



IBIS Open Forum Minutes

Meeting Date: **November 20, 2020**

Meeting Location: **Online Virtual Summit**

VOTING MEMBERS AND 2020 PARTICIPANTS

ANSYS	Curtis Clark*, Wei-hsing Huang, Marko Marin Shai Sayfan-Altman, Zilwan Mahmod, Baolong Li Usman Saeed, Miyo Kawata
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Huawei Technologies	(Hang (Paul) Yan)
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Infineon Technologies AG	(Christian Sporrer)
Instituto de Telecomunicações	(Abdelgader Abdalla)
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Keysight Technologies	Radek Biernacki, Hee-Soo Lee, Todd Bermensolo Graham Riley, Pegah Alavi, Fangyi Rao Stephen Slater, Toshinori Kageura, Hiroaki Sasaki Satoshi Nakamizo, Toshinobu Sanuki, Jiarui Wu* Xiuguo Jiang*, Jiajie Zhao*
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Mentor, A Siemens Business	Arpad Muranyi, Raj Raghuram, Todd Westerhoff Weston Beal, Kunimoto Mashino, Kenji Kushima
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NXP
SerDesDesign.com
SiSoft (MathWorks)
Synopsys

Teraspeed Labs
Xilinx
ZTE Corporation
Zuken

Zuken USA

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Masayuki Honda, Mikio Sugawara
Chulsoon Hwang, Anfeng Huang, Bo Pu, Jiayi He
Yin Sun*
John Burnett
John Baprawski
Mike LaBonte*, Walter Katz, Graham Kus
Ted Mido, Andy Tai, Kevin Li*, Wen (Claire) Cao*, Lan Ni*
Xuefeng Chen*, Jianguo Zhou*, Jinghua Huang*
Bob Ross*
Ravindra Gali
Jinlong Li*, Kaige Qiao*, Changgang Yin*
Michael Schäder, Kazunari Koga, Kensuke Yoshijima
Takayuki Shiratori
Lance Wang*

OTHER PARTICIPANTS IN 2020

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Accton
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AET
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AMD Japan
Apollo Giken Co.
Apple
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Astrodesign
ATE Service Corp.
Aurora Innovation
Aurora System
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Canon
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Yamaha Corporation	Sejin Pak
Yazaki Parts Co.	Tetsuya Kakimoto
	Kenichi Fujisawa

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 connection information for future IBIS teleconferences is as follows:

<https://tinyurl.com/IBISOFridayTeams>

Join Microsoft Teams Meeting

Conference ID: 803 509 041#

[Local numbers](#) | [Learn more about Teams](#) | [Meeting options](#)

Join with a video conferencing device

106010980@teams.bjn.vc VTC Conference ID: 1143484747

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All teleconference meetings are 8:00 a.m. to 9:55 a.m. 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.

NOTE: "AR" = Action Required.

OFFICIAL OPENING

The Asian IBIS Summit – China took place on Friday, November 20, 2020 as an online virtual meeting. About 46 people representing 17 organizations attended.

The notes below capture some of the content and discussions. The meeting presentation slides and full meeting video recording are available at:

<https://ibis.org/summits/nov20b/>

Start and stop times listed in these minutes refer to the meeting recording linked at:

https://ibis.org/summits/nov20b/summit_recording.mp4

Randy Wolff opened the summit by welcoming everyone to the 16th IBIS Summit in China and thanking them for joining. He thanked Lance Wang for his help organizing the meeting and providing translations during the meeting. (Start time: 3:00, End time: 5:00)

IBIS CHAIR'S REPORT

Randy Wolff (Micron Technology, USA)

Randy Wolff provided a report on ongoing activities of the IBIS Open Forum.

(Start time: 5:30, End time: 21:00)

BRIEF REVIEW OF PDN IN IBIS

Bob Ross (Teraspeed Labs, USA)

Bob Ross discussed power delivery network modeling in IBIS provided by various keywords.

(Start time: 22:30, End time: 51:45)

IMPROVING POWER SUPPLY INDUCED JITTER SIMULATION ACCURACY FOR IBIS MODEL

Yin Sun, Chulsoon Hwang (Missouri S&T, USA)

[Presented by Yin Sun (Missouri S&T, USA)]

(Start time: 52:45, End time: 1:24:15)

CELESTICA 112G SI STUDY FOR 800G SWITCH

Lurker Li, Sophia Feng (Celestica, PRC)
[Presented by Lurker Li (Celestica, PRC)]

(Start time: 1:27:30, End time: 1:51:15)

ANALYSIS ON THE IMPACT OF REFLECTION ON THE LINK PERFORMANCE OF THE 112G SYSTEM

Jinlong Li, Kaige Qiao (ZTE Corporation, PRC)
[Presented by Jinlong Li (ZTE Corporation, PRC)]

(Start time: 1:52:15, End time: 2:03:15)

DDR5 IBIS-AMI MODELING AND SIMULATION

Jiarui Wu (Keysight Technologies, PRC)

(Start time: 2:06:45, End time: 2:38:00)

COMPREHENSIVE MULTILINGUAL MODELING OF CPHY TRIO

Kevin Li*, Jianguo Zhou*, Luis Simoes**, Eduard Kulchinsky** (Synopsys, PRC*, Portugal**)
[Presented by Jianguo Zhou (Synopsys, PRC)]

Randy Wolff noted the data rate mentioned was 3.5 G samples/second. He asked if CPHY is used at faster data rates. Kevin Li responded that they tested the highest data rate at 3.5G. He believes the CPHY specification maxes out at 3.5G.

Randy asked for more details on the IBIS model. Is it a combination of 50 Ohm and 100 Ohm models? Kevin responded that the 50 and 100 Ohm in series are directly from the specification. Their approach uses three models, where transitions are modeled from each level. They classified the buffers based on their level transitions instead of the impedance combination. Randy asked if the IBIS model showed V-t transitions between those levels. Kevin responded that is correct. Randy asked about the triggers to each model. Kevin responded that the data stream is passed to the Verilog-A control. The Verilog-A module realizes the finite state machine documented in the CPHY specification, and the second function is to provide the enable signal as well as the data the trio needs to transmit at a given UI.

(Start time: 2:40:00, End time: 2:59:45)

HIGH-SPEED COMPLEX MULTI-CHANNEL AUTOMATIC ANALYSIS AND OPTIMIZATION BASED ON IBIS-AMI

Wei He, Jianfeng Xia (Xpeedic, PRC)
[Presented by Wei He (Xpeedic, PRC)]

Bob Ross asked about the label “919w” on slide 7. Wei He clarified it is 9,190,000.

(Start time: 3:00:30, End time: 3:25:15)

CLOSING REMARKS

Randy Wolff thanked Zuken for providing the meeting platform. He also thanked Lance Wang and Bob Ross for help in organizing the meeting. He thanked all the presenters. He noted the meeting recording will be available on the IBIS website. He hoped to have an in-person meeting in 2021.

(Start time: 3:25:15, End time: 3:27:45)

NEXT MEETING

The next IBIS Open Forum teleconference meeting will be held on December 4, 2020. The following teleconference meeting is tentatively scheduled for January 8, 2021.

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NOTES

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This meeting was conducted in accordance with SAE ITC guidelines.

All inquiries may be sent to info@ibis.org. Examples of inquiries are:

- To obtain general information about IBIS.
- To ask specific questions for individual response.
- To subscribe to the official ibis@freelists.org and/or ibis-users@freelists.org email lists (formerly ibis@eda.org and ibis-users@eda.org).
- To subscribe to one of the task group email lists: ibis-macro@freelists.org, ibis-interconn@freelists.org, or ibis-quality@freelists.org.
- To inquire about joining the IBIS Open Forum as a voting Member.
- To purchase a license for the IBIS parser source code.
- To report bugs or request enhancements to the free software tools: `ibischk6`, `tschk2`, `icmchk1`, `s2ibis`, `s2ibis2` and `s2iplt`.

The BUG Report Form for `ibischk` resides along with reported BUGs at:

<http://www.ibis.org/bugs/ibischk/>
<http://www.ibis.org/bugs/ibischk/bugform.txt>

The BUG Report Form for `tschk2` resides along with reported BUGs at:

<http://www.ibis.org/bugs/tschk/>
<http://www.ibis.org/bugs/tschk/bugform.txt>

The BUG Report Form for `icmchk` resides along with reported BUGs at:

<http://www.ibis.org/bugs/icmchk/>
http://www.ibis.org/bugs/icmchk/icm_bugform.txt

To report s2ibis, s2ibis2 and s2iplt bugs, use the Bug Report Forms which reside at:

<http://www.ibis.org/bugs/s2ibis/bugs2i.txt>
<http://www.ibis.org/bugs/s2ibis2/bugs2i2.txt>
<http://www.ibis.org/bugs/s2iplt/bugsplt.txt>

Information on IBIS technical contents, IBIS participants and actual IBIS models are available on the IBIS Home page:

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

Check the IBIS file directory on ibis.org for more information on previous discussions and results:

<http://www.ibis.org/directory.html>

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SAE STANDARDS BALLOT VOTING STATUS

Organization	Interest Category	Standards Ballot Voting Status	October	October	November	November
			09, 2020	30, 2020	13, 2020	20, 2020
ANSYS	User	Active	X	X	X	X
Applied Simulation Technology	User	Inactive	-	-	-	-
Broadcom Ltd.	Producer	Inactive	-	-	-	-
Cadence Design Systems	User	Active	X	X	X	X
Cisco Systems	User	Inactive	-	-	-	X
Dassault Systemes	User	Inactive	-	-	-	-
Ericsson	Producer	Inactive	-	-	-	-
Google	User	Inactive	X	X	-	-
Huawei Technologies	Producer	Inactive	-	-	-	-
Infineon Technologies AG	Producer	Inactive	-	-	-	-
Instituto de Telecomunicações	User	Inactive	-	-	-	-
IBM	Producer	Inactive	-	-	-	-
Intel Corp.	Producer	Inactive	X	X	-	-
Keysight Technologies	User	Active	X	X	X	X
Marvell	Producer	Inactive	-	X	-	-
Maxim Integrated	Producer	Inactive	-	X	-	-
Mentor, A Siemens Business	User	Active	X	X	X	-
Micron Technology	Producer	Active	X	X	X	X
MST EMC Lab	User	Inactive	-	-	-	X
NXP	Producer	Inactive	-	-	-	-
SerDesDesign.com	User	Inactive	-	-	-	-
SiSoft	User	Active	X	X	X	X
Synopsys	User	Active	X	X	X	X
Teraspeed Labs	General Interest	Active	X	X	X	X
Xilinx	Producer	Inactive	-	-	-	-
ZTE Corp.	User	Inactive	-	-	-	X
Zuken	User	Active	X	X	X	X

Criteria for SAE 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 SAE standards 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.