

# IBIS Open Forum Minutes

Meeting Date: **May 11, 2012**

Meeting Location: **Teleconference**

## VOTING MEMBERS AND 2012 PARTICIPANTS

Agilent	Radek Biernacki*, Yoji Sekine, Fangyi Rao
Altera	David Banas*, Hsinho Wu, Masashi Shimanouchi
AMD	(Nam Nguyen)
ANSYS (Ansoft)	(Steve Pytel)
Apple Computer	(Matt Herndon)
Applied Simulation Technology	Norio Matsui
Cadence Design Systems	Terry Jernberg, Jilin Tan, Dennis Nagle Ambrish Varma
Cisco Systems	David Siadat, Mike Sapozhnikov
Ericsson	Anders Ekholm*, Zilwan Mahmood, Mattias Lundquist
Foxconn Technology Group	(Sogo Hsu)
Freescale	(Jon Burnett)
Green Streak Programs	(Lynne Green)
Huawei Technologies	Xiaoqing Dong
IBM	Adge Hawes*, Greg Edlund
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak*, Udy Shrivastava, Stewart Gilbert Eddie Frie
IO Methodology	Lance Wang*
LSI	Brian Burdick
Maxim Integrated Products	Hassan Rafat, Mahbubul Bari
Mentor Graphics	Arpad Muranyi*, Vladimir Dmitriev-Zdorov
Micron Technology	Randy Wolff*
Nokia Siemens Networks GmbH	Eckhard Lenski
QLogic	(James Zhou)
Signal Integrity Software	Walter Katz*, Mike LaBonte*, Todd Westerhoff Akalu Lentiro
Sigrity	Raymond Chen, Yingxin Sun, Sam Chitwood
Synopsys	Andy Tai, Scott Wedge, Hany Elhak, Ted Mido
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino
Texas Instruments	Casey Morrison, Pegah Alavi, Valerie Chang Modesto Garcia, Karl Muth
Toshiba	(Yasumasa Kondo)
Xilinx	Harry Fu
ZTE	(Huang Min)
Zuken	Michael Schaefer

## OTHER PARTICIPANTS IN 2012

Aruba Networks	Amir Motamedi
Avago Technologies	Sanjeev Gupta, Amolak Badesha
Bayside Design	Elliot Nahas
Cavium	Johann Nittmann
Enterasys	Robert Haller
Exar Corporation	Helen Nguyen
Granite River Labs	Jiang Xu, Johnson Tan
Hewlett-Packard	Ting Zhu
High Speed Design Center	Ben Chia
KEI Systems	Shinichi Maeda
Luxshare-ICT	Alan Kinningham, Steven Wong
MK Resolutions	Olga Chervyakova
Nvidia	Eric Hsu
Research In Motion	Yi Cao
Sony	Kenji Yasoda
TechAmerica	(Chris Denham)
University of Illinois	Thomas Comberiate, Jose Schutt-Aine
Vitesse Semiconductor	Sirius Tsang

In the list above, attendees at the meeting are indicated by \*. Participants who submit votes by email but do not attend 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 16, 2012	IBIS Summit at SPI2012 – no telephone bridge	
June 1, 2012	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](http://www.cisco.com/web/about/doing_business/conferencing/index.html)

NOTE: "AR" = Action Required.

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## **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 April 20, 2012 IBIS Open Forum teleconference. Bob Ross noted that the IBIS Quality meeting was actually on May 8, not May 1 as stated in the minutes. Michael Mirmak noted that the DAC Summit planning section incorrectly listed the location as near the Marconi Hall, but it is actually near the Moscone Center. The minutes were approved with the noted changes.

## **MEMBERSHIP STATUS AND TREASURER'S REPORT**

Bob Ross reported that we have about 23 members, but no official report to confirm all the memberships. Bob has worked with Phyllis Call of TechAmerica to review payments and verify them through credit card statements, purchase orders, etc. Bob noted that logos on the website can stay on, but those not recorded as paid after the June DAC Summit will be considered non-members and will lose voting rights. There are some internal re-organizations in some companies that appear to be impacting whether or not they will renew membership. Michael Mirmak noted that TechAmerica has been more highly responsive recently and they are undergoing drastic changes at the executive level. A new TechAmerica board member has experience with standards and is paying attention to our organization's issues.

## **WEB PAGE UPDATES**

Mike LaBonte reported that there have been some adds and drops of membership on the roster page. On the roster page, members are now marked with an IBIS logo next to their name instead of an asterisk. He also updated the IEC standard number of IBIS on the home page. He has a new home page design ready to be released soon. A miniature version of the poster page takes up much of the view of the new home page. Some companies have not submitted logo images. Bob Ross mentioned that this has been an ongoing issue, as getting approval for some logos is very difficult.

Michael Mirmak mentioned that TechAmerica has had some denial-of-service attacks on their website.

## **MAILING LIST ADMINISTRATION**

Mike LaBonte reported that the server issues with emails being rejected have subsided lately. The Stanford servers have a high server score now. There are still issues with SPAM filters. We have 437 subscribers currently.

## **MODEL LIBRARY UPDATE**

Anders Ekholm reported that nothing has changed. He has three broken links to check.

## **MISCELLANY/ANNOUNCEMENTS**

None.

## **OPENS FOR NEW ISSUES**

None.

## **INTERNATIONAL/EXTERNAL ACTIVITIES**

### **- IEEE DASC**

Michael Mirmak reported that there was a meeting earlier this week, but no IBIS related topics. There was talk of a face-to-face meeting at DAC, but that was cancelled.

### **- VHDL-AMS Table-Driven Models**

Arpad Muranyi reported that there has not been a meeting since our last teleconference. More information can be found at:

[http://www.eda.org/twiki/bin/view.cgi/P10761/ProjectsArea#Table\\_driven\\_Modeling\\_Champion\\_J](http://www.eda.org/twiki/bin/view.cgi/P10761/ProjectsArea#Table_driven_Modeling_Champion_J)

### **- Conferences**

SPI2012 (18<sup>th</sup> IEEE Workshop on Signal and Power Integrity) will be held May 13-16, 2012 in Sorrento, Italy. We are offered a free room on Wednesday afternoon for hosting an IBIS Summit meeting. There may be some technical papers related to IBIS. More information can be found at:

<http://www.spi2012.org>

- EPEPS (21<sup>st</sup> IEEE Conference on Electrical Performance of Electronic Packaging and Systems) will be held October 21-24, 2012 in Tempe, Arizona. This event occasionally includes IBIS-related content. More information can be found at:

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

Official IBIS participation may/may not be planned for all of the events above, though individual papers and discussion on IBIS are encouraged. These are events with refereed submissions, with deadlines either pending or already passed.

### **- Press Update**

None.

## **IEC APPROVAL ACTIVITIES**

Randy Wolff reported that there is no new information. Randy took an AR to contact Victor

Berman to check on progress of TC93 changes and check on when they might be having their next meeting so we can prepare for any required travel.

## **SUMMIT STATUS**

### **- European Summit Planning**

The meeting will take place May 16, 2012 after the SPI conference in Sorrento, Italy. A room has been donated by the SPI conference for Wednesday afternoon. Lance Wang will be handling sign-ups. Sponsors so far include Micron Technology, Nokia Siemens Networks and Zuken. Bob Ross reported that the meeting will take place from 1:00-6:00 PM. There are 9 presentations scheduled. The agenda went out last Sunday. About 16 people are signed up so far. The IBIS meeting agenda will be passed out at the SPI meeting, so we may get some drop-in participants. Planning is going well. Bob noted that he is chairing three I/O modeling sessions at the SPI workshop.

### **- DAC Summit Planning**

The summit meeting will be held all day Tuesday, June 5, 2012 in San Francisco, CA. Bob Ross noted that there are about 3 presentations so far. It may be difficult to give full review to presentations that come in at the deadline of May 30. The third call for papers and participation has been sent out. Mentor Graphics has helped provide the room, location to be determined.

Bob nominated the current set of officers to be on the ballot for the DAC Summit vote. Declines to the nomination can be given privately. Michael Mirmak thanked Bob for the nominations.

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 in Asia. Contact the IBIS Board for further details.

## **QUALITY TASK GROUP**

Mike LaBonte reported that the last meeting was cut short due to WebEx issues. The next meeting will be May 22 at 8:00 AM Pacific, but watch the reflector for changes. The current slate of projects is being re-evaluated.

The Quality Task Group checklist and other documentation can be found at:

[http://www.eda.org/ibis/quality\\_wip/](http://www.eda.org/ibis/quality_wip/)

## **ADVANCED TECHNOLOGY MODELING TASK GROUP**

Arpad Muranyi reported that meetings have taken place every Tuesday as scheduled. Discussions are focusing on analog models. BIRD121 discussion was tabled in the last meeting.

Task group material can be found at:

[http://www.eda.org/ibis/macromodel\\_wip/](http://www.eda.org/ibis/macromodel_wip/)

## **EDITORIAL TASK GROUP**

Michael Mirmak reported that the group is meeting every Wednesday. They are at version 0.45 of the draft IBIS 5.1 document. They are extremely close to having the document finalized. Subtle tweaks are being made currently. Michael encouraged review of the document. An official version for review will probably not be complete for DAC, but a printed copy may be made available at the meeting. Bob Ross noted that we are close to putting the document up for an official vote following at least 2 reviews at teleconference meetings. The parser developer is tracking the document closely for new BIRD changes. We might have an ibischk parser that goes along with IBIS 5.1 in 3-4 months.

The IBIS reformatting documentation can be reviewed at:

[http://www.eda.org/ibis/editorial\\_wip/](http://www.eda.org/ibis/editorial_wip/)

## **NEW ADMINISTRATIVE ISSUES**

Michael Mirmak added relative to the webpage updates that Techamerica.org has displayed IBIS more prominently on their webpage. Michael asked Mike LaBonte to review the website and see about posting our agenda on the TechAmerica webpage.

## **BIRD124: IBIS-AMI NEW RESERVED PARAMETERS FOR DEPENDENCY TABLES**

Michael Mirmak noted that BIRD124 was recommended for rejection because a new BIRD, BIRD150 is a revised version of BIRD124. Arpad Muranyi confirmed this and Mike LaBonte also previously checked with Walter Katz to confirm the recommendation of voting down the BIRD. Bob Ross noted that he would like to see a freeze on all new BIRDS so that they are written against the new IBIS 5.1 specification.

Radek Biernacki moved to vote on BIRD124 by acclimation. Bob Ross seconded. There were no objections.

Mike LaBonte moved to reject BIRD124, voting to exclude it from a future version of IBIS. Bob Ross seconded. There were no objections.

## **BIRD152: ANALOG MODEL BOUNDARY DEFINITION**

Arpad Muranyi reported that this BIRD is a result of a long discussion starting from a request from Scott McMorrow. The BIRD clarifies the analog modeling boundary for AMI models. One sentence is added to the specification relative to the A\_to\_D and D\_to\_A converters description. Arpad noted that he didn't think it was necessary to include this BIRD in IBIS 5.1, since it is important only when the IBIS-ISS subcircuits begin to be used.

Bob Ross moved to schedule the BIRD for a vote at the next teleconference. Arpad seconded the motion. There were no objections.

## **BIRD116: ADD IBIS-ISS TO [EXTERNAL MODEL] AND [EXTERNAL CIRCUIT] AS A**

**SUPPORTED LANGUAGE**

Discussion was tabled.

**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**

Discussion was tabled.

**BIRD122: IBIS-AMI NEW RESERVED PARAMETERS FOR ANALOG MODELING**

Discussion was tabled.

**BIRD123.2: IBIS-AMI NEW RESERVED PARAMETERS FOR JITTER/NOISE**

Discussion was tabled.

**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.

**BIRD129: ADD “POLARITY” ARGUMENT TO D\_TO\_A CONVERTERS**

Discussion was tabled.

**BIRD 131: IBIS-AMI REPEATERS**

Discussion was tabled.

**BIRD144.3: ADD TOUCHSTONE TO [EXTERNAL MODEL] AND [EXTERNAL CIRCUIT] AS A SUPPORTED LANGUAGE**

Discussion was tabled.

## **BIRD145.2: 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.

## **IBIS SPECIFICATION STATUS**

Michael Mirmak showed an editorial group document at a URL appearing in the agenda:

[http://www.eda.org/ibis/editorial\\_wip/ibis-version-change-strategy-v1p10.pdf](http://www.eda.org/ibis/editorial_wip/ibis-version-change-strategy-v1p10.pdf)

This document tracks the status of recent BIRDs and the version of IBIS they are planned for. Michael encouraged authors of the BIRDs targeted for IBIS 5.2 to review the new IBIS 5.1 format. The BIRD text may need to be updated to match the IBIS 5.1 text and formatting.

Arpad Muranyi questioned how BIRD authors should comply with all the new fonts and formatting. Michael noted that small changes of a few lines of text won't have to follow new formatting, but for new large BIRDs, such as those introducing new keywords, we should make a new BIRD template available that makes it easier to include proper fonts, tables, and graphics. Bob Ross noted that the new format makes it easier to find inconsistencies between new BIRDs. He voiced concern about the content of the new BIRDs. Michael said that once we have the 5.1 specification in place, the new BIRDs from a technical standpoint will need to be reviewed.

Randy Wolff noted that he would like to see a BIRD template that allows for inclusion of tables and graphics, but maybe isn't too nit-picky on fonts and spacing. Michael noted that the closer the BIRD is to the correct format, the easier it will be for inclusion in a new version. Bob noted that he felt text formats are dead, and it is important to move ahead with non-text formats. Arpad added that when he has to take someone else's file and create his own for specification purposes, he is concerned with using a new template. He finds it easier to write it in notepad and later take the text and dump it into a template for the right formatting. Michael noted that when BIRDs are submitted to the Chair, there are usually back and forth discussions before the BIRD is submitted. He thinks the Chair can work with the authors to ensure the template is filled out properly. Walter Katz added that he would look at BIRD123.2 as a candidate for a rewrite for a new format.

Arpad requested that Michael send out an email to the IBIS email list to request review of the draft.

## **IBISCHK5 BUG STATUS**



Michael Mirmak noted that no new BUGs have been filed. Bob Ross noted that the 5.1 parser update will fix some major issues.

## **NEW TECHNICAL ISSUES**

None.

## **NEXT MEETING**

The next Open Forum Summit will be held May 16, 2012 at SPI2012. No phone bridge will be available. The next IBIS Open Forum teleconference will be held June 1, 2012 from 8:00 to 10:00 AM US Pacific Time. BIRD152 is scheduled for a vote.

Randy Wolff moved to adjourn. Mike LaBonte seconded. There were no objections.

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## **NOTES**

IBIS CHAIR: Michael Mirmak (916) 356-4261, Fax (916) 377-3788

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

The following e-mail addresses are used:

[majordomo@eda.org](mailto: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](mailto:ibis-request@eda.org)

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

[ibis-info@eda.org](mailto: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](mailto: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](mailto: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](mailto: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/)  
[http://www.eda.org/ibis/tschk\\_bugs/bugform.txt](http://www.eda.org/ibis/tschk_bugs/bugform.txt)

[icm-bug@eda.org](mailto: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/)  
[http://www.eda.org/ibis/icm\\_bugs/icm\\_bugform.txt](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	March 9, 2012	March 30, 2012	April 20, 2012	May 11, 2012
Advanced Micro Devices	Producer	Inactive	-	-	-	-
Agilent Technologies	User	Active	X	X	X	X
Altera	Producer	Active	X	X	-	X
ANSYS	User	Inactive	-	-	-	-
Apple Computer	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	-	-	-	-
Cadence Design Systems	User	Inactive	X	X	-	-
Cisco Systems	User	Inactive	-	-	-	-
Ericsson	Producer	Active	-	X	X	X
Foxconn Technology Group	Producer	Inactive	-	-	-	-
Freescale	Producer	Inactive	-	-	-	-
Green Streak Programs	General Interest	Inactive	-	-	-	-
Huawei Technologies	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	-	-	-	-
Maxim Integrated Products	Producer	Inactive	-	-	-	-
Mentor Graphics	User	Active	X	X	X	X
Micron Technology	Producer	Inactive	X	-	-	X
Nokia Siemens Networks	Producer	Active	-	X	X	-
QLogic	Producer	Inactive	-	-	-	-
Signal Integrity Software	User	Active	X	X	X	X
Sigrity	User	Active	-	X	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.