

# IBIS Open Forum Minutes

Meeting Date: **April 23, 2010**

Meeting Location: **Teleconference**

## VOTING MEMBERS AND 2010 PARTICIPANTS

Actel	(Prabhu Mohan)
Agilent	Radek Biernacki*, Ming Yan, Fangyi Rao
AMD	Nam Nguyen*
Ansoft Corporation	(Steve Pytel)
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	(Kazuyoshi Shoji)
Huawei Technologies	(Jinjun Li)
IBM	Adge Hawes*
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
Synopsys	Ted Mido
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino
Toshiba	(Yasumasa Kondo)
Xilinx	Mike Jenkins
ZTE	(Huang Min)
Zuken	Michael Schaefer

## OTHER PARTICIPANTS IN 2010

AET, Inc.	Mikio Kiyono
Altera	John Oh, Hui Fu

Avago	Razi Kaw
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
Renesas Technology	Takuji Komeda
Simberian	Yuriy Shlepnev
Span Systems Corporation	Vidya (Viddy) Amirapu
Summit Computer Systems	Bob Davis
Tabula	David Banas
TechAmerica	(Chris Denham)
Texas Instruments	Bonnie Baker
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
May 12, 2010	European IBIS Summit	no teleconference
May 21, 2010	205 608 932	IBIS

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

<https://cisco.webex.com/cisco/j.php?J=205608932>

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**

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 22 members have officially renewed. He is following up with several more members. Another ibischk5 parser license has been sold. This makes 9 parser sales so far. A Touchstone parser sale is being closed as well.

## **REVIEW OF MINUTES AND ARS**

Bob Ross called for comments regarding the minutes of the April 2, 2010 IBIS Open Forum teleconference. The minutes were approved without changes.

## **WEB PAGE UPDATES**

Bob Ross noted that an 'upcoming teleconference' link was added to the home page.

Syed Huq reported that 'Working Directories' and 'About IBIS' links were added to the home page. All pages have moved to eda.org. He is still working to fix links on the Articles page. The eigroup.org page is now just a re-director to the eda.org site.

Michael Mirmak asked in relation to the pages for individual task groups, is there an overhaul in progress for the quality or ATM site? Bob replied that he is not aware of any in progress.

## **MAILING LIST ADMINISTRATION**

Bob Ross reported that there are still bounces related to the Stanford servers.

## **MODEL LIBRARY UPDATE**

Anders Ekholm reported that the latest update was on April 7. He is working on another update for mid-May.

Bob Ross asked if there were any further comments on crowd sourcing. Anders looked at the web page from Colin Warwick, but it was not obvious to him how it worked. He did not feel that enough IC vendors would be interested in updating a crowd sourcing page. Bob noted that there was interest in this concept from a poll conducted by Colin.

## **PRESS UPDATE**

Bob Ross mentioned a book by Dave Coleman and Michael Mirmak titled Mastering High Performance Multiprocessor Signaling. The book includes one reference to IBIS. More information is available at:

<http://tinyurl.com/28dyozu>

## **MISCELLANY/ANNOUNCEMENTS**

Bob Ross noted that the DesignCon show has been taken over by EETimes. He is not sure what implications this will have for the conference.

## **OPENS FOR NEW ISSUES**

Bob Ross noted that new parser BUGs, BUG115 and BUG116, will be discussed later in the meeting.

## **INTERNATIONAL/EXTERNAL ACTIVITIES**

### **- DASC**

Michael Mirmak noted that the next meeting is two weeks from now. No content pertinent to IBIS was discussed in the last meeting. 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**

Signal Propagation on Interconnects Workshop (SPI) is May 9 - 12, 2010 in Hildesheim, Germany. There is SI content and sometimes IBIS topics at this conference. The European IBIS Summit will be held in conjunction with this event on Wednesday afternoon.

<http://www.spi.uni-hannover.de/>

## **TECHAMERICA STATUS**

No report.

## **IEC APPROVAL ACTIVITIES**

Randy Wolff reported that he has had no further contact with Tim Rotti or Victor Berman. He is unsure who contact for further information at this point.

## **SUMMIT STATUS**

### **-European Summit Planning**

The summit is planned for Wednesday, May 12 from 12:30pm-5:30pm. This is after the SPI conference, which ends at noon. It will be held at the same hotel and location as the SPI conference in Hildesheim, Germany. Ralf Bruening is helping with local arrangements. The third announcement went out including a preliminary agenda. 9 or 10 presentations are scheduled. 15 people are signed up so far. Some WebEx meeting time has been reserved as a backup in case there are travel delays related to the Iceland volcanic eruptions. Agilent, Mentor, Sigrity, Sintecs and Zuken are co-sponsors.

### **-DAC Summit Planning**

The DAC summit is planned for Tuesday, June 15 in Anaheim, CA. Traditionally this meeting is the annual meeting with the election of officers. The first announcement will go out after the meeting. Lance Wang will handle the signups. Bob Ross noted that the exhibition is free on Monday.

### **-Asian Summits Planning**

The planning committee is discussing three potential summits this year in China, Japan and possibly Taiwan. Lance Wang reported that he is working on the China summit. The meeting will be held the second week of November in Shenzhen. There is enough sponsorship committed including leftover funds from previous years, but he is asking more EDA vendors for sponsorship.

Lance reported that there is a possibility of holding the first Taiwan summit this year. One sponsor has committed so far. Michael Mirmak added that there have been many requests to hold a summit in Taiwan. There are many sites in Taipei that could host the meeting. Michael will continue to press additional contacts for sponsorship. Travel between the mainland China and Taiwan is now possible directly without going through Hong Kong.

Bob Ross reported that he needs 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**

Bob Ross reported that the group is working on a correlation handbook. 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/)

## **IBIS MODEL REVIEW TASK GROUP**

No update.

## **ADVANCED TECHNOLOGY MODELING TASK GROUP**

Arpad Muranyi reported that there was lively discussion this week about the AMI flow diagrams. There is much discussion on this topic. The clock times BIRD draft was finalized last week and will be up for a vote next week. More BIRDS are in the works to clarify text of the AMI specification. The BIRDS may all be combined into a single BIRD before submitting to the Open Forum for a vote.

Task group material can be found at:

[http://www.eda-stds.org/ibis/macromodel\\_wip/](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 discussing a proposal for binary encoding for Touchstone. The group plans to discuss other topics for addition to the Touchstone 2.1 revision. Michael will be traveling next week, so Bob Ross will be chairing the meeting again.

Task group material can be found at:

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

## **NEW ISSUES**

None.

## **TSIRD1 – SPARSE MATRIX MAPPING**

Bob Ross showed TSIRD1 for final review. This TSIRD proposes an index-pair mapping solution using two new keywords, [Number of Sparse Labels] and [Sparse Matrix Mapping]. This solution helps reduce file size by reducing the size of matrices with symmetries and zero values.

Radek Biernacki noted that all the examples show the [Version] as 2.0, and this needs to be 2.1. Also, he found one instance where 'element' needed to be pluralized. Bob Ross will make these editorial changes.

Radek motioned for a vote for inclusion of TSIRD1 in the next revision of the Touchstone specification. The TSIRD vote includes the minor editorial changes. Michael Mirmak seconded the motion. The vote passed with the following vote tally:

Agilent: yes

Cadence: yes

Ericsson: abstain

IBM: yes

Intel: yes

IO Methodology: yes

LSI: yes  
Mentor: yes  
Micron: yes  
Nokia Siemens Networks: yes  
SiSoft: yes  
Teraspeed: yes

A full description of TSIRD1 is found at:

<http://www.eda.org/ibis/tsirds/> and <http://www.eda.org/ibis/tsirds/tsird1.0.pdf>

## **TSCHK2 BUG STATUS**

No BUGs to report.

## **IBISCHK5 BUG STATUS**

Sergey Nikonchuk and Andrey Babintsev of Freescale submitted BUG115 related to the new [ISSO\_PU] and [ISSO\_PD] keywords. There are parser checks related to these tables. Currents are checked between these tables and the [Pullup] and [Pulldown] tables. The BUG found that mismatches were checked for min and max columns of data but not for the type column. The BUG was classified as Severe severity, High priority and Open status.

The same people also submitted BUG116. This BUG notes that the Warnings of mismatches (noted in BUG115) do not give enough significant digits to determine the severity of the mismatch. This BUG was classified as Severe severity, Medium priority, and Open status.

Michael Mirmak noted that the titles of the BUGs need to be fixed to replace '{ }' with '[ ]' characters. Michael also noted that these issues of tolerances should be added to a parser specification.

## **IBISCHK5 PROJECT**

Bob Ross noted that there are 9 open BUGs right now plus the two BUGs just added. A new project will be started to fix these BUGs. Bob has drafted a parser agreement, but it has not been reviewed yet. Michael Mirmak commented that it would be good for the parser developer to list the parser assumptions and associated tolerances used in the various parser checks. Bob noted that we should specify a tolerance for the BUG116 fix.

## **NEW ISSUES**

Michael Mirmak asked if there was a method for reporting a Touchstone BUG. Bob Ross responded that we have a web page set up for this, but it is not linked in to the top level site yet.

## **NEXT MEETING**

The European IBIS Summit will be held May 12, 2010 in conjunction with the SPI conference.

No teleconference will be available. The next IBIS Open Forum teleconference will be held May 21, 2010 from 8:00 to 10:00 AM US Pacific Standard Time.

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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](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 EIA-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/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>

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## IBIS CURRENT MEMBER VOTING STATUS

### I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	February 19, 2010	March 12, 2010	April 2, 2010	April 23, 2010
Actel	Producer	Inactive	-	-	-	-
Advanced Micro Devices	Producer	Active	-	-	X	X
Agilent Technologies	User	Inactive	-	-	-	X
Ansoft	User	Inactive	-	-	-	-
Apple Computer	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	-	-	-	-
ARM	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	X	X	X
Cisco Systems	User	Active	X	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	-	-	-	-
IBM	Producer	Active	X	X	-	X
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Inactive	-	-	-	X
IO Methodology	User	Active	-	X	X	X
LSI	Producer	Active	X	X	X	X
Mentor Graphics	User	Active	X	X	X	X
Micron Technology	Producer	Active	X	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	-	-	-	-
Synopsys	User	Inactive	-	-	-	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
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.