EIA IBIS Open Forum Minutes

Meeting Date: **May 16, 2008**

GEIA STANDARDS BALLOT VOTING STATUS
See last page of the minutes for the voting status of all member companies.

VOTING MEMBERS AND 2008 PARTICIPANTS

Agilent	Sanjeev Gupta, Radek Biernacki, Amolak Badesha Fangyi Rao, [Ian Dodd], Yutao Hu, Vuk Borich Nobutaka Arai, Ludwig Eichingner
AMD	Nam Nguyen
Ansoft Corporation	Steve Pytel
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
IO Methodology	Lance Wang*, Zhi (Benny) Yan, Li (Kathy) Chen
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
Panasonic	(Atsuji Ito)
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 Stytte
STMicroelectronics	(Anil Kalra)

Synopsys	Ted Mido
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino, Al Neves
Texas Instruments	Richard Ward
Toshiba	(Yasumasa Kondo)
Xilinx	David Banas, Ajay Shah, Suzanne Yiu
	Mustansir Fanaswalla
ZTE	(Ying Xiong)
Zuken	Michael Schaeder, Ralf Bruening

OTHER PARTICIPANTS IN 2008

Aeroflex Metelics	David Nguyen
Aica Kogyo	Akihiro Tanaka
Altera	Ravindra Gali, Jing Wu, John Oh, Hui Fu
Avago Technologies	Minh Quach, Sari Tocco
Bayside Design	Elliot Nahas, Kevin Roselle
Celestica	Ihsan Erdin
ECL Advantage	Thomas Iddings
EFM	Ekkehard Miersch
Elma Bustronic	Michael Munroe
Exar	Helen Nguyen
Flextronics	Hasnain Syed
GEIA	(Chris Denham)
Golden Bridge Networks	Saman Sadigh
ICT Solutions	Steven Wong
NetLogic Microsystems	Eric Hsu
North Carolina State University	Paul Franzon
Nokia	Ali Arsian
Nuova Systems	Zhiping Yang
Physware	Marc Kowalski
Politecnio di Torino	Igor Stievano
Qimonda AG	Md Morshed Alam Heial, Suhas Jawale
Siemens AG	Manfred Maurer, Annika Woehner
Simberian	Yuriy Shlepnev
SimLab Software GmbH	Heiko Grubrich
Tektronix	Steve Corey
TietoEnator GmbH	Heinz-Hartmut Ibowski
Tyco Electronics	Chad Morgan
Vertical Circuits	Mark Egbers
Xsigo Systems	Robert Bada
Independent	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
June 6, 2008	1-866-432-9903	121570214

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 participants.

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 as of the latest update from GEIA (ITAA), we have 19 members paid and are waiting on 9-10 other renewals. The roster will be completely updated at the DAC summit to drop non-renewed members.

REVIEW OF MINUTES AND ARS

Michael Mirmak called for comments regarding the minutes of the April 25, 2008 IBIS Open Forum teleconference.   The minutes were approved without changes.

WEB PAGE UPDATES

Bob Ross noted that the upcoming events page was updated.

MAILING LIST ADMINISTRATION

Bob Ross reported that everything is working normally.

MODEL LIBRARY UPDATE
No update.

PRESS UPDATE
None.

MISCELLANY/ANNOUNCEMENTS
None.

OPENS FOR NEW ISSUES
Michael Mirmak mentioned that the GEIA, parent organization of IBIS, has now made its Manual of Operations and Procedure, plus its Style Manual for Standards and Other Publications, available for download free of charge. We have received several queries regarding GEIA procedures on patent, copyright and other intellectual property questions. The Manual of Operations and Procedure should serve as the guide to policies followed by the IBIS Forum. The manuals are found at:

> http://www.geia.org/index.asp?sid=6 (scroll to the bottom)

INTERNATIONAL/EXTERNAL PROGRESS
- DASC
Michael Mirmak noted that there have been no meetings recently, and the meeting at DAC has been cancelled. The DASC website is found at:

> http://www.dasc.org/

- P1735 Encryption
No update. The IEEE DASC Study Group on Encryption web site is found at:

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

IEC APPROVAL ACTIVITIES
Randy Wolff noted that he contacted John Messina from NIST by email regarding IEC approval. He and John are still trying to work out a time for a phone conversation. He hopes to talk with him next week. Michael Mirmak asked Arpad Muranyi if he could contact Dennis Brophy at Mentor. Michael will send Arpad contact information for Dennis.

SUMMIT STATUS
- DAC Planning

DAC will be held June 9-13, 2008 in Anaheim, CA. Tuesday, June 10 is scheduled for the summit meeting. Syed Huq is the main contact for the event. A room has been arranged in the Anaheim Marriot hotel, adjacent to the convention center. Several presentations have been scheduled already. Please submit presentation titles soon. Three presentations are officially scheduled, but there are six at least. Michael Mirmak announced that he will be making a presentation on [Driver Schedule] and [Test Data] test loads. Elections will be held for officers. If you are interested in running for any officer positions, the board is strongly encouraging people to run as all current officers are willing to serve again but also would step aside to allow new participants. Another announcement will be out in a week and the agenda a week before the event.

- Asian Summits Planning

Michael noted that he established contact information in Taipei, Taiwan, and sponsors are being sought. Note that business visas in China may be more difficult to obtain due to the Olympics. A sponsorship letter may be needed. The planning group will firm up the China date soon. The summits will be held in the November-December timeframe.

Sponsorship opportunities for the DAC IBIS summit 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

Bob Ross reported that the group has been discussing aspects of overshoot parameters and [Test Data] and [Test Load] details. Meetings have not been held in two weeks but will resume next week.

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 reported that the group has been reviewing the EMD proposal by Walter Katz. They are trying to figure out whether to go forward with EMD, improve ICM, or go forward with both. There have also been recent discussions on the reflector of support for the sliding window algorithm in IBIS AMI. There are no clear requirements on models currently, but Arpad plans to work with Cadence to implement this in their example model.

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 has not met for several weeks. They will resume meeting next week. There have been discussions of mixed mode S-parameter formats on the reflector. Bob Ross added that the group has come to agreement in reflector discussions on the technical content of mixed mode support. Arpad Muranyi asked if the Interconnect task group should start discussing ICM changes. Michael responded that the group can begin discussing this, but it will be slow progress until Touchstone 2.0 is finished in the task group.

Task group material can be found at:

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

NEW ISSUES

Arpad Muranyi opened up a discussion on the requirement for the sliding window algorithm in IBIS AMI. Potentially a clarification BIRD will be needed. The IBIS AMI spec says that EDA tools "may" call AMI_Getwave functions multiple times and break up an entire waveform into smaller pieces for processing. It is not specifically stated in the specification that models must provide for support of the sliding waveform algorithm and buffer waveforms if necessary. He asked if we should we add some text to the AMI BIRD to clarify that this is an absolute requirement. Todd Westerhoff agreed that the text is not crystal clear on this issue, but it is implied that this algorithm must be supported. Todd suggested that we handle this issue at a later time. A novice model maker may not understand this, but an experienced one would. Todd does not want to hold up the IBIS 5.0 specification for this issue. Bob Ross agreed with this approach. A BIRD will probably be written at a later time.

BIRD105: MANDATORY GOLDEN WAVEFORM DATA

Anders Ekholm noted that the Quality task group has been discussing the Golden Waveforms structure in the specification. There are many limitations and changes may be needed. He does want to encourage the use of Golden Waveforms but realizes that making them required in all models is not the best approach. He suggested bringing up the BIRD for a vote at the next meeting and recommended a "no" vote. The Quality group has discussed adding a quality designation for Golden Waveform inclusion in a model.

A vote will be scheduled at the next meeting.

BIRD106: CLARIFICATION ON SIGNAL_PIN PARAMETERS

Arpad Muranyi noted that no changes have been made. It is ready for a vote. A vote was called for to include BIRD106 in the next version of IBIS. The vote passed unanimously with the following vote tally:

Ericsson	Yes
Huawei	Yes
IBM	Yes
Intel	Yes
IO Methodology	Yes

LSI	Yes
Mentor	Yes
Micron	Yes
SiSoft	Yes
Teraspeed	Yes

BIRD107.2: UPDATE TO ALGORITHMIC MODELING API (AMI) SUPPORT IN IBIS

Todd Westerhoff noted that the BIRD is up to date and ready for a vote. A vote was called for to include BIRD107.2 in the next version of IBIS. The vote passed unanimously with the following vote tally:

Ericsson	Yes
Huawei	Yes
IBM	Yes
Intel	Yes
IO Methodology	Yes
LSI	Yes
Mentor	Yes
Micron	Yes
SiSoft	Yes
Teraspeed	Yes

BIRD108: FIXING ALGORITHMIC MODELING API IMPULSE_MATRIX NOMENCLATURE

Bob Ross introduced the BIRD. It is a text correction to the original IBIS AMI BIRD. Impulse_Matrix is described with a "_" in the text but not in the table in the Algorithmic Modeling section. This BIRD needs to be included tin the next version of the IBIS specification along with BIRD 104.1. This does not change any technical content of BIRD 104.1; it is only an editorial change. A vote will be scheduled for the next meeting.

BIRD109: S_OVERSHOOT_HIGH/S_OVERSHOOT_LOW CLARIFICATION

Anders Ekholm introduced the BIRD. It is a clarification BIRD. The current specification does not make a distinction between absolute maximum (destruction) ratings and functional ratings for device overshoot/undershoot. This BIRD adds clarification to the IBIS specification that functional information, not destruction information should be included in an IBIS model. BIRD109 will be scheduled for a vote at the next meeting.

IBIS 5.0 DRAFT REVIEW

Michel Mirmak issued a call for comments regarding the draft document. Bob Ross noted that all current BIRDs are slated for inclusion in IBIS 5.0. He needs to work on a cleaned up version of the document to remove comments. Michael asked Anders Ekholm about BIRD109 inclusion in IBIS 5.0. Anders expected to include BIRD109 in IBIS 5.0, but the Golden Waveforms topic requires a lot more discussion and may end up with changes in an IBIS 5.1 document.

The text document is available at the following link:

http://www.eda.org/pub/ibis/ver5.0_wip/

IBISCHK4 BUG STATUS
No update.

The BUG report list is available at the link below:

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

ICMCHK1 BUG STATUS
No update.

NEW TECHNICAL ISSUES
None.

NEXT MEETING
The next IBIS Open Forum teleconference will be held June 6, 2008 from 8:00 AM to 10:00 AM US Pacific Time. Votes are scheduled for BIRD105, BIRD108 and BIRD109.

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

ibis-info@eda-stds.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-stds.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-stds.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-stds.org
> To report ibischk parser BUGs. The BUG Report Form resides along with reported BUGs at:
>
> http://www.eda-stds.org/ibis/bugs/ibischk/
> http://www.eda-stds.org/ibis/bugs/ibischk/bugform.txt

icm-bug@eda-stds.org
> To report icmchk1 parser BUGs. The BUG Report Form resides along with reported BUGs at:
>
> http://www.eda-stds.org/ibis/icm_bugs/
> http://www.eda-stds.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-stds.org/ibis/bugs/s2ibis/bugs2i.txt
> http://www.eda-stds.org/ibis/bugs/s2ibis2/bugs2i2.txt
> http://www.eda-stds.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-stds.org/ibis/directory.html

* Other names and brands may be claimed as the property of others.

GEIA STANDARDS BALLOT VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	March 14, 2008	April 4, 2008	April 25, 2008	May 16, 2008
Advanced Micro Devices	Producer	Inactive	√	√		
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	Active	√	√	√	√
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	√	√		√
IO Methodology	User	Inactive		√		√
LSI	Producer	Active	√	√	√	√
Marvell Semiconductor	Producer	Inactive				
Mentor Graphics	User	Active	√	√		√
Micron Technology	Producer	Active	√	√	√	√
Nokia Siemens Networks	Producer	Active		√	√	
Panasonic	Producer	Inactive				
Samtec	Producer	Inactive				
Signal Integrity Software	User	Active	√	√	√	√
Sigrity	User	Inactive				
STMicroelectronics	Producer	Inactive				
Synopsys	User	Inactive				
Teraspeed Consulting	General Interest	Active	√	√	√	√
Texas Instruments	Producer	Inactive				
Toshiba	Producer	Inactive				
Xilinx	Producer	Inactive	√	√		
ZTE	User	Inactive				
Zuken GmbH	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.