IEEE 802.3 Working Group
March 2023 Plenary Session

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Web site: www.ieee802.org/3

Current IEEE 802.3 activities

IEEE 802.3 Task Forces

- IEEE P802.3cw 400 Gb/s over DWDM systems
- IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet
- IEEE P802.3da 10 Mb/s Single Pair Multidrop Segments Enhancement
- IEEE P802.3df 200 Gb/s, 400 Gb/s, 800 Gb/s, and 1.6 Tb/s Ethernet
- IEEE P802.3dg 100 Mb/s Long-Reach Single Pair Ethernet
- IEEE P802.3dh Multi-Gigabit Automotive Ethernet over Plastic Optical Fiber
- IEEE P802.3dj 200 Gb/s, 400 Gb/s, 800 Gb/s, and 1.6 Tb/s Ethernet
- IEEE P802.3dk Greater than 50 Gb/s Bidirectional Optical Access PHYs

IEEE 802.3 Ad Hoc

- IEEE 802.3 New Ethernet Applications
- IEEE 802.3 Power Distribution Coordinating Committee (PDCC)

IEEE 802.3 Maintenance

Progress

- The IEEE 802.3 Maintenance Task Force did not meet during this plenary session
  - No IEEE 802.3 maintenance items to consider
- Time was used as an opportunity for IEEE 802.3 participants to attend an IEEE 802.1 YANGsters meeting to discuss IEEE P802.3.2 YANG Data Model Definitions revision project
  - Discussion of IEEE 802.1 and IEEE 802.3 collaboration on IEEE P802.3.2 and future YANG projects
- Web page: http://www.ieee802.org/3/maint/index.html

IEEE P802.3cw 400 Gb/s over DWDM Systems Task Force

Description

Define physical layer specifications and management parameters for the transfer of Ethernet format frames at 400 Gb/s at reaches greater than 10 km over DWDM systems.

Web site: http://ieee802.org/3/cw/index.html

Progress

The IEEE P802.3cw Task Force did not meet during this plenary session

First Working Group recirculation ballot of draft D2.1 initiated prior to the plenary on 5 March 2023

While the initial ballot exceeded the required approval threshold, due to the extent of the changes to the draft, the scope of the recirculation is the complete IEEE P802.3cw/D2.1 draft, and the duration of the recirculation ballot is 40 days

Next steps

Complete IEEE P802.3cw/D2.1 first Working Group recirculation ballot process

Conduct further Working Group recirculation ballots as necessary

IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet Task Force

Description

Specify additions to and appropriate modifications of IEEE Std 802.3 to add greater than 10 Gb/s electrical Physical Layer specifications for symmetrical and asymmetrical operation and management parameters for media and operating conditions for applications in the automotive environment.

Web site: http://ieee802.org/3/cy/index.html

Progress

Conditional approval granted to progress IEEE P802.3cy to RevCom submittal

Next steps

Complete the IEEE P802.3cy Standards Association balloting process

Progress approval of IEEE P802.3cy as an IEEE Standard

IEEE P802.3da 10 Mb/s Single Pair Multidrop Segments Enhancement Task Force

Description

Specify additions and modifications of the Physical Layer (including reconciliation sublayers), management parameters, Ethernet support for time synchronization protocols, and optional power delivery supporting multiple powered devices on the 10 Mb/s mixing segment.

Web site: http://ieee802.org/3/da/index.html

Progress

Considered four contribution: Summary of Progress on Mixing Segment Specifications in IEEE P802.3da, Trunk Connection and Insertion Loss, Editor's Report, Inductive compensation noise reduction

Conversation about lack of progress, took straw polls giving guidance for baseline text, reviewed the work list, updated the timeline

Next steps

Continue baseline selection to satisfy the project objectives

IEEE P802.3df 400 Gb/s and 800 Gb/s Ethernet Task Force

Description

Define Ethernet MAC parameters, physical layer specifications, and management parameters for the transfer of Ethernet format frames at 800 Gb/s over copper, multi-mode fiber, and single-mode fiber physical medium dependent (PMD) sublayers based on 100 Gb/s per lane signaling technology.

Web site: http://ieee802.org/3/df/index.html

Progress

Approval granted to progress IEEE P802.3df/D2.0 to Working Group ballot

Reviewed and generated liaisons to OIF (800LR IA Project Update and CEI-112-XSR+PAM4 Project) and ITU-T (reply to LS/0/r on the OTN mapping reference point for 800GBASE-R)

Next steps

Complete IEEE P802.3df/D2.0 initial Working Group ballot process

Conduct Working Group recirculation ballots as necessary

IEEE P802.3dg 100 Mb/s Long-Reach Single Pair Ethernet Task Force

Description

Specify additions to and appropriate modifications of IEEE Std 802.3 to add 100 Mb/s Physical Layer specifications and management parameters for operation, and associated optional provision of power, using a single balanced pair of conductors

Web site: https://ieee802.org/3/dg/index.html

Progress

Considered 4 contributions on link segment and PHY analysis

Discussed contributions related to link segment parameters and potential PHY parameters

Adopted proposals for link segment insertion loss, crosstalk noise & return loss

Next steps

Building consensus on PHY parameters

Continue baseline selection to satisfy the project objectives

IEEE P802.3dh Multi-Gigabit Automotive Ethernet over Plastic Optical Fiber Task Force

Description

Specify additions to and appropriate modifications of IEEE Std 802.3 to add Physical Layer specifications and management parameters for multi-gigabit optical Ethernet using graded-index plastic optical fiber for application in the automotive environment.

Web site: https://ieee802.org/3/dh/index.html

Progress

Considered two contributions, PHY naming and baseline proposal for IEEE P802.3dh

Two liaison were developed, one to IEC TC 86 SC 86A WG 1 enquiring about the status of the development of the A4j fiber standard and one to ISO TC 22/SC 32/WG 10 enquiring about the wavelength and temperature ranges for the automotive environment

Next steps

Continue baseline selection to satisfy the project objectives

IEEE P802.3dj 200 Gb/s, 400 Gb/s, 800 Gb/s, and 1.6 Tb/s Ethernet Task Force

Description

Define Ethernet MAC parameters for 1.6 Tb/s. Define physical layer specifications, and management parameters for the transfer of Ethernet format frames at 800 Gb/s and 1.6 Tb/s over copper and single-mode fiber physical medium dependent (PMD) sublayers based on 200 Gb/s or greater per lane signaling technologies. Using these new definitions for 800 Gb/s and 1.6 Tb/s, define physical layer specifications and management parameters for the transfer of Ethernet format frames at 200 Gb/s and 400 Gb/s, whenapplicable.

Web site: https://ieee802.org/3/dj/index.html

Progress

- Heard 30 contributions
- Agreed udated Objectives
  - Replaced 800 GbE 10km SMF objective with 2 objectives (802.3 Vote (y/n/a): 63 / 3 / 12)
    - over 1 wavelength over a single SMF in each direction with lengths up to at least 10 km
    - over 4 wavelengths over a single SMF in each direction with lengths up to at least 10 km
  - Added 400GBASE-DR2-2
    - 400 Gb/s operation over 2 pairs of SMF with lengths up to at least 2 km
- Completed 1.6 Tb/s Ethernet PCS baseline
- Adopted baseline for PMAs with 200 Gb/s per lane signaling
- Adopted baseline for FEC approach for 200 Gb/s / 400 Gb/s / 800 Gb/s Ethernet DR, DR-2, and FR objectives

Next steps

- Continue baseline selection to satisfy the project objectives

IEEE P802.3dk Greater than 50 Gb/s Bidirectional Optical Access PHYs Task Force

Description

Define physical layer specifications and management parameters for symmetric bidirectional operation at greater than 50 Gb/s over a single strand of single mode fiber of at least 10 km.

Web site: https://ieee802.org/3/dk/index.html

Progress

Major items discussed included fiber dispersion penalties, baseline proposals for 100 Gb/s bidirectional to reach 10 km and 20 km and wavelength plan options

Next steps

Continue baseline selection to satisfy the project objectives

IEEE 802.3 New Ethernet Applications (NEA) Ad Hoc

Description

The goal of this activity is to assess requirements for new Ethernet-based applications, identify gaps not currently addressed by IEEE 802.3 standards, and facilitate building industry consensus towards proposals to initiate new standards development efforts

Web site: http://ieee802.org/3/ad_hoc/ngrates/index.html

Progress

The IEEE 802.3 New Ethernet Applications Ad Hoc did not meet during this plenary session

Next steps

Consider any future requests

IEEE 802.3 Power Distribution Coordinating Committee (PDCC) Ad Hoc

Description

- Review output and build consensus on draft input for liaisons regarding power delivery over cabling cited in IEEE 802.3 standards and projects, e.g.:
  - Build consensus on responses to public input proposals received as part of the next edition of NFPA70; and consider any other NFPA related items of interest, such as proposed Tentative Interim Amendments (TIA)
  - Build consensus on draft input to IEC TC64/PT716, and proposed direction of the IEEE 802.3 Category C liaison expert
  - Build consensus on draft input to IEC TC108/PT63315, and proposed direction of the IEEE 802.3 Category C liaison expert
- Web site: https://ieee802.org/3/ad_hoc/PDCC/index.html

Progress

- Continued developing ISO/IEC JTC 1/SC 25/WG 3 single pair cabling liaison draft response
  - Expect consideration of draft response by IEEE 802.3 Working Group at May 2023 interim meeting

Next steps

- Continue to monitor activities within scope

IEEE 802.3 Officers, Subgroup Chairs and Vice-Chairs

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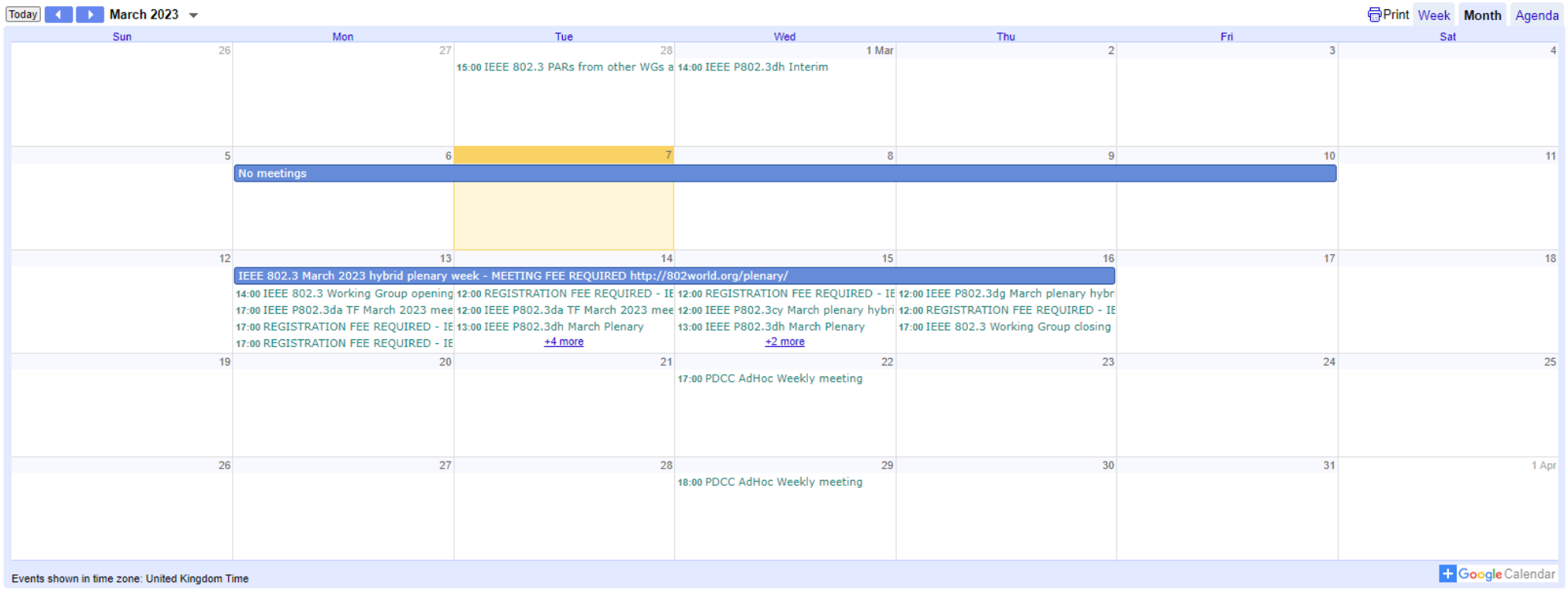
IEEE P802.3dj 200 Gb/s, 400 Gb/s, 800 Gb/s, and 1.6 Tb/s Ethernet: Mark Nowell <mnowell@cisco.com>

Upcoming meetings

Please see http://www.ieee802.org/3/calendar.html for latest calendar of meetings

NOTE: Calendar set to detected computer time zone: Europe/London



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