IBIS Open Forum Minutes

Meeting Date: **April 29, 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
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
Micron Technology	Randy Wolff
Signal Integrity Software	Mike LaBonte*, Walter Katz*, Todd Westerhoff
Synopsys	Ted Mido*, Kevin Li*
Teraspeed Labs	Bob Ross*
Toshiba	(Yasumasa Kondo)
Xilinx	(Raymond Anderson)
ZTE Corporation	(Shunlin Zhu)
Zuken	Michael Schaeder, Amir Wallrabenstein

OTHER PARTICIPANTS IN 2016

eASIC	David Banas*
Fujitsu Advanced Technologies	Shogo Fujimori
H3C	Bin Cheng, Mao Jun
Independent	Carl Gabrielson
JEITA	Yosuke Kanamaru
John Baprawski, Inc.	John Baprawski
KEI Systems	Shinichi Maeda
Lattice Semiconductor	Dinh Tran, Maryam Shahbazi

MathWorks	Mike Mulligan, Corey Mathis
Northrup Grumman	Alex Golian
NXP	Jon Burnett
Rambus	John Yan
Raytheon	Joseph Aday
SAE International	(Logen Johnson)
SILABTECH	Biman Chattopadhyary
Signal Metrics	Ron Olisar
SPISim	Wei-hsing Huang

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
May 11, 2016	European IBIS Summit – no teleconference	
May 20, 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
Curtis Clark declared that a quorum was reached and the meeting could begin. Mike LaBonte stated that Curtis Clark was taking the minutes.

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

Curtis Clark called for comments regarding the minutes of the April 8, 2016 IBIS Open Forum teleconference. Radek Biernacki moved to approve the minutes. Bob Ross seconded the motion. There were no objections.

Curtis reviewed ARs from the previous meeting.

1. Mike LaBonte to clarify Policies and Procedures language about designated representatives [AR].
   Ongoing. Mike reported that this has been on the back burner since it could not be completed in time to affect the upcoming officer elections.

2. Mike LaBonte to post BIRD template 1.3 [AR].
   Done. Mike reported that this had been completed. In fact, the new template has already been used for one BIRD proposal.

3. Mike LaBonte update BUG 175 status [AR].
   Done. Mike reported that the content and status of the BUG had been updated on the website.

4. Mike LaBonte to add error found by Radek Biernacki to IBIS 6.1 known issues document [AR].
   Done. Mike reminded everyone that we maintain a "known issues" text document for each version of the specification. Each one is located in the directory with its corresponding version of the specification. In this case (6.1), it can be found here:

   http://www.ibis.org/ver6.1/ver6_1_known_issues.txt

ANNOUNCEMENTS, **CALL FOR ADDITIONAL AGENDA ITEMS**

Bob Ross noted that he would bring up interest in an IBIS group in China during the New Administrative Issues discussion.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported that we currently have 24 members. Membership from 2015 extends through the end of May per current policies and procedures. We have 18 members paid up for 2016. We have a total of $15,719. $11,407 has been collected this year. Bob expects at least two more members to renew for 2016. Others have been contacted but have been unresponsive. Bob expects two more sponsorship payments for the upcoming IBIS Summit at SPI.

WEBSITE ADMINISTRATION

Mike LaBonte reported that the main ibis.org webpage now contains left sidebar links for quick access to Open Forum minutes, task groups, the bug page, etc. Mike noted that the website has experienced intermittent outages, some as long as a few hours. He has reported the issues to the hosting company.

MAILING LIST ADMINISTRATION

Curtis Clark reported that things were going smoothly with the freelists.org mailing lists. He noted that @lsi.com addresses had started bouncing, but all four subscribers with such addresses had been contacted and had subscribed with their new @broadcom.com addresses.

LIBRARY UPDATE

Mike LaBonte reported for Anders Ekholm, who was unable to attend. Mike reported that Anders had sent a new update to the model library page. The new page is largely the same, but information for one company has been updated. Mike reported that he had run a spider check on the page to confirm that all the links it contained were active. Mike noted that the page contains 86 different sources of IBIS models.

INTERNATIONAL/EXTERNAL ACTIVITIES

- Conferences

Bob noted that the first call for papers for EPEPS had gone out. Their website is up, and EPEPS sometimes includes IBIS content.

> http://www.epeps.org

- Press Update

None.

- Related standards

None.

SUMMIT PLANNING AND STATUS

- European IBIS Summit at SPI 2016

An IBIS Summit will be co-hosted with the IEEE Workshop on Signal and Power Integrity (SPI). The Summit will be a half day event on May 11, 2016 in Turin, Italy. Bob Ross reported that planning is going well. The program for the IBIS Summit is fixed and is on the SPI web page. The IBIS Summit will be in the SPI booklet for the conference. The summit has eight presentations, most of which have been received and are being reviewed by the board. ANSYS, CST, Keysight Technologies, Synopsys, and Zuken are sponsors. Lance Wang noted that we currently have 14 attendees signed up. Bob noted that he expected about 25 attendees total. Bob noted that Wednesday May 4th was our stated target for emailing the announcement of the full agenda for the summit. He suggested that we might want to send it earlier, perhaps today or Monday May 2nd, since one goal was to remind people to sign up. Mike LaBonte reminded anyone planning on attending to let Lance know. He also thanked the sponsors and noted that he was happy that SPI had appended the IBIS Summit to their own program. Bob noted that Stefano Grivet-Talocia (SPI chair) had said that no more real-time changes to the IBIS Summit agenda could be uploaded. Therefore, the final IBIS agenda might be slightly out of sync with what the printed SPI booklet contains. Mike noted that we would publish an up-to-date summit agenda with the emailed announcement and might want to start the summit itself

with an agenda slide.

The IBIS summit agenda can be found here:

http://www.spi2016.org/program_wed.asp

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 primary focus continues to be on issues related to ibischk.

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's current discussions involve a new BIRD draft from Walter Katz introducing the [Pin Reference] keyword to help resolve the ground related problems, a proposal from Fangyi Rao to correct the AMI redriver flow, and an expected update to the backchannel proposal from Ambrish Varma.

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. In this week's meeting the draft BIRD proposal was reviewed. Corrections were made to examples in which Bob Ross had pointed out errors. The one remaining technical issue involves the proposed Touchstone file shortcut. Once that is resolved, the final editorial phase should be all that remains.

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. The group had recently been considering the same ground and referencing issues that have appeared in other task groups. Michael reported that the group was now done with those issues and would be returning to the task list Mike LaBonte had created for the group. The group will meet again on Friday May 6th.

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 noted that this was still ongoing. It had been placed on the back burner when it became clear that it would not be ready in time for the upcoming officer elections. We will conduct officer elections according to the existing Policies and Procedures document.

The document can be found at:

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

- Preparations for officer elections

Mike briefly reviewed the current Policies and Procedures document and focused on the section on officer elections. He noted that the Returning Officer is the person who receives and counts the returned ballots. He noted that the nomination period runs from May 17th to May 31st. He stated that our main goal in this meeting was to appoint the Returning Officer, since the next meeting would occur after the start of the nomination period. Bob Ross moved to appoint Radek Biernacki the Returning Officer. Curtis Clark seconded. Radek confirmed that he was willing to serve in this role again. Mike asked if there were any objections. There were none, and Radek was appointed Returning Officer.

Bob said he would work with Radek so that Radek knew who our legal members were at the time of the vote. Bob noted that we have something of a gray area in the current Policies and Procedures because membership ends on May 31st if an organization has not renewed. However, as long as an organization renewed by June 15th its vote would be counted, even if it had voted prior to the date at which it renewed. Radek agreed that the policies didn't quite spell this out properly, but that Bob's interpretation was correct. He noted that in last year's election a member organization had submitted its ballot prior to June 14th, and he had not counted that ballot until June 14th when the organization did renew its membership. Bob described some other ways we might change these policies, but these topics were deemed to be for the new policies and procedures discussions.

Bob encouraged everyone to nominate candidates. He noted that if we had additional nominations some current members might be willing to give up some of their duties.

Bob requested that Radek report weekly on the number of nominations (not the actual people)

that had been received for each office. He felt this would ensure we were never blindsided by a total lack of nominations for any given office. He said he would seek to add such a task description in the new Policies and Procedures. Radek said he would give such a status report at the next Open Forum meeting on May 20th.

- IBIS regional group in China.
Bob introduced the topic and asked Lance Wang to comment. Lance noted that he had planned to discuss the topic at the next Open Forum meeting, but could give a brief introduction. A group of SI engineers in China is involved in using IBIS. However, time zone and language differences make it difficult for many of them to attend regular Open Forum and task group meetings. A proposal had been made to try to form a Chinese regional meeting to discuss timely topics related to IBIS. The group could also provide an opportunity to share more input and feedback to the Open Forum and task groups. Huawei and other companies were willing to lead this activity. The IBIS board was supportive of the idea, but felt such a group should follow general IBIS rules. Mike LaBonte was drafting proposed guidelines for the group. Lance wanted to confer with the potential group members in China to see if they were comfortable with the proposed rules.

Mike LaBonte noted that this was a new idea and details were scarce at that point. He said that what was proposed was essentially a regional subgroup in China. Mike noted that one way to improve participation in IBIS might be to provide a better way for email voting on BIRDs, etc. Bob noted that since votes are normally announced in the meeting minutes and announced well ahead of time, we might simply add a statement that email votes are accepted if a member cannot attend the meeting. Bob suggested that we might establish a policy that minor editorial changes that do not change the intent of a proposal would not invalidate an email vote that was submitted prior to the change.

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 there was no new parser bug status report. He noted that he had sent the parser developer a draft of the new document describing proposed .dll checking functionality. He had not yet received a response from the developer. He expected that we will eventually follow up with an agreement and a cost estimate from the developer.

NEW TECHNICAL ISSUES
None.

NEXT MEETING
The European IBIS Summit will be held May 11, 2016. The next IBIS Open Forum teleconference meeting will be held May 20, 2016. The following IBIS Open Forum teleconference meeting will be held June 10, 2016.

Michael Mirmak moved to adjourn. Curtis Clark 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 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

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SAE STANDARDS BALLOT VOTING STATUS

Organization	Interest Category	Standards Ballot Voting Status	February 26, 2016	March 18, 2016	April 8, 2016	April 29, 2016
ANSYS	User	Active	X	X	X	X
Applied Simulation Technology	User	Inactive	-	-	-	-
Broadcom Ltd.	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Inactive	X	X	-	-
Cisco Systems	User	Inactive	-	-	-	-
CST	User	Inactive	-	-	-	-
Ericsson	Producer	Inactive	-	-	-	-
GLOBALFOUNDRIES	Producer	Active	X	-	X	-
Huawei Technologies	Producer	Inactive	-	-	-	-
Infineon Technologies AG	Producer	Inactive	-	-	-	-
IBM	Producer	Active	X	X	X	-
Intel Corp.	Producer	Active	X	X	X	X
IO Methodology	User	Inactive	X	-	-	X
Keysight Technologies	User	Active	X	X	X	X
Maxim Integrated Products	Producer	Inactive	X	X	-	-
Mentor Graphics	User	Active	X	X	X	X
Micron Technology	Producer	Active	-	X	X	-
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
Toshiba	Producer	Inactive	-	-	-	-
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.