

IBIS Open Forum Minutes

Meeting Date: **July 13, 2012**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2012 PARTICIPANTS

Agilent	Heidi Barnes, Radek Biernacki*, Yoji Sekine, Fangyi Rao
Altera	David Banas, Hsinho Wu, Masashi Shimanouchi
ANSYS (Ansoft)	Flavio Calvano, Luis Armenta*, Dan Dvorscak
Applied Simulation Technology	Norio Matsui
ARM	(Nirav Patel)
Cadence Design Systems	Brad Griffin, Terry Jernberg*, Jilin Tan, Dennis Nagle Ambrish Varma
Ericsson	Anders Ekholm, Zilwan Mahmod, Mattias Lundquist
Foxconn Technology Group	(Sogo Hsu)
Freescale	(Jon Burnett)
IBM	Adge Hawes, Greg Edlund
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak*, Subas Bastola, 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*, Aniello Viscardi, Francesco Madonna Antonio Prisco, Justin Butterfield
Nokia Siemens Networks GmbH	Eckhard Lenski*, Evis Minga
Signal Integrity Software	Walter Katz*, Mike LaBonte*, Todd Westerhoff Akalu Lentiro
Sigrity	Raymond Chen, Yingxin Sun, Sam Chitwood Ben Franklin, Srdjen Djordjevic
Synopsys	Andy Tai, Scott Wedge, Hany Elhak, Ted Mido
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino
Toshiba	Masatoshi Abe
Xilinx	Harry Fu
Zuken	Michael Schaefer

OTHER PARTICIPANTS IN 2012

AMD	(Nam Nguyen)
Apple Computer	(Matt Herndon)
Aruba Networks	Amir Motamedi
Avago Technologies	Sanjeev Gupta, Amolak Badesha
Bayside Design	Elliot Nahas
Cavium	Johann Nittmann

Ciena	Kaisheng (Klaus) Hu
Cisco Systems	David Siadat, Mike Sapozhnikov
Enterasys	Robert Haller
Exar Corporation	Helen Nguyen
Granite River Labs	Jiang Xu, Johnson Tan
Hewlett-Packard	Ting Zhu
High Speed Design Center	Ben Chia
Hitachi	Yutaka Uematsu
Huawei Technologies	Xiaoqing Dong
Instituto de Telecomunicações	Wael Dghais, Hugo Teixeira
JEITA	Atsushi Ishikawa
KEI Systems	Shinichi Maeda
Luxshare-ICT	Alan Kinningham, Steven Wong
MK Resolutions	Olga Chervyakova
Nvidia	Eric Hsu
Politecnico di Torino	Stefano Grivet-Talocia
QLogic	(James Zhou)
Research In Motion	Yi Cao
Sony	Kenji Yasoda
ST Microelectronics	Davide Pandini
TechAmerica	(Chris Denham)
Texas Instruments	Casey Morrison, Pegah Alavi, Valerie Chang
	Modesto Garcia, Karl Muth
Université de Brest	Mihai Telescu, Cherif Diouf
University of Illinois	Thomas Comberiate, José Schutt-Ainé
Vitesse Semiconductor	Sirius Tsang
ZTE	(Huang Min)

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
August 3, 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

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 June 22, 2012 IBIS Open Forum teleconference. The minutes were approved without changes.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported that he has received no response to his request for an update on membership status from TechAmerica. We stand at 24 members.

WEB PAGE UPDATES

No update.

MAILING LIST ADMINISTRATION

Mike LaBonte reported that mail servers at certain companies have been rejecting emails, and he is working with people at those companies to resolve the issues.

MODEL LIBRARY UPDATE

No update.

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

Mike LaBonte requested time to talk about our Kavi balloting system.

INTERNATIONAL/EXTERNAL ACTIVITIES

- IEEE DASC

Michael Mirmak reported that there was a meeting yesterday, but no IBIS related topics were discussed.

- VHDL-AMS Table-Driven Models

Arpad Muranyi reported that there was a meeting Monday that he attended. The project is in the wrap-up phase. They discussed how data would be extracted from IBIS files. He described a Perl script that could help with this task. The VHDL coding is almost done and ready for release. They also talked about how to read in Touchstone 2.0 files. There were questions about how to handle multiple reference impedances. They are talking about how to make the new functions more user-friendly. Radek Biernacki noted that he could help if there are any clarifications needed related to the Touchstone 2.0 specification. Arpad asked if noise data was available in Touchstone 1. Radek confirmed that it was available in Touchstone 1. More information can be found at:

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

- Conferences

- EPEPS (21st 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 took an AR to check with Victor Berman on any status updates related to the merger between TC91 and TC93. He has not heard of any upcoming meetings.

SUMMIT STATUS

-Asian Summits Planning

Michael Mirmak noted that the Taiwan Summit still needs additional sponsorship. Bob Ross reported that the Yokohama meeting is tentatively planned for November 16 to coincide with a trade show, and the Shanghai meeting is tentatively planned for Tuesday, November 13.

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 two attempts at meeting were met with quorum failure with only two attendees. The group needs help to prioritize projects and find projects that will interest more people. Project ideas include:

- An update to the IQ spec for AMI and our 2 QUAILs
- An AMI quality checklist
- [External Test] for more useful and realistic golden waveforms
- A new correlation spec (two different types of FSV proposed)
- An update to the accuracy handbook
- More quality checks in IBISCHK

Mike invited anyone with interest in any of these items to contact him, and he can move the meeting time if needed. The group is currently meeting every second Tuesday at 8AM PDT.

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

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

ADVANCED TECHNOLOGY MODELING TASK GROUP

Arpad Muranyi reported that the group is continuing discussions on package modeling. Brad Brim gave an overview of the Model Connection Protocol last Tuesday. Arpad encouraged anyone with interest in improving package modeling to join the discussions.

Task group material can be found at:

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

EDITORIAL TASK GROUP

Michael Mirmak reported that we are in the comment period in the Open Forum for IBIS 5.1, so the group has not met recently. At the last meeting of the group, they discussed the IBIS 5.1 BIRD template. A template for discussion and refinement is posted on the task group web page. The task group documents can be reviewed at:

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

NEW ADMINISTRATIVE ISSUES

Michael Mirmak noted that the primary and alternate voting representatives for each company recently saw balloting invitations from the Kavi system. This is a system provided by TechAmerica for voting. TechAmerica balloting has strict rules for voting eligibility on official ballots. The IBIS Open Forum does not have such strict rules for voting eligibility on IBIS

related votes. If we want to use Kavi for voting on BIRDs or other items, then we need to setup a separate list. Randy Wolff added that we want to include people on this list that regularly attend the Open Forum meetings but may not already be a primary or secondary voter on the TechAmerica balloting list. Mike LaBonte added that other TechAmerica groups have sometimes 5 separate voting lists. We will have to ask TechAmerica to establish a new list for us.

Michael stated that for those votes we decide to conduct through Kavi, you will see an email to login to Kavi and cast your vote as well as reminder emails. People will have to remember login names and passwords. Radek Biernacki commented that BIRD votes we conduct at meetings are very quick, so how will the timing work if we vote on-line. Will it slow down our progress? Michael responded that the intent will not be to have every single vote take place electronically. It might make sense to vote on BIRDs in the teleconference meetings, but other items like voting on the specifications could be setup to allow voting over a 2 or 3 week period. We might get better voting participation that way. Bob Ross confirmed that ANSI balloting will always go through Kavi, any other votes can be conducted however we want. Radek asked about the use of the voting status we track in our minutes. Randy confirmed that this is only used for official ANSI balloting votes conducted by TechAmerica through Kavi. Michael noted that it may be useful to sit down with the Kavi administrator of TechAmerica to talk about more details of the Kavi system. Mike wondered if all of our Summit meetings should be considered official business meetings that count towards voting eligibility. Michael thought that we might be able to consider the Summit meetings as a different type of event.

Michael reported that the reaffirmation balloting of ANSI-GEIA-STD-0001 (ICM) just closed. Standards must be re-affirmed every 5 years; otherwise the document will not be considered a valid standard anymore. Our voting tally shows that it has been reaffirmed, since we only had 10 eligible voters of 24 members, and 7 votes were affirmative. 2/3 of eligible members must vote to pass a ballot. We are working with TechAmerica to validate the results.

BIRD129: ADD “POLARITY” ARGUMENT TO D_TO_A CONVERTERS

Arpad Muranyi noted that BIRD129 is a simple BIRD related to BIRD117 and BIRD118. Additional features are added to D_to_A converters. If using IBIS-ISS subcircuits, it is easier to have two complementary inputs available as inputs to the subcircuit. BIRD129 introduces another column to the D_to_A line to indicate polarity of the converter. This can make the life of the model maker much simpler when using IBIS-ISS to model buffers. Bob Ross noted that the old method is still supported. Arpad confirmed that the polarity argument is optional. Michael Mirmak noted that adding additional columns may cause problems if there is more than one optional column available. Radek Biernacki asked how it would work now if you only had one converter with no polarity argument or multiple conflicting d_port lines. Arpad will look at the syntax more closely to see if it needs to be updated.

BIRD116.1: ADD IBIS-ISS TO [EXTERNAL MODEL] AND [EXTERNAL CIRCUIT] AS A SUPPORTED LANGUAGE

Arpad Muranyi noted that the edit to the BIRD was to change “ISS” to “IBIS-ISS”, just an editorial change. He has not received any further comments on the BIRD. Michael Mirmak noted that the changes are minor to the text in IBIS 5.1. Arpad confirmed that IBIS-ISS is simply added to lists of available languages under certain keywords. This is a relatively simple

editorial change to IBIS 5.1.

BIRD117.4: PARAMETERIZE A_TO_D AND D_TO_A CONVERTERS

Arpad Muranyi noted that he has not received any new comments on this BIRD. Michael Mirmak asked if there would be problems if any one of BIRDs 116, 117 or 118 were not approved, since they are closely related. Arpad responded that none of the syntax in any of the BIRDs relies upon the other BIRDs, so they can be voted up or down individually. Michael noted that this BIRD should probably be re-written in the new IBIS 5.1 format.

BIRD118.3: ANALOG PARAMETER ASSIGNMENTS

Comments in the BIRD117.4 discussion apply to this BIRD.

BIRD153: PARAMETER TREE KEYWORD

Arpad Muranyi re-introduced the BIRD. This BIRD proposes a keyword pair that allows parameter trees to be included within an IBIS file. Multiple trees are allowed with the parameter tree keywords.

Michael Mirmak asked if there were any other technical discussions ongoing related to this and other BIRDs just discussed in the ATM task group, or will these BIRDs be eligible for a vote soon. Arpad confirmed that these BIRDs are essentially ready for a vote.

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.

BIRD123.3: 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.

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 CHANGE STATUS

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

http://www.eda.org/ibis/editorial_wip/ibis-version-change-strategy-v2p1.pdf

This document tracks the status of recent BIRDS and the version of IBIS they are planned for.

Michael noted that comments in the document about adding BIRDS to version 5.2 were changed to 6.0. 6.0 is a convenient identifier, since we may change to date codes for new releases. He also added a column to identify BIRDS that need to be re-edited to conform to the new IBIS 5.1 format.

IBIS 5.1 SPECIFICATION

Michael Mirmak issued the second call for comment on the IBIS 5.1 specification. He showed a document that tracks changes to the 5.1 draft related to comments from reviewers. 24 changes are in the list. The changes are classified as typographical errors, formatting errors, and clarifications. Michael wondered if we should just vote on the specification with the original draft document and the list of changes, or update the draft and vote on the new document. Radek Biernacki and Arpad Muranyi felt we should vote with use of the change list.

Michael reviewed comment 12 made by Bob Ross related to page 177 of the draft specification. The update to the text is fairly minor and straightforward.

Walter Katz moved to make the procedure to only issue one additional version of the draft document including all the requested changes. Arpad seconded the motion. There were no objections.

Walter moved to schedule a vote on the finalized document for the August 24 teleconference meeting, with the document available 2 weeks before the meeting. Bob seconded the motion. There were no objections.

Michael took the AR to send out a notice to the reflector about the upcoming specification vote and a call for further comments.

The IBIS 5.1 specification document and the comments list can be viewed at:

http://www.eda.org/ibis/ver5.1_wip/

IBISCHK5 BUG STATUS

Bob Ross confirmed that the parser developer is actively working on a parser update for IBIS 5.1.

NEW TECHNICAL ISSUES

None.

NEXT MEETING

The next IBIS Open Forum teleconference will be held August 3, 2012 from 8:00 to 10:00 AM US Pacific Time.

Arpad Muranyi moved to adjourn. Radek Biernacki seconded. There were no objections.

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NOTES

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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

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 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 – TECHAMERICA STANDARDS BALLOT VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	June 1, 2012	June 5, 2012	June 22, 2012	July 13, 2012
Agilent Technologies	User	Active	X	X	-	X
Altera	Producer	Active	-	X	X	-
ANSYS	User	Active	X	X	X	X
Applied Simulation Technology	User	Inactive	-	-	-	-
ARM	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	-	X	X	X
Ericsson	Producer	Inactive	X	-	-	-
Foxconn Technology Group	Producer	Inactive	-	-	-	-
Freescale	Producer	Inactive	-	-	-	-
IBM	Producer	Inactive	X	-	-	-
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	X	X	X
IO Methodology	User	Active	X	-	X	X
LSI	Producer	Inactive	X	-	-	-
Maxim Integrated Products	Producer	Inactive	-	-	-	-
Mentor Graphics	User	Active	X	X	X	X
Micron Technology	Producer	Active	X	X	X	X
Nokia Siemens Networks	Producer	Active	X	-	X	X
Signal Integrity Software	User	Active	X	X	X	X
Sigrity	User	Inactive	X	-	-	-
Synopsys	User	Inactive	-	-	-	-
Teraspeed Consulting	General Interest	Inactive	-	-	-	X
Toshiba	Producer	Inactive	-	X	-	-
Xilinx	Producer	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.