

EIA IBIS Open Forum Minutes

Meeting Date: **June 6, 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 Eichinger
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 [Frank Gasparik], Brian Burdick*, [Kim Helliwell]
LSI	(Itzik Peleg)
Marvell Semiconductor	Arpad Muranyi*, John Angulo
Mentor Graphics	Randy Wolff
Micron Technology	Eckhard Lenski*, Klaus Huebner, Katja Koller
Nokia Siemens Networks GmbH	(Atsuji Ito)
Panasonic	Jim Nadolny, Justin McCalister
Samtec	Mike Steinberger, Walter Katz, Todd Westerhoff
Signal Integrity Software	Doug Burns, Mike Mayer, Barry Katz
Sigrity	Sam Chitwood, Brad Brim, Ben Franklin Kristopher Stytt
STMicroelectronics	(Anil Kalra)

Synopsys
Teraspeed Consulting Group
Texas Instruments
Toshiba
Xilinx

ZTE
Zuken

Ted Mido
Bob Ross*, Tom Dagostino, Al Neves
Richard Ward
(Yasumasa Kondo)
David Banas*, Ajay Shah, Suzanne Yiu
Mustansir Fanaswalla
(Ying Xiong)
Michael Schaefer, Ralf Bruening

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
NetLogic Microsystems
North Carolina State University
Nokia
Nuova Systems
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
Eric Hsu
Paul Franzon
Ali Arsian
Zhiping Yang
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
June 27, 2008	1-866-432-9903	121587005

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 24 members paid with several other renewals pending. Participants were reminded to check on the status of their renewals as soon as possible. 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 May 16, 2008 IBIS Open Forum teleconference. The minutes were approved without changes.

WEB PAGE UPDATES

Syed Huq noted that the upcoming events page was updated with the latest DAC summit location information. He added that the specifications and membership pages were also updated.

MAILING LIST ADMINISTRATION

Bob Ross reported that everything is working normally.

MODEL LIBRARY UPDATE

No update.

PRESS UPDATE

Bob Ross noted that the edition of Tim Coyle's magazine "Xrosstalk" for June was devoted to IBIS, featuring numerous articles and interviews with noted IBIS participants. The magazine is free, but registration may be required:

<http://www.xrosstalkmag.com>

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

Michael Mirmak mentioned that the GEIA policy on meeting participation may support e-mail votes being counted as attendance. Further, an update on the GEIA merger with the ITAA may be presented during the DesignCon IBIS summit in February 2009 by a GEIA representative. More details will be announced as they become available.

INTERNATIONAL/EXTERNAL PROGRESS

- DASC

Michael Mirmak noted that the DASC will host a presentation at its next meeting on the procedures used by the IEEE and international bodies to formally approve standards. The logistics for this meeting will be made available through the IBIS reflectors. Michael also reiterated that the DASC 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

No update.

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. The agenda has been published, although last-minute changes are still possible. 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.

- Asian Summits Planning

Bob Ross observed that both the China and Japan IBIS summits were likely to take place in early to mid-November of this year. The Japan event will be held at the new headquarters of JEITA in Tokyo, while several locations are still being investigated as venues for Shanghai. The proposed Taiwan event was still being discussed, but due to low financial commitments, chances are decreasing that it will be held this year.

- DesignCon Summit Planning

Michael Mirmak noted that the IBIS Summit at DesignCon is scheduled for Thursday, February 5, 2009.

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

IBIS QUALITY TASK GROUP

David Banas reported that the most recent meeting involved an active debate regarding pulse parameters. The team is considering relaxing the IBIS Quality specification by making some pulse parameter rules optional. One concern is that relaxation of requirements might invalidate existing models' IQ level.

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

Bob Ross and Anders Ekholm reported that the last meeting was devoted to a presentation by Todd Westerhoff clarifying terminology for convolution and linear and time-invariant systems.

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 continues weekly meetings, centered entirely on Touchstone 2.0 development. Several promising proposals regarding mixed-mode support are being combined by the participants into new syntax for the draft specification.

Task group material can be found at:

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

NEW ISSUES

No new issues.

BIRD105: MANDATORY GOLDEN WAVEFORM DATA

Anders Ekholm observed that no new changes or questions had been raised regarding the BIRD text. He reiterated that, while he wants to encourage the use of Golden Waveforms, making them required in all models may not be the best approach. Further, the [Test Data] keyword only supports rising and falling waveforms, not pulse trains or PRBS patterns. Bob Ross added that the requirement may be overly broad, requiring waveforms where they may not be useful or desirable (e.g., for AMI models). After a seconded motion for a vote was received, a vote was held. The BIRD was rejected, with the following vote tally:

AMD	Abstain
Cadence	No
Cisco	No
Ericsson	No
IBM	Abstain
Intel	Abstain
LSI	Abstain
Mentor	No*
Micron	No**
Nokia Siemens	No
Teraspeed	No
Xilinx	No

* Vote cast later in the meeting, during BIRD109 discussion

** Vote cast by e-mail

BIRD108: FIXING ALGORITHMIC MODELING API IMPULSE_MATRIX NOMENCLATURE

Bob Ross stated that no additional comments or questions had been received regarding the BIRD text. The BIRD will have no impact on the parser or on the technical interpretation of the specification.

Adge Hawes suggested that one instance of 'Impulse_matrix' be changed to 'impulse_matrix' at the beginning paragraph of 3.1.2.1 since the quoted parameter does not need to be capitalized. This amendment was accepted, and an approved BIRD108.1 would be issued with this change.

After a seconded motion for a vote was received, a vote was held. The BIRD passed with the following vote tally:

AMD	Yes
Cadence	Yes
Cisco	Abstain
Ericsson	Yes
IBM	Yes
Intel	Yes
LSI	Yes
Mentor	Yes*
Micron	Yes**
Nokia Siemens	Yes
Teraspeed	Yes
Xilinx	Abstain

* Vote cast later, during BIRD109 discussion and vote

** Vote by e-mail

BIRD109: S_OVERSHOOT_HIGH/S_OVERSHOOT_LOW CLARIFICATION

Anders Ekholm reminded the team that the current IBIS 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.

Some discussion was held regarding the first change in the document, making [Model Spec] use “0.0 V” as a reference. Michael Mirmak suggested that this was erroneous, as the current IBIS specification is vague about references (buffer-based, component-based or system/global) for various keywords. Further, he stated that a voltage value (“0.0”) cannot serve as a reference, as a voltage is an expression of an electrical relationship between physical measurement points. As a result, he suggested that a rail or reference keyword (e.g., [POWER Clamp Reference]) be used instead. Bob Ross noted that the concept of “absolute ground” was implied in many portions of the IBIS specification, and that most of the measurement and early behavioral keywords used this concept implicitly. “Vss” would have been a better wording choice, according to Bob, in particular, for ECL and PECL designs.

Mike LaBonte suggested that the language be changed so that “0.0 V” is replaced by a mention of the reference used by the [Voltage Range] keyword. Anders proposed, as an alternative, that the entire changed sentence be struck and the issue taken up in a separate BIRD. The change is critical for applications where overshoot voltage specifications must be clearly referenced to the Vss or ground rail of the buffer, rather than the Vcc or power rail.

After a seconded motion for a vote was received, a vote was held. The BIRD passed, with the [Model Spec] reference sentence removed, with the following vote tally:

AMD	Yes
Cadence	Yes
Cisco	Yes
Ericsson	Yes
IBM	Yes
Intel	Yes
LSI	Yes
Mentor	Yes
Micron	Yes**
Nokia Siemens	Yes
Teraspeed	Yes
Xilinx	Yes

** Vote by e-mail; note that this vote was cast on the BIRD text before the changes made during the meeting

Bob will update the BIRD text as BIRD109.1, to ensure the changes are captured correctly.

IBIS 5.0 DRAFT REVIEW

Michael Mirmak issued a call for comments regarding the draft document. Bob Ross noted that version B has been posted and that a version C will be prepared with the text from the BIRDS approved during this meeting.

Bob Ross also raised the lack of a formal definition for the acronym “AMI” in the specification. Most participants were agreed that the acronym stood for “Algorithmic Modeling Interface,” though “Algorithmic Model Interface” was another possible alternative. Arpad suggested that this could be part of the “Definitions” portion of Section 6C of the draft specification. Alternately, Terry Jernberg suggested that the title of Section 6C use a full title, with no acronym; the acronym could appear after the first usage of the full phrase in the text. Mike LaBonte added that all the webpages for the ATM group used “algorithmic” for the letter “A” in the acronym, except the “About” page of the group, where “application” was used.

Michael Mirmak’s on-line review of the draft specification revealed that section 3.2.2.3 contains a reference to “AMI GetWave” without a joining underscore character (“_”). This will be corrected in an upcoming draft. Bob Ross also suggested that perhaps a BIRD would be needed for at least one other editorial change to the draft IBIS 5.0 document. Participants strongly suggested that a single BIRD incorporate all known editorial changes, to avoid slowing the approval process.

The draft specification is available at the following link:

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

IBISCHK4 BUG STATUS

No updated or new BUG reports have been submitted. Anders Ekholm noted that the parser output occasionally contains spelling errors. Some tools that integrate the parser may use parser output text in their error reporting or correction algorithms, which suggests that corrections to parser output may cause failures in these tools. Anders suggested that errors reported by the parser be given numbers that are maintained between versions. Michael Mirmak commented that this was a very useful idea and could be included in the IBIS 5.0 parser specification document, which would form part of the parser development contract.

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

Bob Ross observed that a technical issue has been raised by Zuken regarding EBD models. Series elements are mentioned in the EBD text, but the same keywords and syntax can be used in a differential context, without error reports from the parser. A BIRD is expected to be submitted in the coming weeks.

NEXT MEETING

The next IBIS Summit meeting will be held June 10, 2008 in Anaheim, during DAC. The next IBIS Open Forum teleconference will be held June 27, 2008 from 8:00 AM to 10:00 AM US Pacific Time.

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/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-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	April 4, 2008	April 25, 2008	May 16, 2008	June 6, 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.