



## IBIS Open Forum Minutes

Meeting Date: **August 12, 2016**

Meeting Location: **Teleconference**

### VOTING MEMBERS AND 2016 PARTICIPANTS

ANSYS	Curtis Clark*, Toru Watanabe
Broadcom (Avago Technologies)	Bob Miller
Cadence Design Systems	Ken Willis, Brad Brim*
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, Ahmed Gendy*
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*
Xilinx	(Raymond Anderson)
ZTE Corporation	(Shunlin Zhu)
Zuken	Michael Schaefer, Amir Wallrabenstein

### OTHER PARTICIPANTS IN 2016

Cisco Systems	Giuseppi Selli, Brian Baek
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	Wael Dghais

Appliquées et de Technologie de  
Sousse

JEITA

John Baprawski, Inc.

KEI Systems

Lattice Semiconductor

Leading Edge

MathWorks

Monsoon Solutions

Northrup Grumman

NXP

Politecnico di Torino

Rambus

Raytheon

SAE International

SILABTECH

Signal Metrics

SiGuys

Sony Corporation

Sony LSI Design

SPISim

STMicroelectronics

Technoprobe

Université de Bretagne Occidentale

Yosuke Kanamaru

John Baprawski

Shinichi Maeda

Dinh Tran, Maryam Shahbazi

Pietro Vergine

Mike Mulligan, Corey Mathis

Nathan Hirsch

Alex Golian

Jon Burnett

Claudio Siviero, Stefano Grivet-Talocia,

Igor Simone Stievano

John Yan

Joseph Aday

(Logen Johnson)

Biman Chattopadhyary

Ron Olisar

Donald Telian

Hiroaki Ammo

Takashi Hasegawa

Wei-hsing Huang

Fabio Brina, Olivier Bayet

Alberto Berizzi, Lorenzo Bernasconi, Simona Cucchi

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
September 2, 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](http://www.cisco.com/web/about/doing_business/conferencing/index.html)

NOTE: "AR" = Action Required.

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## **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 6.1, 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 on the minutes of the July 22, 2016 IBIS Open Forum teleconference. Brad Brim moved to approve the minutes. Curtis Clark seconded the motion. There were no objections.

Randy reviewed ARs from the previous meeting.

1. Mike LaBonte to consult with the board for any further review to see if the P&P document is ready for public review [AR].  
Mike reported the AR as done.
2. Mike LaBonte to update the IBISCHK bug web page [AR].  
Mike reported the AR as done.

## **ANNOUNCEMENTS, CALL FOR ADDITIONAL AGENDA ITEMS**

None.

## **MEMBERSHIP STATUS AND TREASURER'S REPORT**

Bob Ross reported that we have 21 members. We are waiting for a renewal, for which payment hasn't been made. We have a total of \$21,416 for 2016. Actual cash flow of \$17,105 has been collected this year.

## **WEBSITE ADMINISTRATION**

Mike LaBonte reported that usual updates were made including to the Summits page to keep it up-to-date. He received a notice from the web hosting company that a renewal is coming up. The cost is around \$311 for the year, and payment needs to be made in the last week of September. Bob Ross asked that he be cc'd on any payment emails.

## **MAILING LIST ADMINISTRATION**

Curtis Clark reported that there were two joins and two drops with no issues to report.

## **LIBRARY UPDATE**

No update.

## **INTERNATIONAL/EXTERNAL ACTIVITIES**

### **- Conferences**

The IEEE conference on Electrical Performance of Electronic Packages and Systems (EPEPS) is in San Diego, CA October 23-26, 2016. EPEPS sometimes includes specific IBIS content as well as general SI and PI content.

<http://www.epeps.org>

The IEEE conference on Electrical Design of Advanced Packaging and Systems (EDAPS) is in Honolulu, HI December 14-16, 2016. EDAPS covers SI and PI issues, although IBIS does not affiliate with it.

<http://edaps2016.org/>

### **- Press Update**

None.

### **- Related standards**

None.

## **SUMMIT PLANNING AND STATUS**

### **- Asian IBIS Summit (Shanghai)**

The meeting will take place November 11, 2016 at the Parkyard Hotel. Huawei Technologies is the primary sponsor and additional sponsors include Xpeedic Technology and ZTE Corporation. Synopsys and SPI Sim are also planned sponsors but payments have not yet been received.

### **- Asian IBIS Summit (Taipei)**

The meeting will take place November 14, 2016 at the Sherwood Hotel. Xpeedic Technology is a sponsor. Synopsys is a planned sponsor but payment has not yet been received.

### **- Asian IBIS Summit (Tokyo)**

The meeting will take place November 18, 2016. This will be a half day meeting. Bob Ross noted that we coordinate with JEITA, and they provide several local presentations. JEITA and IBIS are sponsors.

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. The group has discussed IBISCHK parser issues.

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

[http://www.ibis.org/ibischk6/ibischk\\_6.1.1\\_UserGuide\\_wip1.pdf](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/](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 some BIRDs for the Editorial group related to the ground cleanup work. Ambrish Varma plans a presentation on the backchannel optimization BIRD next Tuesday.

Task group material can be found at:

[http://www.ibis.org/macromodel\\_wip/](http://www.ibis.org/macromodel_wip/)

### **INTERCONNECT TASK GROUP**

Mike LaBonte reported that the group is meeting on Wednesdays at 8:00 a.m. PT. The group is focusing on the organization of interconnect model sets in the interconnect BIRD. We have been looking at two proposals for organizing interconnect model sets to address real world modeling needs.

Task group material can be found at:

[http://www.ibis.org/interconnect\\_wip/](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 BIRDs related to the editorial tasks have been moved into the ATM task group. Mike LaBonte added that a table listing a number of new BIRDs was put together. Some are clarification BIRDs and others with technical implications were moved to the ATM task group. Bob Ross noted that some of the issues listed as requiring BIRDs should just be moved to the known issues document for editorial changes.

Task group material can be found at:

[http://www.ibis.org/editorial\\_wip/](http://www.ibis.org/editorial_wip/)

## **NEW ADMINISTRATIVE ISSUES**

- Second revision of IBIS Policies and Procedures

Mike LaBonte reported that he started a discussion with the board. One section is being rewritten related to the procedure for officer elections. Radek Biernacki also participated in this discussion given his experience as returning officer for the elections. Mike is working on the rewrite.

The document can be found at:

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

- EIASTD656B due for 5 year review

Mike reported that the standard EIASTD656B (IBIS 4.2) requires a 5 year review. It can be voted on with a normal roll call vote. Radek asked if the text is 100% consistent with the original specification. Bob Ross noted that it has some cover pages not found in the version on our website. Randy Wolff noted that he has the original version from September 2006.

Bob moved to schedule a vote for the next meeting to reaffirm the standard. Randy seconded the motion. There were no objections.

## **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.

## **IBISCHK6 PARSER AND BUG STATUS**

Bob Ross reported that he received questions from the developer on IBISCHK 6.1.3 development. The delivery date is scheduled for September 2, 2016. He has not heard back if a fix for BUG180 will be slipped in or not.

## **NEW TECHNICAL ISSUES**

None.

## **NEXT MEETING**

The next IBIS Open Forum teleconference meeting will be held September 2, 2016. Randy Wolff and Curtis Clark are unavailable to take minutes. Randy will help find someone to take minutes [AR]. The following IBIS Open Forum teleconference meeting will tentatively be held September 23, 2016.

Bob Ross moved to adjourn. Michael Mirmak seconded the motion.

## **=====** **NOTES**

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This meeting was conducted in accordance with ANSI guidance.



All inquiries may be sent to [info@ibis.org](mailto: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](mailto:ibis@freelists.org) and/or [ibis-users@freelists.org](mailto:ibis-users@freelists.org) email lists (formerly [ibis@eda.org](mailto:ibis@eda.org) and [ibis-users@eda.org](mailto:ibis-users@eda.org)).
- To subscribe to one of the task group email lists: [ibis-macro@freelists.org](mailto:ibis-macro@freelists.org), [ibis-interconn@freelists.org](mailto:ibis-interconn@freelists.org), or [ibis-quality@freelists.org](mailto: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](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](http://www.ibis.org) for more information on previous discussions and results:

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

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## SAE STANDARDS BALLOT VOTING STATUS

Organization	Interest Category	Standards Ballot Voting Status	June 10, 2016	July 1, 2016	July 22, 2016	August 12, 2016
ANSYS	User	Active	X	X	X	X
Broadcom Ltd.	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	X	X	X
CST	User	Inactive	-	-	-	-
Ericsson	Producer	Inactive	-	-	-	-
GLOBALFOUNDRIES	Producer	Inactive	X	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	Inactive	X	-	-	-
Keysight Technologies	User	Active	X	X	X	X
Maxim Integrated Products	Producer	Active	-	-	X	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
Xilinx	Producer	Inactive	-	-	-	-
ZTE	User	Inactive	-	-	-	-
Zuken	User	Inactive	-	-	-	-

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.