EIA IBIS Open Forum Minutes

Meeting Date: **January 26, 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	(Sanjeev Gupta)
AMD	Nam Nguyen*
Ansoft Corporation	(Michael Brenneman)
Apache Design Solutions	(Ji Zheng)
Applied Simulation Technology	(Fred Balistreri)
Cadence Design Systems	Lance Wang*
Cisco Systems	Syed Huq*
Fluent	(Chetan Desai)
Freescale	(Jon Burnett)
Green Streak Programs	Lynne Green*
Hitachi ULSI Systems	(Kazuyoshi Shoji)
Huawei Technologies	(Xiang Zhong Jiang)
Integrated Circuit Systems (ICS)	(Dan Clementi)
Intel Corporation	Michael Mirmak*, Arpad Muranyi*
LSI Logic	Frank Gasparik
Mentor Graphics	John Angulo*, Ian Dodd*
Micron Technology	Randy Wolff*
NEC Electronics Corporation	(Takeshi Watanabe)
Panasonic	(Atsuji Ito)
Samtec	(Corey Kimble)
Siemens AG	Eckhard Lenski*
Signal Integrity Software	(Barry Katz)
Sigrity	(Raymond Chen), Sam Chitwood*
Silego	(Joe Froniewski)
STMicroelectronics	Antonio Girardi*, Giacomo Bernardi*
	Roberto Izzi*
Synopsys	(Andy Tai)
Teraspeed Consulting Group	Bob Ross*
Texas Instruments	Otis Gorley*
Toshiba	(Yasumasa Kondo)
Xilinx	(Ray Anderson)
ZTE	(Shunlin Zhu)
Zuken	(Michael Schaeder)

OTHER PARTICIPANTS IN 2007

Ericsson	Anders Ekholm*
GEIA	(Chris Denham)
Leventhal Design	Roy Leventhal
Nuova Systems	Zhiping Yang*

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
February 1, 2007	IBIS Summit, Santa Clara, CA - no phone bridge		
February 16, 2007	1-916-356-2663	2	462-8469

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

Nam Nguyen from AMD introduced himself. He joined the SI group at AMD in January and is new to IBIS modeling. He will be learning to create IBIS models and providing them for microprocessors. Roberto Izzi and Giacomo Bernardi from STMicroelectronics introduced themselves. Roberto creates IBIS models for customers, does SI simulation, and provides support for design. Giacomo worked on modeling noise issues in IBIS a couple years ago, and he is now involved in similar work again.

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 are targeting 28 members for the 2007 budget. Seven memberships are already paid. We are anticipating a positive year for membership and financials.

REVIEW OF MINUTES AND ARS

Michael Mirmak reviewed the minutes of the January 5, 2007 IBIS Open Forum teleconference. Bob Ross mentioned that we misunderstood the rules of GEIA voting, and Cadence should be listed with voting rights. Randy Wolff took the AR to resend an updated voting status list to GEIA. The minutes were approved with the noted change. Also, it was later noted that Ericsson should not be listed in the voting members section until their payment for 2007 membership has been processed. Ericsson was incorrectly classified as a voting member in the January 5, 2007 minutes.

WEB PAGE UPDATES

Syed Huq reported that he has not made any significant changes at this time. GEIA has instituted some server changes, and this will change how we have access to our web pages in the future. We won't be able to change the look and feel of the website going forward. This affects our long term plans of updating the website to be more user-friendly.

MAILING LIST ADMINISTRATION

Bob Ross reported that the list is running normally. Michael Mirmak asked about our policy regarding attachments. Bob said that the rule is not to have any binary attachments, as these are stripped out if they are too long. Randy Wolff asked for comments on perhaps changing the format of the minutes to a non-text based format, and then sending out a link to the minutes through the reflector. There was no opposition to doing this.

NEW MODELS AVAILABLE, LIBRARY UPDATE

No update.

PRESS UPDATE

No update.

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

None.

INTERNATIONAL/EXTERNAL PROGRESS

None.

EIA/ANSI APPROVAL ACTIVITIES

Randy Wolff reported that the comment period for the public review of the ANSI approval of IBIS

4.2 will end 2/5/2007. Randy took the AR to look through upcoming ANSI Standards Action bulletins for announcements of the specification moving through the approval process.

SUMMITS

- DesignCon 2007
The DesignCon summit is scheduled for Thursday, February 1, 2007 from 8:00am to 5:00pm. It will be hosted at the Hyatt next to the Santa Clara convention center in the Cyprus room. 8:30am will be the start time for presentations. Pre-registration is strongly advised. The agenda has been sent out. There is a full slate of 9 presentations. After the meeting at about 3:00pm, there will be a discussion of the ATM group's work on API technologies. The room is reserved until 7:00pm. The current attendee list from Syed Huq has 56 attendees. Syed will give the Hyatt a headcount on Monday. Cisco is officially sponsoring the event.

- DATE
Date is April 16-20 with the summit scheduled for Thursday from 9:00am-2:00pm. DATE is being held in Nice, France. Ralf Bruening recently changed the meeting from Friday to Thursday. Zuken, Cadence, and Mentor are sponsors.

Sponsorship opportunities for the DesignCon and DATE summits 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 is continuing to review the Quality document. The last meeting was on Tuesday the 23rd and the next is in two weeks. They have been discussing how to interpret some items on the Quality checklist.

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 the group has received three models so far in January to review. Requests for model reviews have been picking up.

ADVANCED TECHNOLOGY MODELING TASK GROUP
Arpad Muranyi reported that the group is meeting regularly, but it has not been making too much progress lately. They have been discussing the Cadence proposal in detail. Todd Westerhoff will give a presentation about the task group's efforts at the IBIS Summit presentation.

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 had a meeting on January 24, and the next meeting is February 7. 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 through IBIS.

NEW ISSUES

None.

SPECIAL PRESENTATION - GATE MODULATION EFFECT

Antonio Girardi, Giacomo Bernardi, and Roberto Izzi co-presented on IBIS Gate Modulation modeling techniques. Antonio first showed results of an SSO simulation that revealed large discrepancies between standard IBIS and spice results. ST's solution to the problem is based on the introduction of two coefficients for pullup and pulldown stages that modulate the original IBIS current (Ids) when noise causes the power and ground node voltages to bounce around. Antonio showed how the coefficient is independent from the Vds voltage in the saturation zone, implying that one table with the coefficient K in the saturation zone for pullup and pulldown would be sufficient. So, the data table extracted is effective current (I_effective) as a function of Vgs with Vds equal to VDD. Antonio then showed results of an SSO simulation using the new methodology that showed close agreement between IBIS-AMS and spice results.

Arpad Muranyi asked about what would happen if you could not disconnect the pullup or pulldown stages as indicated in slide 8 for measuring the effective current tables. Arpad also asked about slide 7 and if they had looked at modeling the effect at other points besides when Vds equals VDD as seen in the saturation zone. Antonio responded that they felt it was most important to model the effects of power and ground bounce in the saturation zone.

Michael Mirmak asked about how all the voltages are referenced in the presentation. Antonio said they are all referenced to an ideal ground location. Michael was concerned about being careful with advanced keywords in IBIS and maintaining correct referencing. We must specify which reference is being used.

Zhiping Yang asked them to clarify where the I_effective was measured. He noted that it could be very difficult to access the required nodes due to the complexity of some circuits.

Michael asked if Antonio was planning to make the proposed changes to the BIRD98 text. Antonio is planning to do this. Arpad requested that more simulations be done to look at the effect of changing Vds when extracting the effective current.

The presentation material can be found at:

IBISCHK4 BUG STATUS

Michael Mirmak mentioned that IBIS parser work is continuing.

ICMCHK1 BUG STATUS

No update.

NEW TECHNICAL ISSUES

None.

OPEN ISSUES

None.

NEXT MEETING

The next IBIS Open Forum Summit will be held at DesignCon on February 1, 2007. There will be no telephone bridge. The next IBIS Open Forum teleconference will be held February 16, 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	November 17, 2006	December 8, 2006	January 5, 2007	January 26, 2007
Advanced Micro Devices	Producer	Inactive				√
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	Inactive				√
Silego	Producer	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.