IEEE 802.3 Working Group
July 2021 Plenary Session

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Web site: www.ieee802.org/3

Current IEEE 802.3 activities

IEEE 802.3 Task Forces

- IEEE P802.3ck 100 Gb/s, 200 Gb/s, and 400 Gb/s Electrical Interfaces
- IEEE P802.3cp Bidirectional 10 Gb/s, 25 Gb/s and 50 Gb/s Optical Access PHYs
- IEEE P802.3cs Increased-reach Ethernet optical subscriber access (Super-PON)
- IEEE P802.3ct 100 Gb/s over DWDM systems
- IEEE P802.3cv Power over Ethernet (Maintenance #15)
- IEEE P802.3cw 400 Gb/s over DWDM systems
- IEEE P802.3cx Improved PTP Timestamping Accuracy
- IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet Task Force
- IEEE P802.3cz Multi-Gigabit Optical Automotive Ethernet Task Force
- IEEE P802.3da 10 Mb/s Single Pair Multidrop Segments Enhancement Task Force
- IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force
- IEEE P802.3 (IEEE 802.3dc) Ethernet revision (Maintenance #16) Task Force
- IEEE P802.3dd Power over Data Lines of Single Pair Ethernet (Maintenance #17) Task Force

IEEE 802.3 Study Group

- IEEE 802.3 Beyond 400 Gb/s Ethernet Study Group
- IEEE 802.3 Enhancements to Point-to-Point Single Pair Ethernet Study Group

IEEE 802.3 Ad Hoc

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

IEEE 802.3 Call for Interest

- Greater than 10 Mb/s long-reach point-to-point single pair Ethernet PHY call for interest

IEEE 802.3 Maintenance

Plan

- Consider new maintenance requests
- Review status of outstanding maintenance requests
- IEEE P802.3 (IEEE 802.3dc) Ethernet revision (Maintenance #16) project
  - Progress approval to proceed to Working Group ballot
- Adoption of IEEE 802.3 standards by ISO/IEC SC6
- Consider any other maintenance business
- Plenary session teleconference planned for 14h00 UTC Monday 19th July 2021

Web page

http://www.ieee802.org/3/maint/index.html

IEEE P802.3ck 100 Gb/s, 200 Gb/s, and 400 Gb/s Electrical Interfaces Task Force

Description

This project is to specify additions to and appropriate modifications of IEEE Std 802.3 to add Physical Layer specifications and Management Parameters for 100 Gb/s, 200 Gb/s, and 400 Gb/s electrical interfaces based on 100 Gb/s signaling

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

Status

Draft D2.1 sent out for 1st Working Group recirculation ballot

Plan

Consideration of comments received against draft D2.1

First plenary session teleconference planned for 14h00 UTC Wednesday 14th July 2021

Second plenary session teleconference planned for 14h00 UTC Wednesday 21st July 2021

IEEE P802.3cp Bidirectional 10 Gb/s, 25 Gb/s, and 50 Gb/s Optical Access PHYs Task Force

Description

Define physical layer specifications and management parameters for symmetric bidirectional 10 Gb/s, 25 Gb/s, and 50 Gb/s operation over single strand of single mode fiber of at least 10 km

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

Status

With the approval of IEEE Std 802.3cp-2021 by the IEEE-SA Standards Board on 16th June 2021, the IEEE P802.3cp Task Force will not meet during the July 2021 Plenary Session

IEEE P802.3cs Increased-reach Ethernet optical subscriber access (Super-PON) Task Force

Description

Define physical layer specifications and management parameters for optical subscriber access supporting point-to-multipoint operations using wavelength division multiplexing over an increased-reach (up to at least 50 km) passive optical network (PON)

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

Status

Draft D2.2 sent out for 1st Working Group recirculation ballot

Plan

Consideration of comments received against draft D2.2

Plenary session teleconference planned for 17h30 UTC Monday 19th July 2021

IEEE P802.3ct 100Gb/s over DWDM systems Task Force

Description

Define physical layer specifications and management parameters for the transfer of Ethernet format frames at 100 Gb/s at reaches greater than 10 km over DWDM systems

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

Status

With the approval of IEEE Std 802.3ct-2021 by the IEEE-SA Standards Board on 16th June 2021, the IEEE P802.3ct Task Force will not meet during the July 2021 Plenary Session

IEEE P802.3cv Maintenance #15: Power over Ethernet Task Force

Description

Editorial and technical corrections, refinements, and clarifications to Clause 145, Power over Ethernet, and related portions of the standard. No new features will be added by this project.

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

Status

With the approval of IEEE Std 802.3cv-2021 by the IEEE-SA Standards Board on 9th May 2021, the IEEE P802.3cv Task Force will not meet during the July 2021 Plenary Session

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

Status

Draft D1.1 sent out for 2nd Task Force review

Plan

Consideration of comments received against draft D1.1

Plenary session teleconference planned for 14h00 UTC Monday 19th July 2021

IEEE P802.3cx Improved PTP timestamping accuracy Task Force

Description

Define optional enhancements to Ethernet support for time synchronization protocols to provide improved timestamp accuracy in support of ITU-T Recommendation G.8273.2 'Class C' and 'Class D' system time error performance requirements.

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

Status

Draft D1.0 sent out for 1st Task Force review

Meeting plan

Complete consideration of comments received against D1.0, approve generation of D1.1

Plenary session teleconference planned for 14h00 UTC Wednesday 21st July 2021

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

Status

Selecting set of baseline proposals to satisfy project objectives

Meeting plan

Continue to work on selection of a set of baseline proposals

First plenary session teleconference planned for 14h00 UTC Tuesday 13th July 2021

Second plenary session teleconference planned for 14h00 UTC Tuesday 20th July 2021

IEEE P802.3cz Multi-Gigabit Optical Automotive Ethernet 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 for application in the automotive environment.

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

Status

Selecting set of baseline proposals to satisfy project objectives

Meeting plan

Continue to work on selection of a set of baseline proposals

First plenary session teleconference planned for 12h00 UTC Tuesday 13th July 2021

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

Status

Selecting set of baseline proposals to satisfy project objectives

Meeting plan

Continue to work on selection of a set of baseline proposals

Plenary session teleconference planned for 14h00 UTC Wednesday 14th July 2021

IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force

Description

Specify additions to and appropriate modifications of IEEE Std 802.3 and adds Physical Layer specifications and management parameters for 100 Gb/s, 200 Gb/s, and 400 Gb/s Ethernet optical interfaces for server attachment and other intra-data center applications using 100 Gb/s signaling over optical fiber

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

Status

Draft D1.1 sent out for 2nd Task Force review

Meeting plan

Complete consideration of comments received against D1.1, approve generation of D1.2

Plenary session teleconference planned for 16h00 UTC Monday 19th July 2021

IEEE P802.3dd Power over Data Lines of Single Pair Ethernet (Maintenance #17) Task Force

Description

Implement editorial and technical corrections, refinements, and clarifications to Clause 104, Power over Data Lines (PoDL) of Single-Pair Ethernet, and related portions of the IEEE Std 802.3 Ethernet standard. No new features are added by this project.

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

Status

Selecting set of baseline proposals to satisfy project objectives

Meeting plan

Continue to work on selection of a set of baseline proposals

Plenary session teleconference planned for 16h00 UTC Tuesday 20th July 2021

IEEE 802.3 Beyond 400 Gb/s Ethernet Study Group

Description

Develop a Project Authorization Request (PAR) and Criteria for Standards Development (CSD) responses:

(1) Beyond 400 Gb/s Ethernet

(2) Physical Layer specifications for existing Ethernet rates based on Physical Layer specifications for beyond 400 Gb/s Ethernet.

Web site: https://ieee802.org/3/B400G/index.html

Status

Developing PAR, CSD responses and objectives

Meeting plan

Progress development of PAR, CSD responses and objectives

First plenary session teleconference planned for 14h00 UTC Tuesday 13th July 2021

Second plenary session teleconference planned for 14h00 UTC Tuesday 20th July 2021

IEEE 802.3 Enhancements to Point-to-Point Single Pair Ethernet Study Group

Description

Develop a Project Authorization Request (PAR) and Criteria for Standards Development (CSD) responses for Enhancements to point-to-point Single Pair Ethernet to

(1) Support Time-Sensitive Networking (TSN), and

(2) Support increasing traffic and speed needs with long reach point-to-point higher-speed single-pair PHY

Web site: https://ieee802.org/3/SPEP2P/index.html

Status

The Study Group completed development of the draft IEEE P802.3de 3de Standard for Ethernet Amendment: Enhancements to the MAC Merge function and the Time Synchronization Service Interface (TSSI) to include Point-to-Point 10 Mb/s Single Pair Ethernet PAR, as well as supporting CSD and objectives

Draft PAR: https://mentor.ieee.org/802-ec/dcn/21/ec-21-0113-01-00EC-ieee-p802-3de-draft-par-responses.pdf

Draft CSD: https://mentor.ieee.org/802-ec/dcn/21/ec-21-0112-00-00EC-ieee-p802-3de-draft-csd-responses.pdf

Draft objectives: https://www.ieee802.org/3/SPEP2P/draft_objectives.pdf

Meeting plan

Progress draft PAR, CSD and objectives approval at July 2021 plenary meeting

Plenary session teleconference planned for 14h00 UTC Wednesday 21st July 2021

Greater than 10 Mb/s long-reach point-to-point Single Pair Ethernet PHY call for interest

The work begun in the IEEE 802.3 Enhancements to Point-to-Point Single Pair Ethernet Study Group for a higher-speed long reach point-to-point single pair Ethernet has garnered significant interest in a variety of use cases for long reach at speeds above 10 Mb/s. The Study Group has also submitted an initial focused IEEE P802.3de "Enhancements to the MAC Merge function and the Time Synchronization Service Interface (TSSI) to include Point-to-Point 10 Mb/s Single Pair Ethernet" draft PAR for consideration at the July 2021 plenary session. Since approval of this PAR by the IEEE-SA Standards Board will result in the disbandment of the IEEE 802.3 Enhancements to Point-to-Point Single Pair Ethernet Study Group, this call for interest is to consider continuing the work investigating a potential project for one or more greater than 10 Mb/s point-to-point PHYs using single-pair media at reaches beyond the reach of the existing IEEE 802.3 single-pair PHYs at the same rate in a new Study Group.

The call for interest will take place during the IEEE 802.3 Opening Plenary on Monday 12th July 2021. A call for interest consensus building session will be held during the IEEE 802.3 Enhancements to Point-to-Point Single Pair Ethernet Study Group meeting on Wednesday the 21st of July at 1515 UTC (the study group meeting itself starts at 1400 UTC with other business). The vote to determine if a Study Group will be formed will take place at the IEEE 802.3 Closing Plenary on Thursday 22nd July 2021.

IEEE 802.3 Officers, Subgroup Chairs and Vice-Chairs

IEEE 802.3 Chair: David Law <dlaw@hpe.com>
IEEE 802.3 Vice Chair: Adam Healey <adam.healey@broadcom.com>
IEEE 802.3 Secretary: Jon Lewis <jon.lewis@dell.com>
IEEE 802.3 Executive Secretary: Steve Carlson <scarlson@ieee.org>
IEEE 802.3 Treasurer: Valerie Maguire <valerie_maguire@siemon.com>

IEEE 802.3 Task Force chairs

IEEE P802.3ck 100 Gb/s, 200 Gb/s, and 400 Gb/s Electrical Interfaces: Elizabeth Kochuparambil <edonnay@cisco.com>
IEEE P802.3cp Bidirectional 10 Gb/s, 25 Gb/s and 50 Gb/s Optical Access PHYs: Frank Effenberger <frank.effenberger@huawei.com>
IEEE P802.3cs Increased-reach Ethernet optical subscriber access: (Super-PON): Claudio DeSanti <cds@ieee.org>
IEEE P802.3ct 100 Gb/s over DWDM systems: John D'Ambrosia <jdambrosia@ieee.org>
IEEE P802.3cv Power over Ethernet (Maintenance #15): Chad Jones <cmjones@cisco.com>
IEEE P802.3cw 400 Gb/s over DWDM systems: John D'Ambrosia <jdambrosia@ieee.org>
IEEE P802.3cx Improving PTP Timestamping Accuracy on Ethernet Interfaces: Steve Gorshe <steve.gorshe@microchip.com>
IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet Task Force: Steve Carlson <scarlson@ieee.org>
IEEE P802.3cz Multi-Gigabit Optical Automotive Ethernet Task Force: Bob Grow <bob.grow@ieee.org>
IEEE P802.3da 10 Mb/s Single Pair Multidrop Segments Enhancement Task Force: Chad Jones <cmjones@cisco.com>
IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force: Robert Lingle <rlingle@ofsoptics.com>
IEEE P802.3 (IEEE 802.3dc) Ethernet revision (Maintenance #16) Task Force: Adam Healey <adam.healey@broadcom.com>
IEEE P802.3dd Power over Data Lines of Single Pair Ethernet (Maintenance #17) Task Force: George Zimmerman <george@cmephyconsulting.com>

IEEE 802.3 Task Force vice-chairs

IEEE P802.3ck 100 Gb/s, 200 Gb/s, and 400 Gb/s Electrical Interfaces: Kent Lusted <kent.c.lusted@intel.com>
IEEE P802.3ct 100 Gb/s over DWDM systems: Tom Issenhuth <tissenhuth@outlook.com>
IEEE P802.3cw 400 Gb/s over DWDM systems: Tom Issenhuth <tissenhuth@outlook.com>

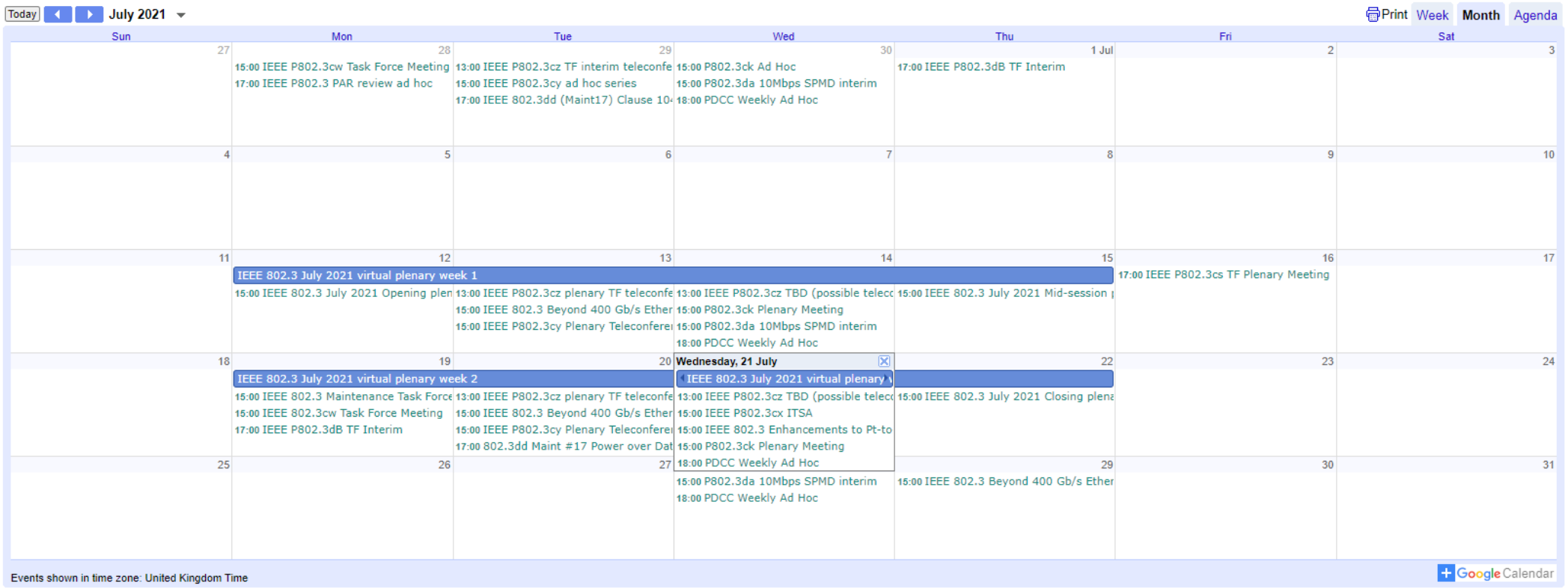
IEEE 802.3 Study Group chair

IEEE 802.3 Beyond 400 Gb/s Ethernet Study Group John D'Ambrosia <jdambrosia@ieee.org>
IEEE 802.3 Enhancements to Point-to-Point Single Pair Ethernet Study Group: George Zimmerman <george@cmephyconsulting.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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State of the standard
IEEE Std 802.3-2018 Revision

IEEE Std 802.3-2018 Standard for Ethernet 8 Books (Sections) 14-Jun-18/31-Aug-18*							
Section 1 Clause 1 to 20 Annex A to H, 4A CSMA/CD Overview MAC PLS/AUI 10BASE5 MAU 10BASE2 MAU 10BROAD36 MAU 10BASE-T MAU 10BASE-F MAUs 10 Mb/s Repeater 10 Mb/s Topology 10BASE-Te 1BASE5 DTE & MAU Mgmt Repeater Mgmt	Section 2 Clause 21 to 33 Annex 22A to 33E 100 Mb/s Overview MII 100BASE-T2 100BASE-T4 100BASE-TX 100BASE-FX 100Mb/s Repeater 100Mb/s Topology MAC Control Auto-Negotiation (AN) Management DTE Power	Section 3 Clause 34 to 43 Annex 36A to 43C 1000 Mb/s Overview GMII 1000BASE-X AN 1000BASE-SX 1000BASE-LX 1000BASE-CX 1000BASE-T 1000 Mb/s Repeater 1000 Mb/s Topology	Section 4 Clause 44 to 55 Annex 44A to 55B 10 Gb/s Overview MDC/MDIO XGMII XAUI XSBI 10GBASE-SR 10GBASE-LR 10GBASE-ER 10GBASE-SW 10GBASE-LW 10GBASE-EW 10GBASE-LX4 10GBASE-CX4 10GBASE-T	Section 5 Clause 56 to 77 Annex 57A to 76A Subscriber Access Networks (SA) Overview OAM MPMC 100BASE-LX10 100BASE-BX10 1000BASE-LX10 1000BASE-BX10 1000BASE-PX10 1000BASE-PX20 10GBASE-PR 10/1GBASE-PRX 10PASS-TS 2BASE-TL SA Topology 10GBASE-LRM Backplane Overview 1000BASE-KX 10GBASE-KX4 10GBASE-KR Backplane AN BASE-R FEC	Section 6 Clause 78 to 95 Annex 83A to 93C EEE LLDP TLVs Time Sync RS-FEC 40/100G Overview 40GBASE-KR4 40GBASE-CR4 40GBASE-SR4 40GBASE-FR 40GBASE-LR4 40GBASE-ER4 100GBASE-CR10 100GBASE-SR10 100GBASE-KR4 100GBASE-KP4 100GBASE-CR4 100GBASE-SR4 100GBASE-LR4 100GBASE-ER4	Section 7 Clause 96 to 115 Annex 97A to 115A 100BASE-T1 1000BASE-T1 Single-Pair AN MAC Merge 10GPASS-XR EPoC PHY Link MPMC for EPoC PoDL 25Gb/s Overview 25GBASE-CR/CR-S 25GBASE-KR/KR-S 25GBASE-SR 25GBASE-LR 25GBASE-ER 25GBASE-T 40GBASE-T 1000BASE-RHA/B/C	Section 8 Clause 116 to 126 Annex 119A to 120E 200 Gb/s and 400 Gb/s Overview 200GBASE-DR4 200GBASE-FR4 200GBASE-LR4 400GBASE-SR16 400GBASE-DR4 400GBASE-FR8 400GBASE-LR8 2.5 Gb/s and 5 Gb/s Overview 2.5GBASE-T 5GBASE-T

State of the standard
Current amendments

IEEE Std 802.3-2018 amendments

IEEE Std 802.3cb-2018
Amendment 1: Physical Layer Specifications and Management Parameters for 2.5 Gb/s and 5 Gb/s Operation over Backplane
27-Sep-18/04-Jan-19*

IEEE Std 802.3bt-2018
Amendment 2: Physical Layer and Management Parameters for Power over Ethernet over 4 pairs
27-Sep-18/31-Jan-18*

IEEE Std 802.3cd-2018
Amendment 3: Media Access Control Parameters for 50 Gb/s and Physical Layers and Management Parameters for 50 Gb/s, 100 Gb/s, and 200 Gb/s Operation
5-Dec-18/15-Feb-19*

IEEE Std 802.3cn-2019
Amendment 4: Physical Layers and Management Parameters for 50Gb/s, 200Gb/s, and 400Gb/s Operation over Single-Mode Fiber
7-Nov-18/20-Dec-19*

IEEE Std 802.3cg-2019
Amendment 5: Physical Layers Specifications and Management Parameters for 10 Mb/s Operation and Associated Power Delivery over a Single Balanced Pair of Conductors
7-Nov-19/5-Feb-20*

IEEE Std 802.3cq-2020
Amendment 6: Maintenance #13: Power over Ethernet over 2 pairs
30-Jan-20/13-Mar-20*

IEEE Std 802.3cm-2020
Amendment 7: Physical Layer and Management Parameters for 400 Gb/s over Multimode Fiber
30-Jan-20/30-Mar-20*

IEEE Std 802.3ch-2020
Amendment 8:Physical Layer Specifications and Management Parameters for 2.5 Gb/s, 5 Gb/s, and 10 Gb/s Automotive Electrical Ethernet
4-Jun-20/30-Jun-20*

IEEE Std 802.3ca-2020
Amendment 9:Physical Layer Specifications and Management Parameters for 25 Gb/s and 50 Gb/s Passive Optical Networks
4-Jun-20/30-Jun-20*

IEEE Std 802.3cr-2021
Amendment 10: Maintenance #14: Isolation
9-Feb-21/24-Feb-21

IEEE Strd 802.3cu-2021
Amendment 11: Physical Layers and Management Parameters for 100 Gb/s and 400 Gb/s Operation over Single-Mode Fiber at 100 Gb/s per Wavelength
9-Feb-21/26-Feb-21

IEEE Std 802.3cv-2021
Amendment 12: Maintenance #15: Power over Ethernet
9-May-21/28-May-21

State of the standard
Current amendments (con't)

IEEE Std 802.3-2018 amendments

IEEE Std 802.3ct-2021

Amendment 13: Physical Layers and Management Parameters for 100 Gb/s Operation over DWDM systems

16-Jun-21/ TBD*

IEEE Std 802.3cp-2021

Amendment 14: Bidirectional 10 Gb/s, 25 Gb/s, and 50 Gb/s Optical Access PHYs

16-Jun-21/TBD*

State of the standard
Other IEEE 802.3 standards

IEEE Std 802.3.1-2013

IEEE Standard for Management Information Base (MIB) Definitions for Ethernet

14-Jun-13/02-Aug-13*

IEEE Std 802.3.2-2019

IEEE Standard for Ethernet YANG Data Model Definitions

21-Mar-19/21-Jun-19*

State of the standard
IEEE 802.3 current status overview

Call for interest

- IEEE 802.3 Greater than 10 Mb/s long-reach point-to-point Single Pair Ethernet PHY call for interest

Study Group

- IEEE 802.3 Beyond 400 Gb/s Ethernet Study Group
- IEEE 802.3 Enhancements to Single Pair Ethernet Study Group

Task Force

- IEEE P802.3dd Power over Data Lines of Single Pair Ethernet (Maintenance #17) — Baseline selection
- IEEE P802.3da 10 Mb/s Single Pair Multidrop Segments Enhancement — Baseline selection
- IEEE P802.3cz Multi-Gigabit Optical Automotive Ethernet — Baseline selection
- IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet — Baseline selection
- IEEE P802.3cx Improved PTP Timestamping Accuracy — First Task Force review
- IEEE P802.3cw 400 Gb/s over DWDM systems — Second Task Force review
- IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber — Second Task Force review
- IEEE P802.3cs Increased-reach Ethernet optical subscriber access (Super-PON) — D2.1 First Working Group recirculation ballot
- IEEE P802.3ck 100 Gb/s, 200 Gb/s, and 400 Gb/s Electrical Interfaces — D2.1 First Working Group recirculation ballot

Progress to standard