica has provisions for working with the IEC and should be helping us out with our IEC activities.

**SUMMIT STATUS**
-China Summit Planning
The meeting is at the Four Points by Sheraton hotel in Shenzhen on Tuesday, November 9. Lance Wang and Bob will handle the signups.  The deadline to submit presentations is October 12 to allow time to print the booklets.  Bob reported that the fourth announcement went out.  We are starting to get presentations submitted.  Lance is coordinating vendor tables.  The primary sponsor of the event is Huawei Technologies. Co-sponsors include Agilent Technologies, Ansoft, Cadence Design Systems, Cybernet, Intel, IO Methodology, Mentor Graphics, Signal Integrity Software (SiSoft), Sigrity, Synopsys and ZTE.

-Taiwan Summit Planning

The meeting will be held Friday, November 12 at the Sherwood Hotel in Taipei near Intel. Sigrity will assist with the registration. Bob reported that the third announcement went out. A booklet is being planned, so the presentation submittal deadline is October 22. Bob plans to work with Steven Wong of ICT-Lanto to print the booklet. Co-sponsors are Agilent Technologies, Avant Technology (IO Methodology), Foxconn, ICT-Lanto, Intel, Sigrity and Synopsys.

-Japan Summit Planning
The meeting will be Monday, November 15 at the JEITA headquarters near Tokyo Station. No lunch is planned. Bob Ross reported that the second announcement went out. The presentation deadline will be about one week before the meeting. JEITA staff will handle the signups. Co-sponsors include Cadence, Sigrity and Zuken.

-DesignCon 2011 Planning
DesignCon is January 31 – February 3, 2011. The Summit is scheduled for February 3. Contract details are being worked out. Arpad Muranyi asked if we should consider moving the yearly officer elections from the DAC meeting to the DesignCon meeting. Michael Mirmak said we should also consider voting with the new balloting system too. Bob Ross noted that we may need to officially change the charter to update the election requirements. Michael plans to discuss this during the next meeting.

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 looking at FST1D software to see if a paper could be written around the tool. It looks like there is too much to learn before a presentation can be made, so no paper will be presented from the Quality committee at the upcoming summits.

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 several BIRDs have been introduced recently and discussed along with the flow BIRD, which is nearing completion. He is hoping to have a vote on the flow BIRD in the next meeting to advance it to the Open Forum.

Task group material can be found at:

## INTERCONNECT TASK GROUP

Michael Mirmak reported that the meets every Wednesday at 9AM PST. They discussed the IBIS-ISS revision 0.6 this week. They discussed the MCP proposal the previous two weeks. They looked at how MCP might fit in with IBIS and Touchstone.

Task group material can be found at:

## NEW ISSUES

Michael Mirmak noted that the BIRD webpage was modified to add a column listing the version of IBIS first supporting each BIRD. Arpad Muranyi requested that the column data be filled out for rejected BIRDs to include a note such as 'NA'.


## BIRD113.1: WEAK PULL-UP AND WEAK PULL-DOWN RESISTANCE AND VOLTAGE

Greg Edlund reported that he had not noticed any recent comments on the BIRD. Bob Ross noted that he commented on the BIRD last week. Bob proposed adding a Weak_I parameter as an optional alternative to Weak_R. This would apply to a terminator that is a FET structure that looks more like a current source than a resistor. A positive value for Weak_I would be a pulldown current source and a negative value would be for a pullup current source.

Greg noted that a network analysis would be required to analyze a net with a Weak_I on one end and a Weak_R on the other end. His main intention would be to simply note where there were conflicting pull-ups and pull-downs on the same net. Weak_I may be more detailed information than is required, but he does not have any issues with adding it.

Walter Katz mentioned to Greg that he could more quickly implement this information by adding it as custom comments to IBIS models such as what SiSoft does. Bob noted that the BIRD process is slow and this BIRD would not be official until it was voted on to become part of IBIS 5.1. Bob had no issue with Greg using custom comments to implement this feature quickly. Walter noted that we need a way to bring some ideas to a vote, especially in the task groups. Arpad suggested that committee voting rules be discussed in a separate working group.

Bob moved that a committee be created of officers to discuss the voting rules. The motion was seconded and approved.

Bob and Greg will work offline on Bob's suggestions for improvement to Greg's BIRD.


## BIRD114.1: IBIS-AMI DEFINITION CLARIFICATIONS

Arpad Muranyi stated that the BIRD clarifies questions brought up by the parser developer. The 114.1 revision made minor changes to some examples to be consistent with the new definition that strings must be surrounded by double quotes.

Arpad began writing a draft to address the request on clarifying that escape sequences are not supported, but he found that Model_Specific and Reserved_Parameters would have to be handled separately, which seemed more complicated than worth it.  Arpad noted that Bob Ross requested a change to the description of handling the Description string.  After further review, Bob dropped the request.  Arpad said that he wants to ask Anders Ekholm who made the request to clarify escape sequences to check what he really had in mind for this. Arpad summarized that no changes have been made to the BIRD.

Bob moved to put BIRD114.1 up for a vote at the next meeting.  Greg Edlund seconded.  There were no objections, so the BIRD will be considered for a vote at the next meeting.


## BIRD115: CLARIFYING MIN/TYP/MAX IN IBIS-AMI

Arpad Muranyi stated that the BIRD simply clarifies the typ/min/max definitions of parameters within IBIS-AMI.

Bob Ross moved to put BIRD115 up for a vote at the next meeting.  Arpad seconded.  With no objections, BIRD 115 will be considered for a vote at the next meeting.


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

Arpad Muranyi stated that the BIRD is in preparation for IBIS-ISS document that will be completed soon.  The Language sub-parameter of [External Model] and [External Circuit] will have an additional option, IBIS-ISS.  The usage rules for the IBIS-ISS language will be the same as the rules for the existing (Berkeley) SPICE language option except that parameter passing will be allowed.  Lance Wang asked if we should wait for IBIS-ISS to be passed as a standard before we include it in IBIS.  Arpad noted that this is being done in parallel to ensure that IBIS-ISS is included in IBIS 5.1.  Walter Katz suggested that Arpad simply redefine SPICE in IBIS to refer to both Berkeley SPICE and IBIS_ISS, so that less editing of the IBIS text is needed.  Also, he suggested removing the parameter passing rule.  Arpad thought this might cause parser issues because then you could attempt to pass parameters into a Berkeley SPICE model.  Bob Ross noted that he liked Walter's proposal.  Bob suggested a note be added to the examples that Berkeley SPICE does not support parameter passing.


## BIRD117: PARAMETERIZE A_TO_D AND D_TO_A CONVERTERS

Arpad Muranyi stated that the BIRD adds the Converter_Parameters sub-parameter to the [External Model] and [External Circuit] keywords to allow parametric sweeps of the arguments of the A_to_D and D_to_A converters.


## TSCHK2 BUG STATUS

Not discussed due to time limitations.


## IBISCHK5 BUG STATUS

Not discussed due to time limitations.


**IBISCHK5 UPDATE STATUS**

Not discussed due to time limitations.


**IBIS-ISS STATUS**

Not discussed due to time limitations.

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

    http://www.eda.org/ibis/ibis-iss_wip/


**NEW ISSUES**

Not discussed due to time limitations.


**NEXT MEETING**

The next IBIS Open Forum teleconference will be held October 22, 2010 from 8:00 to 10:00 AM US Pacific Standard Time.  A vote is scheduled for BIRD114.1 and BIRD115.

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**NOTES**

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

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, Fax: (208) 368-3475
        rrwolff@micron.com
        SI Modeling Manager, Micron Technology, Inc.
        8000 S. Federal Way
        Mail Stop: 01-711
        Boise, ID  83707-0006

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

WEBMASTER:  Syed Huq (408) 525-3399, Fax: (408) 526-5504
huqs@cisco.com
Manager, Hardware Engineering, Cisco Systems
170 West Tasman Drive
San Jose, CA  95134-1706

POSTMASTER: Mike LaBonte (978) 936-2147
milabont@cisco.com
Signal Integrity Engineer, Cisco Systems
Mail Stop BXB01/1/
1414 Massachusetts Ave
Boxborough, MA 01719

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 (ibis@eda.org)
IBIS Users' Group Reflector (ibis-users@eda.org)
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/
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

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

| Organization | Interest Category | Standards Ballot Voting Status | July 30, 2010 | August 20, 2010 | September 10, 2010 | October 1, 2010 |
|---|---|---|---|---|---|---|
| Advanced Micro Devices | Producer | Active | X | - | X | X |
| Agilent Technologies | User | Inactive | X | X | - | - |
| Ansys | User | Inactive | - | - | - | - |
| Apple Computer | User | Inactive | - | - | - | - |
| Applied Simulation Technology | User | Inactive | - | - | - | - |
| ARM | Producer | Inactive | - | - | - | - |
| Cadence Design Systems | User | Active | X | X | X | - |
| Cisco Systems | User | Active | X | X | X | X |
| Ericsson | Producer | Inactive | - | - | X | - |
| Freescale | Producer | Inactive | - | - | - | - |
| Green Streak Programs | General Interest | Inactive | - | - | - | - |
| Huawei Technologies | Producer | Inactive | - | - | - | - |
| Hitachi ULSI Systems | Producer | Inactive | - | - | - | - |
| IBM | Producer | Active | X | X | X | X |
| Infineon Technologies AG | Producer | Inactive | - | - | - | - |
| Intel Corp. | Producer | Active | X | X | X | X |
| IO Methodology | User | Active | X | - | X | X |
| LSI | Producer | Active | X | X | X | X |
| Mentor Graphics | User | Active | X | X | X | X |
| Micron Technology | Producer | Active | - | X | X | X |
| Nokia Siemens Networks | Producer | Active | X | X | X | - |
| Samtec | Producer | Inactive | - | - | - | - |
| Signal Integrity Software | User | Active | X | X | X | X |
| Sigrity | User | Inactive | - | - | - | - |
| Synopsys | User | Inactive | - | - | - | - |
| Teraspeed Consulting | General Interest | Active | X | X | X | X |
| Texas Instruments | Producer | Inactive | - | - | X | - |
| 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.