IBIS Open Forum Minutes

Meeting Date: July 19, 2013
Meeting Location: Teleconference

VOTING MEMBERS AND 2013 PARTICIPANTS

Agilent	Radek Biernacki*, Pegah Alavi, Heidi Barnes, Fangyi Rao, Colin Warwick, Tarun Kalwani
Altera	David Banas, Hsinho Wu
ANSYS	Luis Armenta, Ben Franklin, Dan Dvorscak, Steve Pytel
Applied Simulation Technology	Fred Balistreri, Norio Matsui
Cadence Design Systems	Terry Jernberg, Joy Li, Yingxin Sun, Ambrish Varma, Kevin Yao, Brad Brim*
Ericsson	Anders Ekholm, Martina Fiammengo
Foxconn Technology Group	(Sogo Hsu)
IBM	Greg Edlund, Adge Hawes*, Dale Becker
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak*, Mohammad Bapi*, Stewart Gilbert, Ravindra Rudraraju
IO Methodology	Lance Wang*
LSI	Brian Burdick, Sarika Jain, Xingdong Dai
Maxim Integrated Products	Hassan Rafat, Mahbubul Bari, Ron Olisar
Mentor Graphics	Arpad Muranyi*, Ed Bartlett, Vladimir Dmitriev-Zdorov
Micron Technology	Randy Wolff*
Signal Integrity Software	Walter Katz*, Mike LaBonte*, Mike Steinberger, Todd Westerhoff
Synopsys	John Ellis, Ted Mido, Scott Wedge, Rinsha Reghunath
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino
Toshiba	(Yasumasa Kondo)
Xilinx	(Raymond Anderson)
Zuken	Masaud Raeisi, Reinhard Remmert, Michael Schaeder, Alfonso Gambuzza

OTHER PARTICIPANTS IN 2013

Bayside Design	Elliot Nahas
Computer Simulation Technology	Heiko Grubrich
ECL Advantage	Thomas Iddings
Freescale	Jon Burnett
Granite River Labs	Vamshi Kandalla, Miki Takahashi
Hewlett-Packard	Yongjin Choi, Ting Zhu
KEI Systems	Shinichi Maeda
Molex	Davi Correia
National Instruments	Lee Mohrmann
Nvidia	Eric Hsu

Qualcomm	Scott Powers
QLogic	James Zhou
SAE	(Chris Denham)
TechAmerica	[Chris Denham]
Teradyne	Raymond Yakura
Université de Brest	Mihai Telescu
University of Illinois	Tom Comberiate, José Schutt-Ainé, Xu Chen
Vitesse Semiconductor	Sirius 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
August 9, 2013	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 AM to 9:55 AM 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.

Mohammad Bapi from Intel introduced himself. He works in the networking division on modeling and simulation of Intel devices. He has recently been working on an IBIS-AMI model for a LAN device. He will be representing Intel in Michael Mirmak's absence for the next few Open Forum meetings.

CALL FOR PATENTS
Michael Mirmak called for any patents or pending patents related to the IBIS 3.2, IBIS 4.2, IBIS

5.1, Touchstone 2.0 or ICM 1.1 specifications. No patents were declared.

REVIEW OF MINUTES AND ARS
Randy Wolff called for comments regarding the minutes of the June 28, 2013 IBIS Open Forum teleconference. The minutes were approved without changes.

MISCELLANY/ANNOUNCEMENTS
None.

CALL FOR NEW ISSUES
None.

MEMBERSHIP STATUS AND TREASURER'S REPORT
Bob Ross reported no change in membership, with 21 members currently.

WEB PAGE AND MAILING LIST ADMINISTRATION
Mike LaBonte reported no issues on the email list. On the web page, there have been no changes. He has been working on Terms of Use text, and it just needs to be implemented on the web page. He is looking into the best method to add it to the web pages. We may want a single Terms of Use page with a link to it from the home page. Michael Mirmak wondered if it would be possible to setup a style sheet for each page that could include a loading of the Terms of Use text. Mike wasn't sure if this was possible. Michael agreed that it would be easier to have a single Terms of Use page with a link from the home page and perhaps other pages if desired. Mike will set this up.

Mike noted he has still been looking into bug tracking software options. He is almost finished with the spreadsheet detailing the various options.

MODEL LIBRARY UPDATE
No update.

IBIS AFFILIATIONS
Michael Mirmak reported that a press release came out this morning detailing a change to our parent organization. About a month ago, the Compact Modeling Council, part of TechAmerica, moved to Si2. All the rest of the TechAmerica standards program has been purchased by SAE International. Walter Katz asked what other standards SAE leads. Michael noted that the TechAmerica standards were mostly aeronautical/aerospace related, and these become part of SAE. Michael will need to do some web searching to find out other standards under SAE. Arpad Muranyi asked if the membership dues will have to change. Michael noted that one change is that membership is individual based, not entity based, so we will have to reconcile

this difference.

Randy Wolff noted that Chris Denham has joined SAE. His name will need to be changed in the minutes under the Other Participants section, affiliating him with SAE. Michael asked Mike LaBonte to update the webpage as well.

Arpad asked if the IBIS standard will change designations. Michael noted that new standards will probably still keep the ANSI designation.

The SAE press release can be found at:

> http://www.sae.org/servlets/pressRoom?OBJECT_TYPE=PressReleases&PAGE=showRelease&RELEASE_ID=2175

INTERNATIONAL/EXTERNAL ACTIVITIES
- Conferences
The 22nd IEEE Workshop on Electrical Performance of Electronic Packaging and Systems (EPEPS 2013) will be held October 27-30, 2013 in San Jose, California. There may be content related to IBIS modeling. More information is available at:

> http://epeps.ece.illinois.edu/

- Press Update
No update.

SUMMIT PLANNING AND STATUS
- Asia Events
Michael Mirmak reported that we are planning on a series of Summits in Asia in November. A Summit meeting in Yokohama is scheduled for November 22. A Summit meeting in Shanghai at the Parkyard hotel is tentatively scheduled for November 15.   A Summit meeting in Taipei is scheduled for November 18 or 19, potentially at the Sherwood hotel, although the hotel is not currently responding to inquiries. We are planning to have conference booklets for at least one or two events. Arpad Muranyi requested the dates be added to the webpage. Bob Ross noted that he will work with Lance Wang on Shanghai event sponsorship.

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 making progress documenting ibischk messages. This will be done soon, and then the full document will be finished. The group is meeting on an infrequent basis when there is something to discuss, but always during the Tuesday at 8:00 a.m. PT time slot.

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. In the last two meetings, they discussed BIRD162. They are now discussing a proposal from Fangyi Rao related to the dependency BIRD as well as the backchannel modeling BIRD.

Task group material can be found at:

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

INTERCONNECT TASK GROUP
Michael Mirmak reported that the group has been suspended to allow the Editorial task group to use the same meeting time.

The task group documents can be found at:

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

EDITORIAL TASK GROUP
Michael Mirmak reported that draft 4 of IBIS 6.0 has been posted. Draft 5 should include all the major re-work items. The work is going smoothly. Most changes are simple clarifications and finalizing re-ordering and renumbering of sections started in IBIS 5.1.

The draft IBIS 6.0 document is available for review at:

http://www.eda.org/ibis/ver6.0_wip/

IBIS PARSER INCOME AND OUTLAYS
Michael Mirmak noted that we are discussing IBIS parser income because it directly affects how we can move to more regular releases of the IBIS specification. Bob Ross presented a history of the ibischk parser development work. He showed costs of development as well as income from parser sales. Some income may not be accounted for or left at TechAmerica.

Walter Katz commented that we should budget about $10,000-12,000 per year for maintenance and new parser development work. He would prefer to see that cost spread across all the member dues, since everyone benefits from the parser. Michael noted that we would need to discuss what to charge non-member parser purchasers. Brad Brim also supported this idea, since it is easier to process a single payment to IBIS per year. Radek Biernacki also liked the idea. He suggested a non-member parser charge could be around a half-year dues amount. Mike LaBonte suggested that there only be the option of membership including the parser.

Michael noted that getting the license source code has required signing a legal agreement. Bob noted that membership has decreased, partly due to acquisitions. We may need more recruiting efforts. Also, we need to make sure SAE allows us to carry money over from year to year. Michael didn't think this would be an issue with SAE.

Michael noted that parser costs have been large in the past since we have only been updating the parser every 2-4 years. Will this new model, adding $250-500 per membership per year give us enough money for parser development? Bob commented that our recent agreement with the parser developer for ongoing development work has worked well. Michael noted that we also need to work out the details of maintaining entity-based membership with SAE. Arpad commented that doing 6 month releases will limit the number of changes with each release, so parser development costs should also be limited. Mike noted that there are fixed costs with each release such as for testing.

Bob added that we may slip behind in parser development for IBIS 6.0 unless we get some seed money for parser development, since all money has been collected for 2013 already.

Bob's presentation can be found at:

        http://www.eda.org/ibis/docs/meetings/071913/ross_parser.pdf

NEW ADMINISTRATIVE ISSUES
None.

BIRD162.1: CHANGE TO USAGE "INFO, OUT" FOR AMI JITTER AND NOISE PARAMETERS
Bob Ross introduced the BIRD. It is an update to BIRD123.5, clarifying that all the jitter and noise Reserved Parameters with Usage Info should have their Usage changed to Usage "Info, Out". Arpad Muranyi commented that this BIRD came out of discussions in the Editorial task group. BIRD123.5 had eliminated the Usage Out on these parameters, but it was not clear why. Arpad added that the change is needed right away for the IBIS 6.0 specification to keep consistency of Usage Out on these parameters between IBIS 5.1, 6.0 and future revisions. He noted that the ATM task group is recommending to the Open Forum to accept this BIRD for the IBIS 6.0 specification.

Walter Katz moved to schedule a vote on this BIRD at the next teleconference. Bob seconded the motion. Radek Biernacki amended the motion to add that the BIRD will be intended for IBIS 6.0. There were no objections.

Bob suggested the Editorial task group add the BIRD text to the next draft of the IBIS 6.0 document.

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.

BIRD150: IBIS-AMI NEW RESERVED PARAMETERS FOR DEPENDENCY TABLES

Discussion was tabled.

BIRD155: NEW AMI API TO RESOLVE DEPENDENT MODEL PARAMETER

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.

IBIS SPECIFICATION CHANGE STATUS

No update.

The document is available at the following link:

> http://www.eda.org/ibis/docs/ibis-version-change-strategy-v3p0.pdf

IBISCHK5 PARSER AND BUG STATUS

Bob Ross reported that BUG145 and 146 are fixed in the new Version 5.1.4 parser release.

Michael Mirmak took the AR to release the code to the licensees and upload several executables.

NEW TECHNICAL ISSUES

Mike LaBonte showed his spreadsheet of IBIS bug tracking software requirements including if they are currently supported. He has looked at Mantis, Bugzilla and RedMine software so far. He is also looking at fields in the software that are not useful to us but also can't be removed. RedMine has the least of these, but also it is the least complicated software. So far RedMine looks the most promising.

Mike's spreadsheet can be found at:

  http://www.eda.org/ibis/minutes/min2013/m071913_docs/IBIS-bug-tracking-requirements-list2.xlsx

NEXT MEETING

The next IBIS Open Forum teleconference will be held August 9, 2013 from 8:00 a.m. to 10:00 a.m. US Pacific Time. BIRD162.1 is scheduled for a vote.

Radek Biernacki moved to adjourn. Brad Brim seconded the motion. There were no objections.

==
NOTES

IBIS CHAIR: Michael Mirmak (916) 356-4261, Fax (916) 377-3788
      michael.mirmak@intel.com
      Data Center Platform Applications Engineering
      Intel Corporation
      FM5-239
      1900 Prairie City Rd.,
      Folsom, CA 95630

VICE CHAIR: Lance Wang (978) 633-3388
      lwang@iometh.com
      President/CEO, IO Methodology, Inc.
      PO Box 2099
      Acton, MA 01720

SECRETARY: Randy Wolff (208) 363-1764, Fax: (208) 368-3475
      rrwolff@micron.com
      SI Modeling Manager, Micron Technology, Inc.
      8000 S. Federal Way
      Mail Stop: 01-711
      Boise, ID 83707-0006

LIBRARIAN: Anders Ekholm (46) 10 714 27 58, Fax: (46) 8 757 23 40
    ibis-librarian@eda.org
    Digital Modules Design, PDU Base Stations, Ericsson AB
    BU Network
    Färögatan 6
    164 80 Stockholm, Sweden

WEBMASTER: Mike LaBonte
    mikelabonte@eda.org
    IBIS-AMI Modeling Specialist, Signal Integrity Software
    6 Clock Tower Place
    Maynard, MA 01754

POSTMASTER: Mike LaBonte
    mikelabonte@eda.org
    IBIS-AMI Modeling Specialist, Signal Integrity Software
    6 Clock Tower Place
    Maynard, MA 01754

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

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

IBIS – SAE STANDARDS BALLOT VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	May 17, 2013	June 7, 2013	June 28, 2013	July 19, 2013
Agilent Technologies	User	Active	X	X	X	X
Altera	Producer	Active	-	X	X	-
ANSYS	User	Inactive	X	X	-	-
Applied Simulation Technology	User	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	X	-	X
Ericsson	Producer	Inactive	-	-	-	-
Foxconn Technology Group	Producer	Inactive	-	-	-	-
IBM	Producer	Active	X	X	X	X
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	X	X	X
IO Methodology	User	Active	-	X	X	X
LSI	Producer	Inactive	X	X	-	-
Maxim Integrated Products	Producer	Inactive	-	X	-	-
Mentor Graphics	User	Active	X	X	X	X
Micron Technology	Producer	Active	-	X	X	X
Signal Integrity Software	User	Active	X	X	X	X
Synopsys	User	Inactive	-	-	-	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
Toshiba	Producer	Inactive	-	-	-	-
Xilinx	Producer	Inactive	-	-	-	-
Zuken	User	Inactive	-	-	-	-

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.