IEEE 802.3 Ethernet Working Group
Liaison Communication

Source:	IEEE 802.3 Working Group[1]	
To:	Ray Emplit	Chair, TIA TR42 remplit@harger.com
CC:	Konstantinos Karachalios	Secretary, IEEE-SA Standards Board Secretary, IEEE-SA Board of Governors sasecretary@ieee.org
	Paul Nikolich	Chair, IEEE 802 LMSC p.nikolich@ieee.org
	Adam Healey	Vice-chair, IEEE 802.3 Ethernet Working Group adam.healey@broadcom.com
	Pete Anslow	Secretary, IEEE 802.3 Ethernet Working Group panslow@ciena.com
	George Zimmerman	Chair, IEEE P802.3cg Task Force george@cmephyconsulting.com
	Valerie Maguire	TIA Incoming Liaison to IEEE 802.3 Working Group valerie_maguire@siemon.com
	Chris Diminico	IEEE 802.3 Working Group Incoming Liaison to TIA cdiminico@ieee.org
From:	David Law	Chair, IEEE 802.3 Ethernet Working Group dlaw@hpe.com

Subject: Liaison letter response to TIA TR42 regarding input liaison of 10th February 2017

Approval: Agreed to at IEEE 802.3 Plenary meeting, Vancouver, BC, Canada, 16th March 2017

Dear Ray,

Thank you for your liaison on IEEE 802.3 balanced single pair applications. IEEE 802.3 reviewed your requests for information and has developed the responses below to each question regarding the IEEE P802.3cg 10 Mb/s Single Pair Ethernet project:

- The frequency limits under consideration

  IEEE 802.3: Link segment strawman proposals that have been accepted in the baseline use a frequency range from 100 kHz to 20 MHz along with expected considerations for DC resistance. The project may consider additional link segment specifications as it progresses.

- Number of connections for envisioned use cases

  IEEE 802.3: The maximum number of mated connections in the 1000 m link segment is 10.

[1] This document solely represents the views of the IEEE 802.3 Working Group, and does not necessarily represent a position of the IEEE, the IEEE Standards Association, or IEEE 802.

- Gauge of cables contemplated for different use cases

  IEEE 802.3: We do not expect our standard to directly specify the cabling gauge, except as it may impact the insertion loss and other parameters of the link segment. The link segment IL in the accepted baseline proposal is based on 18 AWG conductors to support 1000 m but smaller diameter conductors are allowed for shorter use cases. Alternative thicker conductors may be required depending on optional power delivery for extended distances up to 1000 m.

- Use case environments beyond those described in the MICE table

  IEEE 802.3: There are a variety of use cases under consideration including in-building applications, industrial automation, and process control that will extend into outside plant installations. At present there are some indications of use cases that go beyond the worst case MICE tables in ANSI/TIA-568-0-D (this is an item for further study).

Regarding your questions on the published IEEE Std 802.3bw-2015 and IEEE Std 802.3bp-2016 specifications, we have the following input:

First, generally, IEEE Std 802.3bw-2015 and IEEE Std 802.3bp-2016 are published amendments, and, if a change is required, the method would be to have an individual submit a maintenance request to the IEEE 802.3 Working Group. Information on the maintenance process for IEEE Std 802.3 may be found on the IEEE 802.3 website at http://www.ieee802.org/3/maint/index.html.

- Mode conversion requirements for 1000BASE-T1 Optional link segment type B

  IEEE 802.3: Mode conversion in the 1000BASE-T1 Type B link segment is managed by shielding with a coupling attenuation requirement.

- Delay characteristics for 100BASE-T1

  IEEE 802.3: We assume you are referring to the propagation delay of the link segment, not the PHY delay. Link segment propagation delay is not specified in IEEE Std 802.3bw-2015 (100BASE-T1) and is not considered to be a key parameter.

The IEEE P802.3cg Task Force is actively considering many proposals for different link segments with different reaches in a variety of use cases and reference to optional MDI connectors. It is also aware of the benefits offered by generic cabling infrastructure in supporting other applications, and is supportive of this concept inside buildings.

Please let us know if you have any questions and if you need any further information on these activities.

Sincerely,
David Law
Chair, IEEE 802.3 Ethernet Working Group