IEEE 802.3 Working Group
November 2020 Plenary Week

David Law
Chair, IEEE 802.3 Working Group
dlaw@hpe.com

Web site: www.ieee802.org/3

IEEE 802.3 Maintenance

Progress

Maintenance requests

- Reviewed new maintenance requests
- Reviewed status of outstanding maintenance requests
  - Remaining request will be reviewed at next meeting

ISO/IEC JTC1 SC6

- Developed responses to China NB comments on IEEE Std 802.3-2018 FDIS ballot
- Liaised IEEE 802.3 drafts in Standards Association ballot for review

IEEE 802.3 revision project

- Reviewed IEEE P802.3 (IEEE 802.3dc) revision project plans
- Reviewed potential Power over Data Lines (PoDL) maintenance PAR

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

Progress

IEEE P802.3ck D1.3 Task Force review comment resolution

- Developing responses for 278 comments received

Virtual Meetings are impacting progress

- Updated timeline with Working Group ballot planned to start in March 2021

Next steps

Complete responses to IEEE P802.3ck D1.3 comments

Conduct Task Force review on IEEE P802.3ck D1.4

Continue work towards technically complete draft for working group ballot

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

Progress

IEEE P802.3cp D2.2 Working Group recirculation ballot comment resolution

- Developed responses for 31 comments received

Working Group conditional approval granted to proceed to Standards Association ballot

- Currently 9 unsatisfied TR comments and 1 ER comment from 3 Disapprove voters

Next steps

Progress IEEE P802.3cp D2.3 third Working Group recirculation ballot

IEEE P802.3cr Isolation (Maintenance #14) Task Force

Description

Replace references to the IEC 60950 series of standards (including IEC 60950-1 "Information technology equipment - Safety - Part 1: General requirements") with appropriate references to the IEC 62368 "Audio/video, information and communication technology equipment" series and make appropriate changes to the standard corresponding to the new references

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

Progress

IEEE P802.3cr D3.3 third Standards Association recirculation ballot complete

- No comments received

Working Group approval granted to proceed to RevCom submittal

Next steps

Progress IEEE P802.3cr D3.3 submission to RevCom

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

Progress

IEEE P802.3cs D1.2 Task Force review comment resolution

Developed responses for 76 comments received

Next steps

Conduct Task Force review on IEEE P802.3cs D1.3

Continue work towards technically complete draft for working group ballot

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

Progress

IEEE P802.3ct D3.0 Initial Standards Association ballot comment resolution

Developing responses for 91 comments received

Next steps

Complete responses to IEEE P802.3ct D3.0 comments

Progress IEEE P802.3ct D3.1 first Standards Association recirculation ballot

IEEE P802.3cu 100 Gb/s and 400 Gb/s over SMF at 100 Gb/s per Wavelength Task Force

Description

Define additions to and appropriate modifications of IEEE Std 802.3 to add PHY specifications and Management Parameters for 100 Gb/s and 400 Gb/s Ethernet optical interfaces for reaches up to 10 km based on 100 Gb/s per wavelength optical signaling.

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

Progress

- IEEE P802.3cu D3.1 first Standards Association recirculation ballot comment resolution
  - Developed responses for 20 comments received
- Initiated IEEE P802.3cu D3.2 second Standards Association recirculation ballot
- Working Group conditional approval granted to proceed to RevCom submittal
  - Currently 3 unsatisfied TR comments from 1 commenter

Next steps

- Complete IEEE P802.3cu D3.2 second Standards Association recirculation ballot

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

Progress

IEEE P802.3cv D2.2 second Working Group recirculation ballot complete

100% approval with no comments received

Approval granted to proceed to Standards Association ballot

Initiated IEEE P802.3cv D3.0 initial Standards Association ballot

Next steps

Complete IEEE P802.3cv D3.0 initial Standards Association ballot

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

Selecting and refining baseline proposals to develop D1.0 to initiate Task Force Review

Next steps

Continue baseline selection to satisfy the project objectives

Due to common aspects between the IEEE P802.3cw and IEEE P802.3ct projects, will Initiate IEEE P802.3cw task force review upon completion of considerations of Task Review comments submitted against IEEE P802.3ct D3.0

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

Progress

Considered 5 contributions

Adopted baselines for:

- Multi-PCS lane delay distribution variance
- Transmitter skew
- Timestamping point
- Higher accuracy PCS delay registers

Next steps

Develop initial draft for Task Force review

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

Considered 5 contributions on trade-off between link segment and PHY complexity

Discussed strawman adoption of scaled solution from IEEE Std 802.3ch-2020

Updated to-do list with future contributions on higher-performance link segment for December ad hoc series

Next steps

Continue baseline selection to satisfy the project objectives

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

Progress

Heard 8 presentations

Adopted initial baseline for 2.5 Gb/s, 5 Gb/s, 10 Gb/s and 25 Gb/s PCS and PMA

Adopted Timeline (revised from previously published draft)

Picked PHY type names (e.g., 25GBASE-AU)

Next steps

Continue baseline selection to satisfy the project objectives

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 5 contributions

TSSI Baseline, New PHY clause from 147 10BASE-T1S, Mixing segment, D-PLCA issues and solutions, and Connectors

Next steps

Complete initial draft for Task Force review

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

Progress

Considered three contributions

Two regarding the 100 m objective and one regarding an un-retimed, linear interface

Adopted a Task Force Timeline

Adopted a set of 100 m objectives for 100 Gb/s wavelengths over 1, 2, and 4 pairs of MMF

Next steps

Continue baseline selection to satisfy the project objectives

Beyond 400 Gb/s Ethernet call for interest

Progress

- IEEE 802.3 approval to form Study Group
  - The scope of the Study Group is to develop a Project Authorization Request (PAR) and Criteria for Standards Development (CSD) responses for:
    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.

Next steps

- Progress approval of Study Group by IEEE 802 EC

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 P802.3cr Isolation (Maintenance #14) Task Force: Jon Lewis <jon.lewis@dell.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 P802.3cu 100 Gb/s and 400 Gb/s over SMF at 100 Gb/s per Wavelength: Mark Nowell <mnowell@cisco.com>
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 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>

Upcoming meetings

Please see http://www.ieee802.org/3/calendar.html