EIA IBIS Open Forum Minutes

Meeting Date: **December 21, 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, Quanli Li, Mike Resso, Chengming Ren, Dong Wei, Tim Wu, Xindong Xue, Nianmin Zhang, Jianping Zhu, Takahiro Sato
AMD	Nam Nguyen*, Tadashi Arai
Ansoft Corporation	Haiqiang Ding, Baolong Li, Ying Liu
Applied Simulation Technology	(Fred Balistreri)
Apple Computer	(Bill Cornelius)
ARM	(Niray Patel)
Cadence Design Systems	[Lance Wang], C. Kumar, Hemant Shah, Patrick dos Santos, Ambrish Varma, Shangli Wu, Lanbing Chen, Jianwei Hu, Jacob Lai, Yubao Meng, Jian Peng, Ke (Coco) Xu, Liu Zheng, Norikazu Takada, Yukio Masuko, Terry Jernberg, Ray Komow
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, Bill (Qinghua) Chen
Ericsson	Anders Ekholm*, Ole Segtum, Peng Fu
Freescale	Jon Burnett
Green Streak Programs	Lynne Green
Hitachi ULSI Systems	Kazuyoshi Shoji, Shinmei Hirano
Huawei Technologies	ChunXing Huang*, Bob He, Tao Guan*, Peng Hu, Xiangzhong Jiang, Meidan Liu, Haiyan Yu
IBM	Michael Sorna, Adge Hawes, Kevin Kramer, Wei Wang
Intel Corporation	Michael Mirmak*, [Arpad Muranyi], Lili Deng, Haifeng (Bill) Gong, Tao Hu, Karen Kang, Fanghui Li, Maoxin Yin, James Zhou
IO Methodology	Lance Wang*, Esther Gao, Nancy Peng, Benny Yan, Xinjun Zhang, Wei Zhu
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, Vivian Pan, Tao Wang, Lifu You, Kenji Kushima, Masahiro Nakajima
Micron Technology	Randy Wolff*, Pavani Jella
Nokia Siemens Networks GmbH	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, Raymond Chen, Xianfeng Li, Tao (Helen) Xu
STMicroelectronics	(Anil Kalra), Antonio Girardi, Giacomo Bernardi, Roberto Izzi, Akhilesh Chandra, Davide Tonietto, Essaid Bensoudane
Synopsys	Ted Mido, Xuefeng Chen, Changlei Zhang
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino
Texas Instruments	Otis Gorley, Richard Ward, Bonnie Baker
Toshiba	Yoshihiro Hamaji, Yasumasa Kondo, Atshshi Osaki Nonyasu Yoshikawa, Toshihiro Tsajimura
Xilinx	Bruce Bandeli, David Banas
ZTE	Songrui Chen, Xianhui Hu, Wei Jia, Dongfeng Sun Changjun Wang, Ying Xiong, Shenglong Yang Yanfeng Yu, Xiaojun Zhou, Shunlin Zhu
Zuken	Michael Schaeder, Ralf Bruening, John Berrie, Shigeru Hayashi, Hirohiko Matsuwawa

OTHER PARTICIPANTS IN 2007

74ze Engineering	Linc Jepson
AcconSys	David Lan, Suny Li, Jianfeng Tan, Jiangtao Wu, Frank Xiao
Alcatel Shanghai Bell	Wei Li, Lifan Sun
Altera	Hui Liu, Zhe Lin, Ravindra Gali, Salman Jiva
Apache Design Solutions	(Ji Zheng)
Applied Telisis, Inc. (ATI)	Vladimar Mandrusov
ATE Service Corporation	Yutaka Honda
Canon	Seiji Hayashi, Shoji Matsumoto, Tatsuo Nishino, Sakuragi Takamasa, Haruka Watanabe, Nobuaki Yamashita
Cavium Networks	Johann Nittmann
CEC Huada Electronic Design	Weiwei Liu
China Integrated Circuit	Jingcheng Luo
ChipX	Jay Hidy, Oren Dvir
Cybernet Systems	[Kazuhiki Kusunoki], Masahito Kobayashi, Junko Kuriyama

Datang Mobile	Fanjie Meng, Hongying Li, Hongwei Wang
EDN China	Frank Yao
EE Times Japan	Norihiro Satsukawa
EFM	Ekkehard Miersch
EMC Technology	Michael Liu, Feng Lu, Changzheng Yang
Enterasys	Robert Haller
Extreme Networks	Kevin Ko
Force10 Networks	Robert Badal
Free Electron Software	Al Davis
Fujitsu Limited	Kouichiro Asoh, Tetsuya Inoue, Toshiro Sato, Fujimori Shogo, Wasaki Tosaka
GEIA	(Chris Denham)
Gnovo Technologies	Harris Ma
Hangzhou H3C Technologies	Chunbao Yan
Hewlett Packard	Shafiq Rahman
Huawei 3Com	Junjun Cui, Zhenyu Liu, Jun Mao, Bao Wang, Kai Xie, Haitao Zhang
IMECAS	Yunfeng Wang
IVIS Co.	Hiroyuki Mashima
Infineon	Christian Sporrer
Japan Aviation Electronics Industries	Hiroaki Ikeda
JEITA	Atsushi Ishikawa
Juniper Networks	Raul Lozano
Kawasaki Microlelectronics	Hiroyuki Sato, Takashi Kawahara
Leventhal Design	Roy Leventhal
LHWT Microelectronics	Jiahui Wang
Lynguent	[Andrew Levy]
Motorola	Hong Chen, Haiying Jiang, Daniel Tang
National Institute of Applied Science (INSA)	Etienne Sicard
National Instruments	Lee Maixman
Netlogic	Eric Hsu
NEC Electronics Corporation	Takeshi Watanabe, Hock Seow, Huy Tran, Itsuki Yamada
NESA	Edward Sayre
Northrop Grumman	Dusan Radosevic
Nortel Networks	Jingxin Bian, Feng Shi
Nuova Systems	Zhiping Yang, Lin Shen
NVIDIA Corporation	Jing (Jane) Zhang
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
Sharp	Tetsuo Iwaki
Shizu Technology	Zuofu Qi
Siemens AG	[Eckhard Lenski], Manfred Maurer
Sony Corporation	Toshiro Honda, Keisuke Matsunami
Shu Zi Tai He	Chunyu Zhao
Sun Microelectronics	Leon Yang
Tiburon Design Automation	Patrick O'Halloran
Via Technologies	Jimmy Hsu
White Electronics Designs	John Perez
Xyratex	Paul Levin, Joseph Chan
Zuken Support and Service	Seikou Go, Tomotaka Unose

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
January 11, 2008	1-866-432-9903	121838287

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

NOTE: "AR" = Action Required.

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 the organization stands at 29 paid members (corrected to 32 in

later discussions), with Huawei and ARM having joined IBIS. Budget issues will be discussed later in the meeting. We have a small budget surplus this year, but dues for participation in GEIA will go up about 25% next year.

REVIEW OF MINUTES AND ARS

Michael Mirmak called for comment regarding the minutes of the November 30, 2007 IBIS Open Forum teleconference. Michael noted a misspelling of Nvidia is several meeting sets beginning with the Asian IBIS Summit minutes. Randy Wolff noted a change to comments made by Eckhard Lenski about DATE planning. Eckhard asked to add that the conflict with the PCB symposium should not conflict with DATE planning this year. The minutes were approved with the noted changes.

WEB PAGE UPDATES

Michael Mirmak reported for Syed Huq that Syed made a few minor tweaks to the poster and membership pages to correctly list official members.

MAILING LIST ADMINISTRATION

Bob Ross reported that we had a down time due to a server needing to be restarted. This delayed the agenda when sent to the mailing list.

MODEL LIBRARY UPDATE

No update.

PRESS UPDATE

Bob Ross reported seeing a new book on power integrity with some minor references to IBIS. The book is "Power Integrity Modeling and Design for Semiconductors and Systems" by Madhavan Swaminathan and Ege Engin. More information on the book may be found at:

http://www.prc.gatech.edu/books/powerintegrity/index.htm

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

Bob Ross requested that a brief update on Taiwan activities be added to the agenda.

INTERNATIONAL/EXTERNAL PROGRESS

No major DASC issues to report. The DASC website may be found at:

No major issues that affect IBIS were brought up at the last DASC meeting.

Michael Mirmak reported that the encryption study group's proposal for IP protection was returned due to the need for clarification on the definition of IP. The IEEE DASC Study Group on Encryption web site is found at:

IEC APPROVAL ACTIVITIES
Michael Mirmak noted that he called Dennis Brophy but has not received a return call. We may need to attend a TC93 committee meeting directly in order to bypass representation by Dennis Brophy.

GEIA BUDGET ISSUES
Michael Mirmak noted that we stand at 29 members. The budget for this year will close with a slight surplus. This will be spent to avoid losing the money by prepaying DesignCon summit expenses. Next year, we must be associated with a standardization body. So, we must pay membership in some organization that does standardization. GEIA dues are increasing next year. In order to maintain our organization and affiliation with GEIA, we must consider raising our dues to maintain accreditation. Bob Ross looked in more detail at the budget for the next year. He projects a profit of approximately $1927 this year. We have 28 full members and 4 half memberships (for 32 total). Next year, we would need 34 members and one parser payment to balance the budget with the increased dues, or 28 members at $900 each can balance the budget. Michael does not think we could achieve 34 members next year. There was a motion for call for vote on increasing membership dues to $900 for 2008. The motion passed with the following vote tally:

AMD – yes
Cisco – yes
Ericsson – yes
Huawei – yes
Intel – yes
IO Methodology – yes
LSI – yes
Mentor – yes
Micron – yes
Nokia – yes
SiSoft – yes
Teraspeed - yes

SUMMITS

- Design Con Planning

DesignCon 2008 will be held February 4-7, 2008 at the Santa Clara convention center.   The IBIS Summit is now scheduled for Thursday, February 7, 2008. Syed Huq is the main contact for the event. The meeting room is inside the conference center. A second call for papers has been sent out. Bob Ross noted that a registration link is available through DesignCon, and there is a discount available for registration. If signing up through the DesignCon site, please also let Syed Huq know that you are attending. Cisco is officially sponsoring this summit, though other sponsors are encouraged.

- DATE Planning

The DATE conference will be in Munich, Germany March 10-14, 2008. The Summit is scheduled for Thursday, March 13 from 8:30am – 12:30pm. Bob Ross is still confirming the date so as not to conflict with the PCB technology seminar.

- Other Summits

Bob Ross noted that discussions continue regarding holding a summit in Taiwan. He is still seeking additional local contacts from vendors. He has three lined up so far.

Sponsorship opportunities for the DesignCon and DATE 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 discussed [Receiver Thresholds] at the last meeting, mostly to understand its usage and history. The next meeting on January 8 will continue on that subject.

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

Arpad Muranyi reported that recent discussion is about differential keyword enhancements. EDA vendors received an AR to check on preferences of how to handle changes to differential keywords. There is some support for cleaning up the specification, but no consensus yet on how much to support old methods of handling differential keywords. At the next meeting on January 8, the group will discuss this further.

Task group material can be found at:

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

AD HOC TASK GROUPS (INTERCONNECT)
Michael Mirmak reported no major update. We will be discussing the Touchstone 2.0 document in this meeting. There are small changes to ICM and ICM to IBIS linking still to be discussed. Arpad Muranyi asked if Michael would still like to discuss ICM to IBIS linking in the ATM task group. Michael agreed with this, and it was decided to keep discussion of specific ICM issues in the AD Hoc task group.

Task group material can be found at:

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

NEW ISSUES
None.

TOUCHSTONE 2.0 INTRODUCTION
Michael Mirmak presented an introduction to the Touchstone 2.0 specification. Touchstone 2.0 is a revision to the original proprietary specification. It maintains backward compatibility with the original Touchstone while adding needed features. The new specification makes it easier to describe both power planes and signal lines. The changes also make the format easier to use and to integrate with ICM. Major changes from Touchstone include adding optional per-port reference impedances, adding explicit keywords for number of ports and frequencies in the file, adding explicit version control, removing limits on the maximum number of ports, removing normalization for non-S-parameter data sets, and adding support for upper- and lower-half matrices. Key concepts that were not included are support for mixed-mode parameter expressions, support for complex reference impedances, and support for frequency-dependant reference impedances. Michael noted that we need to decide if a parser is required. Also, he asked for comments from the SI-list reflector and received two questions about mixed mode support and the unusual ordering for S12 and S21 in 2-port networks. The review and comment period will be through February at a minimum. A call for vote and GEIA balloting will commence once all major issues are closed. Lance Wang asked for clarification on how original Touchstone files are supported. Bob Ross noted that many decisions were made in the update with respect to maintaining compatibility with the original Touchstone. Michael plans to discuss the SI-list questions during the next teleconference.

IBISCHK4 BUG STATUS
No new BUGs have been filed.

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.

NEW TECHNICAL ISSUES

None.

NEXT MEETING

The next IBIS Open Forum teleconference will be held January 11, 2008 from 8:00 AM to 10:00 AM 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	October 12, 2007	November 2, 2007	November 30, 2007	December 21, 2007
Advanced Micro Devices	Producer	Active	√	√	√	√
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	√	√	√	√
Freescale	Producer	Inactive				
Green Streak Programs	General Interest	Inactive				
Hitachi ULSI Systems	Producer	Inactive				
Huawei Technologies	User	Inactive				√
IBM	Producer	Inactive			√	
Intel Corp.	Producer	Active	√	√	√	√
IO Methodology	User	Active	√		√	√
LSI	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	Active	√	√	√	√
Sigrity	User	Inactive			√	
STMicroelectronics	Producer	Active	√	√	√	
Synopsys	User	Inactive				
Teraspeed Consulting	General Interest	Active	√	√	√	√
Texas Instruments	Producer	Inactive				
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.