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

## September 23, 2020, Virtual Meeting

- Minutes prepare by Dino Pozzebon 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
- Chair asks all attendees to email him their name and affiliation for the meeting minutes attendees log.
- **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 without opposition.
- **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 NOT used for this meeting.
- **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 were links to the documents were provided.
- **Task Force Objectives** – Chair restated the adopted Task Force objectives.
- **Task Force Timelines** – Chair presented a first draft of a timeline. Outside this meeting it was commented that the timeline may be longer than required. No comments were made by TF members in attendance. Chair mentioned that timeline would be updated after the end of this meeting.
- **Previous Meeting Minutes** - The chair mentioned that no comments had been received regarding the meeting minutes from the last meeting, July 22, 2020 (virtual meeting). Chair asked if any current attendees had comments regarding the July 22, 2020 Meeting Minutes. None were received.
  - Chair asked if the minutes could be approved by voice. No objections were voiced, and the previous meeting minutes are approved.

  *Approved meeting minutes from July 22, 2020 are officially here*
  *https://www.ieee802.org/3/cx/public/july20/Approved_Meeting_Minutes_ITSA_802d3cx_0720.pdf*

- **Presentations** – In addition to this presentation (Agenda and General Information), 4 other presentations are on the agenda to be reviewed. Chair introduced the presentations for the day and started the presentation agenda item.

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## Presentation #1 - Proposal for Timestamping with AM, CWM, and Idle Rate Adaptation, Richard Tse, Microchip

- https://www.ieee802.org/3/cx/public/sept20/tse_3cx_01a_0920.pdf
- Proposal to add text to Clause 90.7 accounting for PHY data delay variations due to AM and CWM insertion/removal and corresponding Idle rate adaptation. The proposal had multiple listed supporters.

***Motion #1: Motion: Move to adopt the proposals from tse_3cx_01 as a baseline for handling AM/CWM insertion removal and Idle Rate Adaption***

1. *Requires >75% (Technical)*
2. *Moved by : Richard Tse Seconded by: Xiang He*
3. *Y=8, N=0, A=0*
4. *PASSES*

## Presentation #2 - Multi-PCS Lane Distribution Delay Compensation

- https://www.ieee802.org/3/cx/public/sept20/he_3cx_01_0920.pdf
- Identifies that time errors are caused by different compensation methods from past presentations
- Proposal to use a compensation method which would alleviate this time error.
- It was questioned if the one of proposals in this document, timestamping with knowledge of PCS lane may, would be contradicting the current CL90 text.

## Presentation #3 - Proposal for Multi-PCS Lane Distribution Path Delay Variance, Richard Tse, Microchip Technologies

- https://www.ieee802.org/3/cx/public/sept20/tse_3cx_02a_0920.pdf
- Proposal to agree on “Soln #3” to deal with data delay variations due to multi PCS lane distribution. The proposal had multiple listed supporters.
- The proposal is to use an approach that is essentially the same as that used for FEC. It proposed text options that were either new CL90.7 paragraphs, or modify the current CL90.7 FEC paragraph to include the multi-PCS lane distribution. Several expressed support for the approach, but there was a discussion on how that specification for newer, compliant, implementations would impact or interact with older implementations. Question was asked if a mode bit could be used/defined.
- **ACTION**: A request was made to prepare a contribution which highlights the debate for Mii timestamping (each BW has different timestamp) vs PCS distribution column timestamping (all BW on PCS lanes have same timestamps).

## Presentation #4 - PTP Timestamping on Ethernet Interfaces: Accounting for Transmitter Skew, Andras Dekoos, Microchip Technologies

- https://www.ieee802.org/3/cx/public/sept20/dekoos_3cx_01_0920.pdf
- Presentation looking at the impact of transmit skew on time sync accuracy and the potential sources of transmit skew. The impact of transmit skew had been observed in the lab.
- Identifies that accurate time stamping applications would require the RX and TX delays, including lane skew, to be known. Ideally all implementations have zero transmit skew.
- General discussion was that task force should address this with some informative text proposing the first of 3 "Ideas towards a solution" on last slide of deck, which was to require zero transmitter skew in nodes performing timestamping.

## Task Force Timeline

- Was discussed at during opening slides by the chair and not discussed again here.

## FUTURE MEETINGS

- Chair reviewed future meetings proposal with the group.
- Will investigate an ad-hoc meeting in October.

## Adjourn

- TF Chair proposed adjourning the meeting with the agenda having been completed.
  - ***Motion #1: Adjourn the meeting***
  - *Moved by: Mark Gustin, Second by: David Ofelt*
  - *Requires >50% approval*
  - *PASSES with no objections received*

# Attendance

| IEEE 802.3cx Improving PTP Timestamping Accuracy TF<br>IEEE 802.3cx Virtual Interim September 2020 | Day 1<br>Sept. 23 |
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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

| Last Name | First Name | Employer | Affiliations | Wed. |
|---|---|---|---|---|
| Bordogna | Mark | Intel | Intel | x |
| Carty | Clark | Cisco | Cisco | x |
| Chacon | Geoffrey | MorethanIP | MorethanIP | x |
| Chuang | Keng Hua | HPE | HPE | x |
| Cummings | Rodney | National Instruments | National Instruments | x |
| de Koos | Andras | Microchip | Microchip | x |
| Fan | Dawei | Huawei | Huawei | x |
| Gorshe | Steve | Microchip | Microchip | x |
| Gustlin | Mark | Cisco | Cisco | x |
| Hajduczenia | Marek | Charter | Charter | x |
| He | Xiang | Huawei | Huawei | x |
| Huber | Tom | Nokia | Nokia | x |
| Kadosh | Aviran | Cisco | Cisco | x |
| Lv | Jingfei | Huawei | Huawei | x |
| Nataraja | Sriram | Cisco | Cisco | x |
| Nicholl | Shawn | Xilinx | Xilinx | x |
| Ofelt | David | Juniper Networks | Juniper | x |
| Powell | Bill | Nokia | Nokia | x |
| Pozzebon | Dino | Microchip | Microchip | x |
| Rodrigues | Silvana | Huawei | Huawei | x |
| Sprague | Ted | Infinera | Infinera | x |
| Stellpflug | Gregor | Finisar | Finisar | x |
| Trowbridge | Steve | Nokia | Nokia | x |
| Tse | Richard | Microchip | Microchip | x |
| Wang | Xinyuan | Huawei | Huawei | x |
| Wong | Denny | Xilinx | Xilinx | x |