

# IBIS Open Forum Minutes

Meeting Date: **March 30, 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
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
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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
Maxim Integrated Products	Hassan Rafat, Mahbubul Bari
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	Siris 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
April 20, 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**

Mike LaBonte called for comments regarding the minutes of the March 9, 2012 IBIS Open Forum teleconference. The minutes were approved without changes.

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

Bob Ross reported that there is no official report. An inquiry has been sent to TechAmerica asking for an update. We have one new TSK2 parser source code sale to Cadence. There are also separate funds held in China accounts.

## **WEB PAGE UPDATES**

Mike LaBonte reported that the roster page has been updated simply replacing 2011 with 2012. Also, TechAmerica has been asked to fix one of their web pages, currently linking to our now defunct eigroup.org URL. The page in question is the first result returned from a search for "IBIS" on techamerica.org. It contains a note from June 2011 that "We are still transferring data from our old site". Bob Ross suggested eliminating that message, since no further migration is planned. Michael Mirmak noted that TechAmerica is attempting to create new web facilities using technologies such as Kavi and LinkedIn. Mike said we would not be able to easily migrate our existing content to those, so no further migration is planned.

## **MAILING LIST ADMINISTRATION**

Mike LaBonte reported that there seems to be no technical resolution for the effective ban since December 2011 on attachments sent to any of the [ibis@eda.org](mailto:ibis@eda.org) lists. Very few people tend to send attachments, with the exception of IBIS officers. An experiment to see if meeting and document notices generated by the TechAmerica Kavi system could be passed through automatically to the IBIS list failed because the emails contain attachments. Mike suggests informing people that attachments will not work and offering an alternative. The support web page could be updated for this. Michael Mirmak liked the idea. Walter Katz asked if a Gmail account could forward the emails, or if an email alias could do it. Mike said we really need the services of something like Majordomo to be able to manage the subscription list without administrator privileges. Bob Ross said that Freelists could be used, but that generates quite a bit of "garbage" email for administrators. Mike described some of the issues with Freelists, which we use for the task groups. The si-list also uses Freelists, and attachments are disallowed by Freelists policy.

## **MODEL LIBRARY UPDATE**

Anders Ekholm reported that the models page has been updated. Thirteen broken links need to be investigated.

## **MISCELLANY/ANNOUNCEMENTS**

None.

## **OPENS FOR NEW ISSUES**

Bob Ross asked that we reserve time today to discuss parser issues including Touchstone.

Walter Katz noted that other large groups have a practice of asking members to reply to an email sent 5 minutes ahead of meetings if they will participate, to help identify the meeting participant list more accurately.

## **INTERNATIONAL/EXTERNAL ACTIVITIES**

### **- IEEE DASC**

Michael Mirmak reported that there has been no activity.

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

Arpad reported that the next meeting will be April 9. 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**

No update. Michael Mirmak said we are waiting for meetings to be announced.

## **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. Lance said the 2<sup>nd</sup> call for participation will go out today. Bob Ross said the room has been donated free of charge. Anyone interested should sign up soon for discount rates. There will be several IBIS related papers at SPI. We have at least 2 possible papers so far for the summit. Michael Mirmak thanked the sponsors so far, including Micron Technology, Nokia Siemens Networks and Zuken. Bob said the summit would most likely be in the same room SPI uses, after they end. Lance said he would be there, and maybe Randy Wolff, Anders Ekholm, and Eckhard Lenski too.

### **- DAC Summit Planning**

Michael Mirmak reported that the summit meeting will be held all day Tuesday, June 5, 2012 in San Francisco, CA. Details of the meeting room location are to be determined. We should know within a week or so. Mentor Graphics is arranging for the room, which probably will be in a hotel near Marconi Hall.

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 group continues to examine parsers for their role in improving IBIS quality. They have been testing tschk2 relative to a somewhat obscure crash bug on Linux. The fix involves simply recompiling the executables with different switches. No formal bug report or executable update is yet posted. The effort to generate new bug reports for IBISCHK has been put on the back burner to wait for planned enhancements related to AMI BIRDS to be incorporated first. There continues to be interest in the idea of an AMI quality checklist, but with their policy of avoiding overlap with IBISCHK this effort is also in wait mode. Meanwhile they decided to move to a 4 week meeting interval to accommodate the slower work pace. The next meeting will be held April 17.

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/)

## **MODEL REVIEW TASK GROUP**

No update.

### **ADVANCED TECHNOLOGY MODELING TASK GROUP**

Arpad Muranyi reported that they are meeting every Tuesday, discussing the various existing AMI model proposal and BIRDs.

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 continues to meet weekly. They have addressed scrubbing suggestions from Bob Ross.

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**

None.

### **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**

Walter Katz suggested that we could discuss this rewrite against IBIS 5.1, or vote on it now to

have that work considered by the editorial group. Walter moved to untable BIRD 123.2. Bob Ross seconded. There was no objection.

Walter believed the ATM group had agreed to forward the BIRD for a vote. Radek Biernacki said the only questions were about correctness with regard to IBIS 5.1. Michael Mirmak said this was last discussed January 27. Bob suggested discussing it in a few editorial meetings before voting. Jitter might go into a separate chapter in the IBIS specification.

Michael noted that from a technical perspective the BIRD meets general approval. He asked if editorial work could produce any technical changes, and if the lack of a vote was currently delaying industry implementation. Arpad Muranyi said that once a BIRD is voted, software companies could theoretically start implementing the technical content. Bob said that sending the BIRD to the editorial group could delay the process. Walter clarified that he was not asking to schedule a vote, but to untable the BIRD for discussion at the next Open Forum meeting. There was no objection to that. Michael noted that members who have not read the BIRD should be prepared for discussion at the next meeting.

AR: Arpad will email [ibis@eda.org](mailto:ibis@eda.org) to announce that BIRD 123.2 will be open for technical discussion.

Michael Mirmak cautioned against implying any exact vote date. Bob said there would be no harm in reviewing the BIRD now.

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

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.

#### **IBISCHK5 BUG STATUS**

Michael Mirmak reported on a new pending IBISCHK BUG133 "IBIS-AMI Program Bug or Missing Error with Spurious Words". Bob Ross explained that words not enclosed in parentheses cause various problem outcomes. Bob said we must clean up parsing of the tree structure, hopefully in the next parser release. BUG133 was classified as moderate severity, high priority, and open status. There were no objections to the classification.

Michael noted that we have 8 open bugs. Bob said all but BUG132 are related to IBIS-AMI and should be closed in the next parser release. BUG132 might also be fixed but there is no commitment to that. Radek Biernacki said that global symbols in the source code require a certain amount of adaptation to use it. Reducing those would make the source code easier to use without modification to avoid namespace issues. Michael said this could be included in the next parser scrub, but it might not be classified as a bug. He noted that putting it on the bug list might help to track it however. Bob mentioned that several years ago a person from Agilent Technologies submitted a list of suggestions for improving ibishck5. Bob also noted that we do have the enhancement bug category.

Bob reported that the parser developer has been working on IBIS 5.1 changes, including weak tie-up/tie-down enhancements and the test keyword changes, as well as a number of other approved BIRDs. The 5.1 reformat is not a gating factor for parser work. Bob will ask for estimates on completion date. Bob noted that this work is being done under a prepaid contract. About 20 BIRDs are involved, plus the bug list.

#### **TSCHK2 ISSUE**

Bob reported that the recent tschk2 bug required only a recompilation to fix. Radek Biernacki looked into this. Radek, Eckhard Lenski and Mike LaBonte have helped to test the fix. Michael Mirmak asked if a revision number change is required. Bob suggest not doing that. Radek agreed, but suggested having a README comment to explain the update.

#### **NEW TECHNICAL ISSUES**



None.

## **NEXT MEETING**

The next IBIS Open Forum teleconference will be held April 20, 2012 from 8:00 to 10:00 AM US Pacific Time. Michael Mirmak also noted May 16 would be a Summit meeting date in Europe.

Mike LaBonte moved to adjourn. Arpad Muranyi 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	February 2, 2012	February 17, 2012	March 9, 2012	March 30, 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	X	-	-	-
Cadence Design Systems	User	Active	X	-	X	X
Cisco Systems	User	Inactive	X	-	-	-
Ericsson	Producer	Active	X	X	-	X
Foxconn Technology Group	Producer	Inactive	-	-	-	-
Freescale	Producer	Inactive	-	-	-	-
Green Streak Programs	General Interest	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	X	-	-	-
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	X
LSI	Producer	Inactive	-	X	-	-
Mentor Graphics	User	Active	X	X	X	X
Micron Technology	Producer	Active	X	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	-	X
Synopsys	User	Inactive	X	-	-	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
Texas Instruments	Producer	Inactive	X	-	-	-
Toshiba	Producer	Inactive	-	-	-	-
Xilinx	Producer	Inactive	X	-	-	-
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.