EIA IBIS Open Forum Minutes

Meeting Date: **February 16, 2007**

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

VOTING MEMBERS AND 2007 PARTICIPANTS

Actel	(Prabhu Mohan)
Agere	(Nirav Patel)
Agilent	Radek Biernacki
AMD	Nam Nguyen, Tadashi Arai
Ansoft Corporation	(Michael Brenneman)
Apache Design Solutions	(Ji Zheng)
Applied Simulation Technology	(Fred Balistreri)
Cadence Design Systems	Lance Wang, C. Kumar, Hemant Shaw
Cisco Systems	Syed Huq*, Tram Bui, AbdulRahman Rafiq, Huyen Pham, Darja Padilla, Mike LaBonte*, Paul Ruddy, Gurpreet Hundal, Luis Boluna, Ehsan Kabir, Jehyoung Lee, Susmita Mutsuddy, Eddie Wu
Fluent	(Chetan Desai)
Freescale	Jon Burnett
Green Streak Programs	Lynne Green*
Hitachi ULSI Systems	Kazuyoshi Shoji
Huawei Technologies	ChunXing Huang, Bob He
Integrated Circuit Systems (ICS)	(Dan Clementi)
Intel Corporation	Michael Mirmak*, Arpad Muranyi
LSI Logic	Frank Gasparik, Kim Helliwell, Dinh Tran, Praveen Soora
Mentor Graphics	John Angulo*, Ian Dodd*
Micron Technology	Randy Wolff*, Pavani Jella
NEC Electronics Corporation	Hock Seow, Huy Tran
Panasonic	(Atsuji Ito)
Samtec	(Corey Kimble)
Siemens AG	Eckhard Lenski
Signal Integrity Software	Barry Katz, Douglas Burns, Mike Steinberger, Walter Katz, Todd Westerhoff
Sigrity	Sam Chitwood, Sandy Dung
Silego	(Joe Froniewski)
STMicroelectronics	Antonio Girardi*, Giacomo Bernardi*, Roberto Izzi*
Synopsys	Ted Mido
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino

Texas Instruments	Otis Gorley, Richard Ward, Bonnie Baker*
Toshiba	(Yasumasa Kondo)
Xilinx	Bruce Bandeli, David Banas*
ZTE	(Shunlin Zhu)
Zuken	(Michael Schaeder)

OTHER PARTICIPANTS IN 2007

74ze Engineering	Linc Jepson
Altera	Hui Liu, Zhe Lin, Ravindra Gali, Salman Jiva
Applied Telisis, Inc. (ATI)	Vladimar Mandrusov
ChipX	Jay Hidy, Oren Dvir
Cybernet Systems	Kazuhiki Kusunoki
Enterasys	Robert Haller
Ericsson	Anders Ekholm*, Ole Segtum
Extreme Networks	Kevin Ko
Force10 Networks	Robert Badal
GEIA	(Chris Denham)
Hewlett Packard	Shafiq Rahman
IBM	Michael Sorna, Adge Hawes
Leventhal Design	Roy Leventhal
National Instruments	Lee Maixman
Netlogic	Eric Hsu
NESA	Edward Sayre
Nuova Systems	Zhiping Yang, Lin Shen
NXP	H N Sudarshan
Optimal Corporation	Marc Kowalski
Renesas Technology	Takuji Komeda
Samsung	Sang-Soo Park
Sedona International	Joe Socha
Sun Microelectronics	Leon Yang
Tiburon Design Automation	Patirick Challacn
White Electronics Designs	John Perez
Xyratex	Paul Levin, Joseph Chan

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	Bridge #	Passcode
March 9, 2007	1-916-356-2663	3	354-9966

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, provide the bridge number and passcode at the automated prompts. If asked by an operator, please request to join the IBIS Open Forum hosted by Michael Mirmak. For international dial-in numbers, please contact Michael Mirmak.

NOTE: "AR" = Action Required.

INTRODUCTIONS AND MEETING QUORUM
Bonnie Baker of Texas Instruments introduced herself. She works on IBIS models for A to D converters at TI. She has also written a few articles about IBIS in EDM magazine.

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 no major changes in the treasury. Memberships are coming in, but he is noticing issues with renewal notices not going to the correct people. He encouraged anyone who hasn't seen the renewal notice to contact him.

REVIEW OF MINUTES AND ARS
Michael Mirmak reviewed the minutes of the January 26, 2007 IBIS Open Forum teleconference. The minutes were approved without changes. Randy Wolff gave an overview of the new format for the minutes being distributed in Adobe PDF format.

WEB PAGE UPDATES
Syed Huq reported that the events page has been updated, and also a poster page update request for ZTE is being worked on.

MAILING LIST ADMINISTRATION
Bob Ross reported that the list is running normally.

NEW MODELS AVAILABLE, LIBRARY UPDATE
No update.

PRESS UPDATE
Bob Ross mentioned an article in EE Times by Rick Merritt entitled "Soaring Data Rates Signal Coming Crisis." The article is in the February 5, 2007 issue and can be found at:

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

Bob Ross asked that we discuss our logo policy. Michael Mirmak mentioned that there have been questions about who can have a logo posted to the IBIS website poster page. Logos are only posted for those companies who are paid members of the IBIS Open Forum. Also, Bob said that people have asked about when they can use the IBIS logo on their websites. He clarified that people can post the logo to mention that they are members of the IBIS Open Forum. It is discouraged to use the logo elsewhere, such as in promotional brochures. Lynne Green asked about including the logo in training materials specific to IBIS. Bob said that we have permitted this normally. Michael Mirmak said that we need to clarify with GEIA who, if anyone, actually owns the rights to the logo.

INTERNATIONAL/EXTERNAL PROGRESS

Bob Ross mentioned several upcoming conferences of interest to IBIS members. These include:

SSP, the IEEE Statistical Signal Processing Workshop held August 26-29, 2007 in Madison, WI. The deadline for paper submission is April 1. More information can be found at:

http://ssp07.org/

SPI, the IEEE Workshop on Signal Propagation on Interconnects held May 13-16, 2007 in Genoa, Italy. The deadline for paper submissions is February 28, 2007. More information can be found at:

http://www.spi.uni-hannover.de/

IMS 2007, the IEEE MTT-S International Microwave Symposium held June 3-7, 2007 in Honolulu, Hawaii. The paper deadline has passed. More information can be found at:

http://www.ims2007.org/

EIA/ANSI APPROVAL ACTIVITIES

Randy Wolff reported that the comment period for the public review of the ANSI approval of IBIS 4.2 ended 2/5/2007. He looked through the most recent ANSI Standards Action bulletins for an announcement of the specification moving through the approval process, but he found no mention. He will continue to watch for an announcement in upcoming bulletins.

SUMMITS

- DesignCon 2007 Summary

The DesignCon summit was held Thursday, February 1, 2007 from 8:00am to 5:00pm at the Hyatt next to the Santa Clara convention center. Michael Mirmak commented that the summit went extremely well. 77 people officially attended from 42 organizations. This is a new record for attendance at a US Summit. Discussions were very good with high technical content. The ATM task group meeting afterwards went well in terms of discussion. Michael thanked Cisco for providing the lunch. IEC and the IBIS Committee were also sponsors.

- DATE

Date is April 16-20 with the summit scheduled for Thursday from 8:30am-12:30pm. DATE is being held in Nice, France. Bob Ross reported that planning is still in progress. They plan to send out the first announcement sometime next week. Lunch is not provided. A PCB symposium is Thursday afternoon, so the meeting is being cut short for that. Agilent, Zuken, Cadence, and Mentor are co-sponsors.

Sponsorship opportunities for the DATE 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 checklist items associated with use of IBISCHK have been taken care of. The group is making progress reviewing a section on C_comp. There will probably be more BUG submittals in the future. Michael Mirmak mentioned that he would eventually like the committee's support for a parser specification.

The link to the quality task group checklist is at:

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

IBIS MODEL REVIEW TASK GROUP

Lynne Green reported that she looked at the IBIS webpage and work on S-parameter activities was not posted. This will be fixed. She mentioned that she has not yet seen any AMS models, models using external circuit calls, or S-parameter models. Also, the group has received no models in the last 3 weeks. Syed Huq mentioned he is seeing many AMS models coming to Cisco directly from their ASIC vendors. Michael Mirmak asked Lynne about the task group's willingness to check ICM models. Lynne mentioned that this could be done, but it may take longer than checking normal IBIS models.

ADVANCED TECHNOLOGY MODELING TASK GROUP

Michael Mirmak reported that the group is continuing to meet every week, although there will be no meeting next week. The group is ramping up for a very detailed review of BIRD text for the API BIRD proposal by Cadence and SiSoft. The proposal is for modeling SerDes and Linear Time Invariant (LTI) systems.

Task group material can be found at:

AD HOC TASK GROUPS (INTERCONNECT)
Michael Mirmak reported that the group is meeting every couple of weeks. They are reviewing changes to the ICM specification to revise how nodes in ICM are tied to S-parameter ports in Touchstone files. They are also discussing improvements to the Touchstone format specification through IBIS and also linking of ICM to IBIS. The next meeting is February 20.

NEW ISSUES
Michael mentioned that he would like to continue having technical topic presentations during our meeting like we had at the last meeting from STMicroelectronics.

Michael Mirmak opened the topic of Touchstone and revisions to the new parser. He asked two questions of the committee. First, is there any objection in the future to having updated Touchstone submitted for a vote to this committee? Second, what about creating a parser for it? Bob Ross said that a parser would be a good step, as it would be simple. John Angulo mentioned that he would not like to see any complicated parsing of Touchstone in an IBIS supplied parser. Bob Ross said that the value of the specification is in the name, so we should be careful to not change the name if we go through the standardization process with GEIA. If Agilent can not release the rights to the name, then we should not formally standardize it with a different name. Michael summarized the opinion that we will discuss the scope of the parser once the task group is done preparing the specification.

BIRD QUEUE STATUS
Michael Mirmak said that several BIRDs are queued up for IBIS 5.0 including BIRD74.6, BIRD95.6, and BIRD103.1. Two pending BIRDs are, BIRD97 and BIRD98. Other draft BIRDs are in the works.

IBISCHK4 BUG STATUS
Michael Mirmak mentioned that IBIS parser work is continuing. No new BUGs have been submitted. Seven BUGs will be taken care of in the parser update. Bob Ross reported that an early version of the parser that addressed four BUGs has been looked at. BUG93 has been a more difficult fix. There is ongoing discussion on this BUG fix. The fix looks likely to be demoting errors to warnings to make sure that current models do not fail the new parser. Several other BUGs issue a "Caution" message, and work on this is progressing. BUG fixes will be documented in detail in the BUG reports. Bob is expecting 1-2 weeks more before the next version of the parser is available for review.

ICMCHK1 BUG STATUS
No new BUGs have been reported. Michael Mirmak mentioned that we are expecting an IIRD9 from the Ad Hoc interconnect group that will require some changes to the parser.

NEW TECHNICAL ISSUES

Antonio Gerardi said that he is updating BIRD98 text and investigating the effect of changing Vds voltage on the effective current. The updated BIRD will have table text format and a methodology for extracting the data. Bob Ross mentioned that the current methodology for acquiring internal transistor currents is difficult to model due to the requirement of cutting the circuit. He asked if STM has looked at alternative methods. Antonio is proposing two approaches, the second involves a method where you don't have to cut the circuit, but you will need separate supplies for the driver and pre-driver. Michael asked if the BIRD will discuss what the K tables are for, so that people new to modeling the Gate Modulation effect will have more background on IBIS algorithms and how these algorithms are affected by BIRD98. Michael LaBonte mentioned that there appear to be more than one implementation of IBIS algorithms between various vendors. Ian Dodd said that this is true, even within the same vendor's separate tools. Michael said that we should document if there are any assumptions made about IBIS algorithms in the implementation of BIRD98.

OPEN ISSUES

None.

NEXT MEETING

The next IBIS Open Forum teleconference will be held March 9, 2007 from 8:00am to 10:00am 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-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

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	January 5, 2007	January 26, 2007	February 1, 2007	February 16, 2007
Advanced Micro Devices	Producer	Active		√	√	
Agere Systems	User	Inactive				
Agilent Technologies	User	Inactive			√	
Ansoft	User	Inactive				
Apache Design Solutions	User	Inactive				
Applied Simulation Technology	User	Inactive				
Cadence Design Systems	User	Active		√	√	
Cisco Systems	User	Active	√	√	√	√
Fluent	Producer	Inactive				
Freescale Semiconductor	Producer	Inactive			√	
Green Streak Programs	General Interest	Inactive		√		√
Hitachi ULSI Systems	Producer	Inactive			√	
Huawei Technologies	User	Inactive			√	
Integrated Circuit Systems	Producer	Inactive				
Intel Corp.	Producer	Active	√	√	√	√
LSI Logic	Producer	Inactive	√		√	
Mentor Graphics	User	Active	√	√	√	√
Micron Technology	Producer	Active	√	√	√	√
NEC Electronics Corp.	Producer	Inactive			√	
Panasonic	Producer	Inactive				
Samtec	Producer	Inactive				
Siemens AG	Producer	Inactive		√		
Signal Integrity Software	User	Inactive			√	
Sigrity	User	Active		√	√	
Silego	Producer	Inactive				
STMicroelectronics	Producer	Inactive		√		√
Synopsys	User	Inactive			√	
Teraspeed Consulting	General Interest	Active	√	√	√	√
Texas Instruments	Producer	Active		√	√	√
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.