

IBIS Open Forum Minutes

Meeting Date: **February 18, 2011**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2011 PARTICIPANTS

Agilent	Radek Biernacki*, Fangyi Rao
AMD	(Nam Nguyen)
Ansys (Ansoft Corporation)	Samuel Martens
Apple Computer	(Matt Herndon)
Applied Simulation Technology	Norio Matsui
ARM	(Nirav Patel)
Cadence Design Systems	Terry Jernberg, Ambrish Varma, Dennis Nagle
Cisco Systems	Syed Huq, Mike LaBonte*, Luis Boluna, Ashwin Vasudevan, Zhiping Yang
Ericsson	Anders Ekholm
Freescale	(Jon Burnett)
Green Streak Programs	Lynne Green
Hitachi ULSI Systems	(Kazuyoshi Shoji)
Huawei Technologies	Xiaoqing Dong
IBM	Adge Hawes*, Greg Edlund
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak*, Udy Shrivastava
IO Methodology	Lance Wang*
LSI	Brian Burdick*
Mentor Graphics	Arpad Muranyi*, Ed Bartlett, Vladimir Dmitriev-Zdorov, Steve Kaufer, Chuck Ferry
Micron Technology	Randy Wolff*
Nokia Siemens Networks GmbH	Eckhard Lenski
Signal Integrity Software	Walter Katz*, Todd Westerhoff, Mike Steinberger, Barry Katz
Sigrity	Raymond Chen, Kumar Keshavan
Synopsys	Andy Tai, Ted Mido, Scott Wedge
Teraspeed Consulting Group	Bob Ross*, Kellee Crisafulli, Tom Dagostino, Scott McMorrow
Texas Instruments	Casey Morrison, Alfred Chong
Toshiba	(Yasumasa Kondo)
Xilinx	(Raymond Anderson)
ZTE	(Huang Min)
Zuken	(Michael Schaefer)

OTHER PARTICIPANTS IN 2011

AET	Mikio Kiyono
Altera	Hui Fu, Zhuyuan Liu, Julia Nekrylova

Avago	Weiping He, Minh Quach, Sari Tocco
Bayside Design	Elliot Nahas
Broadcom	Mohammad Ali
Exar Corporation	Helen Nguyen
Granite River Labs	Johnson Tan, Mike Engbretson, Quintin Anderson
High Speed Design Center	Ben Chia
ICT-Lanto	Steven Wong
KEI Systems	Shinichi Maeda
Maxim Integrated Products	Hassan Rafat
National Semiconductor	Hsinho Wu, Pegah Alavi, John Goldie
Oracle	Gustav Blando
Pristine Signals	AbdulRahman (Abbey) Rafiq
Renesas Electronics	Takuji Komeda
Simberian	Yuriy Shlepnev
TechAmerica	(Chris Denham)
Vitesse Semiconductor	Sirius Tsang
Independent	Yoichi Niioka

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	Meeting Number	Meeting Password
March 11, 2011	209 366 367	IBIS

For teleconference dial-in information, use the password at the following website:

<https://cisco.webex.com/cisco/j.php?J=209366367>

All teleconference 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, 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 3.2, IBIS 4.2, IBIS 5.0, Touchstone 2.0 or ICM 1.1 specifications. No patents were declared.

REVIEW OF MINUTES AND ARS

Randy Wolff called for comments regarding the minutes of the January 28, 2011 IBIS Open Forum teleconference and the February 3, 2011 DesignCon IBIS Summit. Both sets of minutes were approved with no changes.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Michael Mirmak noted that renewal notices for 2011 membership have been sent out. If you have not received a renewal notice, contact any member of the board.

Bob Ross added that two new companies have been invoiced, so we may have new members this year. The parser developer received the larger sum (\$14,000) authorized for prepayment of future parser work. This closes out the 2010 financials.

WEB PAGE UPDATES

No report.

MAILING LIST ADMINISTRATION

Mike LaBonte reported that there are 451 unique members now between the two mailing lists. He also created the backchannel modeling mailing list (ibis-serdes-backchan@freelists.org). There are 71 subscribers to this list already.

He noticed it is hard to find the link to the mailing list archives, so we may want to add this to a higher level on the website. He noted that yearly archives of emails are in the RFC mail format for years prior to 2001. After 2001, we have html archives of the mailing list. He would like one method to access all the emails. The older archives may need to get updated to html format. He would also like to see a decent search engine on the page to help find topics within the emails.

MODEL LIBRARY UPDATE

No update.

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

None.

INTERNATIONAL/EXTERNAL ACTIVITIES

- DASC

Michael Mirmak reported there is another DASC meeting next week at DVCon 2011. He was not aware of any recent discussions related to IBIS. The DASC file and e-mail archive may be found at:

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

- P1735 Encryption

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

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

-VHDL-AMS Table-Driven Models

Arpad Muranyi reported that he missed the last meeting, so he had no update. More information can be found at:

http://www.eda.org/twiki/bin/view.cgi/P10761/ProjectsArea#Table_driven_Modeling_Champion_J

-Conferences

The 2011 IEEE Workshop on Signal Propagation on Interconnects (SPI) will be held in Naples, Italy on May 8-11, 2011. The call for papers is out. More information can be found at:

<http://www.spi2011.unina.it/>

EMCCompo2011, the 8th International Workshop on Electromagnetic Compatibility of Integrated Circuits, will be held in Dubrovnik, Croatia, November 6-9, 2011. Organizers of the event have contacted the IBIS Open Forum to see if there is interest in having a tutorial session on IBIS. April 1 is the deadline for registration. More information can be found at:

<http://www.emccompo2011.org>

-Press Update

Bob Ross reported seeing the article "SerDes, Spice and IBIS-AMI" by Patrick Carrier in Printed Circuit Design & Fab/Circuits Assembly, January 2011, pp. 17-18. The article can be viewed at:

<http://pcdandf.com/cms/magazine/171-current-issue/7704-designers-notebook>

TECHAMERICA STATUS

Michael Mirmak reported that the first use of the KAVI system was to send out the agenda for this meeting. Some members did not receive a notice. The email went out only to the member representatives for each member company. Michael will check the member roles to see if more people need to be added in KAVI to the ibis-members list.

KAVI members' login is at:

<http://workspace.techamerica.org/apps/org/workgroup/ibis-members>

Randy Wolff and Michael took the AR to update the KAVI roster list to match the current membership.

Michael also reported that ICM, GEIA-STD-0001, was due for review on January 18. ICM has not been active for some time, so the question remains, do we renew the standard or allow it to lapse as a formal standard because it has been replaced by something else. Bob Ross suggested we just renew it since it is a small amount of paperwork, and he doesn't feel it has been replaced by anything yet. There were no objections to renewal, so we will work with TechAmerica for renewal.

DOCUMENTATION UPDATE

Michael Mirmak reported that he posted an updated set of keyword definitions and keyword hierarchy. Arpad Muranyi asked that Michael setup a meeting to discuss some of the editorial work that has been discussed over the ibis-editorial@freelists.org email list so far. Bob Ross expressed concern that the drawings done in the document are in Visio format, and this may be difficult to support in the future for BIRD authors. Adge Hawes suggested using the Scalable Vector Graphics (SVG) format since it is open source. Inkscape is a free editor for the SVG format.

New IBIS 5.0 documentation can be reviewed at:

http://www.eda.org/ibis/reformat_wip/

IEC APPROVAL ACTIVITIES

Randy Wolff reported that he is still awaiting a report from Dennis Brophy following his meeting with his IEC counterparts in Japan at the end of January. Randy previously contacted Dennis before DesignCon as a reminder and to see if he would be at DesignCon for a face-to-face meeting.

SUMMIT STATUS

-DesignCon 2011 Review

The DesignCon Summit was held February 3 in the Great America Ballroom #3 in the Santa Clara Convention Center. 65 people from 34 organizations attended. Michael Mirmak thanked the presenters and organizers for helping make the event a success. The conference was good press for IBIS. Bob Ross noticed about 6 DesignCon papers that referenced IBIS.

-SPIE IBIS Summit

The 15th IEEE Workshop on Signal Propagation on Interconnects will be held in Naples, Italy, May 8-11, 2011. Organizers have expressed interest in IBIS participation. This event may be better attended than the EMCCompo2011 event in Dubrovnik, which is another possible venue

for an IBIS summit. Bob Ross thinks we need to make a decision on SPIE within the next three weeks if we are going to commit. There were no objections to holding a summit at SPIE, so Ralf Bruening will be contacted to investigate.

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 most discussion has been on the [External Test Load] and [External Test Data] keywords using IBIS-ISS. They are looking at scoping rules for the original [Test Load] and [Test Data] keywords, as these may need to be updated. The group is meeting weekly on Tuesdays at 8AM PST.

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

http://www.eda.org/ibis/quality_wip/

IBIS MODEL REVIEW TASK GROUP

No update. Michael Mirmak mentioned that Lynne Green asked at the DesignCon IBIS Summit for more participation from EDA vendors.

ADVANCED TECHNOLOGY MODELING TASK GROUP

Arpad Muranyi reported that the group has resumed Tuesday meetings after a break for DesignCon. They have discussed crosstalk and crosstalk impulse matrices related to the IBIS-AMI specification. Sigriety is working on a BIRD draft. They are also talking about Table syntax regarding IBIS parameters.

Task group material can be found at:

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

INTERCONNECT TASK GROUP

Michael Mirmak reported that the group is continuing weekly meetings. IBIS-ISS has been formally submitted to review, so they are moving back to discussions of MCP and Touchstone 2.0. As regards Touchstone documents, current TSIRDs are pending, but no schedule for an update has been established.

Task group material can be found at:

http://www.eda.org/ibis/interconnect_wip/

NEW ADMINISTRATIVE ISSUES

Michael Mirmak discussed the formatting effort to IBIS 5.0 and the process for making changes to any documents within IBIS. It is cumbersome to write up a change to the IBIS specification and submit it, because we are limited to an email submission process which is limited to ASCII formatted documents. Do we need a more flexible way for people to submit BIRDs, especially when created in non-ASCII format? Bob Ross summarized that the BIRD process was meant to be a point-by-point replacement, but it could be a replacement of an entire section. The process does need to be described. Michael added that if we still require submission of the same information such as reason for change, etc. we should allow a way to upload other documents such as diagrams. Bob thinks that documents that are submitted must be editable, such as Word format. Michael proposed (as requested by Walter Katz) moving to decide on formatting for the new IBIS specification rewrite first, including acceptable drawing formats, and then work on the website to allow submission of documents. Mike LaBonte took the AR to look at KAVI to see if it has a good way of handling documents.

BIRD116: ADD IBIS-ISS TO [EXTERNAL MODEL] AND [EXTERNAL CIRCUIT] AS A SUPPORTED LANGUAGE

No discussion.

BIRD117.2: PARAMETERIZE A_TO_D AND D_TO_A CONVERTERS

No discussion.

BIRD118.1: ANALOG PARAMETER ASSIGNMENTS

No discussion.

BIRD120: IBIS-AMI FLOW CORRECTION

Arpad Muranyi reported that TI is not planning to submit an alternative BIRD to BIRD120, but he will ask Casey Morrison to make this announcement himself.

BIRD121: IBIS-AMI NEW RESERVED PARAMETERS FOR DATA MANAGEMENT

Walter Katz had no status updates on BIRDs 121, 123 and 124.

BIRD122: IBIS-AMI NEW RESERVED PARAMETERS FOR ANALOG MODELING

Walter Katz reported that Scott McMorro mentioned at DesignCon that he would like to have IBIS-ISS subcircuits as external models for technologies such as DRR3. There has also been discussion on the ATM email reflector about including package models with the buffer models in external models. Walter is planning on submitting a new revision to the BIRD in a couple of weeks.

BIRD123: IBIS-AMI NEW RESERVED PARAMETERS FOR JITTER/NOISE

No discussion.

BIRD124: IBIS-AMI NEW RESERVED PARAMETERS FOR DEPENDENCY TABLES

Walter Katz requested to be able to submit Word formats for these new BIRDS to include tracking of changes. There were no objections to allowing this format. Revisions of BIRDS will need to be saved to allow looking back at previous versions.

BIRD125: MAKE IBIS-ISS AVAILABLE FOR IBIS PACKAGE MODELING

Arpad Muranyi noted a comment at the DesignCon IBIS Summit received from Walter Katz to allow mapping from the IBIS pin list to a package model in a flexible way so that the same package model could be shifted around to cover different sets of pins.

Mike LaBonte thinks that the examples in the BIRD should have more parameters to show the different formats allowed for them.

Walter Katz added that we need to recognize how IC vendors deliver package models. Package models are often given for a bus and not usually an entire package. Arpad is looking into mechanisms to accommodate this need. Walter discussed ways that SiSoft handles these package models. A motion was made to table discussion on the BIRD. The motion passed and discussion ended.

BIRD126: IBIS-AMI NEW RESERVED PARAMETER AMI_VERSION

Walter Katz moved to vote for approval on BIRD126. Arpad Muranyi seconded the motion.

The vote passed with the following vote tally:

Agilent – yes

Cisco – abstain

IBM – yes

Intel – abstain

LSI – abstain

Mentor - yes

Micron – yes

SiSoft – yes

Teraspeed - yes

BIRD127: IBIS-AMI TYPOGRAPHICAL CORRECTIONS

Arpad Muranyi has not received any comments on the BIRD. This BIRD tries to fix several syntax errors in the AMI specification. The BIRD may be revised to add more items to it after discussion in recent ATM meetings.

TSCHK2 BUG STATUS

No new BUGs to report.

IBISCHK5 BUG STATUS

No new BUGs.

IBISCHK5 UPDATE STATUS

Bob Ross reported that BUG116 needs further fixing and the BUG123 fix is not complete yet.

IBIS-ISS SPECIFICATION DRAFT

Michael Mirmak called for comment on the IBIS-ISS draft. He has received a number of comments internally that will need to be addressed. The comments will be distributed on the reflector soon. Bob Ross proposed the Interconnect task group take up the comments for review.

The draft 1 revision can be reviewed at:

http://www.eda.org/pub/ibis/ibis-iss_wip/IBIS_ISS_review_draft_1.pdf

NEW TECHNICAL ISSUES

None.

NEXT MEETING

The next IBIS Open Forum teleconference will be held March 11, 2011 from 8:00 to 10:00 AM US Pacific Standard Time. The following Open Forum teleconference will be held April 1, 2011.

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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

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

To join, change, or drop from either or both:

IBIS Open Forum Reflector (ibis@eda.org)

IBIS Users' Group Reflector (ibis-users@eda.org)

State your request.

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

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

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

To report ibischk parser BUGs as well as tschk2 parser BUGs. The BUG Report Form for ibischk resides along with reported BUGs at:

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

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

The BUG Report Form for tschk2 resides along with reported BUGs at:

http://www.eda.org/ibis/tschk_bugs/

http://www.eda.org/ibis/tschk_bugs/bugform.txt

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/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.eda.org/ibis>

Check the IBIS file directory on eda.org for more information on previous discussions and results:

<http://www.eda.org/ibis/directory.html>

Other trademarks, brands and names are the property of their respective owners.

IBIS CURRENT MEMBER VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	January 7, 2011	January 28, 2011	February 3, 2011	February 18, 2011
Advanced Micro Devices	Producer	Inactive	-	-	-	-
Agilent Technologies	User	Active	X	X	X	X
Ansys	User	Inactive	-	-	X	-
Apple Computer	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	-	-	X	-
ARM	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	-	X	X	-
Cisco Systems	User	Active	X	X	X	X
Ericsson	Producer	Active	X	X	X	-
Freescale	Producer	Inactive	-	-	-	-
Green Streak Programs	General Interest	Inactive	-	-	X	-
Huawei Technologies	Producer	Inactive	-	-	X	-
Hitachi ULSI Systems	Producer	Inactive	-	-	-	-
IBM	Producer	Active	X	X	X	X
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	X	X	X
IO Methodology	User	Active	X	X	X	X
LSI	Producer	Inactive	X	-	-	X
Mentor Graphics	User	Active	X	X	X	X
Micron Technology	Producer	Active	X	X	-	X
Nokia Siemens Networks	Producer	Inactive	X	-	X	-
Signal Integrity Software	User	Active	X	X	X	X
Sigrity	User	Inactive	-	-	X	-
Synopsys	User	Inactive	-	-	X	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
Texas Instruments	Producer	Inactive	X	-	X	-
Toshiba	Producer	Inactive	-	-	-	-
Xilinx	Producer	Inactive	-	-	-	-
ZTE	User	Inactive	-	-	-	-
Zuken	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 TECHAMERICA 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.