

IBIS Open Forum Minutes

Meeting Date: **June 3, 2011**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2011 PARTICIPANTS

Agilent	Radek Biernacki*, Fangyi Rao
AMD	Nam Nguyen*
Ansys (Ansoft Corporation)	Samuel Martens
Apple Computer	(Matt Herndon)
Applied Simulation Technology	Norio Matsui
ARM	(Nirav Patel)
Cadence Design Systems	Terry Jernberg, Ambrish Varma, Dennis Nagle, Martin Biehl
Cisco Systems	Syed Huq*, Mike LaBonte*, Luis Boluna, Ashwin Vasudevan, Zhiping Yang
Ericsson	Anders Ekholm*
Freescale	(Jon Burnett)
Green Streak Programs	Lynne Green
Hitachi ULSI Systems	(Kazuyoshi Shoji)
Huawei Technologies	Xiaoqing Dong
IBM	Adge Hawes*, Greg Edlund*
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak*, Udy Shrivastava
IO Methodology	Lance Wang*
LSI	Brian Burdick*
Mentor Graphics	Arpad Muranyi*, Ed Bartlett, Vladimir Dmitriev-Zdorov, Steve Kaufer, Chuck Ferry
Micron Technology	Randy Wolff*, Andrea Spiezia, Roberto Izzi, Aniello Viscardi, Giovanni Guerra, Francesco Madonna, Giuseppe Fusillo
National Semiconductor	Hsinho Wu, Pegah Alavi, John Goldie
Nokia Siemens Networks GmbH	Eckhard Lenski*
Signal Integrity Software	Walter Katz*, Todd Westerhoff, Mike Steinberger, Barry Katz
Sigrity	Raymond Chen, Kumar Keshavan, Yingxin Sun
Synopsys	Andy Tai, Ted Mido, Scott Wedge
Teraspeed Consulting Group	Bob Ross*, Kellee Crisafulli, Tom Dagostino, Scott McMorro
Texas Instruments	Casey Morrison, Alfred Chong
Toshiba	(Yasumasa Kondo)
Xilinx	(Raymond Anderson)
ZTE	(Huang Min)
Zuken	(Michael Schaefer)

OTHER PARTICIPANTS IN 2011

AET	Mikio Kiyono
Altera	Hui Fu, Zhuyuan Liu, Julia Nekrylova
Avago	Weiping He, Minh Quach, Sari Tocco
Bayside Design	Elliot Nahas
Broadcom	Mohammad Ali
Exar Corporation	Helen Nguyen
Granite River Labs	Johnson Tan, Mike Engbretson, Quintin Anderson
High Speed Design Center	Ben Chia
ICT-Lanto	Steven Wong
KEI Systems	Shinichi Maeda
Maxim Integrated Products	Hassan Rafat
Oracle	Gustav Blando
Politecnico di Torino	Igor Stievano, Stefano Grivet-Talocia
Pristine Signals	AbdulRahman (Abbey) Rafiq
Renesas Electronics	Takuji Komeda
Siemens	Manfred Maurer
Simberian	Yuriy Shlepnev
ST Microelectronics	Fabio Brina, Alan Smith
Thales Communication	Alexandre Amedeo, Cyrip Chastang
TechAmerica	(Chris Denham)
University of Illinois	Jose Schutt-Aine
University of L'Aquila	Danilo di Febo
Vitesse Semiconductor	Sirius Tsang
Independent	Yoichi Niioka

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 7, 2011	IBIS Summit at DAC, San Diego – no teleconference	
June 24, 2011	205 722 546	IBIS

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

<https://cisco.webex.com/cisco/j.php?J=205722546>

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

No new participants.

CALL FOR PATENTS

Michael Mirmak 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.

REVIEW OF MINUTES AND ARS

Randy Wolff called for comments regarding the minutes of the May 11, 2011 IBIS Open Forum Summit at SPI and the May 13, 2011 IBIS Open Forum teleconference. Both sets of minutes were approved with no changes.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported that he requested an update but has not received anything from TechAmerica. Officially 12 members have renewed, but unofficially there are quite a few more. A few members may be dropped after the DAC meeting until their payment is confirmed. Bob projected 20-25 members after DAC. Radek Biernacki inquired why we don't see payments confirmed months after they are made. Bob said that the latest update was in May. Michael Mirmak noted that there have been many hiccups with the consolidation of GEIA and others into TechAmerica. Several financial systems have been combined into one. TechAmerica is working to improve this situation.

WEB PAGE UPDATES

Syed Huq reported that the events page was updated related to recent conferences.

MAILING LIST ADMINISTRATION

Mike LaBonte reported that activity continues to be higher than in the past. There has been an uptick in subscriptions. He is making progress on organizing the mailing list archives. He may have an announcement for the next meeting about a new page that is better organized. His intention is to have the new page updated once a day. All the old html files will stay in place and continue to grow. Bob Ross wondered if any attachments are still available from the archive. Mike took the AR to check into accessing attachments.

MODEL LIBRARY UPDATE

Anders Ekholm noted that he does need to start on another update and may have more to report at the next meeting.

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

Michael Mirmak noted that BIRD134 was added to the agenda and BIRD120 is now BIRD120.1.

INTERNATIONAL/EXTERNAL ACTIVITIES

- DASC

Michael Mirmak said there is a face-to-face meeting of DASC at DAC on Thursday morning. He will try to attend. There have been no other 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/>

-VHDL-AMS Table-Driven Models

Arpad Muranyi had no update. More information can be found at:

http://www.eda.org/twiki/bin/view.cgi/P10761/ProjectsArea#Table_driven_Modeling_Champion_J

-Conferences

- EPEPS (Electrical Performance of Electronic Packaging and Systems) will be held October 23-26 in San Jose, California. More information can be found at:

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

Bob Ross is looking into a possible IBIS meeting in associated with EPEPS on Wednesday afternoon after the conference.

- EMCCompo2011, the 8th International Workshop on Electromagnetic Compatibility of Integrated Circuits, will be held in Dubrovnik, Croatia, November 6-9, 2011. More information can be found at:

<http://www.emccompo2011.org>

- EDAPS (Electrical Design of Advanced Packaging & Systems) will be held December 12-14 in Hangzhou, PRC. More information can be found at:

<http://www.edaps2011.org>

In addition, a European version of EPEPS has been established, while EDAPS is considered an EPEPS conference in the People's Republic of China. IBIS has been invited to all three, with special emphasis possible at EPEPS.

-Press Update

No update.

IEC APPROVAL ACTIVITIES

Randy Wolff noted that he has not made any progress towards IEC approval. Michael Mirmak noted that the TC93 office holders list is available from the IEC meeting in Seattle. He suggested that Randy could try contacting members of TC93 besides Dennis Brophy.

TECHAMERICA UPDATE

Michael Mirmak noted that the ANSI audit is completed at TechAmerica. Migration of the website is proceeding – we should see more material from the GEIA site on the TechAmerica site. Also, there is a split of what is on the TechAmerica site versus KAVI. Long term accomplishments should be posted on TechAmerica, with day-to-day activities on posted on KAVI. We may start posting documents on KAVI such as meeting minutes. We can also handle balloting through KAVI, especially formal ANSI ballots. There is a bigger emphasis from TechAmerica on social media, particularly LinkedIn.

Michael also announced that we are now permitted to roll our budget over from year-to-year. Phyllis Call of TechAmerica will be talking next week with the TechAmerica accounting department to set up a reserve account. This is the formal location for any money that we take in that isn't spent in a given calendar year. This should help us finally achieve stability with summit, parser development and any other non-TechAmerica-membership spending in any given year. Apparently there is no prohibition against having such an account in TechAmerica (unlike previous organizations).

Bob commented that whatever we run in KAVI we should still do in parallel on eda.org until we make sure it works well and is responsive, such as cross-posting of documents. Michael added that there are some implied conflicts with how KAVI works and how the GEIA manual of procedures is written, especially pertaining to open meetings. He has notified TechAmerica of the conflicts.

KAVI members' login is at:

<http://workspace.techamerica.org/apps/org/workgroup/ibis-members>

SUMMIT STATUS

-DAC IBIS Summit

The Design Automation Conference (DAC) is June 6-9, 2011 in San Diego, CA. The IBIS Summit will be held June 7. The meeting will be at the Omni Gallery in Gallery 2, across the street from the Omni Hotel. The agenda was sent out earlier this week. Michael Mirmak reminded presenters to bring 20 printed out copies of the presentation for participants. Bob noted 19 signups so far officially. He noted that only three presentations have been sent in for review so far, so they need to be submitted ASAP for review.

-IBIS Summit Planning for Asia

In mid-November, there will be Summits in Hsinchu, Shanghai and Tokyo. The meetings will be full days in Hsinchu and Shanghai and half-days in Tokyo. We are waiting for confirmation of a reservation for November 18 in Hsinchu.

Sponsorship opportunities for all upcoming IBIS summits are available, with sponsors receiving free mentions in the minutes, agenda, and other announcements. This includes upcoming events at DAC and in Asia. Contact the IBIS Board for further details.

IBIS QUALITY TASK GROUP

Mike LaBonte reported that in the last few meetings they have been going over material that came up at the SPI Summit meeting. Some Quality topics were discussed there. Also, they are discussing BUG104 related to [Test Data] and [Test Load] keywords. It is likely that there will be a BIRD clarifying those keywords as relates to the parser. The specification omits hierarchy of the [Test Data] and [Test Load] keywords. The hierarchy tree in the specification does not exactly match the rest of the specification. The group is meeting weekly on Tuesdays at 8 AM PDT. The next meeting is June 14.

Michael Mirmak asked if there is any interest in setting up a KAVI space for the task group. Mike wondered if the space is parallel to IBIS Open Forum in KAVI. Michael said that there should be a hierarchy where any task group meeting space will be under IBIS in the hierarchy but separate. When someone logs in, the page is customized based on the task groups of which the person is a member.

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

Arpad Muranyi reported that the group is meeting on a regular basis and working on the AMI correction BIRDs. He was hoping to be done with these BIRDs by DAC. The group is close to completing all the AMI corrections.

Task group material can be found at:

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

INTERCONNECT TASK GROUP

Michael Mirmak reported weekly meetings continue at 9AM PDT on Wednesdays. There is no meeting next week. The group did have a review of IBIS ISS draft 1.2. There will be presentations at the DAC Summit of how IBIS ISS interacts with IBIS. They are also planning to return to Touchstone and MCP topics. Bob Ross noted that the target is to have an IBIS-ISS document to review for the next teleconference.

Task group material can be found at:

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

IBIS EDITORIAL UPDATE

Michael Mirmak reported there will be some discussion as part of the ad hoc topics at the DAC Summit on BIRD inclusion in IBIS 5.1 and 5.2. Editorial task group meetings should resume after DAC once plans are more finalized.

New IBIS 5.0 documentation can be reviewed at:

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

NEW ADMINISTRATIVE ISSUES

None.

BIRD116: ADD IBIS-ISS TO [EXTERNAL MODEL] AND [EXTERNAL CIRCUIT] AS A SUPPORTED LANGUAGE

Arpad Muranyi moved to table discussion for this meeting of BIRDS 116, 117, 118, 125 and 129. There were no objections.

BIRD117.3: PARAMETERIZE A_TO_D AND D_TO_A CONVERTERS

Discussion was tabled.

BIRD118.2: ANALOG PARAMETER ASSIGNMENTS

Discussion was tabled.

BIRD121.1: IBIS-AMI NEW RESERVED PARAMETERS FOR DATA MANAGEMENT

Walter Katz noted that Samples_Per_Bit was removed from the BIRD. Consensus within the ATM task group was that model makers should write models not dependent on Samples_Per_Bit. Arpad Muranyi suggested that the AMI section of IBIS should be clarified to mention that models should not depend on sampling rates. Bob Ross noted that the text added to the BIRD discussing removal of Samples_Per_Bit should be moved to the bottom of the BIRD in the Analysis Path section.

BIRD122: IBIS-AMI NEW RESERVED PARAMETERS FOR ANALOG MODELING

Bob Ross moved to table discussion for this meeting of all BIRDs except 121.1, 127.1, 130, and the new BIRDs 132, 133, 134. There were no objections.

BIRD123.1: IBIS-AMI NEW RESERVED PARAMETERS FOR JITTER/NOISE

Discussion was tabled.

BIRD124: IBIS-AMI NEW RESERVED PARAMETERS FOR DEPENDENCY TABLES

Discussion was tabled.

BIRD125: MAKE IBIS-ISS AVAILABLE FOR IBIS PACKAGE MODELING

Discussion was tabled.

BIRD127.1: IBIS-AMI TYPOGRAPHICAL CORRECTIONS

Arpad Muranyi noted two minor changes to the BIRD. There were typographical errors in two examples that were fixed. Bob Ross noted that the BIRD needs to go back to the ATM task group for further review due to other recent BIRD submissions. The 'parameter_name' section will need updating related to handling Tables and expansion of Types.

BIRD128: ALLOW AMI_PARAMETERS_OUT TO PASS AMI_PARAMETERS_IN DATA ON CALLS TO AMI_GETWAVE

Discussion was tabled.

BIRD129: ADD "POLARITY" ARGUMENT TO D_TO_A CONVERTERS

Discussion was tabled.

BIRD130: CROSSTALK CLARIFICATION WITH RESPECT TO AMI

Arpad Muranyi noted there were no comments or questions since the last meeting. Adge Hawes wondered whether changing the name from row_size to number_of_rows as mentioned in the BIRD requires re-compilation of existing DLLs. Arpad did not think there was any issue but agreed that it should be tested. Radek Biernacki noted that the name is not used by the

DLL in any way, but it would be good to test it. Arpad will test out the change with his developers. Bob Ross moved to reschedule the vote for the next meeting. There were no objections.

BIRD 131: IBIS-AMI REPEATERS

Discussion was tabled.

BIRD 132: CLARIFICATION OF THE TABLE FORMAT FOR IBIS-AMI

Bob Ross introduced the BIRD. It has been reviewed in the ATM task group. It clarifies the Format Table operations documented in IBIS 5.0. The syntax was broken in 5.0, and this BIRD fixes the syntax and expands it. Type is clarified amongst other changes. Bob would like this BIRD to be included in IBIS 5.1.

BIRD 133: MODEL CORNER C_COMP

Bob Ross introduced the BIRD. There was a long discussion by email about C_comp last year. C_comp is uncorrelated to model corner as currently included in the specification. The BIRD defines a new keyword [C Comp Corner], under which the C_comp values can be defined in an order relative to the corner case. This proposal is similar to Walter Katz's proposal of defining Model Corner, but restricted to just C_comp. Arpad Muranyi noted that he would like the name of the keyword to be [C_comp Corner] to be consistent with the current naming of C_comp. Michael Mirmak noted that the '_' in keywords is treated identically to a space by the parser. Arpad noted that this would not matter to the parser.

Radek noted that C_comp by itself is required, but the new keyword is not. Should the values be the same? Bob said that they would not necessarily have to be the same. Michael noted that C_comp is the only parameter that doesn't fit with the conventions of voltage and temperature for 'min' and 'max' conditions. Radek would like to know the precedence of the new keyword over C_comp. Bob said that C_comp would still be required but be overridden by the new keyword. Arpad noted that this is cluttering up the specification with required but unused parameters. He thought that a simpler solution would be to add a parameter describing the associations of C_comp to the min and max corners. Bob said he was writing a parallel BIRD to do just that, but he got bogged down in changing statements throughout the specification. Radek suggested the meaning of C_comp be changed so that the values simply are mapped to the column they are in without requiring they be in a specific order by the parser. Arpad thought there were some issues with this.

BIRD 134: AMI FUNCTION RETURN VARIABLE

Arpad Muranyi summarized the BIRD. It defines under what conditions a failure code should be returned by the DLL. A failure code should be issued only when the function call fails due to a program execution error. Arpad moved to schedule a vote at the next teleconference meeting. There were no objections.

IBISCHK5 BUG STATUS

No new BUGs.

IBISCHK5 PARSER STATUS

Bob Ross reported he needs to get feedback from the parser developer on his plans for further updates.

IBIS-ISS SPECIFICATION DRAFT STATUS

Michael Mirmak reported that the document is still being updated by the Interconnect Task Group. Comments from the general public are still welcome but the document will be resubmitted to the Open Forum after the Task Group completes its revisions.

The review draft revision 1.2 can be reviewed at:

http://www.eda.org/pub/ibis/ibis-iss_wip/IBIS_ISS_review_draft_1.2.pdf

NEW TECHNICAL ISSUES

None.

NEXT MEETING

The next Open Forum Summit will be held June 7, 2011 in conjunction with DAC. The next IBIS Open Forum teleconference will be held June 24, 2011 from 8:00 to 10:00 AM US Pacific Standard Time. Votes on BIRD130 and BIRD134 are scheduled.

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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/bugspl.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>

To create an account on the TechAmerica KAVI workspace, check out:

<http://workspace.techamerica.org/kwspub/join/>

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IBIS CURRENT MEMBER VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	April 22, 2011	May 11, 2011	May 13, 2011	June 3, 2011
Advanced Micro Devices	Producer	Active	X	-	X	X
Agilent Technologies	User	Active	X	-	X	X
Ansys	User	Inactive	-	-	-	-
Apple Computer	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	-	-	-	-
ARM	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	-	X	X	-
Cisco Systems	User	Active	X	-	X	X
Ericsson	Producer	Active	-	X	-	X
Freescale	Producer	Inactive	-	-	-	-
Green Streak Programs	General Interest	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	-	-	-	-
Hitachi ULSI Systems	Producer	Inactive	-	-	-	-
IBM	Producer	Active	-	-	X	X
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	-	X	X
IO Methodology	User	Active	X	X	X	X
LSI	Producer	Active	-	-	X	X
Mentor Graphics	User	Active	X	-	X	X
Micron Technology	Producer	Active	-	X	-	X
National Semiconductor	Producer	Inactive	-	-	-	-
Nokia Siemens Networks	Producer	Active	-	-	X	X
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	-	-	-	-

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.