

IBIS Open Forum Minutes

Meeting Date: **December 10, 2010**

Meeting Location: **Teleconference**

VOTING MEMBERS AND 2010 PARTICIPANTS

Agilent	Radek Biernacki, Ming Yan, Fangyi Rao, Gilbert Berger, Amolak Badeasa, Jose Pino, Junaid Khan, Charles Lu, Xuliang Yuan, Ming-Chih Lin, David Huang, Avery Chung
AMD	Nam Nguyen, Tadashi Arai
Ansys (Ansoft Corporation)	Danil Kirsanov, Baolong Li
Apple Computer	(Matt Herndon)
Applied Simulation Technology	(Fred Balistreri)
ARM	(Nirav Patel)
Cadence Design Systems	Terry Jernberg, Wenliang Dai, Ambrish Varma Shisheng Wu, Lanbing Chen, Daisy Cheung, Fang Li, Sammi (Rong) Fu, William Fu, Weichun Ke, Ciron Wu, Jun Wu, Thunder Lay, Yukio Masuko
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	Yutaka Uematsu, Sadahiro Nonoyama
Huawei Technologies	Jinjun Li, Zhenghua Yuan, Wencuan Gong, Jun Li, Zhipeng Luo, Dunxiong Song, Xiaoqing Dong, Chuyao Liu, Xinhao Bai, Yinwei Yan, Xinyun Lao, Gang Li, Gang Zhu, Zhang Li
IBM	Adge Hawes*, Greg Edlund, Hawk Lin, Kelvin Huang
Infineon Technologies AG	Christian Sporrer
Intel Corporation	Michael Mirmak, Myoung (Joon) Choi, Vishram Pandit, Richard Mellitz, Tommy Cheung, Jinsong Hu, Yuanming Li, Kevin Bavarm, Sylva Chen, Ruey-Wen Chien, Aaron W. Chiu, Jimmy Hsu, Lawrence Lo, Thomas (Yi-Ren) Su, Morgan Tseng, Keuweeh Tung, Haritha Yalavarthi
IO Methodology	Lance Wang*
LSI	Brian Burdick*
Mentor Graphics	Arpad Muranyi*, Neil Fernandes, Zhen Mu, Jack Yang, Sophia Yang
Micron Technology	Randy Wolff*
Nokia Siemens Networks GmbH	Eckhard Lenski
Samtec	(Corey Kimble)
Signal Integrity Software	Walter Katz*, Mike Steinberger, Todd Westerhoff,

Sigrity	Barry Katz Brad Brim, Kumar Keshavan, Srdjan Djordjevic, Ben Franklin, Zhangmin Zhong, Raymond Y. Chen, Xianfeng Li, Haisan Wang, Polin Chi, Jack Lin, Joshua Luo
Synopsys	Ted Mido, Paul Lo, Geoffrey Ying, Frank Lee, Xuefeng Chen, Deng Shi
Teraspeed Consulting Group	Bob Ross*, Tom Dagostino
Texas Instruments	Bonnie Baker, Alfred Chong, Casey Morrison, Srikanth Sundaram
Toshiba (Toshiba I.S. Corp.)	Yoshihiro Hamaji, Yasutaka Oodake, Yasuki Torigoshi, Atsuko Baba
Xilinx	Mike Jenkins
ZTE	Jian Pang, Ping Wang, Shunlin Zhu, Zhiwei Yang, Jinku Guan, Wei Jia, Nan Jian, Guanghui Li, Xian Lu, Yingxin Wang, Bi Yi, Wei Zhou, Shunlin Zhu
Zuken (ZSAS)	Michael Schaefer, Ralf Bruening, Hirohiko Matsuzawa, Yuichi Nakajima, Seikou Go

OTHER PARTICIPANTS IN 2010

Actel	(Prabhu Mohan)
Acon (Advanced Connectek)	Norman Wu
Advantech	Josh Lin
AET, Inc.	Mikio Kiyono
Ali Corp.	Alifor Chen, Ping-Ying Kang, Yigong Lu
Altek Corp.	Randy Hsiao, Collin Tseng
Altera	John Oh, Hui Fu
Apache Design Solutions	Shulong Wu
ASE Group	Marco Cheng, AlexCC Wang, Paddy Wu
ASUSTek Computer	David Chou, Yu-Ching Liao, Vincent Lu
ATE Service Corporation	Yutaka Honda, Kevin Iida, Hiroyuki Itabashi
Avago	Razi Kaw
Avant Technology	Megy Wang, Raymond Chen, Yao-Chang Chang, Jill Chen, Jyam Huang, Mandy Yang
Bosch Car Multimedia	Rene Steinberg, Patric Kessler
Broadcom	Mohammad Ali
Canon	Shoji Matsumoto, Hiroto Tamaki, Masanao Yokoyama
CeraMicro Technology	Vivian Wu
Chang-Gung University	Jefferson (Chzu-Chinag) Tseng
China Fastprint	Matthew Li, Mark Long
Curtiss-Wright	John Phillips
Cybernet Systems	Takayuki Tsuzura
Delta Network	Skipper Liang, Min-Hong Tsai

ECL, Inc.	Tom Iddings
EDADOC Technology	Yufeng Zheng
Etron	Chunmu Lin, Stu Tsai
eSilicon	Hanza Rahmai
EVOC Intelligent Technology	ChangQian Yu
Exar Corp.	Helen Nguyen
Faraday Technology	Way Chin-Wei Chang, Wells Jong, Jung-Chi Ho, Boris Tseng, Pao Sun
Flextronics	Tommy Chan, Sam Chuang, John Lin, Trina Shih, Alan Sun, Devin Tsai, Cathy Tu, Panda Wang
Foxconn Technology Corp.	Cortex Chen, Ted Chou, Danny Ho, Sogo Hsu, Daniel Lai, Scott Li, Frank Pai, Weiliang Tseng, Eric Wu, Joyce Yeh
Fujitsu Advanced Technologies (Fujitsu Semiconductors) (Fujitsu VLSI Limited)	Shogo Fujimori, Hikoyuki Kawata, Toshiro Sato Motoaki Matsumura
Giga-byte Technology	Yuji Nakagawa, Kyota Shimizu
Giga Hertz Technology	Eric Chien, Corey Huang, Andy Lee, Alex Lu
Hanpu Electronics	Ryuji Kawamura
Himax Technologies	Chijiang Way, Pinting Hu
Huawei Symantec Technologies	Wei-De (Brian) Kuo
	Zihong Zhang, Jieping Zheng, Qinglin Zhou Yongyao Li, Guanghui Liu, Yalun Liu, Hongjun Bi, Senliang Han, Chuanbing Li, Qiangqiang Wang, Kang Wei
IBIDEN	Kiyohisa Hasegawa
ICT-Lanto	Steven Wong, Daniel Chen, Stone Lin, Alan Liu, Hwei Ho, Carr Wang, Stone Wieh
Ili Technology	Chia-Cheng (Trevor) Wu
Inventec	Ian Chen, Elieen Tseng
JEITA	Atsushi Ishikawa
KEI Systems	Shinichi Maeda
Layout Technology	Ken Chen
Leading Edge	Pietro Vergine
Lenovo	Mandy Yang, Lu Zhang
Magna Design Automation	Anand Ramalingram
Mindspeed	Bobby Altaf
Nanya Technology	Cheyen Huang, Yuwei Chen, Ching-Feng Chen, Yumin Chen, Argy Cheng, Raphael Huang, Chun-Huang Yu
National Semiconductor	Hsinho Wu
National Chao Tung University (NCTU)	Cheng-Yuan Chin, Pan-Shine Wang
National University of Kaohsiung (NUK)	Ming Haei Huang, Kao-Yi Wang
NEC System Technologies	Fumihiko Sakamoto

NetLogic Microsystems	Eric Hsu, Edward Wu, Antonio Orphanou, Halil Civit
NVidia	Xianfeng Zhu
NXP Semiconductors	Gerald Krasemann
Pegatron Corp.	Stanley Chu, Lawrence Ting
Politecnico di Torino	Igor Stievano, Stefano Grivet-Talocia, Piero Triverio, Flavio Canavero
Portwell	Michael Chang
Propagate Group Corp. (PGC)	Wayne Tsai, Mage Wang
Quanta Computer	Willie Chen, Fanny Chou
Ralink Technology	Wilbur Hsu, Dean Yang
Renesas Technology	Takuji Komeda, Shinji Katayama
Siemens, AG.	Manfred Maurer, Michael Flint
Silvaco	Yoshihiko Yamamoto
Simberian	Yuriy Shlepnev
Sony EMCS Corporation	Masayoshi Murata
Sony LSI Design	Kei Kimura, Satoshi Maeda, Mie Nagatomo
Span Systems Corporation	Vidya (Viddy) Amirapu
Summit Computer Systems	Bob Davis
Sunplus Technology	Forrest Hsu, Shen Hsieh, Roger Li, Tommy Lin, Yi-Txeng Lin, Ing-June Lu
Tabula	David Banas
TDK	Yoshikazu Fujishiro
TechAmerica	(Chris Denham)
Towa Electronics	Yoshikazu Suzuki
VIA Labs	Sheng-Yuan Lee
Vitesse Semiconductor	Bob McDonough
Winbond Electronics Corp.	Jein-Cherng Lin
Wistron Corp.	Denis Chen, Passor Ho, Dirack Lai, Edward Pan
YanHua Technology	Xiuchun Peng
ZyXEL Communications Corp.	Frank Chang
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
January 7, 2011	203 912 749	IBIS

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

<https://cisco.webex.com/cisco/j.php?J=203912749>

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.

Since Michael Mirmak could not attend, Bob Ross chaired the meeting on his behalf per agreement with the officers.

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.

REVIEW OF MINUTES AND ARS

Randy Wolff called for comments regarding the minutes of the November 9, 2010 IBIS Summit meeting in Shenzhen, the November 12, 2010 IBIS Summit meeting in Taipei, the November 15, 2010 IBIS Summit meeting in Tokyo, and the November 19, 2010 IBIS Open Forum teleconference. All sets of minutes were approved with no changes.

MEMBERSHIP STATUS AND TREASURER'S REPORT

Bob Ross reported that we have 31 members at the close of the year. We have no exact numbers, just estimates at this time for finances. Bob plans to discuss the need to spend about \$21,500 in surplus for the year.

WEB PAGE UPDATES

No report.

MAILING LIST ADMINISTRATION

Mike LaBonte reported that the mailing list had one add and three addresses were dropped due to repeated bounces. He is looking into the task of organizing the archives by date. He is using some Perl code to help parse the archive, but formats of each message are not consistent. He may have working code this morning. Since the last meeting, the only messages on the ibis list

were the four sets of minutes and the agenda. On the ibis-users list there were 8 emails.

MODEL LIBRARY UPDATE

Anders Ekholm reported he is working on a library update correcting some links. The new page is close to completion.

MISCELLANY/ANNOUNCEMENTS

Bob noted that this is the last meeting of the year. He noted there were about 322 total participants in IBIS events this year.

He also mentioned there is still a project ongoing to reformat the IBIS specification with help from a TechAmerica editor. The preliminary documents for review and comment are available at:

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

OPENS FOR NEW ISSUES

Bob Ross requested time to discuss IBIS finances after the administrative discussions.

INTERNATIONAL/EXTERNAL ACTIVITIES

- DASC

No update. The DASC file and e-mail archive may be found at:

<http://www.dasc.org/>

- P1735 Encryption

No report. The IEEE Study Group on Encryption web reflector archives are found at:

<http://www.eda-stds.org/ip-encrypt/hm/>

-VHDL-AMS Table-Driven Models

Arpad Muranyi reported that he attended the meeting last Monday. Work is proceeding, and they are talking about the latest interpolation/extraction options and details of operation. More information can be found at:

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

-Conferences

The 2011 IEEE Workshop on Signal Propagation on Interconnects (SPI) will be held in Naples, Italy on May 8-11, 2011. The first call for papers went out. More information can be found at:

<http://www.spi2011.unina.it/>

EMCCompo2011, the 8th International Workshop on Electromagnetic Compatibility of Integrated Circuits, will be held in Dubrovnik, Croatia, November 6-9, 2011. Organizers of the event have contacted the IBIS Open Forum to see if there is interest in having a tutorial session on IBIS. More information can be found at:

<http://www.emccompo2011.org>

-Press Update
None.

TECHAMERICA STATUS

No update.

VOTING REPRESENTATIVE LIST

Randy Wolff noted that all roster contacts have now been updated with teleconference participants listed as primary or secondary contacts. This helps ensure the correct people get TechAmerica ballots.

Bob Ross asked to close off the item, as it will not be needed at the next meeting. Future topics could be discussed during the membership report.

CHARTER DISCUSSION

No discussion.

IEC APPROVAL ACTIVITIES

Randy Wolff reported that there was an IEC meeting in Seattle in October. After an internet search for news on the IEC meeting, he came across a blog on the Mentor Graphics site from Dennis Brophy, chair of the TC93 working group 2. The blog mentions that IBIS 4.2 is on the work plan for standardization. Randy sent an email to Dennis Brophy asking for more details, but he has not heard back.

SUMMIT STATUS

-DesignCon 2011 Planning

DesignCon is January 31 – February 3, 2011 in Santa Clara, CA. The Summit is scheduled for February 3. Bob Ross noted that the first announcement will go out soon.

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

Mike LaBonte reported that most discussion has been on a BIRD proposal from Anders Ekholm

about Golden Waveforms – allowing them to be in external files and use IBIS-ISS for defining the test fixtures. Meetings have moved back to every week, Tuesdays at 8AM PST.

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

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

IBIS MODEL REVIEW TASK GROUP

No update.

ADVANCED TECHNOLOGY MODELING TASK GROUP

Arpad Muranyi reported that the group is talking about BIRD drafts for defining an AMI version and fixing typos and also Walter's analog modeling BIRD. The next meeting is December 14.

Task group material can be found at:

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

INTERCONNECT TASK GROUP

Bob Ross reported that the last two meeting have been canceled. IBIS-ISS Revision 0.7 is uploaded for review.

Task group material can be found at:

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

NEW ISSUES

Bob Ross noted that IBIS dues for 2011 need to be decided. Current dues are \$900/year per member-company. Bob proposed that the dues be kept the same for 2011. Mike LaBonte moved that the dues be kept the same for 2011. Randy Wolff seconded.

The vote passed with the following vote tally:

Cisco: yes

Ericsson: yes

IBM: yes

IO Methodology: yes

LSI: yes

Mentor: yes

Micron: yes

SiSoft: yes

Teraspeed: yes

Bob then noted that we got a financial report from TechAmerica at the end of November, and he has projected to the end of the year. We should have about \$21,500 extra at the end of the year that we need to spend.

Bob proposed that we transfer \$4000 in sponsorship money from Intel for the China and Taiwan summits into the China summit account for 2011. He would also like to prepay \$4000 for the DesignCon Summit in 2011. One proposal Bob has, since most of the \$13,500 excess is from parser income, is to prepay for parser development in 2011. A second proposal is to pay more money into the China account for summit expenses in 2011.

Mike LaBonte asked for clarification on the China Summit account. Bob noted that this is a local China account, now handled by Lance Wang that we can pay money into. Lance cautioned that we do not want to put too much money into this account due to tax reasons.

Arpad Muranyi asked about prepaying the parser developer for probable IBIS 5.1 parser work. Bob noted that there are also parser BUGs that need to be fixed.

Mike moved that we authorize the board to prepay as much as possible for the DesignCon Summit, in the order of \$4000, but up to \$5000. Randy seconded the motion. The motion passed with no objections.

Bob moved that we authorize the board to move \$4000 of the Asian IBIS Summit income from Intel into the China account. Randy seconded. The motion passed with no objections.

Randy moved that we authorize the board to prepay to the parser developer the balance of what remains (up to \$14000) for future parser work, including a future IBIS 5.1 parser and ibischk5 BUG fixes. Mike seconded. Bob noted that if the board has the ability to work with TechAmerica to keep the money, they may not make any prepayment to the parser developer.

The vote passed with the following vote tally:

Cisco: yes

Ericsson: yes

IBM: yes

IO Methodology: yes

LSI: no vote

Mentor: yes

Micron: yes

SiSoft: yes

Teraspeed: yes

BIRD114.3: IBIS-AMI DEFINITION CLARIFICATIONS

Arpad Muranyi stated that BIRD includes the latest comments from Radek Biernacki and Bob Ross and is ready for a vote.

Walter Katz commented that because of the way double quotes are required around strings due to this BIRD, the parser will need to know if the file was written to an AMI 5.0 or AMI 5.1

standard. This may require that an AMI version be required in IBIS. Arpad responded that he agrees with Walter's comment, but there are also other reasons to have an AMI version BIRD. Mike LaBonte commented that he thinks the version BIRD should be voted on first. Anders Ekholm asked how BIRD dependencies will be handled. Bob noted that there will be final editing done to combine all the AMI BIRDS for IBIS 5.1, so dependencies of one BIRD on another will be dealt with then.

Bob moved to vote on inclusion of the BIRD in the next version of IBIS. Anders Ekholm seconded the vote.

The BIRD was approved with the following vote tally:

Cisco: yes

Ericsson: yes

IBM: yes

IO Methodology: yes

Mentor: yes

Micron: yes

SiSoft: yes

Teraspeed: yes

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

No discussion.

BIRD117.2: PARAMETERIZE A_TO_D AND D_TO_A CONVERTERS

No discussion.

BIRD118.1: ANALOG PARAMETER ASSIGNMENTS

No discussion.

BIRD119: IBIS-AMI NEW RESERVED PARAMETERS

No discussion.

BIRD119 is actually replaced by BIRDS 121-124.

BIRD120: IBIS-AMI FLOW CORRECTION

Bob moved to put this BIRD up for a vote at the next meeting. There were no objections.

BIRD121: IBIS-AMI NEW RESERVED PARAMETERS FOR DATA MANAGEMENT

No discussion.

BIRD122: IBIS-AMI NEW RESERVED PARAMETERS FOR ANALOG MODELING

No discussion.

BIRD123: IBIS-AMI NEW RESERVED PARAMETERS FOR JITTER/NOISE

No discussion.

BIRD124: IBIS-AMI NEW RESERVED PARAMETERS FOR DEPENDENCY TABLES

No discussion.

BIRD125: MAKE IBIS-ISS AVAILABLE FOR IBIS PACKAGE MODELING

No discussion.

TSCHK2 BUG STATUS

No new BUGs to report.

IBISCHK5 BUG STATUS

No new BUGs to report.

IBISCHK5 UPDATE STATUS

Bob Ross reported that ibischk version 5.0.4 was received. This closed out BUGs 99, 101, 103, 105, 106, 107, 112, 114, 118, 119 and 121. Ibischk5 executables will be available soon.

IBIS-ISS STATUS

The revision 0.7 draft is under review.

The work in progress document can be found in the following directory:

http://www.eda.org/ibis/ibis-iss_wip/

C_COMP AND CORNER DISCUSSION

Not discussed due to time limitations.

NEW TECHNICAL ISSUES

None.

NEXT MEETING

The next IBIS Open Forum teleconference will be held January 7, 2011 from 8:00 to 10:00 AM US Pacific Standard Time. A vote on BIRD120 is scheduled. The following meeting will be held January 28, 2011.

NOTES

IBIS CHAIR: Michael Mirmak (916) 356-4261, Fax (916) 377-3788

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VICE CHAIR: Lance Wang (978) 633-3388

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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

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 EIA-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.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	November 12, 2010	November 15, 2010	November 19, 2010	December 10, 2010
Advanced Micro Devices	Producer	Inactive	-	X	-	-
Agilent Technologies	User	Active	X	-	X	-
Ansys	User	Inactive	-	-	-	-
Apple Computer	User	Inactive	-	-	-	-
Applied Simulation Technology	User	Inactive	-	-	-	-
ARM	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	X	X	-
Cisco Systems	User	Active	-	-	X	X
Ericsson	Producer	Active	X	X	-	X
Freescale	Producer	Inactive	-	-	-	-
Green Streak Programs	General Interest	Inactive	-	-	-	-
Huawei Technologies	Producer	Inactive	-	-	-	-
Hitachi ULSI Systems	Producer	Inactive	-	X	-	-
IBM	Producer	Active	X	-	X	X
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Active	X	-	X	-
IO Methodology	User	Active	X	-	X	X
LSI	Producer	Active	-	-	X	X
Mentor Graphics	User	Active	-	-	X	X
Micron Technology	Producer	Active	X	-	X	X
Nokia Siemens Networks	Producer	Inactive	-	-	X	-
Samtec	Producer	Inactive	-	-	-	-
Signal Integrity Software	User	Active	-	-	X	X
Sigrity	User	Inactive	X	-	-	-
Synopsys	User	Inactive	-	-	-	-
Teraspeed Consulting	General Interest	Active	X	X	X	X
Texas Instruments	Producer	Inactive	-	-	X	-
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.