

EIA IBIS Open Forum Minutes

Meeting Date: April 25, 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 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
May 16, 2008	1-866-432-9903	121451532

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

Michael Mirmak and other IBIS officers could not attend, so Bob Ross conducted this meeting.

Steven Wong from ICT Solutions joined the call. His company deals with cable assemblies and mobile wireless applications. He is interested in SPICE usage relating to IBIS.

CALL FOR PATENTS

Bob Ross 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

Bob Ross reported that currently about 18 members have rejoined. We are targeting 28-31 this year. Membership status is lost in June at the IBIS summit meeting at DAC if a company has not rejoined.

REVIEW OF MINUTES AND ARS

Bob Ross called for comment regarding the minutes of the April 4, 2008 IBIS Open Forum teleconference. The minutes were approved without changes.

WEB PAGE UPDATES

No update.

MAILING LIST ADMINISTRATION

Bob Ross reported that everything is working normally.

MODEL LIBRARY UPDATE

No update.

PRESS UPDATE

Bob Ross mentioned two items of interest.

An article in the April 17, 2008 EDN, pp. 31-36, "Integrating High-Speed Serial I/O: No Snap for SOC Designers" by Ron Wilson references IBIS and AMI. The article can be found at:

<http://www.edn.com/article/CA6549031.html??text=IBIS>

The Nokia Siemens Networks IBIS Group page gives public IBIS information and links. It is at:

<http://www.nokiasiemensnetworks.com/ibis/>

Also, Chinese and German language links exist. Ekhard Lenski noted that the site was re-hosted recently.

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

Bob Ross requested time to discuss BIRD107.1.

INTERNATIONAL/EXTERNAL PROGRESS

- DASC

No update. 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/>

Bob Ross noted that the IEEE Workshop on Signal Propagation on Interconnects (SPI) is in Avignon, France, May 12-15, 2008. IBIS material is sometimes discussed at this conference. More information can be found at:

<http://spi.univ-brest.fr>

IEC APPROVAL ACTIVITIES

Randy Wolff noted that he contacted John Messina from NIST by email regarding IEC approval. He and John are now trying to work out a time for a phone conversation.

SUMMIT STATUS

- DAC Planning

DAC will be held June 9-13, 2008 in Anaheim, CA. Tuesday, June 10 is scheduled for the summit meeting. The first announcement went out a week ago. A second announcement will go out soon. Syed Huq is the main contact for the event. Elections will be held for officers.

- Asian Summits Planning

JEITA headquarters in Tokyo is the confirmed location for the Japan summit. Bob Ross noted there has been little progress lately in planning. Michael Mirmak is investigating the interest level in a meeting in Taiwan. 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

Mike LaBonte reported that the group has held three meetings recently. Guan Tao presented on model correlation. Golden Waveforms were discussed at the last two meetings. Many ideas were presented. They found some flaws with the current definition. The group is looking for ways to promote use of Golden Waveforms. They are considering an IBIS Quality level designation for a model that includes Golden Waveforms. Meetings are held on Tuesdays at 8:00am pacific time.

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

Mike LaBonte noted that the last discussion was on the Electrical Module Description (EMD) proposal. There is ongoing discussion including overlap of EMD and ICM. The group also finalized BIRD107.1.

Task group material can be found at:

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

AD HOC TASK GROUPS (INTERCONNECT)

Bob Ross reported that the group is discussing Touchstone 2.0 including mixed mode representation. The consensus is to consider adding mixed mode and interconnect ports designations. There were recent presentations from Sigrity and Mentor Graphics on mixed mode. Mixed mode will probably require a combined single ended/mixed mode representation. Mixed mode also requires the same reference impedance for the port pairs described by mixed mode data.

Task group material can be found at:

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

NEW ISSUES

None.

BIRD105: MANDATORY GOLDEN WAVEFORM DATA

Anders Ekholm noted there has been much discussion in the IBIS Quality task group regarding BIRD105. The group found some faults in the [Test Data] loads. Bob Ross suggested that a new BIRD be written to cover any fixes to [Test Data]. Anders feels the issues with the test loads needs to be discussed before reviewing BIRD105 further.

BIRD106: CLARIFICATION ON SIGNAL_PIN PARAMETERS

Bob Ross summarized the BIRD. He noted that this BIRD is an editorial correction to comply with the intent of the specification. Mike LaBonte noted that the implementation was not done correctly to start with, and this BIRD fixes the issue at least in terms of clarifying the intent with comments.

The vote was deferred due to technical difficulties with attendees joining the meeting. A vote will be scheduled for the next meeting.

BIRD107.1: UPDATE TO ALGORITHMIC MODELING API (AMI) SUPPORT IN IBIS

Bob Ross noted the addition of Use_Init_Output to the algorithmic modeling section. Bob commented that the tables in the algorithmic modeling section should include “_” in the parameter names, as the rest of the text includes these characters. He is considering submitting a BIRD107.2 to fix this. A vote is scheduled on BIRD107.1 at the next meeting.

IBIS 5.0 DRAFT REVIEW

Bob Ross issued a call for comments regarding the draft document. Mike LaBonte asked that

the titles of BIRDS be included in the editorial text at the beginning. Bob Ross referenced Section 3.1.2.1 of Section 10, "Notes on Algorithmic Modeling Interface and Programming Guide." He noted the need for "_" in "Impulse matrix". Mike suggested it could be referred to as the impulse_matrix parameter. Bob suggested some editorial cleanup in this section.

The text document is available at the following link:

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

PORT DEFINITIONS IN [EXTERNAL CIRCUIT]

Bob Ross noted that this topic relates to ambiguity on port definitions being digital or analog in nature. Arpad Muranyi plans to write a BIRD to address this issue.

IBISCHK4 BUG STATUS

BUG101 was recently submitted by Michael Mirmak. When "Language SPICE" is declared under [External Model], parameter passing is illegal; however, the parser does not flag the existence of a parameter under [External Model] in this instance. The BUG was classified as Annoying, Low, and Open.

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

A discussion on [Test Data] related to BIRD105 was deferred to the end of the meeting. Mike LaBonte displayed the [Test Load] keyword text for reference. Anders Ekholm noted one issue is that the rise time of stimulus waveforms is not defined. Also, [Test Data] is measured at the pad, and this might influence the [Test Data]. Walter Katz noted that many standards require a test load that is an S-parameter, and a SPICE subcircuit as a standard load might be appropriate. Also, the 1000 point limit may be an issue with the waveforms, and also the file size may get too big when including the Golden Waveforms in the IBIS file. An "external" [Test Data] and [Test Load] keyword would be nice. This way, Golden Waveform data could be included in an external format to IBIS. This will be discussed further at the IBIS Quality meeting.

NEXT MEETING

The next IBIS Open Forum teleconference will be held May 16, 2008 from 8:00 AM to 10:00 AM US Pacific Time. Votes are scheduled for BIRD106 and BIRD107.1.

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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 Summit	March 14, 2008	April 4, 2008	April 25, 2008
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	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	Active		√	√	
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.