



IBIS Open Forum Minutes

Meeting Date: **March 14, 2014**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2014 PARTICIPANTS

Agilent Technologies	Radek Biernacki*, Nilesh Kamdar, Colin Warwick, Graham Riley, Pegah Alavi, Fangyi Rao, Heidi Barnes
Altera	David Banas, Kundan Chand, Hsinho Wu
ANSYS	(Steve Pytel)
Applied Simulation Technology	Fred Balistreri, Norio Matsui
Cadence Design Systems	Ambrish Varma, Brad Brim, Joy Li, Kumar Keshavan, Ken Willis, Yingxin Sun, Joshua Luo, John Phillips
Ericsson	Anders Ekholm, Zilwan Mahmood
Foxconn Technology Group	(Sogo Hsu)
Huawei Technologies	Jinjun Li, Xiaoqing Dong
IBM	Adge Hawes
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak*, Jon Powell, Riaz Naseer Udy Shrivastava, Mustafa Yousuf, Jimmy Jackson
IO Methodology	Lance Wang, Michelle Coombs
LSI	Xingdong Dai, Min Huang, Anaam Ansari, Brian Burdick*
Maxim Integrated Products	Hassan Rafat
Mentor Graphics	Arpad Muranyi*, John Angulo, Fadi Deek
Micron Technology	Randy Wolff*
Signal Integrity Software	Mike LaBonte*, Walter Katz*, Todd Westerhoff, Michael Steinberger
Synopsys	Ted Mido, Scott Wedge
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino, Scott McMorro
Toshiba	(Yasumasa Kondo)
Xilinx	Ravindra Gali
Zuken	Michael Schaefer, Amir Wallrabenstein, Griff Derryberry

OTHER PARTICIPANTS IN 2014

ECL Advantage	Thomas Iddings
Hewlett Packard	Ting Zhu
KEI Systems	Shinichi Maeda
Lattice Semiconductor	Xu Jiang
Mellanok Technologies	Piers Dawe
Pangeya	Edgar Aguirre
Proficient Design	Kishor Patel
SAE International	Chris Denham
Vitesse	Siris 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
April 4, 2014	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 a.m. to 9:55 a.m. 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.

Several attendees noted issues with connecting to WebEx, and at least one attendee was never able to connect.

CALL FOR PATENTS

Michael Mirmak called for any patents or pending patents related to the IBIS 3.2, IBIS 4.2, IBIS 5.1, IBIS 6.0, 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 21, 2014 IBIS Open Forum teleconference. The minutes were approved without changes.

ANNOUNCEMENTS

Michael Mirmak announced that he had new IEEE updates to share, and these were already listed on the agenda.

CALL FOR ADDITIONAL AGENDA ITEMS

None.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported that the treasury sits at \$24,181. 11 members have renewed so far for 2014. Bob took an AR to start reminding members of renewals. Michael Mirmak asked if our target is still about 28-30 members. Bob noted that he pushed back on Chris Denham to see if 22 members are enough to break even. We had that many last year. Mike LaBonte asked if the renewal email would have come from SAE. Michael responded that the email was sent from Rita Gerber, and it should have an invoice attached.

WEB PAGE AND MAILING LIST ADMINISTRATION

Mike LaBonte had no web page items to report. Concerning email, one person reached Mike through Lance Wang. Emails from the person were not reaching ibis*@eda.org. Anyone can contact Mike at mike@labonte.com if they are not seeing emails sent to the ibis reflectors go through.

MODEL LIBRARY UPDATE

No update. Mike LaBonte noted that the library was updated recently and all the links were checked for validity.

INTERNATIONAL/EXTERNAL ACTIVITIES

- Conferences

The 18th IEEE Workshop on Signal and Power Integrity (SPI 2014) will be held May 11-14, 2014 in Ghent, Belgium. There will be a European IBIS Summit in conjunction with this conference. There are typically many papers on IBIS-related algorithms presented by student researchers. More information is available at:

<http://spi2014.org>

- Press Update

None.

- New IEEE Standards

Michael Mirmak reported seeing a press release at the end of February about the formation of IEEE working groups P2401 and P1666. These groups are officially known as the SystemC Analog/Mixed-Signal (AMS) Extensions working group and the LPB – Standard Format for Large Scale Integration (LSI)-Package-Board Interoperable Design working group. Both groups do technical work in EDA standards development. The press release is linked at:

<http://www.businesswire.com/news/home/20140226005029/en/IEEE-Forms-Working-Groups-Standardize-Steps-Electronic#.UyMf59XnbvU>

Michael also noted that the IEEE P1735 working group that works on encryption is active. They are in the testing and implementation stage of the standard development. Mike LaBonte asked what IBIS' most recent interest in encryption was. Michael responded that there was a hurdle to IBIS 4.1 AMS language adoption if the model contained IP and couldn't be encrypted. There was some thought that P1735 could be used with the AMS languages. It could be extended to Spice macromodels potentially. Mike asked if there is anything we'd need to do once the standard is finished. Michael felt that we'd need to see if anything in IBIS 4.1 would need to change to support encryption.

SUMMIT PLANNING AND STATUS

- European IBIS Summit Status

The Summit is scheduled after the SPI event on May 14, 2014 in Ghent, Belgium. The first call for papers will go out next week. Randy Wolff noted that he is planning to attend, so if no other officers can attend, he can run the meeting. Michael Mirmak noted that sponsorships are welcome.

- 2014 Summit schedule

DAC is June 1-5, 2014 in San Francisco, CA. Michael Mirmak contacted DAC organizers to see about potential co-sponsorships with DAC. Most deadlines have passed, but he does have contact information for next year. So, we'll probably make use of a room reserved by one of our member organizations.

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 is ongoing activity to finish the ibischk program documentation. He is hoping to complete the document for release along with the next ibischk version. The group is meeting on an as-needed basis during the Tuesdays at 8:00 a.m. PT time slot. If anyone is interested in attending, look for the meeting notices the day before.

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 BIRD147 on backchannel modeling. There was discussion about starting up an interconnect modeling meeting to have additional time for discussion of package modeling. Bob Ross commented that he is working with Ambrish Varma on the backchannel BIRD and is simplifying it. There will be technical and editorial changes to present at the next meeting. Michael Mirmak asked if there would be additional follow-up to discuss PCI express or

other interfaces that require backchannel modeling. Arpad did not have any information about these interfaces. Michael noted that he may have additional experts available to present on these interfaces.

Task group material can be found at:

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

NEW ADMINISTRATIVE ISSUES

Michael Mirmak noted that the Interconnect task group will be restarted next week for discussions of package modeling. Let him know if you are interested in attending and were not previously on the task group's mailing list.

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.

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.

BIRD163: INSTANTIATING AND CONNECTING [EXTERNAL CIRCUIT] PACKAGE MODELS WITH [CIRCUIT CALL]

Discussion was tabled.

BIRD164: ALLOWING PACKAGE MODELS TO BE DEFINED IN [EXTERNAL CIRCUIT]

Discussion was tabled.

BIRD165: PARAMETER PASSING IMPROVEMENTS FOR [EXTERNAL CIRCUIT]S

Discussion was tabled.

IBISCHK5 PARSER AND BUG STATUS

Bob Ross reported there are no new bugs. BUG147, BUG148 and BUG149 will be fixed in the ibischk6 release.

IBISCHK6 PARSER STATUS

Bob Ross reported that the developer has implemented all the BIRDs except BIRD160 so far and is planning to share the code with him. Any paid parser owner is free to look at the code drop.

Bob noted that some issues with IBIS 6.0 have been discussed recently. He requested Michael Mirmak to create a known issues list on the website.

NEW TECHNICAL ISSUES

Michael Mirmak noted that many EDA vendors expressed concerns with the IBIS specification being released every 6 months. He thinks we should discuss going to a one year release schedule instead of a 6 month release schedule.

NEXT MEETING

The next IBIS Open Forum teleconference will be held April 4, 2014 from 8:00 a.m. to 10:00 a.m. US Pacific Time. The following meeting will be held April 25, 2014.

Radek Biernacki moved to adjourn. Arpad Muranyi 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/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	January 10, 2014	January 31, 2014	February 21, 2014	March 14, 2014
Agilent Technologies	User	Active	X	X	X	X
Altera	Producer	Active	-	X	X	-
ANSYS	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	-	X	-	-
Cadence Design Systems	User	Active	X	X	X	-
Ericsson	Producer	Inactive	-	X	-	-
Foxconn Technology Group	Producer	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	-	X	-	-
IBM	Producer	Active	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	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	-	X	-	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
Toshiba	Producer	Inactive	-	-	-	-
Xilinx	Producer	Inactive	-	X	-	-
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 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.