

EIA IBIS Open Forum

Meeting Date: **September 19, 2008**

VOTING MEMBERS AND 2008 PARTICIPANTS

Actel	(Prabhu Mohan)
Agilent	Sanjeev Gupta, Radek Biernacki, Amolak Badesha Fangyi Rao, [Ian Dodd], Yutao Hu, Vuk Borich Nobutaka Arai, Ludwig Eichinger
AMD	Nam Nguyen*
Ansoft Corporation	Steve Pytel, Ricardo Teliuteuesh, Dan Dvorscak
Apple Computer	(Bill Cornelius)
Applied Simulation Technology	(Fred Balistreri)
ARM	(Nirav Patel)
Cadence Design Systems	Terry Jernberg, Hemant Shah, Ambrish Varma [C. Kumar], Brad Griffin, Zhen Mu
Cisco Systems	Syed Huq*, Mike LaBonte*, AbdulRahman (Abbey) Rafiq Huyen Pham, Emily Yao, Susmita Mutsuddy John Fisher, Paul Ruddy, Jun Li, Jianmin Zhang Luis Boluna, Kelvin Qiu, Jane Lim, Ilyoung Park Rick Brooks, Chris Padilla, Ehsan Kabir
Ericsson	Anders Ekholm
Freescale	Jon Burnett
Green Streak Programs	Lynne Green
Hitachi ULSI Systems	Kazuyoshi Shoji
Huawei Technologies	Tao Guan, Xiaoqing Dong
IBM	Adge Hawes
Infineon Technologies AG	Christian Sporrer
Intel Corporation	Michael Mirmak*, Rich Mellitz, Wei-hsing Huang Vishram Pandit
LSI	[Frank Gasparik], Brian Burdick, [Kim Helliwell]
Marvell Semiconductor	(Itzik Peleg)
Mentor Graphics	Arpad Muranyi*, John Angulo
Micron Technology	Randy Wolff*
Nokia Siemens Networks GmbH	Eckhard Lenski*, Klaus Huebner, Katja Koller
Samtec	Jim Nadolny, Justin McCalister
Signal Integrity Software	Mike Steinberger, Walter Katz, Todd Westerhoff Doug Burns, Mike Mayer, Barry Katz
Sigrity	Sam Chitwood, Brad Brim, Ben Franklin Kristopher Stytt, Raymond Chen
Synopsys	Ted Mido
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino, Al Neves
Texas Instruments	Richard Ward, Pavani Jella*
Toshiba	Yasumasa Kondo, Noriyasu Yoshikawa
Xilinx	David Banas*, Ajay Shah, Suzanne Yiu

Zuken
ZTE

Mustansir Fanaswalla
Michael Schaefer, Ralf Bruening
(Ying Xiong)

OTHER PARTICIPANTS IN 2008

Aeroflex Metelics
Aica Kogyo
Altera
Avago Technologies
Bayside Design
Celestica
ECL Advantage
EFM
Elma Bustronic
Exar
Flextronics
GEIA
Golden Bridge Networks
ICT Solutions
Interface Technologies
IO Methodology
JEITA
Magma DA
NEC
NetLogic Microsystems
North Carolina State University
Nokia
Nuova Systems
Prentice Hall
Physware
Politecnio di Torino
Qimonda AG
Siemens AG
Simberian
SimLab Software GmbH
Tektronix
TietoEnator GmbH
Tyco Electronics
Vertical Circuits
Xsigo Systems
Independent

David Nguyen
Akihiro Tanaka
Ravindra Gali, Jing Wu, John Oh, Hui Fu
Minh Quach, Sari Tocco
Elliot Nahas, Kevin Roselle
Ihsan Erdin
Thomas Iddings
Ekkehard Miersch
Michael Munroe
Helen Nguyen
Hasnain Syed
(Chris Denham)
Saman Sadigh
Steven Wong
Dan Waterloo
Lance Wang*, Zhi (Benny) Yan, Li (Kathy) Chen
Atsushi Ishikawa
Anand Ramalingam
Takeshi Watanabe
Eric Hsu
Paul Franzon
Ali Arsian
Zhiping Yang
Bernard Goodwin
Marc Kowalski
Igor Stievano
Md Morshed Alam Heial, Suhas Jawale
Manfred Maurer, Annika Woehner
Yuriy Shlepnev
Heiko Grubrich
Steve Corey
Heinz-Hartmut Ibowski
Chad Morgan
Mark Egbers
Robert Bada
Guy de Burgh, Ardy Forouhar, Dave Galloi
Kazuhiko Kusunoki

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	Telephone Number	Meeting ID
October 10, 2008	1-866-432-9903	121152402

All 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, press 1 to attend the meeting, then 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 members.

CALL FOR PATENTS

Michael Mirmak called for any patents or pending patents related to the IBIS Version 3.2, 4.0, 4.1, 4.2, or ICM 1.1 specifications. No patents were declared.

MEMBERSHIP UPDATE AND TREASURER'S REPORT

Michael Mirmak reported that we have had one recent new member join, and we now stand at 32 members. We don't expect any major changes in income or membership for the rest of the year. Bob Ross noted that we will plan on charging the same rate (\$900) for membership next year and should send membership targets to ITAA for next year's budgeting purposes.

REVIEW OF MINUTES AND ARS

Michael Mirmak called for comments regarding the minutes of the August 29, 2008 IBIS Open Forum teleconference. The minutes were approved without changes.

WEB PAGE UPDATES

Syed Huq reported that the events page was updated. A link for IBIS 5.0 was added to the specifications page. Syed is looking for new contact information for Apple.

MAILING LIST ADMINISTRATION

Bob Ross reported that everything is working normally.

MODEL LIBRARY UPDATE

No update.

PRESS UPDATE

Michael Mirmak expressed concern with not seeing any stories related to the IBIS 5.0 press release from September 5. The ITAA press release can be found at the following link:

<http://www.ita.org/newsroom/release.cfm?ID=2916>

MISCELLANY/ANNOUNCEMENTS

No update.

OPENS FOR NEW ISSUES

None.

INTERNATIONAL/EXTERNAL PROGRESS

- DASC

Michael Mirmak noted that the group met yesterday and the next meeting is October 16. No major items related to IBIS were discussed. One item related to a future topic was discussed: the market relevance of standards. This may have some use to us informally.

The DASC file and e-mail archive may be found at:

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

- P1735 Encryption

No update. The IEEE DASC Study Group on Encryption web reflector archives are found at:

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

- GEIA/ITAA Issues

No issues to report.

IEC APPROVAL ACTIVITIES

Randy Wolff mentioned that the full IBIS board met with Victor Berman of DASC and TC93 and learned about the process necessary to move IBIS 4.2 towards IEC approval. However, Chris

Denham suggested that IEC rules may enable the IEC to change the specification from the submitted version before approval, without the permission of the submitting group. Randy suggested that we need to discuss this further and decide whether IEC approval is beneficial.

Michael Mirmak posed the question of whether or not international standardization means anything to our member companies. Mike LaBonte asked if tool developers wait for something to become an international standard before advancing development. Arpad Muranyi replied that it depends on the standard. Michael posited that the major value of a standard is that the voting members involved in the standard agree on it. Bob Ross noted that the value of IEC standardization was originally related to timing of the IMIC standard going through IEC approval. He does not see the value of IEC standardization now.

SUMMIT STATUS

- Asian IBIS Summit (China) Planning

The China summit will be held November 11, 2008 in Shanghai, at the Shanghai Mart Convention Center. The due date for presentations is October 13, one month before the event. The China summit contacts are Bob Ross and Lance Wang. Huawei Technologies, Agilent Technologies, Ansoft, Cadence Design, Cybernet Systems, Intel, Mentor Graphics, SiSoft, Sigrity, Synopsys and ZTE Corporation are the official sponsors. Bob Ross noted that there are currently 8 vendor tables. 11 companies have signed up for presentations so far, so it is a mostly full program. There will not be a press meeting this year.

- Asian IBIS Summit (Japan) Planning

Michael Mirmak noted that the Japan summit will be held in Tokyo at JEITA headquarters November 14, 2008. Bob Ross or Kazuyoshi Shoji should be contacted if planning to attend the Japan summit. Official sponsors are JEITA, Agilent Technologies, Ansoft, ATE (Sigrity), Cadence Design Systems, Cybernet Systems, Fujitsu and Zuken. The full agenda will be published a week before the event. Bob noted that topics on model quality would be well received at this event. There will be tables for sponsors this year.

- DesignCon Planning

Michael Mirmak mentioned that the DesignCon event is scheduled for February 2-5, 2009 at the Santa Clara Convention Center in Santa Clara, California. Thursday, February 5, 2009 is tentatively scheduled for the summit. Michael repeated an earlier call to members to provide an 8.5" x 11" logo plaque for the booth, as some need updating. Also, contracts should be available soon.

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 task group is reviewing the IBIS Quality document before release of the 1.1 specification. They are currently reviewing the [Ramp] keyword. This is the last section of the regular checks of the specification. They are also looking to incorporate a few other "simple" checks from Eckhard Lenski. They will then be reviewing correlation issues.

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

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

IBIS MODEL REVIEW TASK GROUP

No update.

ADVANCED TECHNOLOGY MODELING TASK GROUP

Arpad Muranyi reported that group is discussing a draft document that will be presented to Synopsys. The document defines a subset of the HSPICE language to be used for IBIS-Spice with Synopsys' permission. The group is also continuing discussion of the EMD proposal by Walter Katz.

Task group material can be found at:

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

AD HOC TASK GROUPS (INTERCONNECT)

Michael Mirmak reported that the group will resume a regular meeting schedule next week. Bob Ross found a good equation editor, and now editing of the mixed-mode support section of the Touchstone 2.0 document is nearly completed. The group will be reviewing the mixed mode draft and an appendix covering mixed-mode conversions in the next meeting. They are also still discussing the use of ports and node declarations.

Task group material can be found at:

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

NEW ISSUES

Michael Mirmak asked if there is Microsoft Vista support for Cisco Meeting Place available. Syed Huq will look into it.

BIRD111.1: EXTENDED USAGE OF EXTERNAL SERIES COMPONENTS IN EBDs

Bob Ross stated that series connections in the node to node syntax of EBDs were not following the specification. The BIRD makes a change to the EBD rules to allow connection of series elements between nodes in the EBD. BIRD111.1 updated the examples. The first example shows support for a loop in the syntax describing a differential clock signal with a differential termination. The second example shows a differential terminator split between two separate [Path Description]s. This BIRD implies that tools must revise their algorithms to trace through models to figure out the total connection, otherwise node to node connections may not be found. Michael Mirmak questioned the utility of EBDs. It is the only method integrating with

IBIS showing these details, but it doesn't include enough technical information such as lossy transmission line modeling. Is there really interest in updating the EBD topology syntax without fixing other modeling details?

Arpad Muranyi felt that it was important to support this update since there is such widespread support currently for EBDs. Arpad noted that he has worked on a proposal in the ATM group related to updating the EBD language for more advanced modeling. He would like feedback on which direction, an EBD update or a new EMD language would be better supported. Lance Wang asked what vendors want to distribute. He agrees that we need to continue EBD support.

Lance asked about how to handle the differential nature in the clock example. Bob responded that you need to trace to the [Component] level, through series components, to consider that two pins of a [Component] are differential. You need to examine [Diff Pin] statements in the [Component] and [Series Pin Mapping].

Arpad asked for comments. Randy Wolff was open to updates to EBD but they need to include loss characteristics and allow for a more general netlisting capability. Lance noted the need to continue support for EBD even if moving to a new format. Mike LaBonte asked if an expanded EBD format would allow for coupling. Arpad indicated yes with enhanced t-line support and added support for S-parameters, etc. Michael asked if there is interest in a general netlisting format that doesn't include all the details of the electrical characteristics. Mike replied that he doesn't care if the electrical details are in the same file as the netlisting and connectivity details, but you must have the connectivity details for the electrical model to be useful.

IBISCHK5 DISCUSSION

Michael Mirmak noted that we now need to develop a parser for IBIS 5.0. A small group will be established to work on the details and review any bids. Bob Ross suggested the bid packet be finished and distributed quickly. Michael thinks this will be done by the next meeting. Bob felt we should focus the parser development on the new BIRDs and not on any BUG fixes. Also, the price should be set at \$2500 per license for early parser purchasers, and perhaps raise the price later on.

IBISCHK4 BUG STATUS

BUG99 and BUG101 are still open and may be fixed in the next revision of the parser, but perhaps not in the first version of the IBISCHK5 parser.

The BUG report list is available at the link below:

<http://www.eda.org/ibis/bugs/ibischk/>

ICMCHK1 BUG STATUS

No update.

NEW ISSUES

None.

NEXT MEETING

The next IBIS Open Forum teleconference will be held October 10, 2008 from 8:00 AM to 10:00 AM US Pacific 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. The BUG Report Form resides along with reported BUGs at:

<http://www.eda.org/ibis/bugs/ibischk/>
<http://www.eda.org/ibis/bugs/ibischk/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/bugspl.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>

All eda.org documents can be accessed using a mirror:

<http://www.ibis-information.org>

Note that the "/ibis" text should be removed from directory names when this URL mirror is used. Other trademarks, brands and names are the property of their respective owners.

GEIA STANDARDS BALLOT VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	July 18, 2008	August 8, 2008	August 29, 2008	September 19, 2008
Actel	Producer	Inactive				
Advanced Micro Devices	Producer	Active		√	√	√
Agilent Technologies	User	Inactive				
Ansoft	User	Inactive				
Apple Computer	User	Inactive				
Applied Simulation Technology	User	Inactive				
ARM	Producer	Inactive				
Cadence Design Systems	User	Active		√	√	
Cisco Systems	User	Active	√	√	√	√
Ericsson	Producer	Inactive			√	
Freescale	Producer	Inactive				
Green Streak Programs	General Interest	Inactive				
Hitachi ULSI Systems	Producer	Inactive				
Huawei	User	Active		√	√	
IBM	Producer	Active		√	√	
Infineon Technologies AG	Producer	Inactive				
Intel Corp.	Producer	Active	√	√	√	√
LSI	Producer	Active	√	√	√	
Marvell Semiconductor	Producer	Inactive				
Mentor Graphics	User	Active	√	√	√	√
Micron Technology	Producer	Active	√	√		√
Nokia Siemens Networks	Producer	Active		√	√	√
Samtec	Producer	Inactive				
Signal Integrity Software	User	Active	√		√	
Sigrity	User	Active	√	√	√	
Synopsys	User	Inactive				
Teraspeed Consulting	General Interest	Active	√	√	√	√
Texas Instruments	Producer	Active		√	√	√
Toshiba	Producer	Inactive				
Xilinx	Producer	Active	√		√	√
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 GEIA 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.