

# EIA IBIS Open Forum Minutes

Meeting Date: **July 18, 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 Eichinger
AMD	Nam Nguyen
Ansoft Corporation	Steve Pytel, Ricardo Teliuteuesh, Dan Dvorscak
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
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, Wei-hsing Huang Vishram Pandit
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
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, Raymond Chen
Synopsys	Ted Mido
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino, Al Neves
Texas Instruments	Richard Ward

Toshiba  
Xilinx

ZTE

Yasumasa Kondo, Noriyasu Yoshikawa  
David Banas\*, Ajay Shah, Suzanne Yiu  
Mustansir Fanaswalla  
(Ying Xiong)

#### **OTHER PARTICIPANTS IN 2008**

Aeroflex Metelics  
Aica Kogyo  
Altera  
Avago Technologies  
Bayside Design  
Celestica  
ECL Advantage  
EFM  
Elma Bustronic  
Exar  
Flextronics  
Freescale  
GEIA  
Golden Bridge Networks  
ICT Solutions  
Interface Technologies  
IO Methodology  
JEITA  
Magma DA  
NEC  
NetLogic Microsystems  
North Carolina State University  
Nokia  
Nuova Systems  
Prentice Hall  
Physware  
Politecnio di Torino  
Qimonda AG  
Siemens AG  
Simberian  
SimLab Software GmbH  
Tektronix  
TietoEnator GmbH  
Tyco Electronics  
Vertical Circuits  
Xsigo Systems  
Zuken  
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  
Jon Burnett  
(Chris Denham)  
Saman Sadigh  
Steven Wong  
Dan Waterloo  
Lance Wang\*, Zhi (Benny) Yan, Li (Kathy) Chen  
Atsushi Ishikawa  
Anand Ramalingam  
Takeshi Watanabe  
Eric Hsu  
Paul Franzon  
Ali Arsian  
Zhiping Yang  
Bernard Goodwin  
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  
Michael Schaefer, Ralf Bruening  
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
August 8, 2008	1-866-432-9903	210220562

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](http://www.cisco.com/web/about/doing_business/conferencing/index.html)

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 some new renewals, approaching 32 renewals for the year. We should pass our budget requirements. Any extra funds may go towards a new parser contract.

### **REVIEW OF MINUTES AND ARS**

Michael Mirmak called for comments regarding the minutes of the June 27, 2008 IBIS Open Forum teleconference and the June 10, 2008 IBIS Summit held at DAC. Randy Wolff noted that the June 27 minutes incorrectly titled the BIRD110 discussion with the title for BIRD108. Both sets of minutes were approved with the noted changes to the June 27 minutes.

**WEB PAGE UPDATES**

Michael Mirmak noted that the roster needs some updates.

**MAILING LIST ADMINISTRATION**

Bob Ross reported that everything is working normally.

**MODEL LIBRARY UPDATE**

No update.

**PRESS UPDATE**

No update.

**MISCELLANY/ANNOUNCEMENTS**

No update.

**OPENS FOR NEW ISSUES**

None.

**INTERNATIONAL/EXTERNAL PROGRESS****- DASC**

No update. Presentation slides from the last meeting related to standards processes are on the website. The DASC file and e-mail archive may be found at:

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

**- P1735 Encryption**

No update. The IEEE DASC Study Group on Encryption web reflector archives are found at:

<http://www.eda-stds.org/ip-encrypt/hm/>

**IEC APPROVAL ACTIVITIES**

Randy Wolff noted that he has emailed Dennis Brophy as a follow-up to his conversation with John Messina. He asked Dennis to help him complete a Work Item Proposal for the next WG2 meeting; however, he has not received a response. Arpad Muranyi will provide Dennis' phone number to Randy offline.

**SUMMIT STATUS**

- Asian Summits Planning

Michael Mirmak noted that the Shanghai and Tokyo IBIS Summits have been tentatively scheduled for November 11 and November 14, respectively. We will not be able to hold a Taipei summit this year due to logistical difficulties, but we are very hopeful of having a 2009 event in Taiwan.

#### - DesignCon Planning

Michael Mirmak mentioned that the DesignCon event is scheduled for February 2-5, 2009 at the Santa Clara Convention Center in Santa Clara, California. A summit will be planned for sometime during the event.

Sponsorship opportunities for all upcoming 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**

Mike LaBonte reported that the group has completed checks on the overshoot parameters. They are moving on to discuss [Receiver Thresholds]. Actually, they are revisiting this topic for a quick look over.

The Quality Task Group checklist and other documentation can be found at:

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

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

No update.

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

Arpad Muranyi reported that the group is debating a netlisting and modeling format for interconnects. They are soliciting feedback on the needs of the group. The group is settling on the idea of using an existing SPICE such as Berkeley SPICE and adding to it. Also, they are looking at making improvements to EBD.

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 there was no meeting the last week. The next step is to take the group's mixed-mode ideas and put them into a draft specification.

Task group material can be found at:

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

## **NEW ISSUES**

None.

### **BIRD110: ALGORITHMIC MODELING INTERFACE SECTION TITLE**

Bob noted that no changes are needed following the discussion at the last meeting.

The BIRD is a simple correction to the original IBIS AMI text, to actually define the acronym 'AMI' in the title of the relevant specification section. This does not change any technical content of any AMI BIRD; it is only an editorial change.

After a seconded motion for a vote was received, a vote was held for inclusion of the BIRD in the next draft of the IBIS specification. The BIRD passed with the following vote tally:

Cisco	Yes
Intel	Yes
LSI	Yes
Mentor	Yes
Micron	Yes
SiSoft	Yes
Sigrity	Yes
Teraspeed	Yes
Xilinx	Yes

### **BIRD111: EXTENDED USAGE OF EXTERNAL SERIES COMPONENTS IN EBDs**

Bob Ross introduced the BIRD. There is a specific prohibition in EBD to avoid using series components to connect two paths together. The BIRD would remove this restriction to allow series connections between [Path Description]s. This would allow differential terminations such as on clock signals. This change would conform to what several vendors already do in their EBD models. The parser already supports this change. Michael Mirmak noted that if we did not pass this BIRD, we would technically need to write a parser BUG. Bob suggested that this BIRD be approved to keep in touch with current technology. Michael asked if the parser should check that the active devices referenced in the paths constitute a valid differential connection. This BIRD may have created an alternate way of creating a differential path without calling it out at the component level. Mike LaBonte noted that most EDA tools work in a two stage process. Before netlisting, the tool will analyze which pins are involved in a simulation and will usually look at [Pin Mapping] and [Diff Pin] to understand connectivity. Maybe the BIRD should prevent forked paths from jumping across connections that don't have a [Diff Pin] or [Pin Mapping] relationship. Michael said that we need to identify a differential pair because of the stimulus or for evaluation – looking at the pair differentially for a voltage calculation. In the absence of [Diff Pin], you lose one or both of those. Bob noted that ECL buffers can be single ended or differential, so this presents a case where the pins are associated but not differential. Bob plans to double check the syntax in the BIRD.

## **IBIS 5.0 DRAFT REVIEW**

Michel Mirmak issued a call for comments regarding the draft document. He is planning for an August 29, 2008 approval vote. Arpad Muranyi created Acrobat and Word versions of the specification. Michael noted that the work-in-progress directory on the website needs to be better organized. Bob Ross noted that by searching for “&&”, there is some text that needs cleanup. Michael will look into fixing this. Bob will move old versions of the document into a subdirectory.

The text of the draft specifications is available at the following link:

[http://www.eda.org/pub/ibis/ver5.0\\_wip/](http://www.eda.org/pub/ibis/ver5.0_wip/)

#### **IBISCHK4 BUG STATUS**

BUG99 and BUG101 are still open and will be fixed in the next revision of the parser.

The BUG report list is available at the link below:

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

#### **ICMCHK1 BUG STATUS**

Michael Mirmak has created a draft parser that fixes BUG4. He plans to provide executables soon to people that can provide feedback. This will be version 1.1.3.

#### **NEW TECHNICAL ISSUES**

Michael Mirmak brought up the issue of GEIA standards ballots voting status. He noted that GEIA has mentioned that proxy votes by email are ok to meet definitions of attendance. We need to decide if we want to officially ballot IBIS 5.0 for GEIA approval. If so, we need to make sure that more members are in “Active” status for GEIA balloting.

#### **NEXT MEETING**

The next IBIS Open Forum teleconference will be held August 8, 2008 from 8:00 AM to 10:00 AM US Pacific Time. A vote on IBIS 5.0 will tentatively be held on August 29.

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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.org](mailto:majordomo@eda.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.org](mailto:ibis-request@eda.org)



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

[ibis-info@eda.org](mailto:ibis-info@eda.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.org](mailto:ibis@eda.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.org](mailto:ibis-users@eda.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.org](mailto:ibis-bug@eda.org)

To report ibischk parser BUGs. The BUG Report Form resides along with reported BUGs at:

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

[icm-bug@eda.org](mailto:icm-bug@eda.org)

To report icmchk1 parser BUGs. The BUG Report Form resides along with reported BUGs at:

[http://www.eda.org/ibis/icm\\_bugs/](http://www.eda.org/ibis/icm_bugs/)  
[http://www.eda.org/ibis/icm\\_bugs/icm\\_bugform.txt](http://www.eda.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.org/ibis/bugs/s2ibis/bugs2i.txt>  
<http://www.eda.org/ibis/bugs/s2ibis2/bugs2i2.txt>  
<http://www.eda.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.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.

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## GEIA STANDARDS BALLOT VOTING STATUS

### I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	June 6, 2008	June 10, 2008	June 27, 2008	July 18, 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	√		√	
Green Streak Programs	General Interest	Inactive		√		
Hitachi ULSI Systems	Producer	Inactive		√		
Huawei	User	Inactive			√	
IBM	Producer	Active	√		√	
Infineon Technologies AG	Producer	Inactive				
Intel Corp.	Producer	Active	√	√	√	√
LSI	Producer	Active	√		√	√
Marvell Semiconductor	Producer	Inactive				
Mentor Graphics	User	Active	√	√	√	√
Micron Technology	Producer	Inactive				√
Nokia Siemens Networks	Producer	Active	√		√	
Samtec	Producer	Inactive				
Signal Integrity Software	User	Active		√	√	√
Sigrity	User	Active		√	√	√
Synopsys	User	Inactive				
Teraspeed Consulting	General Interest	Active	√	√	√	√
Texas Instruments	Producer	Inactive		√		
Toshiba	Producer	Inactive		√		
Xilinx	Producer	Active	√	√		√
ZTE	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.