IBIS Open Forum Minutes

Meeting Date: **September 11, 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 Schaeder, 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
October 2, 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.

CALL FOR PATENTS
Mike LaBonte called for declaration of 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 August 21, 2015 IBIS Open Forum teleconference. Stefan Paret had commented by email that the sentence introducing Stefan Paret saying "His goal in the IBIS meetings is to catch up to see what goes into developing the standard." was awkward. The sentence should be changed to say "His goal in the IBIS meetings is to follow current developments in the standard."

Mike LaBonte moved to approve the minutes with the noted change. Bob Ross seconded the motion. There were no objections, so the minutes were approved with the noted change.

Randy reviewed ARs from the previous meeting.

1. 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].
    Mike reported that this has been done.
2. 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].
    Mike reported that an email was distributed to the board to review.
3. Mike LaBonte will update the BIRD157 status on the website [AR].
    Mike reported that this was done and set to rejected.

ANNOUNCEMENTS, **CALL FOR ADDITIONAL AGENDA ITEMS**
Bob Ross asked for time to discuss the SPI Summit planning.

MEMBERSHIP STATUS AND TREASURER'S REPORT
Bob Ross reported that membership stands at 24 members. The treasury balance is $69,449. There is pending income from two Summit sponsors, but we haven't gotten validation from SAE if payment has been received. In one case we do not know if the invoice has been sent. So, $2,500 is not in the report. SAE also made a payment for the Taipei Summit of about $5,400 that is not currently showing in the latest SAE-provided financial report.

WEBSITE ADMINISTRATION
Mike LaBonte reported that Anders Ekholm has been using an HTML text based editor for editing the model library page. He and Mike have worked to create a new method for updating using a spreadsheet-like page. The website has also been updated relative to the IBIS 6.1

specification update.

Development work on a new website format is currently suspended.

MAILING LIST ADMINISTRATION
Curtis Clark noted a few new joins of the list and a few drops. The only ongoing issue is related to Yahoo email addresses being rejected. Curtis has sent emails to these subscribers noting that they may want to subscribe from a different domain. Curtis also raised the limit of bounced messages that triggers email addresses to get unsubscribed from the list. This helps keep people subscribed but does not prevent them from missing mailing list emails.

LIBRARY UPDATE
Mike LaBonte noted that Anders Ekholm has been working on an update to the library page to fix broken links.

INTERNATIONAL/EXTERNAL ACTIVITIES
- Conferences
The Si2Con conference will be held Tuesday, October 6, 2015 in Santa Clara, California. There may be some overlap with Interconnect modeling between IBIS and Si2. More information is available at:

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

- Press Update
None.

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, Keysight Technologies and Mentor Graphics are sponsors. Bob Ross noted that more presentations are welcome. October 16 is the deadline to submit presentations to give time for review and feedback.

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 Technologies is the major sponsor along with co-sponsors Cadence Design Systems, IO Methodology, Synopsys, Teledyne LeCroy and ZTE Corporation so far. Lance Wang reported that the first announcement has gone out. There have been a few signups already. Cadence will help arrange the registrations.

- 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. Lance Wang reported that the first announcement has gone out. There were two signups before the announcement went out. Bob Ross noted that the payment for the hotel has already been made.

- Asian IBIS Summit (Tokyo)
The Tokyo meeting will be held Monday, November 16, 2015. Bob Ross reported that JEITA is taking care of all sponsorships and will provide a list later. JEITA has made the room arrangement already. The first announcement will go out Sunday evening (Monday morning in Asia). Fujimori-san and Bob are the main contacts. A JEITA class on basic IBIS will be held in the morning before the Summit and is open to all IBIS summit attendees to attend.

- DesignCon IBIS Summit
DesignCon will be held January 19-21, 2015. Friday, January 22, 2015 is scheduled for the Summit meeting. Michael Mirmak reported that DesignCon has changed back to its previous format and will have some presentations on Friday morning. This makes it easier to co-host an all-day IBIS Summit. We should have a meeting room in either the hotel or the conference center available. Mike LaBonte will check in with the DesignCon organizers for another update [AR].

- European IBIS Summit at SPI
Bob Ross reported that IBIS has been contacted by the IEEE Workshop on Signal and Power Integrity (SPI) organizers about sponsorship and co-hosting of an IBIS Summit with the SPI event. We need to negotiate on possible payment for sponsorship and room arrangements. A nominal amount of sponsorship may be appropriate. Zuken has taken the lead on getting sponsors previously for the IBIS Summit and has been contacted for assistance. Mike noted that we can work offline to see if any IBIS officers could attend the Summit, and we could possibly have a vote on holding a Summit meeting at the next teleconference.

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. They have been discussing the ibischk6 parser development. There has been some continuing progress on the user document to accompany the parser. They have also been discussing requirements of code for parsing DLLs of IBIS-AMI models.

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:

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 IBIS-AMI Model Specific parameter rules. The group is also waiting on a backchannel BIRD update from Cadence.

Task group material can be found at:

INTERCONNECT TASK GROUP

Michael Mirmak reported that the group is meeting on Wednesdays at 8:00 a.m. PT. The focus of the group is a new BIRD to improve package and on-die interconnect modeling. Technical issues are being discussed on the Terminal rules describing connection points to pins, pads and buffers.

Task group material can be found at:

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. Possibly the final meeting took place last Friday. The group discussed editorial work on the draft IBIS 6.1 document.

Task group material can be found at:

NEW ADMINISTRATIVE ISSUES

- Second revision of IBIS Policies and Procedures

Mike LaBonte noted that a Draft Review 2 of the IBIS Policies and Procedures document is linked on the IBIS webpage. Mike reviewed some of the changes from the previous draft. Many changes are minor such as changing references to "Membership Companies" to "Member Organizations". The description of the Treasurer duties was updated. A clarification was made to the voting procedure. A financial practices section was added and is still being discussed to determine a specific spending limit that requires a vote for approval.

SCHEDULED IBIS 6.1 RATIFICATION

Mike LaBonte reported that the text of a planned motion for ratification of IBIS 6.1 was sent out

by email before the meeting to allow email vote responses. The motion was to ratify the IBIS 6.1 draft document updated 16 August 2015, changing "If [C Comp Corner] is present, its value or values override any other C_comp* representations" To "If [C Comp Corner] is present, its subparameters take precedence over any and all C_comp, C_comp_* subparameters of [Model]" on page 51, as the official IBIS 6.1 specification.

Michael Mirmak noted that the IBIS 6.1 draft specification includes 13 BIRDs as well as minor editorial updates.

Arpad Muranyi moved to vote on ratifying the IBIS 6.1 draft document updated 16 August 2015, changing "If [C Comp Corner] is present, its value or values override any other C_comp* representations" To "If [C Comp Corner] is present, its subparameters take precedence over any and all C_comp, C_comp_* subparameters of [Model]" on page 51, as the official IBIS 6.1 specification. Bob Ross seconded the motion. The vote passed with the following vote tally:

Altera – yes
ANSYS – yes
Cadence – yes
CST – yes (by email)
IBM – yes
Intel – yes
IO Methodology – yes
Keysight – yes
Maxim – yes
Mentor – yes
Micron – yes
SiSoft – yes
Synopsys – yes
Teraspeed Labs – yes

Mike LaBonte thanked all the editorial committee members, the BIRD authors, and especially Michael Mirmak as editor-in-chief of the document. Mike will announce the specification ratification once the final document is cleaned up [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 reported that the fully signed and updated contract was sent to the developer, but he has not received any update from the developer on progress. We expect delivery of the ibischk 6.1 code to be in the October timeframe. Bob clarified that all ibischk6 parser licensees will receive this update for free.

NEW TECHNICAL ISSUES
None.

NEXT MEETING
The next IBIS Open Forum teleconference meeting will be held October 2, 2015. The following IBIS Open Forum teleconference meeting will be held October 23, 2015. Michael Mirmak noted

that meetings after the October 23 meeting will start to conflict with Summit meetings if held on the usual 3 week schedule. Future meetings may be held on November 20, 2015 and December 18, 2015.

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

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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/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

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

IBIS – SAE STANDARDS BALLOT VOTING STATUS

Organization	Interest Category	Standards Ballot Voting Status	July 10, 2015	July 31, 2015	August 21, 2015	September 11, 2015
Altera	Producer	Active	X	-	X	X
ANSYS	User	Inactive	X	-	-	X
Applied Simulation Technology	User	Inactive	-	-	-	-
Avago Technologies	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	X	X	X
Cisco Systems	User	Inactive	-	-	-	-
CST	User	Inactive	-	-	X	-
Ericsson	Producer	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	-	-	-	-
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
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	-
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.