IBIS Open Forum Minutes

Meeting Date: **August 25, 2017**
Meeting Location: **Teleconference**

VOTING MEMBERS AND 2017 PARTICIPANTS

ANSYS	Curtis Clark*, Toru Watanabe
Applied Simulation Technology	(Fred Balistreri)
Broadcom	[Bob Miller], (Cathy Liu)
Cadence Design Systems	Brad Brim*, Sivaram Chillarige, Debabrata Das Ambrish Varma
Cisco Systems	(Bidyut Sen)
CST	Stefan Paret, Matthias Troescher, Burkhard Doliwa Danilo Di Febo, Alexander Melkozerov
Ericsson	Zilwan Mahmod
GLOBALFOUNDRIES	Steve Parker
Huawei Technologies	(Jinjun Li)
IBM	Luis Armenta, Adge Hawes, Greg Edlund
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak*, Hsinho Wu*, Eddie Frie Gianni Signorini, Barry Grquinovic
IO Methodology	Lance Wang*
Keysight Technologies	Radek Biernacki*, Pegah Alavi, Fangyi Rao Stephen Slater, Jian Yang
Maxim Integrated	Joe Engert, Don Greer, Yan Liang, Hock Seow
Mentor, A Siemens Business (formerly Mentor Graphics)	Arpad Muranyi*, Nitin Bhagwath, Praveen Anmula Fadi Deek, Raj Raghuram, Dmitry Smirnov Bruce Yuan, Carlo Bleu
Micron Technology	Randy Wolff, Justin Butterfield*
NXP	(John Burnett)
Qualcomm	Tim Michalka, Kevin Roselle
Raytheon	Joseph Aday
Signal Integrity Software	Mike LaBonte*, Walter Katz*, Todd Westerhoff
Synopsys	Kevin Li*, Ted Mido*, John Ellis, Scott Wedge
Teraspeed Labs	Bob Ross*
Xilinx	(Raymond Anderson)
Zuken	Ralf Bruening, Michael Schaeder, Alfonso Gambuzza

OTHER PARTICIPANTS IN 2017

Accton	Raul Lozano
ASUS	Nick Huang, Bin-chyi Tseng

Continental AG	Stefanie Schatt
eASIC	David Banas
Extreme Networks	Bob Haller
Ghent University	Paolo Manfredi
Hamburg University of Technology	Torsten Revschel, Torsen Wendt
IdemWorks	Michelangelo Bandinu
Independent	Dian Yang
John Baprawski, Inc.	John Baprawski
KEI Systems	Shinichi Maeda
Lattice Semiconductor	Maryam Shahbazi, Dinh Tran
Leading Edge	Pietro Vergine
Politecnico di Torino	Claudio Siviero, Stefano Grivet-Talocia, Igor Stievano
SAE International	(Thomas Munns)
Signal Metrics	Ron Olisar
SPISim	Wei-hsing Huang
STMicroelectronics	Fabio Brina, Olivier Bayet
Toshiba	Yasuki Torigoshi
Université Blaise Pascal	Mohamed Toure
Université de Bretagne Occidentale	Mihai Telescu
ZTE Corporation	(Shunlin Zhu)

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 13, 2017	IBIS Summit at EDI CON – no teleconference	
September 15, 2017	624 999 876	IBISfriday11

For teleconference dial-in information, use the password at the following website:

    http://tinyurl.com/zeulerr

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.

NOTE: "AR" = Action Required.

INTRODUCTIONS AND MEETING QUORUM
Mike LaBonte 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

Mike LaBonte called for comments on the minutes of the August 4, 2017 IBIS Open Forum teleconference. Curtis Clark moved to approve the minutes. Lance Wang seconded the motion. There were no objections.

There were no ARs to review.

ANNOUNCEMENTS, **CALL FOR ADDITIONAL AGENDA ITEMS**

Mike LaBonte noted that there is now an updated BIRD 192.1 to go over.

Bob Ross noted that Bob Miller from Broadcom has retired and should be removed from the members list. Mike will update the website. He noted Bob Miller is listed as the secondary contact for Broadcom on the website.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported that we are still at 25 members. Our account balance is at $25,144 for 2017. Actual cash flow of $23,394 has been collected in 2017. We expect some additional money coming in from sponsors and additional expenditures to be finalized soon.

WEBSITE ADMINISTRATION

Mike LaBonte reported that we have had some changes to the event webpages. Some pages made use of iframe, but that has caused some issues with browser caching. This should be fixed now, but if anyone notices any issues, please report them to Mike.

MAILING LIST ADMINISTRATION

Curtis Clark reported that the mailing list lost a couple of Broadcom e-mail addresses including Bob Miller.

LIBRARY UPDATE

Mike LaBonte reported that if anyone notices any issues or needed updates to the IBIS Model Library to please let Anders Ekholm know.

INTERNATIONAL/EXTERNAL ACTIVITIES

- Conferences

EDI CON – Electronic Design Innovation Conference & Exhibition will be held in Boston, MA on September 11-13, 2017. An IBIS Summit at this event is planned. More information is available at:

http://www.ediconusa.com

EPEPS – The 26th IEEE Conference on Electrical Performance of Electronic Packaging and Systems will be held in San Jose, CA on October 15-18, 2017. An IBIS Summit at this event is planned. More information is available at:

http://www.epeps.org/

- Press Update
Mike LaBonte noted that the Signal Integrity Journal published an article about the EDI CON IBIS Summit meeting in Boston. The article can be found at:

https://www.signalintegrityjournal.com/blogs/10-simulation-skills/post/521-simulation-skills

- Related standards
None.

SUMMIT PLANNING AND STATUS
- EDI CON
EDI CON will be held in Boston, MA on September 11-13, 2017. The IBIS Summit will be held from 1:00 p.m. to 5:00 p.m. on Wednesday, September 13, 2017 in Room 104 at the Hynes Convention Center. Mike LaBonte reported he will send out the agenda soon. He commented that there will be other presentations at EDI CON that may be of interest. He reported that EDI CON is providing the room and break food as well as lunch for those who are attending the conference. Bob Ross asked if it is enough to sign up for the free show floor registration only. Mike replied that this is fine. Mike will continue to work with Janine (Event Director) on the lunch details. He encouraged everyone going to the IBIS Summit meeting to register at EDI CON as well, so that an accurate food order can be made. Signal Integrity Software and Teraspeed Labs are sponsors.

- EPEPS
EPEPS will be held in San Jose, CA on October 15-18, 2017. The IBIS Summit will be held on Wednesday afternoon, October 18, 2017. Bob reported that he has sent the agreement. The first announcement has been sent out and the second will go out the next week. Bob called for presentations. Keysight and Synopsys are sponsors.

- Asian IBIS Summit (Shanghai)
An IBIS Summit will be held at the Parkyard Hotel Shanghai from 8:30 a.m. to 5:00 p.m. on Monday, November 13, 2017. Huawei is the primary sponsor, and Cadence, IO Methodology, Mentor, MostecEDA (SPISim), and Synopsys are additional sponsors. Bob commented that additional sponsors are expected. Announcements for the Asian summits will go out in early September.

- Asian IBIS Summit (Taipei)
An IBIS Summit will be held at the Sherwood Hotel from 9:00 a.m. to 4:30 p.m. on Wednesday, November 15, 2017. IO Methodology, Synopsys, and Peace Giant Technology (SPISim) are sponsors.

- Asian IBIS Summit (Tokyo)
An IBIS Summit will be held at the Akihabara UDX Bldg. from 12:30 p.m. to 5:00 p.m. on Friday, November 17, 2017. JEITA and IBIS Open Forum 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 focus continues to be on the ibischk parser.

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

> http://www.ibis.org/ibischk6/ibischk_6.1.4_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. BIRD158 and other topics are being discussed.

Task group material can be found at:

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

INTERCONNECT TASK GROUP
Michael Mirmak reported that the group is meeting at 8:00 a.m. PT on Wednesdays. The group has been working on a BIRD189.5 update. The discussion topics have been the termination of unused ports and how to handle sections of the interconnect path that are not specified. He hopes to wrap up BIRD189.5 and submit it soon.

Task group material can be found at:

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

EDITORIAL TASK GROUP

Michael Mirmak reported that meetings are suspended, and the group normally meets on Fridays. He reported that the Interconnect Task Group is planning to use the time slot as a second session to speed the discussion. Mike LaBonte asked if these meetings would be officially classified as Interconnect Task Group meetings. Michael replied that these meetings would use the Interconnect Task Group mailing list and minutes.

Task group material can be found at:

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

NEW ADMINISTRATIVE ISSUES

- Second revision of IBIS Policies and Procedures

Mike LaBonte reported that there is a link to the proposed IBIS Policies and Procedures documents on the website. The IBIS board has settled on these documents, and they are currently up for public review. We could have motions to vote on these. Michael Mirmak commented that IEEE DASC has recently gone through this process. He will check if their Policies and Procedures document can be sent out. Bob Ross suggested this could be sent to the IBIS board. Bob also suggested that we might wait until after the DesignCon Summit to hold a vote, as many key members are busy with Summit planning until then. Mike noted that approving the new Policies and Procedures requires a 2/3 majority of all members. Walter Katz suggested to hold the vote sooner rather than later. Brad Brim agreed and added that the document is easy to read. Bob commented that we will need to solicit votes over email. Walter suggested for the board to make a recommendation on how to proceed with holding the vote.

The Policy and Procedures document can be found at:

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

BIRD191.2: ADDING BUFFER LOCATION TO SI_LOCATION AND TIMING_LOCATION

Bob Ross reported that there were some format changes suggested by Michael Mirmak. An additional statement was added to the multi-lingual section. The phrase "at-pad" is changed to "at-buffer terminal". Walter Katz asked if this BIRD is eligible for a vote. Bob said his preference is to wait for the Interconnect BIRD, but we could schedule it for a vote before BIRD189. Michael Mirmak commented that that BIRD191.2 improves upon parts of BIRD161. Walter moved to schedule a vote on BIRD191.2 at the next Open Forum meeting. Michael seconded the motion. There were no objections

BIRD192.1: CLARIFICATION OF LIST DEFAULT RULES

Michael Mirmak reported that this BIRD is a simple change to clarify the list parameter in AMI files. The current text implies the first value is the default, but there are currently no rules to define the interaction between Format List and Default. Walter Katz agreed that this BIRD reflects the original intent of these parameters. Radek Biernacki commented that he agrees with the change, but asked about the term "optional selection" in regards to Default. Michael replied that this is consistent with the rest of the IBIS specification. Michael commented that

duplicate values are permitted and this could cause some confusion with existing models. Walter moved to schedule a vote on BIRD192.1 at the next Open Forum meeting. Bob Ross seconded the motion. There were no objections. Mike stated that he will remove BIRD192 from the website, as it is only necessary to retain BIRD192.1

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

BIRD145.3: CASCADING IBIS I/O BUFFERS WITH [EXTERNAL CIRCUIT]S USING THE [MODEL CALL] KEYWORD
Discussion was tabled.

BIRD158.5: AMI TS4FILE ANALOG BUFFER MODELS
Discussion was tabled.

BIRD161.1: SUPPORTING INCOMPLETE AND BUFFER-ONLY [COMPONENT] DESCRIPTIONS
Walter Katz moved to un-table BIRD161.1 for discussion. Michael Mirmak seconded the motion. There were no objections.

Michael reviewed this BIRD. It proposes changes to the Si_location and Timing_location parameters and adds features to specify incomplete IBIS files. Bob recommended to wait until after the vote on BIRD191.1 at the next meeting to decide what to action to take with this BIRD. Walter moved to table BIRD161.1. Michael seconded the motion. There were no objections.

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.

BIRD166.4: RESOLVING PROBLEMS WITH REDRIVER INIT FLOW
Discussion was tabled.

BIRD181.1: I-V TABLE CLARIFICATIONS

Discussion was tabled.

BIRD189.4: INTERCONNECT MODELING USING IBIS-ISS AND TOUCHSTONE

Discussion was tabled.

BIRD190: CLARIFICATION FOR REDRIVER FLOW

Discussion was tabled.

IBISCHK6 PARSER AND BUG STATUS

Bob Ross reported that there is a new bug, BUG191, which has been submitted by Michael Mirmak. Michael commented that if an IBIS model does not contain the [Component] keyword, the parser does correctly give an error stating that no [Component] was found. The reported bug is due to the parser giving some program errors which should be suppressed when the [Component] keyword is not present. Bob suggested to have the parser developer to look into this. Mike LaBonte suggested for the parser to have a debug flag to suppress these type of messages unless invoked. Bob mentioned that there is a debug mode available for parser licensees. Raedek Biernacki commented that all the error messages beginning with "E" are valid, while the messages the beginning with "B" should be suppressed. Bob commented that this bug might wait until the next parser release. Bob moved to classify the bug as Annoying severity and Low priority. Mike seconded. There were no objections.

NEW TECHNICAL ISSUES

None.

NEXT MEETING

The EDI CON IBIS Summit will be held September 13, 2017. No teleconference will be available. The next IBIS Open Forum teleconference meeting will be held September 15, 2017. The following IBIS Open Forum teleconference meeting is tentatively scheduled on October 6, 2017.

Michael Mirmak moved to adjourn. Curtis Clark seconded the motion. The meeting adjourned.

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NOTES

IBIS CHAIR: Mike LaBonte
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POSTMASTER: Curtis Clark
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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/bugsplt.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	June 23, 2017	July 14, 2017	August 4, 2017	August 25, 2017
ANSYS	User	Active	X	X	X	X
Applied Simulation Technology	User	Inactive	-	-	-	-
Broadcom Ltd.	Producer	Inactive	X	-	X	-
Cadence Design Systems	User	Active	X	X	X	X
Cisco Systems	User	Inactive	-	-	-	-
CST	User	Inactive	-	-	-	-
Ericsson	Producer	Inactive	-	-	-	-
GLOBALFOUNDRIES	Producer	Active	X	X	X	-
Huawei Technologies	Producer	Inactive	-	-	-	-
IBM	Producer	Inactive	-	-	-	-
Infineon Technologies AG	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	Producer	Inactive	-	-	-	-
Mentor, A Siemens Business	User	Active	X	X	X	X
Micron Technology	Producer	Active	X	X	X	X
NXP	Producer	Inactive	-	-	-	-
Qualcomm	Producer	Inactive	-	-	-	-
Raytheon	User	Inactive	-	-	-	-
Signal Integrity Software	User	Active	X	X	X	X
Synopsys	User	Active	X	X	X	X
Teraspeed Labs	General Interest	Active	X	X	X	X
Xilinx	Producer	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.