



IBIS Open Forum Minutes

Meeting Date: **August 21, 2015**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2015 PARTICIPANTS

Altera	[David Banas], Masashi Shimanouchi, Hsinho Wu*
ANSYS	(Steve Pytel), Curtis Clark
Applied Simulation Technology	Fred Balistreri, Norio Matsui
Avago Technologies	Minh Quach, Leif Zweidinger
Cadence Design Systems	Brad Brim*, Joshua Luo, Ken Willis, Joy Li, Ambrish Varma
Cisco Systems	David Siadat, Rockwell Hsu, Bidyut Sen
CST	Stefan Paret*, Matthias Troescher
Ericsson	Anders Ekholm
Huawei Technologies	Xiaoqing Dong
IBM	Adge Hawes*, Luis Armenta
Infineon Technologies AG	Christian Sporrer
Intel Corporation	Michael Mirmak*, Todd Bermensolo, Nhan Phan
	Gianni Signorini
IO Methodology	Lance Wang
Keysight Technologies	Radek Biernacki*, Pegah Alavi, Colin Warwick
	Jian Yang, Nicholas Tzou, Heidi Barnes, Dave Larson
	Kyla Thomas
Maxim Integrated Products	Mahbubul Bari, Don Greer, Joe Engert, Joe Rayhawk
	Yan Liang
Mentor Graphics	Arpad Muranyi*, Ed Bartlett, Vladimir Dmitriev-Zdorov
Micron Technology	Randy Wolff*
Signal Integrity Software	Mike LaBonte*, Walter Katz*, Todd Westerhoff
	Mike Steinberger
Synopsys	Ted Mido*, Rita Horner, William Lau, Scott Wedge
	Michael Zieglmeier, Joerg Schweden
Teraspeed Labs	Bob Ross*, Tom Dagostino
Toshiba	(Yasumasa Kondo)
Xilinx	(Raymond Anderson)
ZTE Corporation	(Min Huang), Tao Guo
Zuken	Michael Schaefer, Markus Buecker, Griff Derryberry
	Ralf Bruening

OTHER PARTICIPANTS IN 2015

Bayside Design	Elliot Nahas
Continental Automotive	Felix Goelden, Markus Bebendorf, Sebastian Groener
	Stefanie Schatt
eASIC	David Banas*
Freescale	Jon Burnett

Galbi Research	Dave Galbi
Independent	Tim Wang Lee
Instituto de Telecomunicações	Wael Dghais
KEI Systems	Shinichi Maeda
Lattice Semiconductor	Xu Jiang
Leading Edge	Pietro Vergine
Politecnico di Torino	Stefano Grivet-Talocia
Qualcomm	Senthil Nagarathinam, Kevin Roselle
Raytheon	Joseph Aday
SAE International	Chris Denham
Siemens AG	Boris Kogan, Michael Flint
Simberian	Yuriy Shlepnev
Technische Universität Hamburg-Harburg	Jan Preibisch
Vitesse	Siris Tsang
ZI Consulting	Iliya Zamek

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
September 11, 2015	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.

Stefan Paret introduced himself. He is a software developer at CST in Germany. He is mainly in charge of extending IBIS support of the software. His goal in the IBIS meetings is to catch up to see what goes into developing the standard.

CALL FOR PATENTS

Mike LaBonte 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, 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 July 31, 2015 IBIS Open Forum teleconference. There were no comments.

Mike LaBonte moved to approve the minutes. Bob Ross seconded the motion. There were no objections, so the minutes were approved without changes.

Randy reviewed ARs from the previous meeting.

1. Michael Mirmak will make changes to BIRD178.2 and post as BIRD178.3 [AR].
Bob Ross reported that the BIRD was uploaded.
2. Bob Ross will arrange to post a .docx revision 1 file and a clean .pdf revision 1 file for review (IBIS 6.1 draft) [AR].
Bob reported that the Revision 3 draft was posted by Michael.
3. Mike LaBonte will ask Michael Mirmak if he wants to announce the IBIS Version 6.1 revision 1 document availability, and he will post the document to the IBIS website [AR].
Mike reported that the document release was announced, and the document was posted.

ANNOUNCEMENTS, CALL FOR ADDITIONAL AGENDA ITEMS

None.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported that Huawei has renewed membership for 2015. The treasury balance stands at \$68,989. There are now 24 voting members. We received two Summit sponsorship payments and expect one more shortly. A DesignCon A/V payment from February 2015 was resolved, as the credit card payment was not recorded by the A/V supplier.

WEBSITE ADMINISTRATION

Mike LaBonte reported that the home page was updated with an announcement of the Policies and Procedures document.

MAILING LIST ADMINISTRATION

Mike LaBonte reported that Curtis Clark has been working with the FreeLists administrators to fix ongoing issues with Yahoo email subscribers. Currently, FreeLists administrators are not sure how to fix the latest issue. Curtis is planning to email the 4 yahoo email subscribers to see if they may have an alternate email address they can use.

LIBRARY UPDATE

No update.

INTERNATIONAL/EXTERNAL ACTIVITIES

- Conferences

The Si2Con conference will be held Tuesday, October 6, 2015 in Santa Clara, California. Mike LaBonte noted that it is unlikely that IBIS can have a vendor table at the conference. He does not see any real interest in IBIS involvement in the conference. Michael Mirmak noted there may be some overlap with Interconnect modeling between IBIS and Si2. Brad Brim added that the group inviting IBIS to attend is exploring a charter revision. They have changed their title to Chip Package Co-design (CPC). The next month or so will involve charter discussion in the Si2 group. We might look into Si2 interaction after this timeframe.

More information is available at:

<https://www.si2.org/?page=2129>

- Press Update

Mike LaBonte reported that he found official versions of the IBIS 3.2 standards in Britain and Austria. Bob Ross noted that he thought those standards were leveraged from the ANSI or IEC versions of the standard.

SUMMIT PLANNING AND STATUS

- EPEPS Summit Planning

EPEPS is taking place October 25-28, 2015 in San Jose, CA. Wednesday, October 28 will be a Summit in the afternoon at the DoubleTree by Hilton hotel. The meeting will be in the San Juan room. Synopsys and Keysight are sponsors. Bob Ross expects to send the first announcement out next week. He noted that a preliminary schedule of presentations is posted on the website.

The website for Electrical Performance of Electronic Packages and Systems is:

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

- Asian IBIS Summit (Shanghai)

The Shanghai meeting will be held Monday, November 9, 2015 at the Parkyard hotel. Huawei is the major sponsor along with co-sponsors Cadence, IO Methodology, Synopsys, Teledyne LeCroy and ZTE so far.

- Asian IBIS Summit (Taipei)

The Taipei meeting will be held Friday, November 13, 2015 at the Sherwood hotel. IO Methodology and Synopsys are sponsors so far. Michael Mirmak reported that the room is reserved, but the deposit has not been paid yet. Mike LaBonte will cc Michael on correspondence with the hotel in case there are questions.

- Asian IBIS Summit (Tokyo)

The Tokyo meeting will be held Monday, November 16, 2015. JEITA is taking care of all sponsorships. The room is already arranged. Bob noted that JEITA will supply a list of sponsors that we can announce at a later time.

Bob reported that announcements will begin going out in September for all the meetings.

- DesignCon IBIS Summit

DesignCon will be held January 19-21, 2015. Friday, January 22, 2015 is scheduled for the Summit meeting. Michael noted that there is some discussion of the meeting taking place in the Hyatt, as the conference center will be empty on Friday. Mike clarified for Bob that the meeting will be scheduled for a full day. He plans to hold the meeting in the conference center for now unless we decide otherwise.

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 is meeting on Tuesdays at 8:00 a.m. PT. Much of the discussion remains focused on the ibischk program and the development contract review. There is a rough draft of a user guide that needs a little more work. There is a possibility that the ibischk 6.1 program will come out with a user guide. This will document new keywords and error messages, but may need further updates.

The ibischk6 user guide work in progress can be reviewed at:

http://www.eda.org/ibis/ibischk6/ibischk_6.0.0_UserGuide_wip1.pdf

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. Most recent meetings were discussing the Model Specific InOut parameters and possible changes to the specification. Cadence should also be talking about updates to BIRD147 or possibly a new BIRD in an upcoming meeting.

Task group material can be found at:

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

INTERCONNECT TASK GROUP

Michael Mirmak reported that the group is meeting on Wednesdays at 8:00 a.m. PT. Developments continue on the Interconnect BIRD. There has been a lot of discussion on the Terminal syntax, and this syntax is being revised to be simplified.

Task group material can be found at:

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

EDITORIAL TASK GROUP

Michael Mirmak reported that the group is meeting on Fridays at 8:00 a.m. PT, with the exception of the weeks when Open Forum meetings are held in the same time slot. A draft 3 of the IBIS 6.1 specification has been posted. Mike LaBonte found that the draft 3 posting is mislabeled as draft 2 on the website, and he will fix this [AR]. Draft 3 includes some updates to clarify AMI parameter definition files.

Task group material can be found at:

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

NEW ADMINISTRATIVE ISSUES

- Vote to approve expenditure for new parser contract

Bob Ross reported that the parser developer requested a contract increase to \$3,800 to include the latest BIRD additions.

Bob Ross moved to vote on approval of the \$3,800 expenditure for the parser development. Radek Biernacki seconded the motion. The vote passed with the following vote tally.

Altera – yes
Cadence – yes
CST – yes
IBM – yes
Intel – yes
Keysight – yes
Mentor – yes
Micron – yes
SiSoft – yes
Synopsys – yes
Teraspeed Labs – yes

Bob Ross will send the contract around to the developer, Mike LaBonte and SAE for signature. October 2 is the expected delivery date.

- Second revision of IBIS Policies and Procedures

Mike shared a brief presentation about the IBIS Policies and Procedures document. Our first review was ratified on May 1, 2015. The SAE legal team requested some changes to the document for terminology. A new revision has been created to address these changes. The draft also clarifies the Treasurer role, clarifies the election beginning and end dates, adds a requirement for nomination reports during the nomination period, and adds a financial practices section. There are .docx and .pdf files for review.

Michael Mirmak noted that there may still be a need for a general operations document that states simple rules such as how many weeks go by before a BIRD can be up for vote, etc. This would be useful for people joining the meetings to understand how things work. Mike noted that the Policies and Procedures document is more of a bylaws document. He does see a need for a guidelines document. Bob added that this is a good observation. We've been operating for years with certain rules, and it would be good to document them. Some of these rules exist in the old IBIS Charter document. Mike will go through the old charter to see if all the rules we believe we have are in writing somewhere, and he'll make a summary of things that may not be in the charter that we need to document [AR]. Bob added that having a document separate from the Policies and Procedures document is advantageous, since then we have flexibility to update rules without requiring SAE review and voting approvals.

Mike noted that we should let SAE review the Policies and Procedures document for review before a final vote of the IBIS members for approval.

Mike's presentation is uploaded at:

http://www.eda.org/ibis/minutes/min2015/m082115_docs/IBIS_Policies_Procedures_Second_Review.pdf

BIRD157: PARAMETERIZE [DRIVER SCHEDULE]

Arpad Muranyi reported that the BIRD was written several years ago. There has not been much discussion or activity on the BIRD. Arpad and the co-author decided it was not as needed as originally thought. The ATM group discussed the BIRD and recommended rejection of the BIRD.

Bob Ross moved to vote on the BIRD. Radek Biernacki seconded the motion. Mike LaBonte clarified that a vote of yes or accept would mean accepting the BIRD and a vote of no or reject would mean rejecting the BIRD. The BIRD was rejected with the following vote tally:

Altera – abstain
Cadence – no
CST – abstain
IBM – abstain
Intel – reject
Keysight – reject

Mentor – reject
Micron – reject
SiSoft – reject
Synopsys – reject
Teraspeed Labs – no

Mike LaBonte will update the BIRD157 status on the website [AR].

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.

IBISCHK6 PARSER AND BUG STATUS

Bob Ross noted there are no new bugs reported. The parser development has been discussed.

NEW TECHNICAL ISSUES

- IBIS Version 6.1 draft 2/3 review

Mike LaBonte shared the readme file, noting the changes from draft 1 to draft 2 and draft 3. Michael Mirmak walked through the editorial changes.

Mike questioned if we should approve the parser contract before the IBIS specification is actually approved. Bob said he thought the parser contract should be approved, since the changes do not affect the parser development. Michael Mirmak suggested we schedule a vote for the next Open Forum meeting. The Editorial task group can meet before then for any final review and recommendation.

Bob moved to vote on the IBIS 6.1 specification at the next Open Forum meeting. Michael seconded the motion. There were no objections.

The draft 3 IBIS 6.1 specification can be found at:

http://www.eda.org/ibis/ver6.1_wip/

Michael asked if the new parser would still be a standalone executable or if it was going to have an installer package. Mike noted he developed an installer package that Michael could try out. We can revisit if we want a future parser to include an installer. Mike's installer could be included with the zip file for the Windows parser executable.

NEXT MEETING

The next IBIS Open Forum teleconference meeting will be held September 11, 2015. A vote on the IBIS 6.1 specification is scheduled. The following IBIS Open Forum teleconference meeting will be held October 2, 2015.

Michael Mirmak moved to adjourn. Arpad Muranyi seconded the motion.

NOTES

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This meeting was conducted in accordance with ANSI guidance.

All inquiries may be sent to ibis-info@freelists.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.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

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>

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IBIS – SAE STANDARDS BALLOT VOTING STATUS

Organization	Interest Category	Standards Ballot Voting Status	June 12, 2015	July 10, 2015	July 31, 2015	August 21, 2015
Altera	Producer	Active	-	X	-	X
ANSYS	User	Inactive	X	X	-	-
Applied Simulation Technology	User	Inactive	-	-	-	-
Avago Technologies	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	-	X	X	X
Cisco Systems	User	Inactive	-	-	-	-
CST	User	Inactive	-	-	-	X
Ericsson	Producer	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	-	-	-	-
IBM	Producer	Active	-	-	X	X
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	X	X	X
IO Methodology	User	Active	X	-	X	-
Keysight Technologies	User	Active	X	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	Active	X	-	X	X
Teraspeed Labs	General Interest	Active	X	X	X	X
Toshiba	Producer	Inactive	-	-	-	-
Xilinx	Producer	Inactive	-	-	-	-
ZTE	User	Inactive	-	-	-	-
Zuken	User	Inactive	-	-	-	-

I/O Buffer Information Specification Committee (IBIS)

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.