

**IBIS Open Forum Minutes**

Meeting Date: **November 20, 2020**

Meeting Location: **Online Virtual Summit**

**VOTING MEMBERS AND 2020 PARTICIPANTS**

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Xuefeng Chen\*, Jianguo Zhou\*, Jinghua Huang\*

Teraspeed Labs Bob Ross\*

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Xpeedic Technology Wei He\*, Zhouxiang Su\*

XTUS Sejin Pak

Yamaha Corporation Tetsuya Kakimoto

Yazaki Parts Co. 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/IBISOFfridayTeams>

[Join Microsoft Teams Meeting](https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZmIyZGI5NTQtZDM4MS00NmU5LTgyNmYtNzU4ZTllMWI5NGM4%40thread.v2/0?context=%7b%22Tid%22%3a%22fcbfc6fa-e20b-4a1d-b629-1b8e17697dbc%22%2c%22Oid%22%3a%227735c7ad-2577-4290-9e27-bce52c296030%22%7d)

Conference ID: 803 509 041#

[Local numbers](https://dialin.teams.microsoft.com/d1ae197a-e3fc-4c53-90b6-39fdeba65bc1?id=803509041) | [Learn more about Teams](https://support.microsoft.com/en-us/office/join-a-meeting-in-teams-1613bb53-f3fa-431e-85a9-d6a91e3468c9?ui=en-us&rs=en-us&ad=us) | [Meeting options](https://teams.microsoft.com/meetingOptions/?organizerId=7735c7ad-2577-4290-9e27-bce52c296030&tenantId=fcbfc6fa-e20b-4a1d-b629-1b8e17697dbc&threadId=19_meeting_ZmIyZGI5NTQtZDM4MS00NmU5LTgyNmYtNzU4ZTllMWI5NGM4@thread.v2&messageId=0&language=en-US)

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[Alternate VTC dialing instructions](https://support.bluejeans.com/s/article/VTC-Dial-In-Options-for-Teams-Meetings)

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.

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**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](mailto: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](mailto:ibis@freelists.org) and/or [ibis-users@freelists.org](mailto:ibis-users@freelists.org) email lists (formerly [ibis@eda.org](mailto:ibis@eda.org) and [ibis-users@eda.org](mailto:ibis-users@eda.org)).
* To subscribe to one of the task group email lists: [ibis-macro@freelists.org](mailto:ibis-macro@freelists.org), [ibis-interconn@freelists.org](mailto:ibis-interconn@freelists.org), or [ibis-quality@freelists.org](mailto: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](http://www.ibis.org/%20bugs/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>   
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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 09, 2020** | **October 30, 2020** | **November 13, 2020** | **November 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.