IEEE 802.3cx Improved PTP Timestamping Accuracy (ITSA) Task Force Meeting Minutes

November 17, 2020, Virtual Meeting

- Minutes prepare by Silvana Rodrigues and Steve Gorshe

Agenda and General Information Presentation by Steve Gorshe, ITSA Task Force Chair

- Steve Gorshe, meeting and task force chair, begins presenting the Agenda and General Information slides
- Since this was a virtual meeting, the attendees were not asked to introduce themselves with their affiliations. Instead, the Chair asked them to identify their affiliation in their WebEx user names.
- **Agenda** – Chair presents the agenda for the meeting and asked if anyone had comments, additions or objections for the meeting agenda.
- The agenda was approved by acclamation per slide 2 of the following presentation: https://www.ieee802.org/3/cx/public/nov20/agenda_b_3cx_1120.pdf
- **Task Force Decorum** - Chair reviewed slide and noted that there should be no recording or photography without permission. Chair asked if anyone was attending from the press including those who would run a public blog on this meeting – none responded.
- **Goals for Meeting** – Chair presented the goals with no comment from attendees
- **Big Ticket Items** – Chair presented the Big-Ticket items aligned to goals with no comments from attendees
- **Reflector and Web** – Chair presented the Task Force reflector and web information. All in attendance were invited to subscribe for Task Force communications and updates.
- **Task Force Private Area** – Chair reminded members of the Task Force Private Area, presented the URL to that private area and presented both the Username and Password to gain access to the URL. Chair also noted that the general IEEE 802.3 Username and Password can be used to access the URL.
- **Ground Rules** – Chair review the meeting ground rules based on IEEE 802.3 Rules.
- **Attendance** – Attendees were reminded of the IEEE 802.3 attendance procedures and asked to follow the link to those procedure for further information. IMAT tool was used for this meeting, and password was given by the chair.
- **IEEE Structure and Important Bylaws & Rules** – Chair review the IEEE SA structure including a review of how 802.3 WG and the Task Force is located within the structure. The important bylaws and rules were pointed out for all to refer is needed or of interest.
- **IEEE 's Patent Policy and IEEE WG Meeting Guidelines (Slides 12-16 or IEEE SA Slides 0-4)** – All 5 IEEE SA slides were presented with the chair highlighting that

1. IEEE's patent policy is described in Clause 6 of the IEEE SA Standards Board Bylaws where they can be referred to and that the IEEE SA Standards Board Patent Committee Administrator may be contacted with further questions
2. Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged

3. There may be Essential Patent Claims of which IEEE is not aware. Additionally, neither IEEE, the WG, nor the WG Chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.
4. Participants have a duty to inform the IEEE of the identity of each holder of any potential Essential Patent Claims of which they are personally aware if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents

- The chair provided an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) of which the participant is personally aware and that may be essential for the use of this standard.
  - No such claims were bought to the chair's attention.
  - **Participation in IEEE 802 Meetings** – Chair review the slide
  - **Overview of IEEE802.3 Standard Process (5 slides)** – Chair reviewed the standards process slides. Chair highlighted that the ITSA group had completed the Study Group Phase and moved into the Task Force Proposal Selection Phase on slide 2of5 of the Process slides.
  - **Liaisons and Communications** – There were none to review for this meeting.
  - **Action Items** – There were none to review for this meeting.
  - **Task Force Approved Project Documents** – Task Force project documents remain unchanged and links to the documents were provided.
  - **Task Force Objectives** – Chair restated the adopted Task Force objectives.
  - **Task Force Timelines** – Chair presented the timeline.
  - **Previous Meeting Minutes** - The chair mentioned that no comments had been received regarding the meeting minutes from previous meetings.
    Meeting minutes held on September 23, 2020 (virtual call) are here:
    https://www.ieee802.org/3/cx/public/sept20/Approved_Meeting_Minutes_ITSA_802d3cx_0920.pdf
    Chair asked if any attendee had comments regarding the September 23, 2020 Meeting Minutes. None were received
    Meeting minutes held on October 20, 2020 ad hoc (virtual call) are here:
    https://www.ieee802.org/3/cx/public/oct20/Approved_Meeting_Minutes_ITSA_802d3cx_1020.pdf
    Chair asked if any attendee had comments regarding the October 20, 2020 Meeting Minutes. None were received

- Chair put forward motions for the Task Force to approve the previous meeting minutes.

Motion #1: Approve the meeting minutes of September 23, 2020:

https://www.ieee802.org/3/cx/public/sept20/Approved_Meeting_Minutes_ITSA_802d3cx_0920.pdf

- *Requires >50% (Procedural)*
- *Moved by : David Law Seconded by:* Michael Takefman
- *PASSES with no objections received*

Approved meeting minutes from September 23, 2020 are officially here
https://www.ieee802.org/3/cx/public/sept20/Approved_Meeting_Minutes_ITSA_802d3cx_0920.pdf

Motion #2: Approve the meeting minutes of October 20, 2020:

https://www.ieee802.org/3/cx/public/oct20/Approved_Meeting_Minutes_ITSA_802d3cx_1020.pdf

- *Requires >50% (Procedural)*
- *Moved by : Richard Tse Seconded by:* Michael Takefman
- *PASSES with no objections received*

Approved meeting minutes from October 20, 2020 are officially here
https://www.ieee802.org/3/cx/public/oct20/Approved_Meeting_Minutes_ITSA_802d3cx_1020.pdf

Presentations – In addition to this presentation (Agenda and General Information), 5 other presentations are on the agenda to be reviewed. Chair introduced the presentations for the day and started the presentation agenda item.

Presentation #1 - 2 Further Considerations on Multi-PCS Distribution Delay, Xiang He, Huawei

- https://www.ieee802.org/3/cx/public/nov20/he_3cx_01_1120.pdf
- It clarifies several questions made in previous meetings.
- Slides 4 gives a summary of the 3 methods proposed for Multi-PCS lane distribution
- Slide 5 compares the Multi-PCS Lane Distribution versus FEC Parity Bits and provides a table with the error caused by PCS lane distribution
- There were discussions about slide 5 regarding the time error caused by PCS lane distribution
- There were discussions about the de-skew function and how it affects the PTP message

Presentation #2 - Comparison and Proposal for Multi-PCS Lane Distribution Path Delay Variance, Richard Tse, Microchip

- https://www.ieee802.org/3/cx/public/nov20/tse_3cx_01a_1120.pdf
- Slides 5 presents a table with a summary of the 3 methods
- There was a discussion about Optical Module and it may have some issues to have it compatible with other PHY functions with variable delay
- The chair put forward the following straw poll:

Straw poll #1:

- For Multi-PCS lane distribution delay variance, I favor:

A. Since the combination of transmitter and receiver delay sum to a constant, assign a fixed delay similar to how FEC is handled.
B. Track the specific delay variation at the transmitter and receiver and offset the timestamp accordingly
C. Abstain
D. Need more information

- The chair did not count the straw poll numbers at that point, since they were submitted through WebEx Chat, but the results clearly favored Option A. The counted results were subsequently included in the updated **agenda** posted after the close of the meeting: A = 20, B = 3, C = 5, D = 3.

  - Based on the poll results, the Chair put forward the following motion:

Motion #3: To adopt the proposal and baseline text of tse_3cx_01_1120 slide 3 as the baseline for P802.3cx multi-PCS lane delay distribution variance

- Requires >75% (Technical)
- Moved by: Marek Hajduczenia Seconded by: Steve Trowbridge
- PASSES with no objections received

Presentation #3 - Timestamping with Transmitter Skew: Follow-Up and Proposed Amendments, Andras de Koos, Microchip Technologies

- https://www.ieee802.org/3/cx/public/nov20/dekoos_3cx_01_1120.pdf
- This contribution presents a proposal for making explicit recommendations about transmitter skew for multilane Ethernet interfaces in order to increase time synchronization accuracy
- There were some editorial suggestions for the proposed wording, but it was agreed that the wording can be refined later.
- The Chair put forward the following motion:

Motion #4: To adopt the proposal and baseline text of dekoos_3cx_01_1120 slides 6 and 7 as a the baseline for dealing with P802.3cx transmitter skew

- Requires >75% (Technical)
- Moved by: Marek Hajduczenia Seconded by: Xiang He
- PASSES with no objections received

Presentation #4 - Proposal for Message Timestamp Point , Richard Tse and David Law, Microchip, H.P.E.

- https://www.ieee802.org/3/cx/public/nov20/tse_law_3cx_01a_1120.pdf
- This contribution proposes to align the message timestamp point with IEEE 1588 and IEEE 802.1AS
- The Chair put forward the following motion:

Motion #5: To adopt the proposal and baseline text tof tse_law_3cx_01_1120 slides 6 and 7 as the baseline for timestamping point

- Requires >75% (Technical)
- Moved by: Marek Hajduczenia Seconded by: Mark Laubach
- PASSES with no objections received

Presentation #5 - Higher Accuracy for IEEE 802.3 PCS Path Data Delay Registers, Richard Tse and Marek Hajduczenia, Microchip, Charter

- https://www.ieee802.org/3/cx/public/nov20/tse_hajduczenia_3cx_01a_1120.pdf
- This contribution proposes to add a high precision 16 bit register to each of the existing registers to represent fractional nanoseconds.
- The Chair put forward the following motion:

Motion #6: To adopt the proposal and baseline text of tse_hajduzenia_3cx_01_1120 slides 7-12 as the baseline for adding higher accuracy PCS delay registers.

- Requires >75% (Technical)
- Moved by: Marek Hajduczenia Seconded by: Mark Laubach
- PASSES with no objections received

FUTURE MEETINGS

- There is not a firm date for next IEEE 802.3 meeting, most likely it will be a virtual meeting, possibly scheduled for the week of January 18, 2020 (to be confirmed).

New Business

- There was no new business

Adjourn

- TF Chair proposed adjourning the meeting with the agenda having been completed.
- The Chair put forward the following motion:

Motion #7: Adjourn the meeting

- Moved by: Marek Hajduczenia Seconded by: Mark Laubach
- Requires >50% approval
- PASSES with no objections received

Attendance

IEEE 802.3cx Improving PTP Timestamping Accuracy TF IEEE 802.3cx Virtual Plenary Series meeting, November 2020				Day 1 Nov. 17				
By choosing to attend and sign in to this meeting, you acknowledge and agree that your personal data will be documented for IEEE standards development purposes to comply with policies and procedures, legal and accreditation requirements, and evaluation of patent claims by patent offices. See Front Page for additional information.								
Last Name	First Name	Employer	Affiliations	Tues.				
Healey	Adam	Broadcom	Broadcom	x				
Lin	Alex	MediaTek	MediaTek	x				
Ghiasi	Ali	Ghiasi Quantum	Ghiasi Quantum	x				
de Koos	Andras	Microchip	Microchip	x				
Marris	Arthur	Cisco	Cisco	x				
Chang	Ayla	Huawei	Huawei	x				
Powell	Bill	Nokia	Independent	x				
McCellan	Bret	Cadence	Cadence	x				
Carty	Clark	Cisco	Cisco	x				
Estes	Dave	Spirent	Spirent	x				
Ofelt	David	Juniper Networks	Juniper	x				
Law	David	HPE	HPE	x				
Piehler	David	Dell	Dell	x				
Fan	Dawei	Huawei	Huawei	x				
Wong	Denny	Xilinx	Xilinx	x				
Maniloff	Eric	Ciena	Ciena	x				
Nicholl	Gary	Cisco	Cisco	x				
Chacon	Geoffrey	MorethanIP	MorethanIP	x				
Parsons	Glenn	Ericsson	Ericsson	x				
Lackner	Hans	QoSCom	QoSCom	x				
Isono	Hideki	Fujitsu	Fujitsu	x				
Chang	Jacky	HPE	HPE	x				
Young	James	Commscope	Commscope	x				

Lv	Jingfei	Huawei	Huawei	x				
Aronson	Joe	TI	TI	x				
Dambrosia	John	Futurewei	Futurewei (U.S. subsidiary of Huawei)	x				
De Andrea	John	II-VI/Finisar	II-VI/Finisar	x				
Calvin	John	Keysight	Keysight	x				
Chuang	Keng Hua	HPE	HPE	x				
Kota	Kishore	Inphi	Inphi	x				
McMillan	Larry	Western Digital	Western Digital	x				
Kabra	Lokesh	Synopsis	Synopsis	x				
Hajduczenia	Marek	Charter	Charter	x				
Bordogna	Mark	Intel	Intel	x				
Laubach	Mark	Independent	Independent	x				
Wendt	Matthias	Signify	Signify	x				
Takefman	Michael	Inphi	Inphi	x				
Jones	Peter	Cisco	Cisco	x				
Nering	Raymond	Cisco	Cisco	x				
Rabinovich	Ricardo	Keysight	Keysight	x				
Tse	Richard	Microchip	Microchip	x				
Cummings	Rodney	National Instruments	National Instruments	x				
Wang	Roy	HPE	HPE	x				
Sommers	Scott	Molex	Molex	x				
Muller	Shimon	Axalume	Axalume	x				
Rodrigues	Silvana	Huawei	Huawei	x				
Graber	Steffen	Pepperl+Fuchs	Pepperl+Fuchs	x				
Gorshe	Steve	Microchip	Microchip	x				
Trowbridge	Steve	Nokia	Nokia	x				
Pandey	Sujan	Huawei	Huawei	x				
Sprague	Ted	Infinera	Infinera	x				
Huber	Tom	Nokia	Nokia	x				
Palkert	Tom			x				

Parkholm	Ulf	Ericsson	Ericsson	x				
Tran	Viet	Keysight	Keysight	x				
Bhatt	Vipul	II-VI	II-VI	x				
Yumeng	Wang	Huawei	Huawei	x				
He	Xiang	Huawei	Huawei	x				
Wang	Xinyuan	Huawei	Huawei	x				
Kim	Yong	Axonne	Axonne	x				