



IBIS Open Forum Minutes

Meeting Date: **April 4, 2014**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2014 PARTICIPANTS

Agilent Technologies	Radek Biernacki*, Nilesh Kamdar, Colin Warwick, Graham Riley, Pegah Alavi, Fangyi Rao, Heidi Barnes
Altera	David Banas*, Kundan Chand, Hsinho Wu
ANSYS	(Steve Pytel)
Applied Simulation Technology	Fred Balistreri, Norio Matsui
Cadence Design Systems	Ambrish Varma, Brad Brim*, Joy Li, Kumar Keshavan, Ken Willis, Yingxin Sun, Joshua Luo, John Phillips
Ericsson	Anders Ekholm*, Zilwan Mahmod
Foxconn Technology Group	(Sogo Hsu)
Huawei Technologies	Jinjun Li, Xiaoqing Dong
IBM	Adge Hawes*
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak*, Jon Powell, Riaz Naseer Udy Shrivastava, Mustafa Yousuf, Jimmy Jackson
IO Methodology	Lance Wang, Michelle Coombs
LSI	Xingdong Dai, Min Huang, Anaam Ansari, Brian Burdick
Maxim Integrated Products	Hassan Rafat
Mentor Graphics	Arpad Muranyi*, John Angulo, Fadi Deek
Micron Technology	Randy Wolff*
Signal Integrity Software	Mike LaBonte*, Walter Katz*, Todd Westerhoff, Michael Steinberger
Synopsys	Ted Mido, Scott Wedge
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino, Scott McMorro
Toshiba	(Yasumasa Kondo)
Xilinx	Ravindra Gali
Zuken	Michael Schaefer, Amir Wallrabenstein, Griff Derryberry

OTHER PARTICIPANTS IN 2014

ECL Advantage	Thomas Iddings
Hewlett Packard	Ting Zhu
KEI Systems	Shinichi Maeda
Lattice Semiconductor	Xu Jiang
Mellanok Technologies	Piers Dawe
Pangya	Edgar Aguirre
Proficient Design	Kishor Patel
SAE International	Chris Denham
Vitesse	Siris Tsang

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
April 25, 2014	205 475 958	IBIS
May 14, 2014	European IBIS Summit at SPI – no teleconference	

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

Michael Mirmak declared that a quorum was reached and the meeting could begin.

CALL FOR PATENTS

Michael Mirmak 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 March 14, 2014 IBIS Open Forum teleconference. The minutes were approved without changes.

ANNOUNCEMENTS

None.

CALL FOR ADDITIONAL AGENDA ITEMS

None.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported that 14 members have renewed so far for 2014. The treasury sits at \$26,880. There is a potential Touchstone parser pending. He sent reminder emails to active members that have not renewed yet. He got some responses, so he expects more renewals soon. He reminded members to renew before the DAC Summit meeting to maintain membership status for 2014.

WEB PAGE AND MAILING LIST ADMINISTRATION

Mike LaBonte reported there are 409 unique email addresses across both mailing lists. Web page updates were made to the events page for the DAC Summit event. Lynne Green has offered to donate her training materials for IBIS training. She needs to do some reformatting before it can be posted, but she expects that to be done in May. Mike plans to implement it in the wiki and link it in to the main page. This will be the first content solely on the wiki page. Michael Mirmak clarified that her company is Green Streak Programs. His understanding is that she is not planning to continue the training classes in the future. We should mention her prominently on the web page. Michael also thought it would be good to turn the IBIS cookbook into a wiki site.

MODEL LIBRARY UPDATE

Anders Ekholm noted that he had made no updates since the last meeting. The last updated added one company, removed two or so and fixed several broken links.

INTERNATIONAL/EXTERNAL ACTIVITIES

- Conferences

The 18th IEEE Workshop on Signal and Power Integrity (SPI 2014) will be held May 11-14, 2014 in Ghent, Belgium. There will be a European IBIS Summit in conjunction with this conference. There are typically many papers on IBIS-related algorithms presented by student researchers. More information is available at:

<http://spi2014.org>

- Press Update

None.

SUMMIT PLANNING AND STATUS

- European IBIS Summit Status

The Summit is scheduled after the SPI event on May 14, 2014 in Ghent, Belgium. Bob Ross noted that the second announcement needs to go out. Michael Mirmak is planning to send it

out after the meeting. Bob clarified that the event will be a half day. Zuken is confirmed as one of the co-sponsors. Attendees are encouraged to sign up and submit paper presentations.

- 2014 Summit schedule

DAC is June 1-5, 2014 in San Francisco, CA. Michael Mirmak reported that room space is confirmed with the help of John Angulo of Mentor in the Moscone Center co-located with DAC. We also have been registered officially on the DAC website. To use the room as part of DAC, there is a requirement to have a DAC attendance badge. A free badge (called "I Love DAC") is available until May 15, so Summit attendees will need to register with DAC by that time. We are planning for 20-30 people, but with co-location with DAC, we may get more attendees.

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's current task is to complete the ibischk5 parser documentation. They are documenting the list of messages, what they mean and what causes them. The pressure is on to finish this in a week or two. They also discussed a Touchstone bug recently.

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. They are recently discussing BIRD147 on backchannel modeling. The BIRD is getting more changes to include a statistical flow.

Task group material can be found at:

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

INTERCONNECT TASK GROUP

Michael Mirmak reported that the group held its second meeting last week. Package model examples supplied by Randy Wolff have been written up in two different proposals from Arpad Muranyi and Walter Katz. Comparisons in syntax are ongoing. Michael won't be able to attend the next meeting, so Mentor and SiSoft will be helping host the meeting. Mike LaBonte will send out a WebEx invite and Arpad will provide the phone bridge. The group is meeting Wednesdays at 8:00 a.m. PT.

NEW ADMINISTRATIVE ISSUES

Michael Mirmak reported that he was notified we will get additional information on SAE's ITC rules that allow us to maintain our entity-based membership.

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

Discussion was tabled.

BIRD128: 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.

BIRD157: PARAMETERIZE [DRIVER SCHEDULE]

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.

IBISCHK5 PARSER AND BUG STATUS

Bob Ross reported there are no new bugs. BUG147, BUG148 and BUG149 will be fixed in the ibischk6 release. Michael Mirmak noted that BUG150 is classified as not a bug, so it doesn't need to be dealt with. BUG151 will remain open for now.

IBISCHK6 PARSER STATUS

Bob Ross reported that he has an initial partial code release including all BIRDS for IBIS 6.0 except BIRD160.1. He and Michael Mirmak have reviewed test cases and noticed a Type issue for three AMI Reserved Parameters. It was found that descriptions of the parameters were correct but the tables were incorrect. The developer had implemented checking based on the tables, so a code fix is in progress. A few other minor incorrect implementations are being fixed. None of the bug fixes were incorporated in this release. Michael noted that a BIRD is needed to clarify the table fixes for the Reserved_Parameter Type issue. He is working on the BIRD.

Bob asked if a null root was allowed in the .ami file. Mike LaBonte thought this should not be allowed. David Banas and Radek Biernacki both recollected that a root name is required. Bob noted that if this is the case, then the parser test cases need to be updated to include root names. The parser currently doesn't check for this condition.

The targeted release is still May 15.

KNOWN ISSUES LISTING FOR VER. 6.0

Michael Mirmak reported that a new document has been included on the website that lists known issues with the IBIS 6.0 specification. Issues can be editorial or technical and may or may not require BIRDS. Radek Biernacki asked if a BIRD was required for fixing the AMI tables that omit Type "Float" for Tx_jitter, Tx_Dj, Tx_Rj and Tx_Sj. He saw the correct tables in the original BIRD123. Bob Ross noted he felt this was the best way to deal with it. The document is linked at:

http://www.eda.org/ibis/ver6.0/ver6_0_known_issues.txt

IBIS ANNUAL UPDATE SCHEDULE DISCUSSION

Michael Mirmak noted that comments were made at the last Summit meeting that the proposed 6-month release schedule for IBIS would be difficult to implement by EDA software vendors. More people expressed interest in a one year release schedule. Michael proposed moving to a one year release schedule, and he can prepare a slide for the next meeting detailing the schedule. Radek Biernacki felt this was a better proposal. Michael noted that further discussion will need to happen to agree on the new schedule and propose a cut-off date for BIRD submissions for the next IBIS release.

NEW TECHNICAL ISSUES

Walter Katz noted that he submitted a BIRD to Michael Mirmak that needs distribution on the IBIS reflectors.

NEXT MEETING

The next IBIS Open Forum teleconference will be held April 25, 2014 from 8:00 a.m. to 10:00 a.m. US Pacific Time. The next IBIS Open Forum Summit meeting will be held May 14, 2014 at SPI. There will be no teleconference. The following teleconference meeting will be held May 16, 2014.

Bob Ross moved to adjourn. Arpad Muranyi seconded the motion. There were no objections.

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NOTES

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This meeting was conducted in accordance with ANSI guidance.

The following e-mail addresses are used:

majordomo@eda.org

In the body, for the IBIS Open Forum Reflector:
subscribe ibis <your e-mail address>

In the body, for the IBIS Users' Group Reflector:
subscribe ibis-users <your e-mail address>

Help and other commands:
help

ibis-request@eda.org

To join, change, or drop from either or both:
IBIS Open Forum Reflector (ibis@eda.org)
IBIS Users' Group Reflector (ibis-users@eda.org)
State your request.

ibis-info@eda.org

To obtain general information about IBIS, to ask specific questions for individual response, and to inquire about joining the IBIS Open Forum as a full Member.

ibis@eda.org

To send a message to the general IBIS Open Forum Reflector. This is used mostly for IBIS Standardization business and future IBIS technical enhancements. Job posting information is not permitted.

ibis-users@eda.org

To send a message to the IBIS Users' Group Reflector. This is used mostly for IBIS clarification, current modeling issues, and general user concerns. Job posting information is not permitted.

ibis-bug@eda.org

To report ibischk parser BUGs as well as tschk2 parser BUGs. 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

icm-bug@eda.org

To report icmchk1 parser BUGs. 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>

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IBIS – SAE STANDARDS BALLOT VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	January 31, 2014	February 21, 2014	March 14, 2014	April 4, 2014
Agilent Technologies	User	Active	X	X	X	X
Altera	Producer	Active	X	X	-	X
ANSYS	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	X	-	-	-
Cadence Design Systems	User	Active	X	X	-	X
Ericsson	Producer	Inactive	X	-	-	X
Foxconn Technology Group	Producer	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	X	-	-	-
IBM	Producer	Active	X	X	-	X
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	X	X	X
IO Methodology	User	Inactive	X	X	-	-
LSI	Producer	Active	-	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	Inactive	X	-	-	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
Toshiba	Producer	Inactive	-	-	-	-
Xilinx	Producer	Inactive	X	-	-	-
Zuken	User	Inactive	X	-	-	-

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.