IBIS Open Forum Minutes

Meeting Date: **July 9, 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
July 30, 2010	203 115 495	IBIS

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

https://cisco.webex.com/cisco/j.php?J=203115495

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
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.

MEMBERSHIP UPDATE AND TREASURER'S REPORT
Michael Mirmak reported that the membership list was updated as of the DAC IBIS summit to drop non-paid members. Bob Ross reported that we had 30 members as of the last membership report. He is looking for confirmation for a payment from one other member. Actel was moved to the non-voting member list. Bob is still reconciling the budget numbers with TechAmerica. We did get another parser purchase as well.

REVIEW OF MINUTES AND ARS
Michael Mirmak called for comments regarding the minutes of the June 11, 2010 IBIS Open Forum teleconference and the June 15, 2010 DAC IBIS summit. Randy Wolff mentioned that AMD was listed as an active member in the member voting status table of the June 15 minutes. They should have been listed as inactive. The June 15 minutes were approved with the noted change. The June 11 minutes were approved without changes.

WEB PAGE UPDATES
No significant changes to report.

MAILING LIST ADMINISTRATION
Mike LaBonte reported that 6 emails were added overall since the last update. He has sent emails to 11 people that consistently return bounced email messages to notify them that they may not be receiving emails and can consult the email archives. There are currently 394 subscribers to the ibis list, 421 for the ibis-users list, and 451 unique subscribers between the two lists.

MODEL LIBRARY UPDATE

Anders Ekholm reported that there have been no updates since the May 4 update. He is planning to do another update in August.

PRESS UPDATE

None.

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

Bob Ross asked to discuss two new BUGs, BUG118 and BUG119.

INTERNATIONAL/EXTERNAL ACTIVITIES

- DASC

Michael Mirmak noted that the last meeting was a joint meeting with JEITA in Tokyo. No business of interest to IBIS was discussed at the last meeting. 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 meeting

Arpad Muranyi reported that he attended a VHDL-AMS meeting July 5 and gave a presentation on how IBIS uses tables. The next meeting is August 5. He also shared a link to the Touchstone 2 specification with the task group.

-Conferences

Michael Mirmak noted that the IEEE Conference on Electrical Performance of Electronic Packaging and Systems (EPEPS) released a call for papers.

TECHAMERICA STATUS

Michael Mirmak noted that he is hoping to see updates next week on our financials and membership status.

IEC APPROVAL ACTIVITIES
No update.

SUMMIT STATUS
-DAC Summit Review
The DAC summit was Tuesday, June 15 in Anaheim, CA. Michael Mirmak noted that there were 21 attendees and many good presentations.

-China Summit Planning
Bob Ross reported that the current location for the meeting is the Four Points by Sheraton hotel in Shenzhen on Tuesday, November 9. He is working with a Cadence contact for hotel arrangements. This schedule will mean that papers will need to be submitted by the first week in October.

-Taiwan Summit Planning
Bob reported that he is looking into the Westin hotel in Taipei. The IBIS committee will probably have to handle many of the arrangements. Michael Mirmak also has a lead on another hotel. The meeting size may need to be limited unless the IBIS Open Forum helps fund the meeting.

-Japan Summit Planning
Bob noted that if the Japan summit happens, it would likely occur on November 15 or 16.

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 continuing to study FSV, the correlation method, and is looking more closely at the IEEE standards. They also looked at a tool from Italy that automates the IEEE FSV number calculations and graphing. The group is meeting every other Tuesday at 8AM PST. The next meeting is July 20.

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 has been discussing flow diagrams and a flow BIRD for IBIS AMI. Many changes continue to be made each week. He is hoping to close the

discussions next week after a presentation by SiSoft.

Task group material can be found at:

http://www.eda-stds.org/ibis/macromodel_wip/

INTERCONNECT TASK GROUP
Michael Mirmak reported that the group is meeting Wednesday mornings at 9AM PST. They last discussed slight revisions to the Binary proposal submitted to the Open Forum. The Model Connection Protocol will be discussed within the coming weeks.

Steven Wong asked if the group intends to discuss modeling of passive interconnects. Michael responded that the group focuses mostly on Touchstone 2 updates. Also, the IBIS-ISS document is being discussed for standardizing Spice representations of passive interconnect. Steven noted that he doesn't see much representation in the Open Forum of interconnect and connector manufacturers. His company is very active in these products. He added that he hopes to participate more with IBIS in the future.

Task group material can be found at:

http://www.eda.org/ibis/adhoc/interconnect/

NEW ISSUES
Michael Mirmak noted that he may introduce a new way of voting to close discussion on topics in the future.

TSIRD2 – BINARY FORMAT SUPPORT
Michael Mirmak noted that the BIRD was introduced in the last meeting. This BIRD adds binary data representation support to the Touchstone format. Some small changes have been asked for in some of the descriptive text. Greg Edlund asked what the motivation was for the added noise data. Wasn't it originally ruled out? Michael responded that the original intent was to enable network data to be presented in binary within the body of an ASCII file. Michael posed several questions. For ease of parsing by software, should that binary data be at the end of the file, or can there be ASCII text or noise data at the end of the file? For a 2 port network, can noise data be at the end of the file? Should it be allowed in binary format or be allowed in the file at all? At this point, the TSIRD reads that noise data can be in binary with the [End] keyword in ASCII.

Bob Ross added that he would support the idea of not supporting binary noise data at all and amending the TSIRD. Radek Biernacki disagrees. He does not want to see exceptions in the specification. Michael added that the way the specification is structured, if you have 2 port data, the 2 port noise data would go in afterwards. He posed more questions. Is the noise data for a 2 port useful? Are we to allow ASCII data after the binary data? For 2 port networks, if we say no noise after the binary data, do we re-order the data and get rid of the [End] keyword? Walter Katz noted that he sent out a proposal whereby when one has both sets of data (the [Network

Data] keyword is present), the network data would be in binary followed by noise data in binary with no ASCII text afterwards. This can be parsed easily. You also could add some information about the data precision. Walter would also like to see data shown by transfer function instead of by frequency. Michael thinks these last two proposals of Walter's should be considered separately.

Walter proposed that the Interconnect task group discuss the various options and make a recommendation to the Open Forum of which proposal they support while letting the Open Forum vote on all the proposals.

TSCHK2 BUG STATUS
No BUGs to report.

IBISCHK5 BUG STATUS
BUG118 is a new BUG. Bob Ross reported this BUG. The Open_drain and Open_source threshold test works with ibischk4.2.0, but warnings are not detected with ibischk4.2.1 and beyond. The BUG includes two test cases. The BUG was classified as Severe severity, Medium priority and Open status. Michael Mirmak added that he thought we should also check the Open_sink case.

Bob introduced BUG119. This is a related BUG where waveform mismatch errors are not reported for the same model types and the same ibischk versions as in BUG118. The BUG was classified as Severe severity, Medium priority and Open status.

There are 14 open BUGs currently. Many of these BUGs are being fixed with a new parser development project.

IBISCHK5 PROJECT
Bob Ross reported that the developer has changed the regression test cases to show results in HTML format. He has also started on the BUG fixes for 9 BUGs. BUG104, related to test loads, may come back to the Open Forum requiring a BIRD change. Bob asked the developer to look at BUG118 and BUG119 to see if there are any quick fixes.

PULLUP/PULLDOWN RESISTOR DETECTION PROPOSAL
Greg Edlund requested a change to the title to be [Weak Pullup]/[Weak Pulldown] Detection keywords. Bob Ross requested that Greg create a BIRD for discussion at the next meeting. Michael Mirmak asked if Greg had a keyword in mind for this information to be found under. Greg did not, but he wants this information to exist within the [Model] scope. He has support from his IC vendors to add the data to their IBIS models. Bob noted that this could exist under the [Model Spec] scope. Greg wondered if this was appropriate based on the information being informational and not specification related. Micahel noted that [Model Spec] parameters are for evaluation purposes only. Bob noted there may need to be special handling of the Weak_programmable information. Greg will write up a BIRD with the suggestions.

IBIS-ISS – STATUS

Michael Mirmak reported that there is a revision 0.3 of the document. It was reviewed in the ATM group meeting and there is a list of changes Michael will be making for a revision 0.4. There is an open to make sure the changes made are acceptable to Synopsys (who donated the original documentation). Arpad Muranyi noted that support for string parameters will need to be added to the document. Bob Ross added that this needs to be consistent with the current HSPICE documentation.

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

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

NEW ISSUES

None.

NEXT MEETING

The next IBIS Open Forum teleconference will be held July 30, 2010 from 8:00 to 10:00 AM US Pacific Standard Time.

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NOTES

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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 (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	May 21, 2010	June 11, 2010	June 15, 2010	July 9, 2010
Advanced Micro Devices	Producer	Inactive	X	-	-	X
Agilent Technologies	User	Active	-	X	X	X
Ansys	User	Inactive	-	-	-	-
Apple Computer	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	-	-	-	-
ARM	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Inactive	-	-	X	-
Cisco Systems	User	Active	X	X	X	X
Ericsson	Producer	Active	X	X	X	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	X
LSI	Producer	Active	X	X	-	X
Mentor Graphics	User	Active	-	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	-	-	X	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
Texas Instruments	Producer	Inactive	-	-	-	-
Toshiba	Producer	Inactive	-	-	X	-
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.