IBIS Open Forum Minutes

Meeting Date: August 9, 2013
Meeting Location: Teleconference

VOTING MEMBERS AND 2013 PARTICIPANTS

Agilent	Radek Biernacki*, Pegah Alavi, Heidi Barnes, Fangyi Rao, Colin Warwick, Tarun Kalwani
Altera	David Banas*, Hsinho Wu
ANSYS	Luis Armenta, Ben Franklin, Dan Dvorscak, Steve Pytel
Applied Simulation Technology	Fred Balistreri, Norio Matsui
Cadence Design Systems	Terry Jernberg, Joy Li, Yingxin Sun, Ambrish Varma, Kevin Yao, Brad Brim
Ericsson	Anders Ekholm, Martina Fiammengo
Foxconn Technology Group	(Sogo Hsu)
IBM	Greg Edlund, Adge Hawes*, Dale Becker
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak, Mohammad Bapi*, Stewart Gilbert, Ravindra Rudraraju
IO Methodology	Lance Wang
LSI	Brian Burdick, Sarika Jain, Xingdong Dai*
Maxim Integrated Products	Hassan Rafat, Mahbubul Bari, Ron Olisar
Mentor Graphics	Arpad Muranyi*, Ed Bartlett, Vladimir Dmitriev-Zdorov
Micron Technology	Randy Wolff*
Signal Integrity Software	Walter Katz*, Mike LaBonte*, Mike Steinberger, Todd Westerhoff
Synopsys	John Ellis, Ted Mido, Scott Wedge, Rinsha Reghunath
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino
Toshiba	(Yasumasa Kondo)
Xilinx	(Raymond Anderson)
Zuken	Masaud Raeisi, Reinhard Remmert, Michael Schaeder, Alfonso Gambuzza

OTHER PARTICIPANTS IN 2013

Bayside Design	Elliot Nahas
Computer Simulation Technology	Heiko Grubrich
ECL Advantage	Thomas Iddings
Freescale	Jon Burnett
Granite River Labs	Vamshi Kandalla, Miki Takahashi
Hewlett-Packard	Yongjin Choi, Ting Zhu
KEI Systems	Shinichi Maeda
Molex	Davi Correia
National Instruments	Lee Mohrmann
Nvidia	Eric Hsu

Qualcomm	Scott Powers
QLogic	James Zhou
SAE	(Chris Denham)
TechAmerica	[Chris Denham]
Teradyne	Raymond Yakura
Université de Brest	Mihai Telescu
University of Illinois	Tom Comberiate, José Schutt-Ainé, Xu Chen
Vitesse Semiconductor	Sirius Tsang

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
August 30, 2013	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
Randy Wolff declared that a quorum was reached and the meeting could begin.

CALL FOR PATENTS
Mike LaBonte called for any patents or pending patents related to the IBIS 3.2, IBIS 4.2, IBIS 5.1, 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 July 19, 2013 IBIS Open Forum teleconference. The minutes were approved without changes.

MISCELLANY/ANNOUNCEMENTS
None.

CALL FOR NEW ISSUES
None.

MEMBERSHIP STATUS AND TREASURER'S REPORT
Bob Ross reported no change in membership, with 21 members currently. He has been in contact with Chris Denham at SAE. A renewal invoice has been sent out to another company.

WEB PAGE AND MAILING LIST ADMINISTRATION
Mike LaBonte reported no significant web change updates. He gave an update related to his ongoing project replacing static web pages with PHP code and tracking software. He published a spreadsheet about BIRD/BUG tracking software comparing Mantis, Bugzilla and Redmine to current practice. He has a question open about EDA.org support from the administrators to support new software. The administrators already have installed Mantis and they like it, so it will take some convincing to use any other software. All three tools are close in their features, so main differences are in layout of pages and fields. It might be easier to decide we can live with Mantis features. Mike took an AR to look at Mantis one more time and see if fields can be removed in some backdoor fashion. The goal is to have web pages requiring changes to have online software controlling them instead of logging in directly to the server and changing html code. Logins will be moderated and controlled.

Mike also reported that he needs to add a member to the editorial mailing list, but he does not have access to the editorial task group administration.

MODEL LIBRARY UPDATE
No update.

INTERNATIONAL/EXTERNAL ACTIVITIES
- Conferences
The 22nd IEEE Workshop on Electrical Performance of Electronic Packaging and Systems (EPEPS 2013) will be held October 27-30, 2013 in San Jose, California. There may be content related to IBIS modeling. More information is available at:

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

- Press Update
No update.

SUMMIT PLANNING AND STATUS
- Asia Events
Bob Ross reported that for Shanghai, a room is reserved for November 15 at the Parkyard hotel. A room is held at the Sherwood hotel in Taipei for November 19. We are looking for more sponsorship for the events. A Summit meeting in Yokohama is scheduled for November 22. Announcements will start to go out in a few weeks. Bob clarified that we are looking mostly for general sponsorship.

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.

QUALITY TASK GROUP
Mike LaBonte reported that the group's main work is getting a set of documentation together for ibischk5. Meetings have been organized as Mike and Bob Ross have time available utilizing the Tuesday at 8:00 a.m. PT time slot. The last meeting time slot was used for editorial task group work.

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

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

ADVANCED TECHNOLOGY MODELING TASK GROUP
Arpad Muranyi reported that the group is meeting regularly on Tuesdays at 12:00 p.m. PT. They are currently discussing the AMI parameter dependency BIRD from Fangyi Rao.

Task group material can be found at:

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

INTERCONNECT TASK GROUP
Bob Ross reported that the group has been suspended to allow the Editorial task group to use the same meeting time. The meetings will resume next week.

The task group documents can be found at:

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

EDITORIAL TASK GROUP
Arpad Muranyi reported that the group has been meeting to finalize the IBIS 6.0 specification. The latest draft will be introduced in today's meeting. Unless further work is needed, the

editorial group will cease meeting.

The draft IBIS 6.0 document is available for review at:

NEW ADMINISTRATIVE ISSUES
None.

BIRD162.1: CHANGE TO USAGE "INFO, OUT" FOR AMI JITTER AND NOISE PARAMETERS
Bob Ross reported that the BIRD changed a table to indicate Usage Out allowed for some Reserved Parameters. This BIRD is already incorporated in the draft IBIS 6.0 document. Mike LaBonte noted that the table has further been changed to put the Reserved Parameters in alphabetical order. Bob noted there is also an edit needed to fix a typo "maker 's" in the BIRD text. Bob added that another advantage of this BIRD is that it maintains compatibility with IBIS 5.1 with respect to TX_DCD and Tx_Jitter parameters, fixing an incompatibility introduced in BIRD123.5. Arpad Muranyi noted this maintains continuity between IBIS 5.1, 6.0 and future versions.

Arpad moved to vote on the BIRD for acceptance. Radek Biernacki seconded the motion. The motion passed with the following vote tally:

Agilent - yes
Altera – abstain
IBM – yes
Intel – yes
Mentor – yes
Micron – yes
SiSoft – yes
Teraspeed – yes

Radek moved to include the BIRD in IBIS 6.0. Bob seconded the motion. The motion passed with the following vote tally:

Agilent - yes
Altera – abstain
IBM – yes
Intel – yes
Mentor – yes
Micron – yes
SiSoft – yes
Teraspeed – yes

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

Mohammad Bapi moved to un-table the BIRD for discussion. Bob Ross seconded the motion. There were no objections.

Radek Biernacki noted that this BIRD is sort of a method of hacking to use on output parameter to point to an input parameter. Mohammad noted that if the Tx and Rx are from different vendors, it could cause problems. He noted that he saw a way of implementing a pseudo backchannel when he controlled both the Tx and Rx, but another user of the models would have problems. Mohammad asked about writing up a BIRD to introduce another method to do the same thing.

Bob moved to re-table the BIRD. Arpad seconded the motion. There were no objections.

BIRD145.3: CASCADING IBIS I/O BUFFERS WITH [EXTERNAL CIRCUIT]S USING THE [MODEL CALL] KEYWORD

Discussion was tabled.

BIRD147: BACK-CHANNEL SUPPORT

Discussion was tabled.

BIRD150: IBIS-AMI NEW RESERVED PARAMETERS FOR DEPENDENCY TABLES

Discussion was tabled.

BIRD155: NEW AMI API TO RESOLVE DEPENDENT MODEL PARAMETER

Discussion was tabled.

BIRD157: PARAMETERIZE [DRIVER SCHEDULE]

Discussion was tabled.

BIRD158.3: AMI TOUCHSTONE ANALOG BUFFER MODELS

Discussion was tabled.

BIRD161.1: SUPPORTING INCOMPLETE AND BUFFER-ONLY [COMPONENT] DESCRIPTIONS

Discussion was tabled.

IBIS VERSION 6.0 SPECIFICATION INTRODUCTION

Bob Ross introduced the draft IBIS 6.0 document. Numerical section headings are used now instead of alpha-numeric headings. All AMI information has been moved into section 10. In the Statement of Intent section, each version now includes documentation of the BIRDs they include. Section 10.3 includes formatting changes and updated tables. In section 10.5, equations have been re-formatted. Mike LaBonte noted that a document is posted showing a comparison between IBIS 5.1 and IBIS 6.0, so this is useful for anyone looking to review the changes in IBIS 6.0. Arpad Muranyi noted a keyword at the bottom of page 220 that has been separated from the rest of its text. Section 10.7 is a summary of all Reserved Parameters. Randy Wolff asked about the meaning of "- -" in the default column of Table 30. Bob noted that some instances may need editing.

The document will be reviewed at the next two meetings. Mike also showed the comparison document, and Bob showed how it can be useful to seeing additions in specific sections.

Bob moved to schedule a vote on the IBIS 6.0 specification during the September 20 meeting. Arpad Muranyi seconded the motion. There were no objections.

The draft IBIS 6.0 document is available for review at:

> http://www.eda.org/ibis/ver6.0_wip/

IBISCHK5 PARSER AND BUG STATUS

Bob Ross reported that there are no new bugs. All bugs have been fixed in the version 5.1.4 of ibischk5. Bob talked with the parser developer about IBIS 6.0, and he is available to do the work. Bob also discussed moving to a fixed price annual retainer with the developer, and he was amenable to the idea. We will need to figure out how to pay for the parser development.

Bob noted that one parser payment is being held up at SAE until a new legal agreement is created.

Mike LaBonte also mentioned that IBIS officially thanked Phyllis Call for her service to IBIS, as she was not carried over to SAE from TechAmerica.

NEW TECHNICAL ISSUES
None.

NEXT MEETING
The next IBIS Open Forum teleconference will be held August 30, 2013 from 8:00 a.m. to 10:00 a.m. US Pacific Time. The following meeting will be held September 20, 2013. A vote is scheduled at this meeting on the IBIS 6.0 specification.

Arpad Muranyi moved to adjourn. Bob Ross seconded the motion. There were no objections.

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NOTES

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This meeting was conducted in accordance with ANSI guidance.

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

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IBIS – SAE STANDARDS BALLOT VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	June 7, 2013	June 28, 2013	July 19, 2013	August 9, 2013
Agilent Technologies	User	Active	X	X	X	X
Altera	Producer	Active	X	X	-	X
ANSYS	User	Inactive	X	-	-	-
Applied Simulation Technology	User	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	-	X	-
Ericsson	Producer	Inactive	-	-	-	-
Foxconn Technology Group	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	-
LSI	Producer	Inactive	X	-	-	X
Maxim Integrated Products	Producer	Inactive	X	-	-	-
Mentor Graphics	User	Active	X	X	X	X
Micron Technology	Producer	Active	X	X	X	X
Signal Integrity Software	User	Active	X	X	X	X
Synopsys	User	Inactive	-	-	-	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
Toshiba	Producer	Inactive	-	-	-	-
Xilinx	Producer	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 SAE 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.