



IBIS Open Forum Minutes

Meeting Date: **May 20, 2016**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2016 PARTICIPANTS

ANSYS	Curtis Clark*, Toru Watanabe
Applied Simulation Technology	(Fred Balistreri)
Broadcom (Avago Technologies)	Bob Miller
Cadence Design Systems	Ken Willis, Brad Brim*
Cisco Systems	Giuseppi Selli, Brian Baek
CST	Stefan Paret
Ericsson	Anders Ekholm, David Zhang, Zilwan Mahmod
GLOBALFOUNDRIES	Steve Parker
Huawei Technologies	(Jinjun Li)
IBM	Adge Hawes, Luis Armenta
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Hsinho Wu*, Mohammad Bapi, Michael Mirmak*, Masahi Shimanouchi, Todd Bermensolo, Zao Liu, Gong Ouyang, Udy Shrivastava, Gianni Signorini, Richard Mellitz
IO Methodology	Lance Wang*
Keysight Technologies	Radek Biernacki*, Heidi Barnes, Jian Yang, Fangyi Rao, Stephen Slater, Pegah Alavi, Edwin Young
Maxim Integrated Products	Yan Liang, Don Greer, Thinh Nguyen, Joe Engert, Hock Seon
Mentor Graphics	Arpad Muranyi*, Vladimir Dmitriev-Zdorov, John Angulo, Mikael Stahlberg
Micron Technology	Randy Wolff*
Signal Integrity Software	Mike LaBonte, Walter Katz, Todd Westerhoff, Richard Allred
Synopsys	Ted Mido*, Kevin Li*, Massimo Prando
Teraspeed Labs	Bob Ross*
Toshiba	(Yasumasa Kondo)
Xilinx	(Raymond Anderson)
ZTE Corporation	(Shunlin Zhu)
Zuken	Michael Schaefer, Amir Wallrabenstein

OTHER PARTICIPANTS IN 2016

eASIC	David Banas
Fujitsu Advanced Technologies	Shogo Fujimori
Ghent University	Paolo Manfredi
H3C	Bin Cheng, Mao Jun
Hamburg University of Technology	Jan Preibisch, David Dahl

Independent	Carl Gabrielson
Institut Supérieur des Sciences Appliquées et de Technologie de Sousse	Wael Dghais
JEITA	Yosuke Kanamaru
John Baprawski, Inc.	John Baprawski
KEI Systems	Shinichi Maeda
Lattice Semiconductor	Dinh Tran, Maryam Shahbazi
Leading Edge	Pietro Vergine
MathWorks	Mike Mulligan, Corey Mathis
Monsoon Solutions	Nathan Hirsch
Northrup Grumman	Alex Golian
NXP	Jon Burnett
Politecnico di Torino	Claudio Siviero, Stefano Grivet-Talocia, Igor Simone Stievano
Rambus	John Yan
Raytheon	Joseph Aday
SAE International	(Logen Johnson)
SILABTECH	Biman Chattopadhyary
Signal Metrics	Ron Olisar
SiGuys	Donald Telian
Sony Corporation	Hiroaki Ammo
Sony LSI Design	Takashi Hasegawa
SPISim	Wei-hsing Huang
STMicroelectronics	Fabio Brina, Olivier Bayet
Technoprobe	Alberto Berizzi, Lorenzo Bernasconi, Simona Cucchi
Université de Bretagne Occidentale	Mihai Telescu

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
June 10, 2016	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. Michael Mirmak ran the meeting in Mike LaBonte's absence.

CALL FOR PATENTS

Michael Mirmak called for declaration of any patents or pending patents related to the IBIS 3.2, IBIS 4.2, IBIS 5.1, IBIS 6.1, Touchstone 2.0, IBIS-ISS 1.0 or ICM 1.1 specifications. No patents were declared.

REVIEW OF MINUTES AND ARS

Randy Wolff called for comments regarding the minutes of the April 29, 2016 IBIS Open Forum teleconference. Bob Ross moved to approve the minutes. Lance Wang seconded the motion. There were no objections.

Randy reviewed ARs from the previous meeting.

1. Mike LaBonte to clarify Policies and Procedures language about designated representatives [AR].
No update.
2. Bob Ross to review nominations procedure portion of Policies and Procedures [AR].
In progress.
3. Mike LaBonte to produce task group guidelines document for task groups and China regional group [AR].
Randy noted that a draft document was created by Mike LaBonte. Lance Wang reported that he shared the draft document with the China regional group, and they were ok with following the document as written.

ANNOUNCEMENTS, CALL FOR ADDITIONAL AGENDA ITEMS

Bob Ross requested time to discuss the China regional group formation.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported that 21 have members renewed so far. We have gained one new member from the IBM/GLOBALFOUNDRIES split and lost one member due to the Altera/Intel merger. We have a total of \$19,298. \$14,987 has been collected this year. One additional renewal is

pending with SAE. SAE asked Bob for a budget for 2016. He projected a gain of \$11,732 with the assumption of one additional parser sale and one additional member join.

WEBSITE ADMINISTRATION

No update.

MAILING LIST ADMINISTRATION

Curtis Clark reported that only one email address was updated and everything is running smoothly.

LIBRARY UPDATE

No update.

INTERNATIONAL/EXTERNAL ACTIVITIES

- Conferences

The first call for papers for EPEPS has gone out. EPEPS sometimes includes IBIS content.

<http://www.epeps.org>

- Press Update

Michael Mirmak reported that an article by David Banas titled “Free yourself from IBIS-AMI models with PyBERT” was published in the May 9, 2016 EDN online. The article is linked at:

<http://www.edn.com/design/test-and-measurement/4441991/Free-yourself-from-IBIS-AMI-models-with-PyBERT>

- Related standards

None.

SUMMIT PLANNING AND STATUS

- European IBIS Summit at SPI 2016 Review

An IBIS Summit was co-hosted with the IEEE Workshop on Signal and Power Integrity (SPI). The Summit was a half day event on May 11, 2016 in Turin, Italy. Lance Wang reported that about 36 attendees were counted, but only 30 signed in. The meeting went well, and there was a lot of discussion of SI and PI models. One paper from Gianni Signorini of Intel was very interesting and showed a way to improve IBIS by adding 3-D surface modeling capabilities. Michael Schaefer commented in an email that there was excellent coordination with SPI. It was noted that Stefano Grivet-Talocia will be organizing SPI next year, and it will be held somewhere in Italy. Bob Ross noted the sponsors ANSYS, CST, Keysight Technologies, Synopsys, and Zuken.

- EPEPS 2016 Consideration

Bob Ross reported that the call for papers has gone out. At some time in the future we need to decide if we will hold a meeting at EPEPS. It is located in San Diego, so it may be inconvenient for core IBIS members to attend. We coordinated with the academic community in the last EPEPS, so it is good to maintain this relationship. For instance, Paul Franzon of NCSU, who coordinated development of the S2IBIS software, is the co-chair. We should decide in the July timeframe if we will hold a meeting. We need to also find out if the terms are favorable to us such as getting a room at a good rate including A/V equipment. We would need to raise sponsorship money. If we do hold a meeting, we'd expect the IBIS schedule to be integrated into the EPEPS schedule like last year.

Bob also noted that we need to vote at some time in the future to hold the Asian IBIS Summits. There is a presumption that JEITA will organize most of the Japan Summit. We'll need to discuss the Taipei Summit. We already have some sponsorship money for the Shanghai Summit.

Bob moved to hold a vote at the next meeting to approve the Shanghai and Tokyo Summits. Randy Wolff seconded the motion. There were no objections.

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

Bob Ross reported that the group is meeting on Tuesdays at 8:00 a.m. PT. The group has been continually working on bug reports and discussed a .dll checker for AMI models. Randy Wolff asked if there is continuing progress on the IBISCHK6 user guide. Bob responded that this is still in progress.

The IBISCHK6 user guide work in progress can be reviewed at:

http://www.ibis.org/ibischk6/ibischk_6.1.1_UserGuide_wip1.pdf

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

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

ADVANCED TECHNOLOGY MODELING TASK GROUP

Arpad Muranyi reported that the group is meeting regularly on Tuesdays at 12:00 p.m. PT. The group is discussing the usual topics.

Task group material can be found at:

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

INTERCONNECT TASK GROUP

Michael Mirmak reported that the group is meeting on Wednesdays at 8:00 a.m. PT. The group has set a deadline for the end of June to complete the Interconnect BIRD.

Task group material can be found at:

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

EDITORIAL TASK GROUP

Michael Mirmak reported that the group is meeting on Fridays at 8:00 a.m. PT on weeks the Open Forum teleconference is not held. Some language regarding ground referencing has been prepared.

Task group material can be found at:

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

NEW ADMINISTRATIVE ISSUES

- Second revision of IBIS Policies and Procedures

Randy Wolff reported that the document is almost complete, and we should plan to discuss it further in the next meeting when Mike LaBonte returns. Bob Ross noted that most of the work right now is fine tuning. There is a question of whether we pass the draft onto SAE for review or vote on it first in the Open Forum. He thinks we probably need to let SAE review it first since they made comments requiring changes to the last revision. Radek asked if anything needs to be added to the Policies and Procedures to cover the China regional group or other regional groups that may form. For instance, IEEE has many regional groups. Michael Mirmak commented that this question has come up in discussions over email. Having a regional approach similar to IEEE or other organizations may make sense. We may need SAE/ITC consultation on the matter. Bob noted that as a regional group they can work however they want, but anything official must be handled through the Open Forum. Bob noted that forming regional groups could help give the regions (outside the US) more clout.

The document can be found at:

<http://www.ibis.org/policies/>

- 2016 officer nominations report

Radek Biernacki reported that we are in the nomination period. The announcement went out Monday, May 16. We have nominations for all offices in place. The nomination period is still open through May 31, and we may have other nominations before the end of May. The voting period is June 1-14. Announcement of results is on June 15.

Bob noted that in the revised Policies and Procedures document, we'll extend the voting period to June 15 with announcement on June 16 in order to have a 2 week voting period. The reason for this report is to make sure we know we'll have a candidate for all key positions such as Chair.

- China regional group

Bob noted a draft operating guidelines document has been sent. The China regional group is moving forward with setting up a first meeting. We are still planning to run the IBIS Summit in China, but the group may want to create a tutorial day or do something else in addition to the regular Summit. This is similar to what JEITA did in conjunction with the Japan Summit last year. Lance Wang can serve in the short term as the communicator to the Open Forum about the group's progress. Lance noted that in 2014 at the Shanghai Summit, there was a lot of discussion about how people in China can get more involved in IBIS. Formation of this group is a response. In the first meeting, the group can discuss what the next steps are. The group may need additional funding for doing a tutorial at the next Summit. It is needed to see how much interest there is from EDA vendors to support a tutorial. Bob recommended to let the group drive the agenda to address the issues they are most interested in. This group may help address some of the current issues of minimal participation in task groups and potential language barriers. Lance noted that we can learn from our experiences with formation of the China regional group and share the learning with other potential regional groups.

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

Discussion was tabled.

BIRD128.2: 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.

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.

BIRD166: RESOLVING PROBLEMS WITH REDRIVER INIT FLOW

Discussion was tabled.

BIRD180: REQUIRE UNIQUE PIN NAMES IN [PIN]

Discussion was tabled. Bob Ross noted that we should un-table this BIRD for discussion in the next meeting, as it may potentially be included in the next IBIS version.

IBISCHK6 PARSER AND BUG STATUS

Bob Ross reported that we have two open bugs. Arpad Muranyi submitted a problem, but there is not a bug report yet. It is related to a requirement for multilingual models and node declarations. Bob was able to reproduce the system crash Arpad observed. Bob noted that we'll need to discuss a new contract with the parser developer for any bug fixes. He also commented that the .dll checking proposal is very basic. Some vendors do .dll checking, and we are not intending to compete with those tools.

NEW TECHNICAL ISSUES

None.

NEXT MEETING

The next IBIS Open Forum teleconference meeting will be held June 10, 2016. A vote will be held to approve the Shanghai and Tokyo Summits. The following IBIS Open Forum teleconference meeting will be held July 1, 2016.

Bob Ross moved to adjourn. Radek Biernacki seconded the motion.

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NOTES

IBIS CHAIR: Mike LaBonte

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This meeting was conducted in accordance with ANSI guidance.

All inquiries may be sent to info@ibis.org. Examples of inquiries are:

- To obtain general information about IBIS.
- To ask specific questions for individual response.

- To subscribe to the official ibis@freelists.org and/or ibis-users@freelists.org email lists (formerly ibis@eda.org and ibis-users@eda.org).
- To subscribe to one of the task group email lists: ibis-macro@freelists.org, ibis-interconn@freelists.org, or ibis-quality@freelists.org.
- To inquire about joining the IBIS Open Forum as a voting Member.
- To purchase a license for the IBIS parser source code.
- To report bugs or request enhancements to the free software tools: ibischk6, tschk2, icmchk1, s2ibis, s2ibis2 and s2iplt.

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

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

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

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

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

<http://www.ibis.org/bugs/icmchk/>
http://www.ibis.org/bugs/icmchk/icm_bugform.txt

To report s2ibis, s2ibis2 and s2iplt bugs, use the Bug Report Forms which reside at:

<http://www.ibis.org/bugs/s2ibis/bugs2i.txt>
<http://www.ibis.org/bugs/s2ibis2/bugs2i2.txt>
<http://www.ibis.org/bugs/s2iplt/bugspl.txt>

Information on IBIS technical contents, IBIS participants and actual IBIS models are available on the IBIS Home page:

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

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

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

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

SAE STANDARDS BALLOT VOTING STATUS

Organization	Interest Category	Standards Ballot Voting Status	April 8, 2016	April 29, 2016	May 11, 2016	May 20, 2016
ANSYS	User	Active	X	X	-	X
Applied Simulation Technology	User	Inactive	-	-	-	-
Broadcom Ltd.	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Inactive	-	-	-	X
Cisco Systems	User	Inactive	-	-	-	-
CST	User	Inactive	-	-	X	-
Ericsson	Producer	Inactive	-	-	X	-
GLOBALFOUNDRIES	Producer	Inactive	X	-	-	-
Huawei Technologies	Producer	Inactive	-	-	-	-
Infineon Technologies AG	Producer	Inactive	-	-	-	-
IBM	Producer	Inactive	X	-	-	-
Intel Corp.	Producer	Active	X	X	X	X
IO Methodology	User	Active	-	X	X	X
Keysight Technologies	User	Active	X	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	-
Synopsys	User	Active	X	X	X	X
Teraspeed Labs	General Interest	Active	X	X	-	X
Toshiba	Producer	Inactive	-	-	-	-
Xilinx	Producer	Inactive	-	-	-	-
ZTE	User	Inactive	-	-	-	-
Zuken	User	Inactive	-	-	X	-

Criteria for SAE 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 standards 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.