

IBIS Open Forum Minutes

Meeting Date: **September 20, 2013**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2013 PARTICIPANTS

Agilent	Radek Biernacki, Pegah Alavi, Heidi Barnes, Fangyi Rao, Colin Warwick, Tarun Kalwani, Ming Yan*
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 Schaefer, 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
October 11, 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. Mike LaBonte led the meeting.

Ming Yan from Agilent introduced himself. He is a software engineer developing IBIS models for ADS. He is close to the work of the IBIS committee.

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

Mike LaBonte called for comments regarding the minutes of the August 30, 2013 IBIS Open Forum teleconference. The minutes were approved without changes.

MISCELLANY/ANNOUNCEMENTS

Bob Ross noted that Michael Mirmak will be returning from sabbatical next week.

CALL FOR NEW ISSUES

None.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported no change in membership, with 21 members currently. One IBISCHK parser payment was received. He has no treasurer update at this point.

Brad Brim asked if anything is changing with membership payments for 2014. Bob did not have an update but took an AR to discuss this further with the board. One issue to discuss further is whether the membership dues will be increased to include the parser. Further discussions with SAE will also need to happen.

WEB PAGE AND MAILING LIST ADMINISTRATION

Mike LaBonte reported that there was a flurry of emails on the ibis-users list on an LVDS topic. It appears that the server used by our mailing list is not working well with some other email servers, where some emails are being rejected.

Mike noticed that some web pages that have been updated did not have a 2013 copyright date, so those have been updated. The events page was updated with more info about the Asian IBIS Summits as well.

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. Bob Ross noted that there will be a paper presented on X-parameters, a topic covered in recent IBIS Summits. More information is available at:

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

- Press Update
None.

SUMMIT PLANNING AND STATUS

- Asia Events

Bob Ross reported that we have picked up sponsors for the Shanghai event including Huawei as the major sponsor and cosponsors including Agilent, ANSYS, Cadence, Intel, IO Methodology and Synopsys. For the Taipei event, ANSYS is the major sponsor and cosponsors include Cadence, Intel, IO Methodology and Synopsys. JEITA and the IBIS Open Forum are sponsors of the Yokohama meeting. Lance Wang encouraged IBIS member companies to submit presentations for the Summits.

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 there was one recent meeting, and he presented a small Perl script utility that parses the IBISCHK source code and pulls out all the messages that are produced by the utility. These messages are being documented in a spreadsheet, and some errors were discovered, such as checks that weren't being done in the latest IBISCHK code but weren't documented as such. The tool will help accurately keep track of what IBISCHK is checking on. Meetings are being held on an as needed basis with the next meeting scheduled for October 1 at 8:00 a.m. PT.

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. In recent discussions they are trying to make decisions on the direction for on-die interconnect and package modeling including BIRD125, BIRD145 and the EMD proposal. Arpad would like to see more participation from IC vendors to make sure that all modeling needs are being covered by the proposals.

Task group material can be found at:

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

INTERCONNECT TASK GROUP

Arpad Muranyi reported that the task group meetings have been suspended temporarily until further notice. The attendance was low and important decisions could not be made with the small number of attendees. The discussions were moved to the ATM task group to get more participation.

The task group documents can be found at:

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

EDITORIAL TASK GROUP

Arpad Muranyi reported that the task group has not met recently.

NEW ADMINISTRATIVE ISSUES

None.

IBIS 6.0 DRAFT SPECIFICATION

Bob Ross introduced some small changes made since the last Open Forum teleconference. A copyright notice was added at the bottom of the title page. Other minor text edits were made including changing a couple instances of “clock_ticks” to “clock times”. Mike LaBonte noted another editorial change is needed to change an instance of “Repeater” to “Repeater_Type” in an example at the top of page 223.

Ambrish Varma moved to approve the IBIS 6.0 specification as shown with the editorial change to “Repeater_Type” noted above. Arpad Muranyi seconded the motion. The vote passed with the following vote tally:

Agilent – yes
Cadence – yes
Intel – yes
IO Methodology – yes
LSI – yes
Mentor – yes
Micron – yes
SiSoft – yes
Teraspeed – yes

The updated and approved IBIS Version 6.0 specification is found at:

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

BIRD155.2: NEW AMI API TO RESOLVE DEPENDENT MODEL PARAMETER

Bob Ross noted the changes in the BIRD. The word “DLL” was changed to “executable model” to make it OS independent. Some examples were added as well as some usage descriptions.

Mike LaBonte noted that this BIRD has been reviewed by the ATM task group and resubmitted. The committee is also recommending voting down BIRD150 to be replaced by BIRD155.

Arpad Muranyi moved to schedule a vote on BIRD155.2 at the next Open Forum teleconference. Bob Ross seconded the motion. There were no objections.

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.

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

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

Bob noted that this BIRD could be voted on at the next meeting at the same time as BIRD155.2.

Arpad Muranyi moved to schedule a vote on BIRD150 at the next Open Forum teleconference. Bob Ross seconded the motion. There were no objections.

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.

IBISCHK5 PARSER AND BUG STATUS

Bob Ross reported no new bugs submitted. All filed bugs have been processed and closed. We will now need to discuss funding for an IBISCHK6 parser following approval of the IBIS 6.0 specification.

Arpad Muranyi asked how we might change our fee structure if we move to a bi-annual release of the specification. Bob noted that there have not been any decisions made about this. We should plan to cover about \$10,000 per year to pay a parser code developer. Membership dues may need to be increased to cover this cost. We also need to get a budget from SAE to see if we are covered with a smaller number of members. Arpad thought this would be too long to wait to start parser development if we wait until 2014 after dues are paid. Mike LaBonte noted that we could look at accepting pre-payments. Bob added that 3 new parser licenses at the current \$2500 level would need to be sold to cover the initial \$10000 fee needed to start the IBISCHK6 development. Bob noted there are 17 parser licensees for IBISCHK5. Mike suggested that we try to get a complete treasurer's update for the next meeting. Bob noted the contracted amount of \$10,000 per year does not cover the case where the specification changes are excessively complex.

NEW TECHNICAL ISSUES

None.

NEXT MEETING

The next IBIS Open Forum teleconference will be held October 11, 2013 from 8:00 a.m. to 10:00 a.m. US Pacific Time. Votes on BIRD150 and BIRD155.2 are scheduled. The following meeting will be held November 1, 2013.

Walter Katz moved to adjourn. Bob Ross seconded the motion. There were no objections.

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/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 – SAE STANDARDS BALLOT VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	July 19, 2013	August 9, 2013	August 30, 2013	September 20, 2013
Agilent Technologies	User	Active	X	X	X	X
Altera	Producer	Inactive	-	X	-	-
ANSYS	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	-	X	X
Ericsson	Producer	Inactive	-	-	X	-
Foxconn Technology Group	Producer	Inactive	-	-	-	-
IBM	Producer	Active	X	X	X	-
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	X	X	X
IO Methodology	User	Inactive	X	-	-	X
LSI	Producer	Active	-	X	X	X
Maxim Integrated Products	Producer	Inactive	-	-	-	-
Mentor Graphics	User	Active	X	X	X	X
Micron Technology	Producer	Active	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.