IBIS Open Forum Minutes

Meeting Date: **December 9, 2011**
Meeting Location: **Teleconference**

VOTING MEMBERS AND 2011 PARTICIPANTS

Agilent	Radek Biernacki*, Fangyi Rao, Amolak Badesha, Hiroaki Sasaki, Sho Okuyama, Toshinori Kageura
Altera	Hui Fu, Zhuyuan Liu, Julia Nekrylova, David Banas
AMD	Nam Nguyen, Tadashi Arai
ANSYS (Ansoft)	Samuel Mertens, YanJun (Yuki) Chen, Minggang Hou, Rui Li, Eiji Nakamoto, Miyo Kawata, Kazuhiro Kadota, Toru Watanabe, Yuji Saeki, Nai-Jen Hsuan, Benson Wei, Jack (ChunKun) Wu
Apple Computer	(Matt Herndon)
Applied Simulation Technology	Norio Matsui, Osamu Nakamura
Cadence Design Systems	Terry Jernberg*, Ambrish Varma*, Dennis Nagle, Martin Biehl, Yukio Masuko, Aileen Chen, Lanbing Chen, Yubao Meng, Liu Ping, Yitong Wen, Dingru Xiao, Benny Yan, Jinhui Zhang, Rong Zhang, Weijan Zhang, Alex Zhao, Zhangmin Zhong, Zhongyoung Zhou, Morihiro Nakazato, Joseph Kao Charlie Shih, Feras Al-Hawari*
Cisco Systems	[Syed Huq], [Mike LaBonte], Luis Boluna, Ashwin Vasudevan, Zhiping Yang, Greg (Guan) Fu, Xinyi Hu, Jiang Wang, Zhongfu Gu, Lihua Yuan, Xinghai Tang, Yang Wu, Chunyuan Zhou
Ericsson	Anders Ekholm*
Foxconn Technology Group	Gina Chen, Eric Hsieh, Gerald C.J. Hsu, Scott C.S. Li, Delbert Liao, Mandy Su, Joyce C.Y. Yeh
Freescale	Takahiro Sato
Green Streak Programs	Lynne Green
Huawei Technologies	Xiaoqing Dong, Yu (Jeff) Chen, ZhenXing Hu, Chunxing Huang, Peng Huang, Randy Zhao, Hongxing Jiang, Qiang Lin, Longfang Lv, Zhengrong Xu, Zhou Yi, Hongcheng Yin, Tinghou Chen, Luyu Ma, Gezi Zhang, Iris Lou, Tuhua Yu, Ying Zhang
IBM	Adge Hawes*, Greg Edlund, Evelyn Kuo, David Lai Kent Dramstad*
Infineon Technologies AG	(Christian Sporrer)
Intel Corporation	Michael Mirmak*, Udy Shrivastava, Heather Monigan, Jinsong Hu, Y.L. Li, Yinglei Zheng, Long Yang, Weifeng Shu, Kevin Daverin, Jimmy Hsu, Morgan Tseng

IO Methodology	Lance Wang*
LSI	Brian Burdick*
Mentor Graphics	Arpad Muranyi*, Ed Bartlett, Vladimir Dmitriev-Zdorov, Steve Kaufer, Chuck Ferry, Kenji Kushima, Minoru Ishikawa
Micron Technology	Randy Wolff*, Andrea Spiezia, Roberto Izzi, Aniello Viscardi, Giovanni Guerra, Francesco Madonna, Giuseppe Fusillo
Nokia Siemens Networks GmbH	Eckhard Lenski*, Xiaoguang Cai, Hongwei Fu, Bruce (Zhenshui) Qin, Xiaoping Yang, Xiangpeng Yao, Jieping Zhang, Xianzhao Zhao
QLogic	David Choe, James Zhou
Signal Integrity Software	Walter Katz, Todd Westerhoff, Mike Steinberger, Barry Katz, Mike LaBonte*
Sigrity	Raymond Chen, Kumar Keshavan, Yingxin Sun* Li Li, Kezhou Li, Jing Wang, Xingfeng Li, Haisan Wang, Zuli Qin, Lily Luo, Polin Chi, Joshua Luo, Jack W.C. Lin, Thunder Lui
Synopsys	Andy Tai, Ted Mido, Scott Wedge, Xuefeng Chen, Maggie Dai, Zerui Fan, Wenyun Gu, Jianghua Huang, Bo Liu
Teraspeed Consulting Group	Bob Ross*, Kellee Crisafulli, Tom Dagostino, Scott McMorrow
Texas Instruments	Casey Morrison, Alfred Chong
(National Semiconductor - merged with TI)	[Hsinho Wu], Pegah Alavi, John Goldie
Toshiba	Kenji Ito, Shigeo Kida, Yasuki Torigoshi, Yasutaka Oodake
Xilinx	(Raymond Anderson)
ZTE	Bi Yi, HuaZheng Cao, Fenling Gao, Xiaolin Ghen, Mai Hu, Wei Jia, Hui Jiang, Ganghui Li, Wanming Mao, Baofei Qian, Anbing Sun, Hao Tian, Junfeng Wang, Yingxin Wang, Yunfeng Wang, Meihua Xu, Changgang Ying, Qiang Zhang, Wei Zhou, Zhi Zhou, Jiangrong Xiao, Xiaobing Zhang, Zhiwei Yang, Shenghu Wang, Dawei Sun, Cheng Li, Lu Li, Li Wang, Renjie Wang, Jie Yu, Shunlin Zhu
Zuken	Hirohiko Matsuzawa, Hironari Kibe, Makiko Shimizu, Yuichi Nakajima

OTHER PARTICIPANTS IN 2011

3M	Kylin Chen, Shiang Yao
Accton Technology	Daniel Lin, Stu Tsai, Rolf Wu
Advantech	Kalyuan Cheng

Advantest	Cassity Chao, Ashley Huang
AET	Mikio Kiyono, Chihiro Ueda
Alchip Technologies	John Chou, Adam Su
ALi (Alitech)	Allfor Chen, Yigong Lu
Altek	Randy Hsiao
Amphenol TCS	Kenneth Cheng
Anymid Group	Charles Zhou
Apache Design Solutions	Shulong Wu
Apollo Giken	Mitsuo Kaetsu, Naoyata Iisaka, Satoshi Endo
Arrow Electronics	Ian Dodd
ASE Group	Joey Huang
ASUSTek Computer	David Chou, Yu-Ching Liao
ATE Service	Yutaka Honda
Avant Technology	Enson Lee, Jyam Huang
Avago	Weiping He, Minh Quach, Sari Tocco
Axell	Nobumasa Iwakoshi
Bayside Design	Elliot Nahas
Broadcom	Mohammad Ali
Bureau of Standards, Meterology & Inspection (BSMI)	Yentang Chang, MS Lin
Canon	Kohji Hirai, Matsumoto Shoji,Takamasa Sakuragi, Yoshihiro Kobayashi
Canon Components	Syohtaro Hiramatsu
Casio Computer	Yasuhisa Hayashi
Celestica	Sophia Feng, Lily Dai, Jason Liu, Yunqiang Meng, Junwei Zhang, Harrison Xue, Van Zhu
CST	Martin Schauer
Cybernet Systems	Masahito Kobayashi, Takayuki Tsuzura
Delta Network	Sandy Chen, Nick Chiou, Alston Hsia, Skipper Liang, David Huay
Denso	Kouji Ichikawa, Takahiro Tsuda
East China Normal University	Mengting Liao
Eastwell	David Wu
EDADOC Technology	Hansheng Ke, Bruce Wu
Electro System	Kazuyuki Saijo
EMC Corporation	Abigail Jiang, Peng (Tony) Liu, Lynn Kong, Chambers Yin
E-Train Technology	Weiming (David) Lu
Etron Technology	Frank Cheng, Fred Hsieh, David Lin, Janice Chen
Exar Corporation	Helen Nguyen
Farady Technology	Boris Tseng, Sun Pao
Flextronics	Golden Qiang, Chris Pan
Fujitsu Advanced Technologies	Hiroyuki Kawata, Syogo Fujimori, Toshiro Sato
Fujitsu Electronics	Kenji Goto
Fujitsu Microelectronics Solutions	Daisuke Suzuki

Fujitsu Semiconductor	Masaaki Suzuki, Motoaki Matsumura, Shintaro Otani, Toshiki Iwai
Fujitsu VLSI	Hiroki Kubota, Hiroshi Miyazaki, Kyota Shimizu, Sizue Kato
Gigabyte Technology	Eric Chien, Andy Lee, Johnson Tsai
Giga Hertz Technology	Ryuji Kawamura
Global Unichip	Peter Lai, Darren Hsu, Nicholas Huang
Granite River Labs	Johnson Tan, Mike Engbretson, Quintin Anderson
H3C Technologies	Huanyang Chen, Haitao Zhang, Xiaoqun Li
Hakkao Denshi	Eiji Mita
Hewlett-Packard	Corey Huay
High Speed Design Center	Ben Chia
Hino Jisso Design	Sigekazu Hino
Hitachi	Makoto Okumura, Ritsurou Orihashi, Shingo Suzuki
Hitachi Global Storage Technologies	Takayuki Imai
Hitachi Information and Control Systems	Hiroyuki Tayama
Hitachi ULSI Systems	Hiroshi Uematsu, Kazuhiko Sugisaki, Sadahiro Nonoyama
IBITECH	Hitoshi Miwa, Kiyohisa Hasegawa
ICT-Lanto	Steven Wong
ILI Technology	Chia-Cheng (Trevor) Wu
IMU	Runjong Zhou
Industrial Technology Research Institute (ITRI)	Peng Chen
Inventec	Zhong Peng, Ian Chen, Paul Chu, Jim Lai
Japan Futec	Kenji Ishida
JEITA	Atsushi Ishikawa
JVC Kenwood	Hidetoshi Suzuki
Kawasaki Microelectronics	Hajime Kinugasa, Yoshimasa Yahata
KEI Systems	Shinichi Maeda
King Yuan Electronics Co. (KYEC)	Bernard Hsu, Vincent Hung, Hung Chan Lin
Kyoden	Hiroshi Hohga, Katsuhiro Ota, Sinichi Mochida, Takao Saito, Takehiko Murata
Lapis Semiconductor	Kenji Arai
Lecroy	Derek Hu
Lite-On Technology	Skylar Shin
Marvell Semiconductor	Fang Lv, Guobing Han, Yuyang Wang, Liang Wu, Michael Wang, Xike Liu, Zhiqiang Li
Maxim Integrated Products	Hassan Rafat*, Mahbubul Bari*
MD Systems	Hidetoshi Ogawa
Mediatek	Wayne Tseng, Dean Yang
Micro-Star International	Cliff Lin,
Mindspeed	Jeff Li, Lyn Wang

Mitsubishi Electric Engineering	Toshio Ueda
Nanya Technology	K.W. Chao, Benton (Yu Wei) Chen, Roger Chen, Argy Cheng, Yumin Cheng, Aidan Hsu, Benedict Hu, Supon Huang, Wen-Ming Lee, Benson Lin, Chinghuei Tseng, Vincent Yan, Andre Huang Ching-Feng Chen, Jordon Hsu
National Taiwan University	Chung-Kuan Cheng, Chiu-Chih Chou
NEC	Hiroshi Yamaguchi, Tomohiro Hayashi, Tomokazu Tokoro, Toshihiko Nakano
NEC Communication Systems	Tsuneo Kikuchi
NEC Toppan Circuit Solutions	Kiyohiko Kaiya, Masanori Naito, Toshiyuki Kaneko
NetLogic	Ryan Coutts, Antonis Orphanou
Nikon	Kazuomi Tominaga, Manabu Matsumoto, Toshiyuki Kobayashi
Nisoul	Fumio Tazaki, Toshio Hoshi
Novatek Microelectronics Group	Frank Y.C. Pai
Nvidia	David Chen, Chia Yuan Hsieh, Chih Wei (Jason) Tsia
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Olympus	Kazuhiro Sakamoto
Olympus Medical Systems	Hiroshi Tamai
Oracle	Gustav Blando
Panasonic	Yoshiyuki Saito
Pegatron	Stanley Chu, Gavin Lin
Pericom Semiconductor	Zhangqi Guo, Jun Li, Qing Mao
Phison Electronics	Dageai Liu
Politecnico di Torino	Igor Stievano, Stefano Grivet-Talocia
Portwell	Michael Chang, Phil Gu
Pristine Signals	AbdulRahman (Abbey) Rafiq
Propogate Group Corp. (PGC)	Wayne Tsai
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Realtek Semiconductor	Jerry Chien, Erlang Wang, Tina Wu
Renesas Electronics	Takuji Komeda, Masafumi Mituishi, Mikiko Sode, Naho Hokoiwa, Osamu Takeuchi, Soji Sunairi, Tatsuaki Tsukuda
Renesas Micro Systems	Munehisa Okita, Yoshihiro Kikuchi
Ricoh	Shigeru Isobe, Toshihiko Makino, Yasuhiro Akita
Rohm	Yutaka Okui
Samsung Electronics	Il Seong
Samsung Yokohama Research Institute	Toshiyuki Hasegawa
Sanritz Automation	Masamichi Yahara
Shimadzu	Kazuo Nakajima
Siemens	Manfred Maurer
Signal Khobho	Atsuhito Noda

Signal-Lab	Sei Shida
Silicon Motion Technology	Louis Chuang, Star Wang
Singatron Enterprise	Norman Wu
Simberian	Yuriy Shlepnev
Sony EMCS	Shigeru Sana
Spreadtrum Communications	Xianyu Meng
ST Microelectronics	Fabio Brina, Alan Smith
Sunplus Technology	Forest Hsu, Yitzeng Lin
Taiwan Semiconductor Manufacturing Corp. (TSMC)	Philip Way Chang
Taiyo Yuden	Masayuki Satou
TDK	Katsufumi Ehata, Yoshikazu Fujishiro
TechAmerica	(Chris Denham)
Teradyne	Makoto Kikuchi, Takeshi Shimabukuro
Tellabs	Yuehui Zhu
Thales Communication	Alexandre Amedeo, Cyrip Chastang
Tianma Micro-electronics	Xiaoyan Lai, Shengjie Yang
Tokyo Cathode Laboratory	Akitoshi Nishimura
Tokyo University of Scence Graduate School	Yohtaroh Yasu
Toshiba Digital Media Engineering	Kouji Yasutake
Trident Microsystems	Andy (Zhiguang) Li
University of Illinois	Jose Schutt-Aine
University of L'Aquila	Danilo di Febo
VIA Labs	Sheng-Yuan Lee
VIA Technologies	Cherry Hung, Jonathan Wei
Vitesse Semiconductor	Siris Tsang
WADOW	Kazuhiko Kusunoki
Wens	Heien Hirokawa
Wistron	Ryan Chang, Denis Chen, Jesse Chen, Yo An Chen, Joseph Chong, Will Chung, Passor Ho, Sindy Ho, Soin Huang, Allen Lo, Josh Wu
WonderMedia Technologies	Terence Hsien
Xpeedic Technology	Feng Ling, Wenliang Dai, Shisheng Wu
Yazaki	Kazuki Hattori
YDC	Yoshiaki Manabe
YDK	Yoshio Takemura
Independent	Yoichi Niioka, [Mike LaBonte], Mingwei Chen, Liping Wang

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 6, 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

Feras Al-Hawari introduced himself. He has worked for Cadence for over 16 years in the high speed group and is a senior member of the consulting staff. He is working on simulation and high speed flows.

Mahbubul Bari of Maxim introduced himself. He is working in simulation modeling in the lab at Maxim. His recent focus has been on IBIS-AMI modeling, and he has been doing IBIS modeling for awhile. He has experienced a wide variety of implementation issues with AMI and is looking to learn more about AMI issues.

Kent Dramstad of IBM introduced himself. He is working with SerDes modeling. He is interested in learning about problems with AMI modeling to help solve customer issues.

Yingxin Sun of Sigrity introduced himself. He is working at on simulation tools using IBIS models.

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 October 28, 2011 IBIS Open Forum teleconference. Bob Ross noted that the next meeting was to be held December 9, not December 2 as indicated in the minutes. Minutes were approved with the noted change.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported that we are now listing Foxconn as a new IBIS member. We are at 31 members now, but we have no report from TechAmerica to confirm all membership payments. We will need to address funding at the next meeting and potentially any increases in membership dues.

WEB PAGE UPDATES

Mike LaBonte reported that he made updates to the Summits page. He is looking for ways to use scripting to generate better views and readme information for the Summits page.

MAILING LIST ADMINISTRATION

Mike LaBonte reported that he has had some trouble with the mailing list. There are 5 different SMTP servers at Stanford, and one of those servers every few years has a problem where it is used for spam. So, some member’s email servers pay attention to spam server scores and start blocking emails from the Stanford server. Mike has contacted eda.org support people, but apparently nothing can be done to remedy the situation.

MODEL LIBRARY UPDATE

Anders Ekholm reported that he has no update this meeting, but he is planning to go through links to look for broken ones before the next teleconference.

MISCELLANY/ANNOUNCEMENTS

None.

OPENS FOR NEW ISSUES

None.

INTERNATIONAL/EXTERNAL ACTIVITIES

- IEEE DASC

Michael Mirmak reported that efforts are ongoing to form a group within DASC so that IBIS has a path through IEEE for international standardization. IBIS was tentatively granted 1852 as the working group number. Group approval is not official yet, because some documentation has to be signed by TechAmerica related to copyright issues. We should see some announcements from DASC in the near future. This group is formed specifically for reviewing IBIS 4.2, but the same group should be able to work with future specifications.

- VHDL-AMS Table-Driven Models

Arpad Muranyi noted that the last meeting was cancelled. The next meeting is next Monday. Hassan Rafat asked if Verilog-AMS was supported. Arpad confirmed that IBIS supports both languages, and Verilog already supports table driven modeling. More information can be found at:

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

- Conferences

EDAPS (Electrical Design of Advanced Packaging & Systems) will be held December 12-14 in Hangzhou, PRC. More information can be found at:

http://www.edaps2011.org

SPI2012 (18th 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. More information can be found at:

http://www.spi2012.org

Official IBIS participation is not 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

Bob Ross noted an article by Lynne Green that discusses IBIS models. The article is “Top 10 Issues in IBIS Models”, October 19, 2011 on the PCB Design 007 site. See the article at:

http://www.pcbdesign007.com/pages/zone.cgi?a=79617

IEC APPROVAL ACTIVITIES

Randy Wolff reported that the IEEE DASC announced approval of the IBIS PAR on October 26 with a 15-0 vote tally among eligible DASC voters and 22-0-1 among all DASC members who voted. See the IEEE DASC topic for further information.

SUMMIT STATUS

- Asian IBIS Summits Report

Michael Mirmak reported that all three events were very successful. There was significant sponsorship and presentation material. All presentations are found on the IBIS Summits page. We had 131 attendees in Shanghai, 152 in Yokohama and 131 in Taipei. Minutes have been released for all meetings. Power delivery and AMI were dominant topics in the Summits.

- DesignCon 2012 Planning

The IBIS Summit is tentatively scheduled for Thursday, February 2, 2012. The tentative contract is very similar to last year. Announcements will go out soon. Michael Mirmak encouraged people to start thinking about presentations. Lance Wang will be the official contact for sign-ups.

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 is discussing additions of quality checks for AMI models in the Quality specification. Progress has been slow, partly due to all the changes in the AMI specification. Until certain clarifications are approved, some checks that could be in the ibischk parser have been withheld. The group might start looking at ibischk to see what further checks could be included. The group meets weekly on Tuesdays at 8:00AM Pacific time.

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

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

MODEL REVIEW TASK GROUP

No update.

ADVANCED TECHNOLOGY MODELING TASK GROUP

Arpad Muranyi reported that the group is now meeting on its regular schedule after the Summits. They have finished all the small correction BIRDs. There has been a lot of discussion on a jitter BIRD and the analog BIRDs.

Task group material can be found at:

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

EDITORIAL TASK GROUP

Michael Mirmak reported that there have been no regular meetings since before the Summits. The group is waiting on a request from TechAmerica about using the technical writer for some further editorial work. Michael thinks that we will need to start the editorial work of stitching together the IBIS 5.1 document ourselves if we do not hear from TechAmerica in the next day. The group will resume meetings next week hopefully.

The current IBIS 5.0 reformatting documentation can be reviewed at the following new location:

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

SPECIFICATION RELEASE SCHEDULE DISCUSSION

Michael Mirmak noted that we need a faster way to update IBIS more regularly so that new features get into industry more quickly. A period of two years or so between major updates is too slow. Anders Ekholm brought up at the Summits the idea of going to regular release schedules of every 6 months so that everyone can plan more easily to implement new features. IBIS 5.1 is the next scheduled release, but after that, more minor releases could be done every 6 months on May 1 and November 1. Michael plans to have more details in future meetings and Summits.

Bob Ross noted that IBIS 5.1 is close to completion. He added that we need to limit how many changes go out with each minor release.

NEW ADMINISTRATIVE ISSUES

None.

BIRD127.4: IBIS-AMI TYPOGRAPHICAL CORRECTIONS

Arpad Muranyi noted that there have been no new comments or questions related to the BIRD127.4 revision. Bob Ross noted this is a critical BIRD for moving ahead with IBIS-AMI. Bob said that there is a leaf/value pair terminology that may need to be changed in the editorial process when wrapping into IBIS 5.1. Radek Biernacki commented that he thought the BIRD was ready for a vote.

Arpad moved to vote on the BIRD. Radek Biernacki seconded. The vote passed with the following vote tally:

Agilent – yes
Cadence – yes
Ericsson – yes
IBM – yes
Intel – yes
IO Methodology – yes
LSI – yes
Mentor – yes
Micron – yes
Nokia Siemens Networks – yes
SiSoft – yes
Sigrity – yes
Teraspeed – yes

BIRD146: CLARIFY SAMPLE_INTERVAL FOR IBIS-AMI

There were no comments on the BIRD.

Arpad Muranyi moved to vote on the BIRD. Bob Ross seconded. The vote passed with the following vote tally:

Agilent – yes
Cadence – yes
Ericsson – yes
IBM – yes
Intel – yes

IO Methodology – yes
LSI – yes
Mentor – yes
Micron – yes
Nokia Siemens Networks – yes
SiSoft – yes
Sigrity – yes
Teraspeed – yes

BIRD140.1: FORMAT CORNER AND RANGE CLARIFICATION FOR IBIS-AMI

Arpad Muranyi noted that after long discussion in the ATM group, it was decided that there is enough information in IBIS to make an association between typ/min/max corners of legacy IBIS and fast/typ/slow corners of AMI. This BIRD is tied closely to the new BIRD148 which limits allowable model types related to IBIS-AMI. Bob Ross noted that this BIRD has been discussed extensively and would be ready for a vote at the next meeting.

Radek Biernacki commented that this does leave the Range format up to the user. Arpad commented that typ/min/max values in Range have no association to corners in IBIS. This is clarified in the BIRD. Radek felt like the BIRD should note if there is an implied connection between Range and corner. Bob felt Range should not have an association with corners, as it should be used for values that can be selected by the user through the EDA software. Arpad noted that there may be other parameter types besides Range and Increment that need to be included in one sentence in the BIRD. Bob felt these small editorial changes are not clear until all the BIRDs are integrated into one document for review. Radek felt that the BIRD will be ready to go with some minor editorial changes that could be done faster by working offline and not in the ATM committee. Radek and Arpad will work together to revise the BIRD.

Bob moved to schedule a revised BIRD140.2 for a vote at the next meeting. Arpad seconded the motion. The motion passed without objection.

BIRD148: ALLOWABLE MODEL_TYPES WITH IBIS-AMI

Arpad Muranyi noted this is a new BIRD to limit the model types with which algorithmic models can be used. This helps addressing corners in BIRD140.1 as well as eliminating the possibility of weird models that don’t make sense. AMI models are now not allowed under Model_type Terminator, Series or Series_switch. Another BIRD may need to be written to clarify I/O Model_type usage, since these algorithmic models need to be split into two models for use as an RX and a TX.

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

BIRD144.1: ADD TOUCHSTONE TO [EXTERNAL MODEL] AND [EXTERNAL CIRCUIT] AS A SUPPORTED LANGUAGE

Feras Al-Hawari re-introduced the BIRD. It allows for a direct connection of Touchstone files in IBIS without the need to wrap and instantiate such models in a SPICE-like subcircuit such as IBIS-ISS. Arpad Muranyi noted that the BIRD was discussed in the ATM group this week. Bob Ross added that he supported the idea of a direct connection of Touchstone to IBIS. He noted that you have to be careful with handling of DC voltage when using Touchstone. Radek Biernacki felt that this was a good idea, but he wasn't convinced that going through IBIS-ISS wasn't the best long term solution. Arpad noted that this simplifies the model-maker's life by removing the need for an S-element wrapper, but it can also limit the flexibility. However, he wondered if adding several options for doing the same thing adds too much complexity to the IBIS specification. Feras said that most simulators already support Touchstone directly, so why not make this easy for model makers.

Ambrish Varma wondered how IBIS-ISS allows for corners. Arpad clarified that you can parameterize Touchstone file names easily when using IBIS-ISS as suggested in BIRDs 116-118, thereby implementing a mechanism for unlimited corner simulations.

Michael Mirmak asked if discussions could be taken off-line. Arpad noted that this BIRD could be brought up in ATM. Also, the BIRD will need some way of defining terminations for unused ports of the Touchstone file.

BIRD145.1: CASCADING IBIS I/O BUFFERS WITH [EXTERNAL CIRCUIT]S USING THE [MODEL CALL] KEYWORD

Feras Al-Hawari noted that this BIRD augments the [External Circuit] format with a way to connect a regular IBIS buffer to other [External Circuit] blocks. This BIRD adds a new keyword [Model Call]. This allows cascading of Models. Bob Ross noted that he supported the idea, but it needs more discussion to look at an integrated solution with AMI, AMS, etc.

BIRD133: MODEL CORNER C_COMP

Bob Ross moved to schedule the BIRD for a vote at the next meeting. Mike LaBonte seconded the motion. The motion passed with 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.

BIRD123.1: IBIS-AMI NEW RESERVED PARAMETERS FOR JITTER/NOISE
Discussion was tabled.

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.

BIRD147: BACK-CHANNEL SUPPORT
Discussion was tabled.

IBISCHK5 BUG STATUS
Discussion was deferred due to time limitations.

TSCHK2 BUG STATUS
Discussion was deferred due to time limitations.

NEW TECHNICAL ISSUES
None.

NEXT MEETING

The next IBIS Open Forum teleconference will be held January 6, 2011 from 8:00 to 10:00 AM US Pacific Time. Votes on BIRD133, BIRD140.2 and BIRD148 are scheduled.

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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 CURRENT MEMBER VOTING STATUS

I/O Buffer Information Specification Committee (IBIS)

Organization	Interest Category	Standards Ballot Voting Status	November 15, 2011	November 18, 2011	November 21, 2011	December 9, 2011
Advanced Micro Devices	Producer	Inactive	-	X	-	-
Agilent Technologies	User	Active	-	X	-	X
Altera	Producer	Inactive	-	-	-	-
ANSYS	User	Active	X	X	X	-
Apple Computer	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	-	X	-	-
Cadence Design Systems	User	Active	X	X	X	X
Cisco Systems	User	Inactive	X	-	-	-
Ericsson	Producer	Active	X	X	X	X
Foxconn Technology Group	Producer	Inactive	-	-	X	-
Freescale	Producer	Inactive	-	X	-	-
Green Streak Programs	General Interest	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	X	-	-	-
IBM	Producer	Active	-	-	X	X
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	-	X	X
IO Methodology	User	Active	X	-	X	X
LSI	Producer	Inactive	-	-	-	X
Mentor Graphics	User	Active	-	X	-	X
Micron Technology	Producer	Inactive	-	-	-	X
Nokia Siemens Networks	Producer	Inactive	X	-	-	X
QLogic	Producer	Inactive	-	-	-	-
Signal Integrity Software	User	Inactive	-	-	-	X
Sigrity	User	Active	X	-	X	X
Synopsys	User	Inactive	X	-	-	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
Texas Instruments	Producer	Inactive	-	-	-	-
Toshiba	Producer	Inactive	-	X	-	-
Xilinx	Producer	Inactive	-	-	-	-
ZTE	User	Inactive	X	-	-	-
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.