

# EIA IBIS Open Forum Minutes

Meeting Date: **March 9, 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  
Toshiba  
Xilinx  
ZTE  
Zuken

Otis Gorley\*, Richard Ward, Bonnie Baker  
(Yasumasa Kondo)  
Bruce Bandeli, David Banas  
(Shunlin Zhu)  
(Michael Schaefer)

#### **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 30, 2007	1-916-356-2663	3	605-4777

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.

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## **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 we are getting many renewals coming in. Michael asked members to let him know if they have not received a renewal invoice. GEIA will have a membership update available shortly.

## **REVIEW OF MINUTES AND ARS**

Michael Mirmak reviewed the minutes of the February 1, 2007 IBIS Open Forum Summit held at DesignCon. He also reviewed the February 16, 2007 IBIS Open Forum teleconference minutes. Both sets of minutes were approved without changes.

## **WEB PAGE UPDATES**

Michael Mirmak reported for Syed Huq that the roster page was updated with information on Agere and LSI. Also, the meeting minutes were uploaded and the events page was updated. Michael also mentioned that there are some major changes to the website in the works.

## **MAILING LIST ADMINISTRATION**

Bob Ross reported that the list is running normally. LSI Logic had a url change, and this caused a few messages to get dropped. Most of the addresses have been fixed.

## **NEW MODELS AVAILABLE, LIBRARY UPDATE**

No update.

## **PRESS UPDATE**

Michael Mirmak is expecting to see an update from the October Asian IBIS summits in the Asian press. He took the AR to check with his Asian contacts.

## **MISCELLANY/ANNOUNCEMENTS**

None.

## **OPENS FOR NEW ISSUES**

None.

## **INTERNATIONAL/EXTERNAL PROGRESS**

Several upcoming conferences of interest to IBIS members 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 has passed. 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. Randy took the AR to check with GEIA to see if they have any other information.

## **SUMMITS**

### **- 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 the first announcement went out. The second announcement should come out shortly. One paper has been submitted so far. Agilent, Cadence, Mentor, and Zuken are co-sponsors.

### **-Asia Events**

Michael Mirmak mentioned that two events are planned for Tokyo and Beijing in September.

The planning committee has a lead on a hotel in Beijing, the Park Plaza. The Crown Plaza hotel is also reserved in China. They will decide on which one to use based on price, capacity, etc. The date is still flexible. Bob Ross said that the week of September 10-14 looks best.

Sponsorship opportunities for the DATE summit and the Asian IBIS 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 last meeting was cancelled. David Banas has some proposals on the table for rewording some sections of the checklist. The group is still actively reviewing the document. Michael Mirmak asked if the group could present some of their work in an upcoming teleconference.

The link to the quality task group checklist is at:

[http://www.eda-stds.org/ibis/quality\\_wip/](http://www.eda-stds.org/ibis/quality_wip/)

### **IBIS MODEL REVIEW TASK GROUP**

No report.

### **ADVANCED TECHNOLOGY MODELING TASK GROUP**

Michael Mirmak reported that the group is continuing to meet regularly. The EDA companies are collaborating on a draft API BIRD proposal. This proposal is pushed out until the meeting on March 20. Outline of the overall approach was presented at the last meeting. There was some discussion at the last meeting about whether the proposal could be expanded to model buffers besides SerDes and Linear Time Invariant (LTI) ones.

Task group material can be found at:

[http://www.eda-stds.org/ibis/macromodel\\_wip/](http://www.eda-stds.org/ibis/macromodel_wip/)

### **AD HOC TASK GROUPS (INTERCONNECT)**

Michael Mirmak reported that the group had a meeting on Wednesday. They are working on IIRD9 to improve S-parameters in ICM. There was discussion over usage of simplified S-parameter blocks for treating powers and grounds. They are working on Touchstone version 2 as well.

Task group material can be found at:

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

## **NEW ISSUES**

None.

## **BIRD QUEUE STATUS**

Michael Mirmak received an updated BIRD98 from Antonio Gerardi. This will hopefully be discussed at the next meeting. Several other BIRDs are in the works.

Antonio reported that he completed analysis of the relationship between effective current and Vds change. The results showed that one could consider the effective current independent of Vds change for Vds values within the saturation region of the transistor. Channel variation effects are very slight. The current BIRD proposal has Vds voltage equal to the supply voltage, and this should be a good solution at this point. A document sent to Michael details this analysis. The presentation can be found at the following url:

[http://www.eda-stds.org/ibis/docs/l\\_effective\\_and\\_Vds\\_dependence.ppt](http://www.eda-stds.org/ibis/docs/l_effective_and_Vds_dependence.ppt)

Antonio requested that Arpad Muranyi and others review the analysis and BIRD before putting it up for a vote. Michael will schedule a time for Antonio to discuss the analysis at the next meeting.

## **IBISCHK4 BUG STATUS**

Bob Ross reported that the last draft of the IBIS parser was sent recently. Atul Agarwal is still working on more validation tests. Bob wants to spend more time reviewing the BUG93 fix. Michael Mirmak asked if the parser would be ready within the next two meetings. Bob said that this is a realistic schedule.

## **ICMCHK1 BUG STATUS**

No new BUGs have been reported. Michael Mirmak mentioned that decisions will need to be made on how to update the parser once IIRD9 from the Ad Hoc interconnect group is released.

## **NEW TECHNICAL ISSUES**

None.

## **OPEN ISSUES**

None.

## **NEXT MEETING**

The next IBIS Open Forum teleconference will be held March 30, 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](mailto: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](mailto:ibis-request@eda-stds.org)

To join, change, or drop from either or both:  
IBIS Open Forum Reflector ([ibis@eda-stds.org](mailto:ibis@eda-stds.org))  
IBIS Users' Group Reflector ([ibis-users@eda-stds.org](mailto:ibis-users@eda-stds.org))  
State your request.

[ibis-info@eda-stds.org](mailto: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](mailto: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](mailto: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](mailto: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](mailto: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/)  
[http://www.eda-stds.org/ibis/icm\\_bugs/icm\\_bugform.txt](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 26, 2007	February 1, 2007	February 16, 2007	March 9, 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	Inactive	√	√		
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	Active	√		√	√
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.