

EIA IBIS Open Forum Minutes

Meeting Date: **August 24, 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

Agilent	Ian Dodd, Radek Biernacki, Saliou Dieye, Riccardo Giacometti
AMD	Nam Nguyen, Tadashi Arai
Ansoft Corporation	(Michael Brenneman)
Applied Simulation Technology	(Fred Balistreri)
Apple Computer	(Bill Cornelius)
Cadence Design Systems	[Lance Wang], C. Kumar, Hemant Shah*, Patrick dos Santos, Ambrish Varma*, Shangli Wu
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
Ericsson	Anders Ekholm*, Ole Segtum
Freescale	Jon Burnett
Green Streak Programs	Lynne Green
Hitachi ULSI Systems	Kazuyoshi Shoji
Intel Corporation	Michael Mirmak*, [Arpad Muranyi]
IO Methodology	Lance Wang*
LSI	Frank Gasparik*, Kim Helliwell, Dinh Tran, Praveen Soora, Brian Burdick*
Mentor Graphics	John Angulo, Arpad Muranyi*, [Ian Dodd], Eric Rongere, Stephane Rousseau, Bill Hargin, Patrick Carrier
Micron Technology	Randy Wolff, Pavani Jella
Nokia Siemens Networks GmbH[1]	Eckhard Lenski, Flavio Maggioni, Roberto Preatoni, Umberto Gatti, Massimo Ceppi
Panasonic	(Atsuji Ito)
Samtec	(Corey Kimble)
Signal Integrity Software	Barry Katz, Douglas Burns, Mike Steinberger, Walter Katz, Todd Westerhoff*
Sigrity	Sam Chitwood*, Sandy Dung
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 Schaefer, Ralf Bruening, John Berrie

OTHER PARTICIPANTS IN 2007

74ze Engineering	Linc Jepson
Agere	(Nirav Patel)
Altera	Hui Liu, Zhe Lin, Ravindra Gali, Salman Jiva
Apache Design Solutions	(Ji Zheng)
Applied Telisis, Inc. (ATI)	Vladimar Mandrusov
Cavium Networks	Johann Nittmann
ChipX	Jay Hidy, Oren Dvir
Cybernet Systems	Kazuhiki Kusunoki
EFM	Ekkehard Miersch
Enterasys	Robert Haller
Extreme Networks	Kevin Ko
Fluent	(Chetan Desai)
Force10 Networks	Robert Badal
Free Electron Software	Al Davis
GEIA	(Chris Denham)
Hewlett Packard	Shafiq Rahman
Huawei Technologies	ChunXing Huang, Bob He
IBM	Michael Sorna, Adge Hawes*, Kevin Kramer*
Infineon	Christian Sporrer
Integrated Circuit Systems (ICS)	(Dan Clementi)
JEITA	Atsushi Ishikawa
Juniper Networks	Raul Lozano
Leventhal Design	Roy Leventhal
Lynguent	Andrew Levy
National Institute of Applied Science (INSA)	Etienne Sicard
National Instruments	Lee Maixman
Netlogic	Eric Hsu
NEC Electronics Corporation	Takeshi Watanabe, Hock Seow, Huy Tran
NESA	Edward Sayre
Northrop Grumman	Dusan Radosevic
Nuova Systems	Zhiping Yang, Lin Shen
NXP	H N Sudarshan
Optimal Corporation	Marc Kowalski
Politecnico di Torino	Igor Stievano, Michelangelo Bandinu
Renesas Technology	Takuji Komeda
Samsung	Sang-Soo Park
Sedona International	Joe Socha
Siemens AG [1]	[Eckhard Lenski], Manfred Maurer

Silego	(Joe Froniewski)
Sun Microelectronics	Leon Yang
Tiburon Design Automation	Patrick O'Halloran
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
September 21, 2007	1-916-356-2663	4	627-8629

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

Ambrish Varma introduced himself. He has been a frequent contributor to IBIS, having authored and maintained S2IBIS3 while a Ph.D. student at North Carolina State University (NCSU). He is now working at Cadence Design Systems.

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 at 29 members currently and sitting well financially. Both he and Bob Ross noted that a few new members are expected before the end of the year. Financial information has been received from the GEIA and is being analyzed.

REVIEW OF MINUTES AND ARS

Michael Mirmak called for comment regarding the minutes of the August 3, 2007 IBIS Open Forum teleconference. The minutes were approved without change.

WEB PAGE UPDATES

Syed Huq reported that he made changes to the events page.

MAILING LIST ADMINISTRATION

Bob Ross reported that the list appears to have become unavailable Thursday, August 23 and was not posting messages at the time of the meeting. The system administrators of eda.org were attempting to fix this.

MODEL LIBRARY UPDATE

No update.

PRESS UPDATE

No update.

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

Mike LaBonte expressed his gratitude to Ambrish Varma and NCSU for their work in developing and supporting S2IBIS3. Todd Westerhoff concurred. Ambrish inquired about the current IBIS Committee policy toward S2IBIS3. Mike noted that, at the DAC IBIS Summit, posting the code to SourceForge or a similar repository would help keep the code available to industry. Bob Ross agreed that S2IBIS3 was a valuable resource to industry and it should be maintained. Michael Mirmak suggested that the major difficulty in finding a “home” for S2IBIS3 was hesitancy to accept the commitment to offer support and upgrades and answer user questions. This represents a major potential burden. Ambrish took the AR to check on NCSU’s policies on code support and distribution, plus its plans for S2IBIS3. Michael Mirmak will check into the policies of SourceForge and other on-line resources.

INTERNATIONAL/EXTERNAL PROGRESS

Upcoming conferences of interest to IBIS members are listed below.

SSP, the IEEE Statistical Signal Processing Workshop, is to be held August 26-29, 2007 in Madison, Wisconsin. The deadline for paper submissions has passed. More information can be found at:

<http://ssp07.org/>

The 6th International Workshop on Electromagnetic Compatibility of Integrated Circuits (EMC Compo 2007) is to be held November 28-30, 2007, in Torino, Italy. There will be some sessions mentioning IBIS. More information can be found at:

<http://www.emccompo07.polito.it/>

Michael Mirmak noted that the first meeting of IEEE DASC Study Group on Encryption was held on August 22. Most of the meeting was devoted to determining its scope. The group is run by Gary Delp of LSI and is intended to develop a PAR (Project Authorization Request) for a separate encryption standard, similar to the macro syntax already in the Verilog* and VHDL digital specifications. Those interested in participating can join the reflectors and view the archived messages stored on the Study Group's website:

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

IEC APPROVAL ACTIVITIES

No update.

SUMMITS

- Asian IBIS Summit (China) Planning

The Asian IBIS Summit (China) will be held Tuesday, September 11 at The Park Plaza Science Park hotel in Beijing. Bob Ross and Lance Wang are contacts for attendees and presenters. Bob Ross reported the presentation schedule is "super tight" and that he is working on the final schedule. The fourth call for participation and presentations has gone out. Pre-registration per company is strongly recommended. Todd Westerhoff inquired about simultaneous translation. Bob Ross responded that translation would be in the form of a summary in Chinese by Lance Wang after each presentation. Official sponsors so far include Huawei Technologies, Agilent, Ansoft, Cadence, Intel, Mentor Graphics, Sigrity, SiSoft, Synopsys and ZTE Corporation.

- Asian IBIS Summit (Japan) Planning

The Asian IBIS Summit (Japan) will be held Friday, September 14 at JEITA headquarters in Tokyo. Sponsors include Agilent Technologies, ATE Service Corporation (Sigrity), Cadence Design Systems, Cybernet Systems, IVIS (SiSoft), Mentor Graphics and Zuken. The other official sponsor of the Japan summit is JEITA. Bob is the main contact for this event. The fifth announcement has already been distributed. Presentations should be in English.

Sponsorship opportunities for 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

Mike LaBonte reported that the group is meeting weekly, and they have completed their review of the Vinl and Vinh checks under [Model]. [Model Spec] and [Receiver Thresholds] are their next focus areas.

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

No update.

ADVANCED TECHNOLOGY MODELING TASK GROUP

Todd Westerhoff reported that the ATM group has been meeting weekly. Cadence and SiSoft have developed test kits for testing ATM API code and both appear to be completely interoperable. SiSoft released a kit to the public on August 21. The Cadence kit is expected very shortly.

Task group material can be found at:

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

AD HOC TASK GROUPS (INTERCONNECT)

Michael Mirmak reported that the group met within the past two weeks and had discussed changes to the Touchstone 2.0 specification proposed during the mid-July IBIS Open Forum teleconference. Additional details were discussed later in the meeting (see below).

Task group material, including the Touchstone2 draft specification, can be found at:

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

NEW ISSUES

None.

IBISCHK4 BUG STATUS

Michael Mirmak mentioned a possible new BUG to be filed regarding identical [Temperature Range] values. No other BUG reports are open at this time.

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.

BIRD98.2: GATE MODULATION EFFECT (TABLE MODEL)

Bob Ross noted that his collaborators on BIRD98 are on vacation and that he has been working

almost exclusively on summit issues. Work will resume in late September.

PROPOSED TOUCHSTONE 2.0 SPECIFICATION DISCUSSION

Michael Mirmak noted that most editorial fixes and minor technical improvements to the proposed document have been completed, including additional language under [Reference] to allow line-wrapping, plus a change to the document title to ensure the specification is referred to as simply "Touchstone" with 2.0 as its version. A separate document is being prepared to allow upper- and/or lower-half matrix representation of symmetrical interconnects. This may involve adding at least one keyword. If the changes are deemed feasible, the text will be added to the current draft.

Sam Chitwood added additional comments on his proposed changes to the specification. He stated that a binary format would be useful for reducing file size, just as the upper- or lower-half matrix format would do. His request to support a keyword specifying the number of frequency points present in the file was not directly related to EDA tools and file read-in. Instead, he noted that post-processing scripts, such as those written in The MathWorks Matlab*, may not have sophisticated routines for reading in and sorting data. These scripts would benefit from having information on the number of frequency points available in the file. Michael Mirmak responded that the Ad Hoc Interconnect group would take this into consideration when considering revisions.

The draft specification can be found at:

http://www.eda.org/ibis/adhoc/interconnect/touchstone_spec2_draft9.pdf

AMI BIRD PROPOSAL DISCUSSION

Todd Westerhoff presented, on behalf of the IBIS ATM Task Group, a summary of the proposed AMI (Algorithmic Modeling Interface) BIRD. The approach would permit IBIS to describe serial-differential (serdes) interfaces in terms of traditional IBIS keywords for analog behaviors, but add executable code and a parameters file to describe how transmit (TX) and receive (RX) circuits would process channel information from the analog simulation. The use of executables to allow data processing improves simulation speed by moving algorithms out of the analog simulation engine while preserving intellectual property protection.

The ATM group has developed a draft BIRD for review. In addition, test kits showing how algorithmic code can be implemented under the specification have been developed by Cadence and SiSoft. These will be provided to the public through the Task Group website. These kits are interoperable and permit debugging of key proposal concepts before the BIRD is formally submitted.

Bob Ross asked whether the test kit would include TX and RX representations. Hemant Shah responded that the SiSoft and Cadence kits were designed to be complementary, so that Cadence would cover the RX case, while SiSoft would cover the TX case.

The presentation material can be found at:

http://www.eda.org/ibis/docs/AMI_BIRD_Intro_082407_v7.pdf

NEW TECHNICAL ISSUES

None.

OPEN ISSUES

None.

NEXT MEETING

The next IBIS Open Forum teleconference will be held September 21, 2007 from 8:00am to 10:00 AM US Pacific Time. Minutes may be delayed due to summit activities.

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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/bugsplit.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	June 22, 2007	July 13, 2007	August 3, 2007	August 24, 2007
Advanced Micro Devices	Producer	Active		√	√	
Agilent Technologies	User	Active	√	√		
Ansoft	User	Inactive				
Apple Computer	User	Inactive				
Applied Simulation Technology	User	Inactive				
Cadence Design Systems	User	Active	√	√	√	√
Cisco Systems	User	Active		√	√	√
Ericsson	Producer	Inactive		√		√
Freescale	Producer	Inactive				
Green Streak Programs	General Interest	Inactive				
Hitachi ULSI Systems	Producer	Inactive				
Intel Corp.	Producer	Active	√	√	√	√
IO Methodology	User	Active	√	√	√	
LSI Logic	Producer	Active	√		√	√
Mentor Graphics	User	Active	√	√	√	√
Micron Technology	Producer	Active	√	√	√	
Nokia Siemens Networks	Producer	Active	√	√	√	
Panasonic	Producer	Inactive				
Samtec	Producer	Inactive				
Signal Integrity Software	User	Inactive				√
Sigrity	User	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.