

EIA IBIS Open Forum Minutes

Meeting Date: **February 22, 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
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, Brian Griffin*
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
Intel Corporation	Michael Mirmak*, Rich Mellitz
IO Methodology	Lance Wang*, Zhi (Benny) Yan, Li (Kathy) Chen
LSI	[Frank Gasparik], Brian Burdick*, Kim Helliwell
Mentor Graphics	Arpad Muranyi*, John Angulo
Micron Technology	Randy Wolff*
Nokia Siemens Networks GmbH	Eckhard Lenski*
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
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 Schaefer)

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
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
Nuova Systems	Zhiping Yang
Physware	Marc Kowalski
Siemens AG	Manfred Maurer
Simberian	Yuriy Shlepnev
Tektronix	Steve Corey
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
March 14, 2008	-- IBIS Summit at DATE; no teleconference --	
March 14, 2008	1-866-432-9903	1-2135-7831

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

MM noted that members should have received renewal requests. Members can contact the board or Phyllis Call (pcall@geia.org) of GEIA with questions on their payment status.

REVIEW OF MINUTES AND ARS

Michael Mirmak called for comment regarding the minutes of the February 1, 2008 IBIS Open Forum teleconference. The minutes were approved without changes.

WEB PAGE UPDATES

Syed Huq reported that the events page was updated with DATE information as well as the location for the Japan summit.

MAILING LIST ADMINISTRATION

No update.

MODEL LIBRARY UPDATE

No update.

PRESS UPDATE

No update.

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

None.

INTERNATIONAL/EXTERNAL PROGRESS

- DASC

Michael Mirmak noted that he had the unapproved meeting minutes from a DASC meeting yesterday. There was some discussion of the P1735 Encryption work. The DASC website is found at:

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

- P1735 Encryption

Michael Mirmak noted that a PAR has been updated and will be balloted later this year. 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 call for participation went out for the IEEE Workshop on Signal Propagation on Interconnects (SPI). The conference 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

Michael Mirmak noted that he and Randy Wolff plan to have a chat with John Messina from NIST soon regarding IEC approval.

SUMMIT STATUS

- Design Con Summary

DesignCon 2008 was held February 4-7, 2008 at the Santa Clara convention center. The IBIS Summit was Thursday, February 7, 2008. The official count was 90 people. It was a very successful event. Michael thanked the presenters as well as Cisco for the lunch and room arrangements and Mentor for the booth arrangements.

- DATE Planning

The DATE conference will be in Munich, Germany March 10-14, 2008. The Summit is scheduled for Friday, March 14. Bob Ross noted that 5 or 6 paper proposals are scheduled so far. Another announcement will go out next week. Co-sponsors of the event include Agilent, Infineon, Mentor, Sigrity, Zuken and Nokia Siemens Networks.

- Asian Summits Planning

Bob Ross noted that JEITA has a large conference room available in Tokyo. This was a concern earlier, as JEITA's physical location changed recently. Summits will be in the late October or early November time frame. He is still investigating possibilities for a Taiwan summit.

Sponsorship opportunities for the DATE IBIS summit are still 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 is continuing to review Section 5. Michael Mirmak noted that some changes have been made to the website recently as well. Lynne Green asked when the checklist will be updated. Bob did not have a good estimate.

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

Lynne Green reported that 8 models were fully reviewed last year. No models have been submitted this year so far. Lynne noted that the review board does not include anyone from Cadence, so she mentioned to Brad Griffin of Cadence that she would like a Cadence employee to join. Lance Wang requested that Lynne add him to the review board as well.

ADVANCED TECHNOLOGY MODELING TASK GROUP

Arpad Muranyi reported that there was no meeting this week. The last meeting was a catch-up meeting. There will be a meeting next week.

Task group material can be found at:

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

AD HOC TASK GROUPS (INTERCONNECT)

Michael Mirmak reported there is a meeting scheduled for next week. Topics to discuss in the next meeting include adjustments to Touchstone 2.0 noise parameters, mixed mode parameters and ways to link IBIS and ICM. Task group material can be found at:

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

NEW ISSUES

None.

TOUCHSTONE 2.0

Michael Mirmak noted that clarifications in the language regarding noise parameters are needed. Noise parameters should only apply to 2-port network descriptions. One sentence in the Touchstone 2.0 document is unclear about this, so Michael is planning to revise the sentence, possibly removing it.

Michael issued a call for comments. Bob noted that he had some minor editorial comments. Michael confirmed that these would be discussed in the next Interconnect task group meeting. Michael asked if it is the right time to schedule a vote on Touchstone 2.0. Bob suggested that a vote be scheduled for the next meeting as long as the mixed-mode issue is dropped at this time. Michael noted that a clean copy will need to be posted within the next week. A vote is scheduled for the next teleconference.

IBIS 5.0 DISCUSSION

Michael Mirmak noted that during the summit, he asked where we should draw the line on which BIRDs are included in IBIS 5.0 and which BIRDs will be in a future version. Michael noted that BIRD74.6 – EMI Parameters, BIRD95.6 – Power Integrity Analysis using IBIS, BIRD98.3 – Gate Modulation Effect (table format), BIRD103.1 – [Model Spec] DDR2 Overshoot/Undershoot Parameters and BIRD104.1 - Algorithmic Modeling API (AMI) Support in IBIS have already passed. Proposed BIRDs include ICM-IBIS linking, improved differential measurements, [Model] under [Circuit Call], and SPICE parameter passing. Arpad Muranyi asked if Michael wanted to summarize the comments from the IBIS ATM meeting. Arpad summarized that the committee felt it was important to include the differential measurement improvements in IBIS 5.0. Bob Ross thought it was proposed to cutoff the BIRDs right now to get the process started on IBIS 5.0. All agreed that preparations should begin on IBIS 5.0, and if a BIRD is completed quickly, it can be included in IBIS 5.0. Bob also mentioned that he would like to review BIRD74.6 to see if it is still completely relevant. Michael asked Bob to include it in the draft specification per our normal rules. If it needs to be removed, a BIRD will be proposed to remove it.

IBISCHK4 BUG STATUS

Michael Mirmak noted that two BUGS were filed recently, BUG100 and BUG99. Michael showed the test case for BUG99, and Arpad Muranyi summarized it. Arpad noted that he has the AR to clean up the test case and resubmit the BUG. Michael noted that it would be nice to add a copy of the error message to the BUG as well. Michael took the AR to rewrite the BUG report.

Arpad discussed another problem. He put a Signal_pin and a Diff_Signal_pins declaration under the same [Circuit Call], and this caused an error. He noted that the error states "Too Many Signal Pins <only two allowed>." Michael responded that only one subparameter type is allowed, so having three pins is too many signal pins. Arpad noted that you can have two single ended pins, and this is not correct. However, the specification does not clearly state this. If there is more than one subparameter under [Circuit Call], it should generate an error. Arpad suggested a BIRD be written to clarify the specification so that only one instance of any one subparameter type can be included under [Circuit Call]. Furthermore, a BUG will need to be

filed to clarify the parser error message.

Michael questioned why we couldn't allow a [Circuit Call] with multiple connections. Arpad felt that this is not defined well enough by the specification, so that the simulator would not know how to control the multiple stimuli. Arpad took the AR to write a BIRD. Michael took the AR to write a BUG.

Michael also noted that it would be good to write a BIRD related to BUG100 to clarify some of the keyword ordering related to [Circuit Call].

The BUG report list is available at the link below:

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

ICMCHK1 BUG STATUS

Michael Mirmak reported that there is one BUG, but it will not be fixed until the next version of the parser. The next release of the parser will come out once IIRD9 is closed.

NEW TECHNICAL ISSUES

None.

NEXT MEETING

The next IBIS Summit will take place at DATE on March 14, 2008. No teleconference has been arranged for the meeting. The next IBIS Open Forum teleconference will be held March 14, 2008 from 8:00 AM to 10:00 AM US Pacific Time. A vote is scheduled for Touchstone 2.0.

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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/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	January 11, 2008	February 1, 2008	February 7, 2008	February 22, 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	✓	✓	✓	
Intel Corp.	Producer	Active	✓	✓	✓	✓
IO Methodology	User	Active	✓	✓	✓	✓
LSI	Producer	Active	✓	✓	✓	✓
Mentor Graphics	User	Active	✓	✓	✓	✓
Micron Technology	Producer	Active	✓		✓	✓
Nokia Siemens Networks	Producer	Inactive				✓
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.