

IBIS Open Forum Minutes

Meeting Date: **May 21, 2010**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2010 PARTICIPANTS

Actel	(Prabhu Mohan)
Agilent	Radek Biernacki, Ming Yan, Fangyi Rao, Gilbert Berger, Amolak Badesha
AMD	Nam Nguyen*
Ansys (Ansoft Corporation)	Danil Kirsanov
Apple Computer	(Matt Herndon)
Applied Simulation Technology	(Fred Balistreri)
ARM	(Nirav Patel)
Cadence Design Systems	Terry Jernberg, Wenliang Dai, Ambrish Varma
Cisco Systems	Syed Huq*, Mike LaBonte*, Tony Penaloza, Huyen Pham, Bill Chen, Ravindra Gali, Zhiping Yang
Ericsson	Anders Ekholm*, Pete Tomaszewski
Freescale	Jon Burnett, Om Mandhana
Green Streak Programs	Lynne Green
Hitachi ULSI Systems	Yutaka Uematsu
Huawei Technologies	(Jinjun Li)
IBM	Adge Hawes*, Greg Edlund*
Infineon Technologies AG	Christian Sporrer
Intel Corporation	Michael Mirmak*, Myoung (Joon) Choi, Vishram Pandit, Richard Mellitz
IO Methodology	Lance Wang*
LSI	Brian Burdick*
Mentor Graphics	Arpad Muranyi, Neil Fernandes, Zhen Mu
Micron Technology	Randy Wolff*
Nokia Siemens Networks GmbH	Eckhard Lenski*
Samtec	(Corey Kimble)
Signal Integrity Software	Walter Katz*, Mike Steinberger, Todd Westerhoff, Barry Katz
Sigrity	Brad Brim, Kumar Keshavan, Srdjan Djordjevic, Ben Franklin
Synopsys	Ted Mido
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino
Texas Instruments	Bonnie Baker
Toshiba	(Yasumasa Kondo)
Xilinx	Mike Jenkins
ZTE	(Huang Min)
Zuken	Michael Schaefer, Ralf Bruening

OTHER PARTICIPANTS IN 2010

AET, Inc.	Mikio Kiyono
Altera	John Oh, Hui Fu
Avago	Razi Kaw
Bosch Car Multimedia	Rene Steinberg, Patric Kessler
Broadcom	Mohammad Ali
Curtiss-Wright	John Phillips
ECL, Inc.	Tom Iddings
eSilicon	Hanza Rahmai
Exar Corp.	Helen Nguyen
Mindspeed	Bobby Altaf
National Semiconductor	Hsinho Wu*
NetLogic Microsystems	Eric Hsu, Edward Wu
NXP Semiconductors	Gerald Krasemann
Politecnico di Torino	Igor Stievano, Stefano Grivet-Talocia, Piero Triverio, Flavio Canavero
Renesas Technology	Takuji Komeda
Siemens, AG.	Manfred Maurer, Michael Flint
Simberian	Yuriy Shlepnev
Span Systems Corporation	Vidya (Viddy) Amirapu
Summit Computer Systems	Bob Davis
Tabula	David Banas
TechAmerica	(Chris Denham)
Independent	AbdulRahman (Abbey) Rafiq, Robert Badal

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
June 11, 2010	209 607 026	IBIS
June 15, 2010	DAC IBIS Summit	no teleconference

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

<https://cisco.webex.com/cisco/j.php?J=209607026>

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

Greg Edlund of IBM re-introduced himself. He noted that IBM is looking for an automated connection scheme for checking pullup and pulldown resistor values. He is also interested in AMI and works with the IBIS Interconnect task group.

CALL FOR PATENTS

Bob Ross called for any patents or pending patents related to the IBIS 3.2, IBIS 4.2, IBIS 5.0, Touchstone 2.0 or ICM 1.1 specifications. No patents were declared.

MEMBERSHIP UPDATE AND TREASURER'S REPORT

Bob Ross reported that 26 members have officially renewed. He is following up on six other memberships. One tschk2 parser license has been sold. He is looking into the status of another ibischk5 parser purchase. Texas Instruments has joined again as a full voting member.

REVIEW OF MINUTES AND ARS

Bob Ross called for comments regarding the minutes of the April 23, 2010 IBIS Open Forum teleconference. The minutes were approved without changes.

WEB PAGE UPDATES

Syed Huq reported that the events page has been updated. There was a new entry to provide the teleconference agenda from the main webpage. We have fully migrated to the eda.org server, so no updates require help from TechAmerica now.

Bob Ross noted regarding the FAQ page that he spoke to Eckhard Lenski, and some links still point to eigroup.org web pages. Eckhard will examine the links.

MAILING LIST ADMINISTRATION

Mike LaBonte reported that everything is running ok. He asked other groups using eda.org about their interest in using a paid SMTP service to prevent emails from getting rejected at their destinations. Rejections are still happening, but no other groups are interested in paying for better service.

MODEL LIBRARY UPDATE

Anders Ekholm reported that he updated the page on May 4. Some links were corrected and companies added and dropped.

Bob Ross noted that Colin Warwick created a webpage to post IBIS modeling information. This can be found at:

www.ibis-user.org

PRESS UPDATE

None.

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

Greg Edlund would like to discuss pullup/pulldown resistor tables. Bob Ross also plans to discuss the IBIS Interconnect Spice Subcircuits (IBIS-ISS) document.

INTERNATIONAL/EXTERNAL ACTIVITIES

- DASC

Michael Mirmak noted that there have been no meetings since the last teleconference. The DASC file and e-mail archive may be found at:

<http://www.dasc.org/>

- P1735 Encryption

No update. The IEEE Study Group on Encryption web reflector archives are found at:

<http://www.eda-stds.org/ip-encrypt/hm/>

-Conferences

None.

TECHAMERICA STATUS

No report.

IEC APPROVAL ACTIVITIES

No update.

SUMMIT STATUS

-European Summit Report

The summit was held Wednesday, May 12 after the SPI conference in Hildesheim, Germany. There were 9 presentations. There were 22 participants from 14 organizations. The summit ended early, but most stayed the full meeting time. Bob Ross thanked the co-sponsors Agilent, Mentor, Sigrity, Sintecs and Zuken. Bob also thanked Ralf Bruening for his organizational help. Eckhard Lenski also helped prepare the meeting minutes.

-DAC Summit Planning

The DAC summit is planned for Tuesday, June 15 in Anaheim, CA. This meeting is also the annual meeting with the election of officers. Lance Wang noted that 10 people have signed up so far. Several presentations are planned. The third announcement went out this week. Bob Ross and Michael Mirmak will bring projectors. Due to the size of the meeting, a microphone will not be needed. Bob noted that the DAC exhibition is free on Monday.

-Asian Summits Planning

The planning committee is discussing three potential summits this year in China, Japan and possibly Taiwan. Bob Ross reported that there is enough funds commitment for a meeting in Shenzhen. Meeting rooms are being investigated. Tuesday, November 9 or Friday, November 12 are possible options. Walter Katz noted that we might want to be careful with labeling of the China and Taiwan summits. Lance Wang thought it might be best to refer to the Shenzhen summit and the Taipei summit.

Lance noted that a summit in Taiwan is in planning. Two sponsors are committed so far. Michael Mirmak noted that he needs more formal estimates of costs and dates before contacting some other companies in Taiwan. More sponsorship is needed if the meeting is to happen. The end of June is a reasonable deadline for deciding whether the meeting will happen.

Bob has the AR to contact JEITA about a summit in Japan.

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.

IBIS QUALITY TASK GROUP

Mike LaBonte reported that the group is working on a correlation specification. They are having problems coming up with a lot of material to discuss, as people are too busy. The group is planning on meeting every two weeks for now. The group is focusing on using the IEEE document with Feature Selective Validation (FSV). Golden Waveforms are also a side discussion topic. The group has also discussed the IBIS-ISS document related to describing more complicated test loads for Golden Waveforms. The Quality Task Group checklist and other documentation can be found at:

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

IBIS MODEL REVIEW TASK GROUP

No update.

ADVANCED TECHNOLOGY MODELING TASK GROUP

Bob Ross reported for Arpad Muranyi that the IBIS-AMI flow diagrams were discussed. There is now much agreement on the latest flow diagram. IBIS-ISS was recently discussed and planned for submittal to the Open Forum for further discussion and approval. Walter Katz also noted that the group approved a BIRD on clock ticks for submittal to the Open Forum.

Task group material can be found at:

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

INTERCONNECT TASK GROUP

Michael Mirmak reported that the group is meeting Wednesday mornings at 9AM PT. They are making significant changes to the Touchstone 2 binary proposal. They are planning to discuss node mapping next. He also noted that Bob Ross sent a link to a freeware binary conversion utility called HDF5. More information can be found at:

<http://www.hdfgroup.org/HDF5/>

Task group material can be found at:

<http://www.eda.org/ibis/adhoc/interconnect/>

NEW ISSUES

Bob Ross noted that TSIRD1 was updated to TSIRD1.1 due to editorial changes made as it was being voted on at the last meeting.

BIRD112 – IBIS-AMI CLOCK_TIMES CLARIFICATION

This BIRD clarifies a section of the AMI specification related to clock times. Scott McMorrow was the author. Walter Katz introduced the BIRD. The original AMI BIRD used the term clock period, and IBIS 5.0 never defined what a clock period was. This BIRD replaces clock period with bit time, which has become the accepted usage. It also clarifies how to handle a non-monotonic clock signal and some other minor details. Bob Ross mentioned that this BIRD was unanimously approved by the IBIS ATM committee.

TSCHK2 BUG STATUS

No BUGs to report.

IBISCHK5 BUG STATUS

There are 11 open BUGs currently. Many of these BUGs are being fixed with a new parser development project.

IBISCHK5 PROJECT

Bob Ross has drafted a parser agreement, and it has been reviewed by the officers. It needs to be reviewed by TechAmerica and signed by all involved parties.

NEW ISSUES

Walter Katz introduced the IBIS Interconnect Spice Subcircuits (IBIS-ISS) document. Synopsys donated the HSPICE documentation for use in developing this document. Most of the work on this document was done last year and reviewed by the IBIS ATM committee. More editorial revision is needed to clean up the document. The ATM committee does not have the resources for this, so the document is being transferred to the Open Forum for further review.

Bob Ross noted that the document currently has the formatting of the HSPICE documents, and this needs to be revised. For official endorsement, it needs some cleanup. Michael Mirmak may be able to help, but he needs to know the timeline. He also hopes that the document can be transferred into any format such as IEEE or ANSI. This will make the document look considerably different. Walter asked if it made sense to hire a technical writer to help. Michael questioned if TechAmerica would provide this service. Walter noted that the ATM committee no longer wants ownership over this document. Bob added that any subcommittee could take ownership, but the Open Forum will look into editing the document for eventual official approval. Bob took the AR to post the document and publish the link.

Greg Edlund was looking for a way to list those pins with weak pullup or pulldown resistors. The purpose was to facilitate checking for conflicting weak pullup and pulldown resistors. This condition can bias a receiver in the threshold region. He wants to gather information about the chips and provide design checks. Much of the necessary information is in the IBIS models already, but this proposal adds a table of entries for the pins that include a weak pullup or pulldown.

Walter asked if this was information to store in the model so an EDA tool can look at the information and make sure all the models on a given net are compatible. Greg responded that this was the case. Bob asked if this only included internal on-die resistors. Yes. Michael asked about terminations that are only on at startup of a die. Do we only care about what affects signal integrity? Greg noted that this is only information to indicate issues. Michael wondered if this information in an IBIS model would really be used in the design check-off flow. Greg noted that this is the case for his company. Anders Ekholm wondered if adding the same information twice in a model invited needing more checking with consistency. This topic will be discussed further at the next meeting.

NEXT MEETING

The next IBIS Open Forum teleconference will be held June 11, 2010 from 8:00 to 10:00 AM US Pacific Standard Time. The DAC IBIS Summit will be held June 15, 2010 in Anaheim, CA. No teleconference will be available.

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NOTES

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This meeting was conducted in accordance with the GEIA Legal Guides and GEIA Manual of Organization and Procedure.

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 EIA-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.eigroup.org/ibis/ibis.htm>

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 CURRENT MEMBER VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	April 2, 2010	April 23, 2010	May 12, 2010	May 21, 2010
Actel	Producer	Inactive	-	-	-	-
Advanced Micro Devices	Producer	Active	X	X	-	X
Agilent Technologies	User	Active	-	X	X	-
Ansys	User	Inactive	-	-	X	-
Apple Computer	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	-	-	-	-
ARM	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Inactive	X	X	-	-
Cisco Systems	User	Active	X	X	-	X
Ericsson	Producer	Active	X	X	X	X
Freescale	Producer	Inactive	-	-	-	-
Green Streak Programs	General Interest	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	-	-	-	-
Hitachi ULSI Systems	Producer	Inactive	-	-	X	-
IBM	Producer	Active	-	X	-	X
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Inactive	-	X	-	X
IO Methodology	User	Active	X	X	X	X
LSI	Producer	Active	X	X	-	X
Mentor Graphics	User	Inactive	X	X	-	-
Micron Technology	Producer	Active	X	X	-	X
Nokia Siemens Networks	Producer	Active	-	X	X	X
Samtec	Producer	Inactive	-	-	-	-
Signal Integrity Software	User	Active	X	X	-	X
Sigrity	User	Inactive	-	-	X	-
Synopsys	User	Inactive	-	-	-	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
Texas Instruments	Producer	Inactive	-	-	-	-
Toshiba	Producer	Inactive	-	-	-	-
Xilinx	Producer	Inactive	-	-	-	-
ZTE	User	Inactive	-	-	-	-
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 TECHAMERICA 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.