

IEEE 802.3
Call for Interest
Enhancements to Single Pair Ethernet
Opening Report

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ADI, APL Group, Cisco, CommScope, Marvell, SenTekSe

Electronic Plenary

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CFI Request

With the conclusion of IEEE Std 802.3cg-2019, the Ethernet Standard has renewed interest in Ethernet at lower speeds. Renewed interest has broadened the application areas. This has already spawned a project for enhancements to the 10 Mbps shared-media (aka multidrop) operation on mixing segments in IEEE P802.3da; however, the point-to-point PHYs are outside the written scope of the IEEE P802.3da PAR. **This call for interest is to consider enhancements related to the use of the point-to-point operation in single pair ethernet, including for example, use of 10BASE-T1L with MACMERGE.** The proposed study group would explore any needed enhancements to use the new PHYs in Time-Sensitive Networking (TSN) and industrial networking environments.

Overview: Motivation

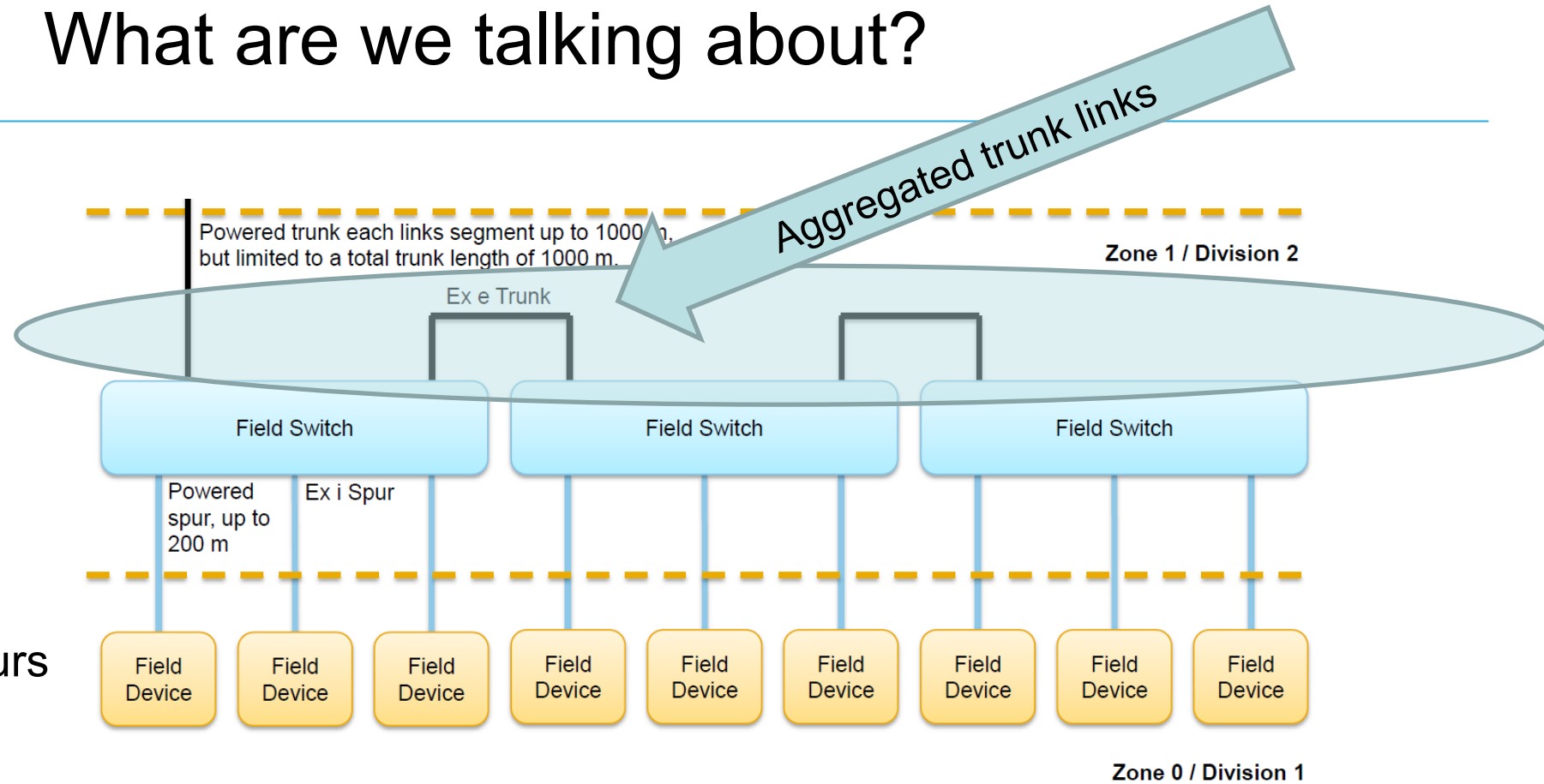
- Emerging use of Single Pair Ethernet in Operational Technology Networks has brought to light needed enhancements to 802.3 related to the point-to-point 10 Mb/s PHYs added by IEEE Std 802.3cg-2019, as well as the related need to begin work on the next stage of SPE growth for point-to-point.
- (At least) Two potential PARs from this CFI:
 - Short term – TSN Enhancements
 - Long term – Next generation point-to-point SPE (T1L)
- Specifically, multidrop, and hence PLCA would be out of scope of the proposed *point-to-point* effort
 - Multidrop enhancements are 802.3da
 - For PLCA, see IEEE Std 802.3cg-2019 Clause 148 introduction

What are we talking about?

Process control trunks

Building automation trunks

- Later evolution to spurs likely



This has two parts: Near-term (initial 10BASE-T1L deployments), and Long-term (providing a next speed for growth 4-5 years from now)

Why now

SPE (10BASE-T1L) chipsets/eval boards available now from multiple vendors

SPE system products in 2021

Certification and Demonstrations in process for mid-year 2021

Standards timeline is longer for next generations

More options, learning feedback

Next generation needed 2025-2026

802.3cg:

CFI: July 2016

Standard Approved Nov 2019

Products in 2021

Next gen?:

CFI: March 2021

Standard Approved Nov 2023?

Products in 2025?

Logistics

An overview presentation session will be given to support consensus building:

- Date – Tuesday, 9 March 2021
- Time – 1500-1700 UTC (7-9AM US Pacific Time)

Location – zoom meeting:

<https://Dell.zoom.us/j/99737115638?pwd=allHM2FLTWFxYkhPSFNJRkJ2OS92Zz09>

Join from a browser: <https://Dell.zoom.us/jc/join/99737115638> Password: 437408

- CFI Presentation:
 - https://www.ieee802.org/3/cfi/request_0321_1.html

Request to form Study Group will occur during the mid-session
802.3 WG Plenary

Questions?

Thank you!