IBIS Open Forum Minutes

Meeting Date: December 21, 2012
Meeting Location: Teleconference

VOTING MEMBERS AND 2012 PARTICIPANTS

Agilent	Heidi Barnes, Radek Biernacki*, Yoji Sekine, Fangyi Rao, Jing-Tao Liu, Zhengpeng Zhu, Xuliang Yuan, Yi Wang, Ming-Chih Lin, Peter C.B. Lin, Isabella Wan, Hideki Aoki, Kageura Toshinori, Hiroaki Sasaki, Hiroyuki Shimada
Altera	David Banas*, Hsinho Wu, Masashi Shimanouchi
ANSYS (Ansoft)	Flavio Calvano, Luis Armenta, Dan Dvorscak, Baolong Li, Kezhou Li, Daniel Chang, Naijen Hsuan, Steve Pytel, Jean Wang, Jerry Wang, Yachin Wang, Peishen Wei, Jack Wu, Tinghao Yeh, Miyo Kawata
Applied Simulation Technology	Norio Matsui
ARM	(Nirav Patel)
Cadence Design Systems	Brad Griffin, Terry Jernberg, Jilin Tan, Dennis Nagle Ambrish Varma, Aileen Chen, Lanbing Chen, Li Chen, Raymond Y. Chen, Jonny Fang, Zhiyu Guo, Henry He, Li Li, Xianlai Li, Lavia Liu, Peng Liu, Yabao Meng, Fang Sun, Haishan Wang, YiTong Wen, Janie Wu, Dingru Xia, Benny Yan, Jenny Zhang, Jinhui Zhang, Rong Zhang, Zhangmin Zhong, Steven Chen, Kent Ho Joseph Kao, Tom Kao-Lo, Thunder Lay, Jack (Wei-Chang) Lin, Paddy Wu, Candy Yu, Yukio Masuko, Norikazu Takada, Hirotsugu Ueno
Ericsson	Anders Ekholm, Zilwan Mahmod, Mattias Lundquist, Wenyan Xie
Foxconn Technology Group	Po-Chuan (Eric) Hsieh, Chih-Jung (Gerald) Hsu, Mandy (Hsiao-Yun) Su
Freescale	Takahiro Satoh
Huawei Technologies	Xiaoqing Dong, Chunxing Huang, Peng Huang Hongxin Jiang, Wenjin Luo, Longfang Lv, Luya Ma, Xiao Peng, Huichao Weng, Zhengrong Xu, Juhua Yu, Fangfang Zhang
IBM	Adge Hawes*, Greg Edlund
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak*, Subas Bastola, Udy Shrivastava, Stewart Gilbert, Eddie Frie, Jinsong (Jason) Hu Weifeng Shu, Ming Wei, Jimmy Hsu
IO Methodology	Lance Wang*
LSI	Brian Burdick*
Maxim Integrated Products	Hassan Rafat, Mahbubul Bari

Mentor Graphics	Arpad Muranyi*, Vladimir Dmitriev-Zdorov, Kenji Kushima
Micron Technology	Randy Wolff*, Aniello Viscardi, Francesco Madonna Antonio Prisco, Justin Butterfield
Nokia Siemens Networks GmbH	Eckhard Lenski, Evis Minga, Bruce (Zhenshui) Qin, Feiqin Shen, Yuanzhi Xu, Jieping Zhang, XiuYing (Echo) Zhou
QLogic	(James Zhou)
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, Xuefeng Chen, Jinhua Huang, Huihuang Li
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino
Texas Instruments	Casey Morrison, Pegah Alavi, Valerie Chang Modesto Garcia, Karl Muth
Toshiba	Masatoshi Abe, Yoshinori Fukuba, Masato Kanie Katsuki Matsudera, Motochika Okano, Yui Shimizu Atsushi Tomishima, Yasuki Torigoshi
Xilinx	Harry Fu
ZTE	Huifeng Chen, Xiaolin Chen, Fengling Gao, Hui Jiang, Wan Ming, Qi Ni, Anbing Sun, Lili Wei, Shunlin Zhu
Zuken	Michael Schaeder, Fujise Kazunori, Hironan Kibe Yuichi Nakajima

OTHER PARTICIPANTS IN 2012

3M	Qiling Chen, Yao Li
AET	Chihiro Ueda
Alchip Technologies	Lynus Han, Sean Huang, Trent Lee
AMD	Tadashi Arai
Apache Design	Jianbo Liu, Shulong Wu, Mengfei Xu, Wei Yang
Apollo Giken Co.	Satoshi Endoh, Naoya Iisaka
Apple Computer	(Matt Herndon)
Aruba Networks	Amir Motamedi
ASE	Alex Wang
Astrodesign	Yoshiaki Nishi
ATE Service Corporation	Yutaka Honda, Sin Suminaga
Avago Technologies	Sanjeev Gupta, Amolak Badesha
Avant Technology	Yi-Ching Chu, Elvis Li, Yao-Chang Chang, Judy Huang, Jyam Huang, Enson Lee
Bayside Design	Elliot Nahas
Canon	Takashi Asaka, Yuji Ishikawa, Syohji Matsumoto, Kenichi Murata, Haruka Watanabe

Casio Computer Co.	Yasuhisa Hayashi, Ikuo Imada
C-Tech	Hideki Inada
Cavium	Johann Nittmann
Celestica	Lily Dai, Jason Liu, Ivan (Yunqiang) Meng, Harrison Xue, Lobo Zhang, Van Zhu
Ciena	Kaisheng (Klaus) Hu
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Enea Group	Xiaoliang Gao
Enterasys	Robert Haller
Etron Technology	Helen Chiu, ChiuNan Pan, YeFeng Wu
Exar Corporation	Helen Nguyen
Fuji Xerox Co.	Kenta Nomura
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Fujitsu VLSI	Kenichi Kanbayashi, Hiroki Kubota, Hiroshi Miyazaki, Yuji Nakagawa, Kyohta Shimizu
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Gibabyte Technology	Eric Chien
Granite River Labs	Jiang Xu, Johnson Tan
H3C	Longsheng Yuan
Hewlett-Packard	Ting Zhu, Rick Wu
HGST	Takayuki Imai, Tadayuki Tsukamoto,
High Speed Design Center	Ben Chia
Hino Jisso Design	Shigekazu Hino
Hitachi	Yutaka Uematsu
Hitachi Advanced Digital	Kohichi Murayama
Hitachi Consumer Electronics	Yasuhiro Tomioka
Hitachi Information & Communication Engineering	Yoshifumi Takada
Hitachi Kokusai Electric	Kunihito Seguchi
Hitachi Mito Engineering Co.	Katsuhisa Niijima, Naoki Yokose

Hitachi ULSI Systems Co.	Masahiro Hyoma, Sadahiro Nonoyama, Hiroshi Uematsu
Honeywell	Chengzhi (Hunk) Hu
Hoya Corporation	Masayuki Hagiwara
Huaya Microelectronics	Golden Qian
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ILI Technology	Pacino Chang, Chia-Chen (Trevor) Wu
IMU	Yuanyuan Hao, Xue Jia, Runjing Zhou
Instituto de Telecomunicações	Wael Dghais, Hugo Teixeira
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Japan Futec Co.	Kenji Ishida
Japan Radio Co.	Chiaki Kuwata
JEITA	Atsushi Ishikawa, Sinichi Sano, Seichi Yano
JVC Kenwood	Takuo Fujimura, Hidetoshi Suzuki
KEI Systems	Shinichi Maeda
Kyoden Co.	Hiroshi Houga, Shinichi Mochida, Takao Saitoh
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Luxshare-ICT	Alan Kinningham, Steven Wong
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Nvidia	Eric Hsu
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Oki Electric Industry Co.	Atsushi Kitai
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Ontec Co.	Yoshimasa Hayashi, Syohichiroh Toku
Paltek	Nobuyouki Sasaki
Panasonic	Ryuichi Yamaguchi
Pegatron Corporation	Stanley Chu, Lawrence Ting
PFU	Kohhei Shimazu
Pioneer	Yutaka Fukuhara
Politecnico di Torino	Stefano Grivet-Talocia
Renesas Electronics	Mikiko Sode, Hiroyuki Uchida, Kazunon Yamada
Research In Motion	Yi Cao

Ricoh Company	Yasuhiro Akita, Kazumasa Aoki, Masahiko Banno, Shigeru Isobe, Takuya Kitsukawa, Daisuke Koya, Kazuki Murata, Shigeru Toyazaki
Rohm Co.	Yutaka Okui
Ruijie Networks	Ye Tao
Sanei Hytechs Co.	Hiroyuki Kai
Seiko Instruments	Takayuki Okamoto
Semiconductor Technology Academic Research Center	Hiroshi Nishijima
Sendai Nikon	Kohsuke Aoyama
Shimadzu	Kazuo Nakjima
Silicon Motion Technology	Star Wang
Sony	Kenji Yasoda, Haruhiko Saitoh
Sony EMCS	Naotaka Tachibana
Southwest Electronics Telecommunication Technology Research Institute	Wei Hu
Spreadtrum Communications Shanghai	Steven Guo, Xianyu Meng, John Rowland
ST Microelectronics	Davide Pandini
Success International	Tatsuo Futai
Sunplus Technology	Forest Hsu, Yi-Tzeng Lin
SWIEE Electronics	Chen Gao
TDK-EPC	Katsufumi Ehata
TechAmerica	(Chris Denham)
Teledyne LeCroy	Fachun Li, Derek Wu
Tokyo Electron Device	Takayuki Yamazaki
Toshiba Digital Media Engineering	Yuji Yasutake
Toshiba I.S.	Masatoshi Abe
Toshiba Microlectronics	Masahiro Ishibashi, Jyunya Masumi
Toshiba Semiconductor & Storage Company	Masahiko Kashima, Shigeo Kida, Toshihiro Tsujimura Yasunobu Umemoto
Towa Electronics Co.	Yoshikazu Suzuki
Université de Brest	Mihai Telescu, Cherif Diouf
University of Illinois	Thomas Comberiate, José Schutt-Ainé
Vitesse Semiconductor	Sirius Tsang
Wadow	Kazuhiko Kusunoki
Yamaha	Masahiro Tsukuda
Yamaichi Electronics Co.	Masahi Iwata
Yazaki	Kazuki Hattron
YDC	Yoshiaki Manabe
YDK Co.	Yoshio Takemura
Zhejiang United Electronic Industry	Gang Xu
Zhejiang Uniview Technologies	Sunny (Huanyang) Chen, Phil (Fei) Ye

Zuiki   Seikoh Go

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
January 11, 2013	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 5.1, 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 November 9, 2012 IBIS Summit – Shanghai, the November 13, 2012 IBIS Summit – Hsinchu, the November 16, 2012 IBIS Summit – Yokohama and the November 30, 2012 IBIS Open Forum teleconference. All sets of minutes were approved without changes.

MEMBERSHIP STATUS AND TREASURER'S REPORT
Bob Ross reported that there is no change from last time. We currently have 29 members.

There will be 28 members carried over into 2013 as we officially drop Sigrity. TechAmerica will be sending invoices for membership renewal in January. Bob mentioned that there are still some financial transfers related to the China summit that need to be resolved with TechAmerica. We are trending to have a surplus of funds this year from parser payments.

WEB PAGE UPDATES
Mike LaBonte reported that a DesignCon banner was added near the top of the home page as part of honoring our contract with UBM for DesignCon co-sponsorship.

MAILING LIST ADMINISTRATION
Mike LaBonte reported that we are required to send out three HTML formatted emails to the membership lists as advertising for DesignCon. These will go out at the same time as the IBIS Summit call for participation emails. There is still ongoing debug related to issues Walter Katz is having with emailing the eda.org mailing lists.

Michael Mirmak asked about any official recommendations for email formats such as rich text or HTML for our emails, since he noticed formatting issues with emails on the various lists. Mike asked that someone forward him any emails they have sent to the list in rich text or HTML format that do not come through the lists properly. Michael noted that the UBM email about DesignCon will be a good test, since it is in HTML format.

MODEL LIBRARY UPDATE
No update.

MISCELLANY/ANNOUNCEMENTS
None.

CALL FOR NEW ISSUES
Bob Ross requested time for discussion of BUG140.

BUG, BIRD AND OTHER REPORTING VIA WIKI
Michael Mirmak noted that Mike LaBonte has looked into alternatives to Mantis for bug and BIRD tracking.

Mike reported that he doesn't have access to a BugZilla server (one with Perl CGI) to fully test BugZilla on. He has been investigating DokuWiki, a non-SQL based wiki engine. He showed a DokuWiki home page that looked very similar to the current IBIS homepage. A search box allows searching for content within any wiki pages. He used an HTML to DokuWiki conversion program on the Summits page to show the ease of conversion of the current pages to the DokuWiki format. Mike logged in to show further functionality. He demonstrated editing the Summit files page to add a new document. Michael asked about permissions for editing the

page such as for submitting BIRDs. Mike responded that there are at least two levels of editing access available that would allow people to edit specific pages. Michael wondered if this type of editing would be too difficult for average users wanting to just report new bugs. Mike showed how anyone could submit a bug report through a form, and then an administrator would need to add the information to the bug list page. Mike will add some logins to the site he has created and let a few more people test its functionality. He'll need to look into having write permissions on files at the group level but not for everyone.

INTERNATIONAL/EXTERNAL ACTIVITIES
- IEEE DASC

Michael Mirmak reported that there was a meeting in early December but no IBIS related topics were addressed. The monthly meeting schedule will restart in early January.

- VHDL-AMS Table-Driven Models

Arpad Muranyi requested this item be removed from our next agenda.

- Conferences

The 17th IEEE Workshop on Signal and Power Integrity (SPI 2013) will be held May 12-15, 2013 in Paris, France. There will probably be a European IBIS Summit in conjunction with this conference. More information is available at:

    http://spi2013.org

- Press Update

Michael Mirmak noted a paper from the IEEE Transactions on Device and Material Reliability titled "Investigation of Modeling System ESD Failure and Probability Using IBIS ESD Models". In this paper, a behavioral modeling methodology to predict ESD failures at system level is proposed and validated. The authors are from the LAAS laboratory in Toulouse, France. The article can be found in the IEEE Xplore library at:

    http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=6301685

IEC APPROVAL ACTIVITIES

Randy Wolff reported that a TC91 meeting was held October 15-19 in Fukuoka-city, Japan. He was able to get the meeting minutes from Victor Berman. The minutes showed that WG13 has responsibility for maintenance on the IBIS specification (IEC 62014-1). Dennis Brophy was listed in the minutes as a co-convener of WG13. Randy sent Dennis an email last week to inquire further about the WG13 meeting and find out how to help the process. He has not gotten a response yet.

Michael Mirmak requested that Randy send an email to Chris Denham at TechAmerica to notify him of the IEC progress.

SUMMIT STATUS
-DesignCon 2013 Summit Status

Michael reported that the Summit meeting will be Thursday, January 31 in the Mission City M1

room from 8:30am - 5:30pm. We are open to co-sponsorship. Michael encouraged presentations and asked that any presentations be made available one week in advance. Also, a 20% discount is available to IBIS participants for any DesignCon passes, available only through December 31. Lance Wang is the main contact for registrations. Mike LaBonte noted that the UBM email contains a direct link to the IBIS discount, even though our own emails have not included a direct link. Bob Ross thought the contract was a discount only for IBIS members, so we need to check this before sending out the UBM email. Michael also needs to check on the size of the room to see if we are limited in attendance.

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.

QUALITY TASK GROUP
Mike LaBonte reported that he and Bob Ross helped Cadence file BUG140, and they discussed whether this BUG should be a Caution, Note, Warning or Error. He noted that there aren't clear policies on what constitutes these levels, so they are working on a policy document to better define the four classifications of bugs. Tuesday, January 8 at 8:00am PT is the next meeting. They will be working on more specification documents for the parser.

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 meeting regularly on Tuesdays. The next meeting is January 8, 2013. Discussions are getting into stalemate situations because everything seems to depend on decisions made about analog modeling. Discussions will focus around analog modeling to try to resolve the challenges there.

Task group material can be found at:

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

INTERCONNECT TASK GROUP
Michael Mirmak reported that the group continues to meet Wednesdays. The next meeting is January 9, 2013. The most recent topic of discussion focused on details of where interconnect and analog modeling issues tie together. They are also looking at pending BIRDS related to analog modeling and whether they need to be voted up or down.

The task group documents can be found at:

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

NEW ADMINISTRATIVE ISSUES
None.

BIRD155: NEW AMI API TO RESOLVE DEPENDENT MODEL PARAMETER
Radek Biernacki introduced the BIRD. This BIRD is considered an alternative to BIRD150. Discussions in the ATM task group led to this BIRD. The BIRD defines new arguments to the DLL that will process the information and set other dependent parameters. This gives the functionality of setting dependencies within the DLL.

Randy Wolff noted a typo in the AMI_ResolveDependentParam name, and Bob Ross noted a semicolon that could be removed from the function declaration. David Banas asked if the dependency is bi-directional to allow flow of dependencies from the DLL to the simulator. Radek said there could be bi-directional flow, so one needs to be careful with circular dependencies.

Walter Katz noted that this BIRD is a different way of doing the same thing as BIRD150. He noted that the BIRD150 writers originally rejected the methods shown in BIRD155, and further discussion of pros and cons will need to ensue in the ATM task group. Significant input from model makers is needed about which method is preferred. Bob noted a concern with this BIRD, where he is confused about if "In" really means input or independent. Walter and Radek felt the usage was well described.

Walter moved to table this BIRD and move the discussion to the ATM task group. Bob seconded the motion. There were no objections.

BIRD121.2: IBIS-AMI NEW RESERVED PARAMETERS FOR DATA MANAGEMENT
Walter Katz moved to schedule the BIRD for a vote at the next teleconference. Arpad Muranyi seconded the motion. There were no objections.

BIRD123.4: IBIS-AMI NEW RESERVED PARAMETERS FOR JITTER/NOISE
Walter Katz moved to schedule the BIRD for a vote at the next teleconference. Bob Ross felt that the BIRD needed a change to fix an issue with Tx_Jitter, where the BIRD makes a change in one place in the specification but not another, and it could lead to a contradiction. In response to Michael Mirmak, Bob didn't think the change would preclude scheduling a vote. He plans to work on another revision and submit it for review before the next meeting. Radek Biernacki had seconded the motion but retracted his second based on wanting to make sure the BIRD changes had enough time for review. David Banas seconded the motion. There were no objections.

BIRD123.4 or BIRD123.5 (if submitted two weeks before the next teleconference) will be eligible for a vote at the next teleconference.

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

Discussion was tabled.

BIRD117.4: PARAMETERIZE A_TO_D AND D_TO_A CONVERTERS
Discussion was tabled.

BIRD118.3: ANALOG PARAMETER ASSIGNMENTS
Discussion was tabled.

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

BIRD153: PARAMETER TREE KEYWORD
Discussion was tabled.

BIRD154: USING IBIS-AMI LEAF LABELS IN LIST PARAMETERS
Discussion was tabled.

IBIS SPECIFICATION CHANGE STATUS
Michael Mirmak showed a new revision of the document. He noted that more BIRDs are being submitted using the new template. A template version 1.2 has been posted, so this should be used for new BIRD submissions. The document is available at the following link:

http://www.eda.org/ibis/docs/ibis-version-change-strategy-v2p4.pdf

IBISCHK5 BUG STATUS
Bob Ross noted that BUG140 was classified in the last meeting, but a fix was not resolved. The BUG describes problems with non-monotonicity when adding together clamp curve I-V data to Pullup or Pulldown I-V data. The issue is annoying because no model developer wants to release models that have Warning messages from the parser for non-issues. One fix is to downgrade the Warning to a Note and add a statement that the problem exists when using piece-wise linear interpolation. Mike LaBonte added that he'd still like to see warnings for large non-monotonicites, but the situation he is describing is probably not related to this bug. Walter felt that Bob's recommendation of downgrade to a Note would work fine.

Michael Mirmak reported that there is actually a mention in the IBIS 5.1 specification that the parser will only check individual I-V tables for non-monotonicities and not combined tables. We may need to write a BIRD to remove this text from the specification, as we shouldn't have parser specification statements in the IBIS specification.

NEW TECHNICAL ISSUES
Walter Katz gave a summary of the analog issues being talked about in the task groups. One issue is the need for an IBIS-ISS interface for on-die interconnects. The second issue is the definition of the correct model to use for IBIS-AMI buffer modeling. There are issues with using the current [Model] or [External Model] implementations. With the addition of [External Model] in IBIS 4.1, the D_to_A converter only added capabilities for the buffer to be in a high, low, or transition state. SerDes buffers drive at multiple levels depending on tap coefficients. Arpad Muranyi noted that this kind of multi-level driver is a multi-tap driver that has multiple legs, or taps controlled by the EQ logic and whose drive strength is changing depending on the bit pattern. This is different from multi-level PAM4 drivers and we shouldn't confuse the two. Arpad added that the biggest question that needs to be settled whether the input of the IBIS [Model] is considered a digital or analog signal. Discussion was cut off as the meeting ended.

Michael Mirmak suggested that this topic be discussed at the next ATM task group meeting.

NEXT MEETING
The next IBIS Open Forum teleconference will be held January 11, 2013 from 8:00am to 10:00am US Pacific Time. Votes on BIRD121.2 and BIRD123.4 are scheduled for this meeting.

Bob Ross noted that Mike LaBonte will need to check on the availability of using the Cisco conference bridge in 2013. Mike though the bridge did not have an expiration date but would check on it.

Radek Biernacki moved to adjourn. David Banas 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/bugsplt.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	November 13, 2012	November 16, 2012	November 30, 2012	December 21, 2012
Agilent Technologies	User	Active	X	X	X	X
Altera	Producer	Active	-	-	X	X
ANSYS	User	Active	X	X	X	-
Applied Simulation Technology	User	Inactive	-	-	-	-
ARM	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	X	X	-
Ericsson	Producer	Inactive	X	X	-	-
Foxconn Technology Group	Producer	Inactive	X	-	-	-
Freescale	Producer	Inactive	-	X	-	-
Huawei Technologies	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	Inactive	-	-	-	X
Maxim Integrated Products	Producer	Inactive	-	-	-	-
Mentor Graphics	User	Active	-	X	X	X
Micron Technology	Producer	Active	-	-	X	X
Nokia Siemens Networks	Producer	Inactive	-	-	-	-
QLogic	Producer	Inactive	-	-	-	-
Signal Integrity Software	User	Active	-	-	X	X
Sigrity	User	Inactive	-	-	-	-
Synopsys	User	Inactive	-	-	-	-
Teraspeed Consulting	General Interest	Active	-	-	X	X
Texas Instruments	Producer	Inactive	-	-	-	-
Toshiba	Producer	Inactive	-	X	-	-
Xilinx	Producer	Inactive	-	-	-	-
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.