IBIS Open Forum Minutes

Meeting Date: March 9, 2012
Meeting Location: Teleconference

VOTING MEMBERS AND 2012 PARTICIPANTS

Agilent	Radek Biernacki*, Yoji Sekine, Fangyi Rao
Altera	David Banas*, Hsinho Wu, Masashi Shimanouchi
AMD	(Nam Nguyen)
ANSYS (Ansoft)	(Steve Pytel)
Apple Computer	(Matt Herndon)
Applied Simulation Technology	Norio Matsui
Cadence Design Systems	Terry Jernberg*, Jilin Tan, Dennis Nagle
	Ambrish Varma
Cisco Systems	David Siadat, Mike Sapozhnikev
Ericsson	Anders Ekholm, Zilwan Mahmod, Mattias Lundquist
Foxconn Technology Group	(Sogo Hsu)
Freescale	(Jon Burnett)
Green Streak Programs	(Lynne Green)
Huawei Technologies	Xiaoqing Dong
IBM	Adge Hawes*, Greg Edlund*
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak*, Udy Shrivastava, Stewart Gilbert
	Eddie Frie
IO Methodology	Lance Wang*
LSI	Brian Burdick
Mentor Graphics	Arpad Muranyi*, Vladimir Dmitriev-Zdorov
Micron Technology	Randy Wolff*
Nokia Siemens Networks GmbH	Eckhard Lenski
QLogic	(James Zhou)
Signal Integrity Software	Walter Katz, Mike LaBonte*, Todd Westerhoff
	Akalu Lentiro
Sigrity	Raymond Chen, Yingxin Sun, Sam Chitwood
Synopsys	Andy Tai, Scott Wedge, Hany Elhak, Ted Mido
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino
Texas Instruments	Casey Morrison, Pegah Alavi, Valerie Chang
	Modesto Garcia, Karl Muth
Toshiba	(Yasumasa Kondo)
Xilinx	Harry Fu
ZTE	(Huang Min)
Zuken	Michael Schaeder

OTHER PARTICIPANTS IN 2012

Aruba Networks	Amir Motamedi

Avago Technologies	Sanjeev Gupta, Amolak Badesha
Bayside Design	Elliot Nahas
Cavium	Johann Nittmann
Enterasys	Robert Haller
Exar Corporation	Helen Nguyen
Granite River Labs	Jiang Xu, Johnson Tan
Hewlett-Packard	Ting Zhu
High Speed Design Center	Ben Chia
KEI Systems	Shinichi Maeda
Luxshare-ICT	Alan Kinningham, Steven Wong
Maxim Integrated Products	Hassan Rafat, Mahbubul Bari
MK Resolutions	Olga Chervyakova
Nvidia	Eric Hsu
Research In Motion	Yi Cao
Sony	Kenji Yasoda
TechAmerica	(Chris Denham)
University of Illinois	Thomas Comberiate, Jose Schutt-Aine
Vitesse Semiconductor	Siris Tsang

In the list above, attendees at the meeting are indicated by *. Participants who submit votes by email but do not attend 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 30, 2012	205 475 958	IBIS

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

> https://ciscosales.webex.com/ciscosales/j.php?J=205475958

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 February 17, 2012 IBIS Open Forum teleconference. Michael Mirmak asked about the new "^" in the attendees list. Randy clarified that this indicates attendance by a participant who only submitted a vote by email. The minutes were approved without changes.

MEMBERSHIP STATUS AND TREASURER'S REPORT
Bob Ross reported that he has not received any updates on membership, so he may start asking member companies directly if they have received invoices and paid dues.

WEB PAGE UPDATES
Mike LaBonte reported that he made corrections to the events page to fix some dates from 2011 to 2012. He also added a link to the main web page that links directly to the minutes page. Bob Ross researched alternative server sources for ICEM documents on the specifications page, and new links were added.

MAILING LIST ADMINISTRATION
Mike LaBonte reported that most of the time we are unable to send emails to the lists that include attachments. He has been in touch with eda.org support people, but he is unable to convince them to relax content filtering rules. Changing the rules might break our arcane email archiving system.

Mike also noted that some company servers are rejecting emails sent to mailing lists when they originate from the company and are then reflected back to the company servers. Some company email filters do not like the resulting header information. Mike makes sure to communicate with people whose emails bounce due to this issue.

Michael Mirmak asked if the header policy is global or local on majordomo. Mike responded that it is a global policy, and changing it may affect email archiving. Mike is thinking about backup plans for our email archives. He thinks that KAVI may provide a backup to at least communicate with members if the eda.org lists stop working.

MODEL LIBRARY UPDATE
No update.

MISCELLANY/ANNOUNCEMENTS
None.

OPENS FOR NEW ISSUES
Arpad Muranyi asked for time to discuss an issue related to BIRD120.1. Mike LaBonte asked for time to discuss parser funding.

INTERNATIONAL/EXTERNAL ACTIVITIES
- IEEE DASC
Michael Mirmak reported there was a meeting last week, but no material was discussed relevant to IBIS.

- VHDL-AMS Table-Driven Models
No report. More information can be found at:

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

- Conferences
SPI2012 (18th IEEE Workshop on Signal and Power Integrity) will be held May 13-16, 2012 in Sorrento, Italy. We are offered a free room on Wednesday afternoon for hosting an IBIS Summit meeting. There may be some technical papers related to IBIS. More information can be found at:

   http://www.spi2012.org

- EPEPS (21st IEEE Conference on Electrical Performance of Electronic Packaging and Systems) will be held October 21-24, 2012 in Tempe, Arizona. This event occasionally includes IBIS-related content. More information can be found at:

   http://epeps.ece.illinois.edu/

Official IBIS participation may/may not be planned for all of the events above, though individual papers and discussion on IBIS are encouraged. These are events with refereed submissions, with deadlines either pending or already passed.

- Press Update
Bob Ross mentioned the following:

M. Yelten, T. Zhu, S. Koziet, P. Franzon, M. Steer, "Demystifying Surrogate Modeling for Circuits and Systems", IEEE Circuits and Systems Magazine, vol. 12, no.1, first quarter 2012, pp. 45-63. As part of a larger discussion, this contains several pages of applications of the IBIS macromodel templates and also has references to Arpad Muranyi and Mike LaBonte.

Ting Zhu also attended the DesignCon 2012 IBIS Summit and plans to present on this topic in June. An earlier reference was "Accurate and scalable IO buffer macromodel based on surrogate modeling" in the IEEE Transactions on Components, Packaging and Manufacturing Technology, August 2011.

IEC APPROVAL ACTIVITIES

Randy Wolff reported that he and Michael Mirmak attended an IEC TC93 US TAG meeting on March 7. One of the topics of the meeting was plans for re-standardization of IBIS, specifically IBIS 4.2. Michael presented an overview of past standardization efforts with IBIS. It was announced that TC93 is being shut down due to a shortage of international members. TC93 is merging with TC91, and TC93 working groups are proposed to combine into just two working groups under TC91. These will likely be Design Automation – Language and Design Automation – Catalog. There will be another meeting in early April to discuss the merger. Victor Berman, chair of TC93, felt that IBIS standardization would fit well in the language working group. Victor said he will include Randy and Michael in communications with the TC91 chair. We are unsure how the merger will affect our standardization efforts.

SUMMIT STATUS

- European Summit Planning

The meeting will take place May 16, 2012 after the SPI conference in Sorrento, Italy. A room has been donated by the SPI conference for Wednesday afternoon. Announcement s will go out soon. Lance Wang will be handling sign-ups. Three sponsors so far include Micron Technology, Nokia Siemens Networks and Zuken.

- DAC Summit Planning

The meeting will be held June 5, 2012 in San Francisco, CA. Details of the meeting room location are to be determined.

Sponsorship opportunities for all upcoming IBIS summits are available, with sponsors receiving free mentions in the minutes, agenda, and other announcements. This includes upcoming events in Asia. Contact the IBIS Board for further details.

QUALITY TASK GROUP

Mike LaBonte reported that there was a recent announcement of a free parser written in Python, but no one in the Quality group had much success using the tool. The group is discussing changing the parser page to clearly delineate which tools are officially released by the IBIS Open Forum and which are not.

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

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

MODEL REVIEW TASK GROUP

No update.

ADVANCED TECHNOLOGY MODELING TASK GROUP

Arpad Muranyi reported that current discussion topics involve analog buffer modeling BIRDs related to IBIS-AMI. There are many technical issues to discuss. The group is working towards a consensus on some of the BIRDs.

Task group material can be found at:

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

EDITORIAL TASK GROUP

Michael Mirmak reported that the group is revising Section 10A currently after a reorganization of the section by Bob Ross. They are also working through some clarification issues with the AMI section regarding lists.

The IBIS reformatting documentation can be reviewed at:

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

NEW ADMINISTRATIVE ISSUES

None.

BIRD151: IBIS-AMI MODIFIED RESERVED PARAMETERS FOR JITTER/NOISE

Bob Ross introduced the BIRD. It makes a small modification to the jitter and noise portions of the Reserved Parameters because of the pending BIRD123. BIRD123 expands the types of Data Formats in IBIS-AMI. It makes sense to include these formats in IBIS 5.1 even though BIRD123 is planned for IBIS 5.2. Arpad Muranyi noted that he would like to see the "X" characters in the table lined up properly with the Increment and Steps columns.

Arpad moved to vote on the BIRD with the noted changes. Radek Biernacki seconded. There were no objections. The vote passed with the following vote tally:

Agilent – yes
Altera – no vote
Cadence – yes
IBM – yes
Intel – yes
IO Methodology – yes
Mentor – yes
Micron – yes
SiSoft – yes
Teraspeed – yes

BIRD144.3: ADD TOUCHSTONE TO [EXTERNAL MODEL] AND [EXTERNAL CIRCUIT] AS A SUPPORTED LANGUAGE

Arpad Muranyi noted that this BIRD introduces a way of bringing in a Touchstone file directly to [External Circuit] and [External Model] without going through an IBIS-ISS wrapper. Changes in this version added methods of terminating ports. Bob Ross said that the terminations should be handled by the EDA software and not the model. Arpad thought it made sense to define the terminations; otherwise the EDA software may not terminate the Touchstone file properly. Radek Biernacki felt that defining terminations is necessary, but it does make the BIRD much more complicated. Arpad noted that the beauty of the BIRD was its simplicity, but the complications of these terminations detract from its usefulness. Mike LaBonte noted that IBIS is designed for drop in compatibility, so that should be kept in mind when looking at these BIRDs.

BIRD145.2: CASCADING IBIS I/O BUFFERS WITH [EXTERNAL CIRCUIT]S USING THE [MODEL CALL] KEYWORD

Bob Ross noted that this BIRD allows a connection of a [Model] directly to an [External Circuit] through a new keyword [Model Call]. Arpad Muranyi noted that there was a suggestion by Walter Katz to add the B-element to IBIS-ISS, and that would allow for using legacy [Model]s within [External Circuit]s, and as a result the need for this BIRD (i.e. the need to cascade [Model]s and [External Circuit]s) could be eliminated. The changes in this version relate to clarifying connections to the reserved power and ground nodes of the [Model].

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

Discussion was tabled.

BIRD117.3: PARAMETERIZE A_TO_D AND D_TO_A CONVERTERS

Discussion was tabled.

BIRD118.2: ANALOG PARAMETER ASSIGNMENTS

Discussion was tabled.

BIRD121.1: IBIS-AMI NEW RESERVED PARAMETERS FOR DATA MANAGEMENT

Discussion was tabled.

BIRD122: IBIS-AMI NEW RESERVED PARAMETERS FOR ANALOG MODELING

Discussion was tabled.

BIRD123.2: IBIS-AMI NEW RESERVED PARAMETERS FOR JITTER/NOISE

Discussion was tabled.

BIRD124: IBIS-AMI NEW RESERVED PARAMETERS FOR DEPENDENCY TABLES

Discussion was tabled.

BIRD125.1: MAKE IBIS-ISS AVAILABLE FOR IBIS PACKAGE MODELING

Discussion was tabled.

BIRD128: ALLOW AMI_PARAMETERS_OUT TO PASS AMI_PARAMETERS_IN DATA ON CALLS TO AMI_GETWAVE

Discussion was tabled.

BIRD129: ADD "POLARITY" ARGUMENT TO D_TO_A CONVERTERS

Discussion was tabled.

BIRD 131: IBIS-AMI REPEATERS

Discussion was tabled.

BIRD147: BACK-CHANNEL SUPPORT

Discussion was tabled.

BIRD150: IBIS-AMI NEW RESERVED PARAMETERS FOR DEPENDENCY TABLES

Discussion was tabled.

IBISCHK5 BUG STATUS

Bob Ross introduced BUG132. When [Model Selector] is embedded in the [Notes] section, ibischk5 crashes when the keyword exists in the first column. This only applies to .ebd and .pkg files. It is flagged as an Error or Warning in an .ibs file. The BUG was classified as Severe severity, Medium priority and Open status.

Bob noted Eckhard Lenski found that several Linux versions of the tschk2 parser did not work properly down-converting Touchstone 2 files to Touchstone 1. It appears the error is not in the source code but in the generation of the executables. Michael Mirmak asked if it made sense to issue a new source code version even if the source code didn't change. Arpad Muranyi noted that software versions are usually changed based on the build, so new executables would usually have a new version number even if the source code wasn't changed. Mike LaBonte thought it made sense to have a BUG report to work with too.

Arpad moved to table discussion. Michael Mirmak seconded. There were no objections. Bob noted he will also work with Radek Biernacki on the issue.

NEW TECHNICAL ISSUES

Arpad Muranyi noted that GetWave_Exists is part of the AMI specification. It is supposed to tell the EDA software whether a GetWave function exists in the DLL. Some developers are setting the parameter to 'false' when GetWave does exist for use as debugging the code. Arpad wondered if any changes should be made in the specification to clarify how this parameter should or should not be used. One suggestion from the reflector was to look at BIRD120 to see if it clarifies any usage of the parameter. Bob Ross noted that he thought the parameter was redefined for IBIS 5.1.

Arpad showed some proposed changes to the flow description in BIRD120 that would clarify the usage of GetWave_Exists and prevent the situation of GetWave_Exists as 'true' but the function not existing in the DLL, essentially adding some flow control capability to the parameter. Arpad expressed concern about how to handle changes to the text, since we are looking to cut off spec changes today. Radek Biernacki added that the proposed changes are easy to implement in EDA software. Arpad noted he was told that most tools already check for the error situation. He added that he thought the name of the parameter is actually misleading. It would be better named 'Use_GetWave' or 'Execute_GetWave'. Bob noted that changing the parameter names is more than an editorial change. Arpad agreed that he thought his existing proposed text would be just an editorial change. More discussion is planned at the next ATM task group meeting.

NEXT MEETING

The next IBIS Open Forum teleconference will be held March 30, 2012 from 8:00 to 10:00 AM US Pacific Time.

Arpad Muranyi moved to adjourn. Mike LaBonte seconded. There were no objections.

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NOTES

IBIS CHAIR: Michael Mirmak (916) 356-4261, Fax (916) 377-3788
        michael.mirmak@intel.com
        Data Center Platform Applications Engineering
        Intel Corporation
        FM5-239
        1900 Prairie City Rd.,
        Folsom, CA 95630

VICE CHAIR: Lance Wang (978) 633-3388
        lwang@iometh.com
        President/CEO, IO Methodology, Inc.
        PO Box 2099
        Acton, MA 01720

SECRETARY: Randy Wolff (208) 363-1764, Fax: (208) 368-3475

rrwolff@micron.com
SI Modeling Manager, Micron Technology, Inc.
8000 S. Federal Way
Mail Stop: 01-711
Boise, ID 83707-0006

LIBRARIAN: Anders Ekholm (46) 10 714 27 58, Fax: (46) 8 757 23 40
ibis-librarian@eda.org
Digital Modules Design, PDU Base Stations, Ericsson AB
BU Network
Färögatan 6
164 80 Stockholm, Sweden

WEBMASTER: Mike LaBonte
mikelabonte@eda.org
IBIS-AMI Modeling Specialist, Signal Integrity Software
6 Clock Tower Place
Maynard, MA 01754

POSTMASTER: Mike LaBonte
mikelabonte@eda.org
IBIS-AMI Modeling Specialist, Signal Integrity Software
6 Clock Tower Place
Maynard, MA 01754

This meeting was conducted in accordance with the TechAmerica Legal Guides and TechAmerica 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 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/bugsplt.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

To create an account on the TechAmerica KAVI workspace, check out:

http://workspace.techamerica.org/kwspub/join/

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IBIS CURRENT MEMBER VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	January 27, 2012	February 2, 2012	February 17, 2012	March 9, 2012
Advanced Micro Devices	Producer	Inactive	-	-	-	-
Agilent Technologies	User	Active	X	X	X	X
Altera	Producer	Active	X	X	-	X
ANSYS	User	Inactive	-	-	-	-
Apple Computer	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	-	X	-	-
Cadence Design Systems	User	Active	X	X	-	X
Cisco Systems	User	Inactive	-	X	-	-
Ericsson	Producer	Active	-	X	X	-
Foxconn Technology Group	Producer	Inactive	-	-	-	-
Freescale	Producer	Inactive	-	-	-	-
Green Streak Programs	General Interest	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	-	X	-	-
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	-
Mentor Graphics	User	Active	X	X	X	X
Micron Technology	Producer	Active	X	X	X	X
Nokia Siemens Networks	Producer	Active	X	-	X	-
QLogic	Producer	Inactive	-	-	-	-
Signal Integrity Software	User	Active	X	X	X	X
Sigrity	User	Active	-	X	X	-
Synopsys	User	Inactive	-	X	-	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
Texas Instruments	Producer	Inactive	-	X	-	-
Toshiba	Producer	Inactive	-	-	-	-
Xilinx	Producer	Inactive	-	X	-	-
ZTE	User	Inactive	-	-	-	-
Zuken	User	Inactive	-	X	-	-

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.
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- 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.