

IEEE 802.3 Working Group November 2016 Plenary Week

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Current IEEE 802.3 activities

IEEE 802.3 Task Forces

IEEE P802.3bs 200 Gb/s and 400 Gb/s Ethernet

IEEE P802.3bt DTE Power via MDI over 4-Pair

IEEE P802.3bu 1-Pair Power over Data Lines (PoDL)

IEEE P802.3bv Gigabit Ethernet Over Plastic Optical Fiber

IEEE P802.3ca 25 Gb/s, 50 Gb/s, and 100 Gb/s Ethernet Passive Optical Networks

IEEE P802.3cb 2.5 Gb/s and 5 Gb/s Backplane

IEEE P802.3cc 25 Gb/s Ethernet over Single-Mode Fiber

IEEE P802.3cd 50 Gb/s, 100 Gb/s, and 200 Gb/s Ethernet

IEEE P802.3-2015/Cor 1 (IEEE 802.3ce) Multilane timestamping

IEEE P802.3.2 (IEEE 802.3cf) YANG data models

IEEE 802.3 Study Groups

IEEE 802.3 10 Mb/s Single Twisted Pair Ethernet

IEEE 802.3 Industry Connection activity

IEEE 802.3 Next Generation Enterprise/Campus/Data Center Ethernet Ad Hoc

IEEE 802.3 Call for Interest

IEEE 802.3 Multi-Gig Automotive Ethernet PHY

IEEE 802.3 Maintenance

Meeting plan

- Consider new maintenance requests

- Reviewing status of outstanding maintenance requests

- IEEE P802.3-2015/Cor 1 (IEEE 802.3ce) Multilane timestamping

 - Consideration of comments received against draft D1.1

 - Prepare for request to proceed to Sponsor ballot

- ISO/IEC JTC1 SC6 adoptions under PSDO agreement

 - Submission of IEEE 802.3 drafts for review

 - Submission of IEEE 802.3 standards for adoption

 - Response to comments on adoption of IEEE Std 802.3bw-2015

- Consider any other maintenance business

Web page

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

IEEE P802.3bs 200 Gb/s and 400 Gb/s Ethernet Task Force

Description

Define Ethernet Media Access Control (MAC) parameters, physical layer specifications, and management parameters for the transfer of Ethernet format frames at 200 Gb/s over single-mode fiber and 400 Gb/s over optical physical media

Web site: <http://www.ieee802.org/3/bs/index.html>

Status

Last met during the September 2016 interim meeting series

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

Sponsor ballot group formation underway

Meeting plan

Consideration of comments received against draft D2.1

Prepare request for conditional approval to proceed to Sponsor ballot

IEEE P802.3bt DTE Power via MDI over 4-Pair Task Force

Description

Augment the capabilities of the IEEE Std 802.3 standard with 4-pair power and associated power management information. The project will augment the methodology for the provision of power via balanced cabling to connected Data Terminal Equipment with 802.3 interfaces. Optional augmented power limit will be made available for certain structured cabling systems. Improvements introduced for 4-pair systems, excluding raising the power limit, are optionally enabled for 2-pair systems. Compatibility with existing equipment will be maintained

Web site: <http://www.ieee802.org/3/bt/index.html>

Status

Last met during the September 2016 interim meeting series
Draft D2.1 sent out for 1st Working Group recirculation ballot

Meeting plan

Consideration of comments received against draft D2.1

IEEE P802.3bu 1-Pair Power over Data Lines (PoDL) Task Force

Description

Single twisted pair Ethernet links are in development (e.g. IEEE P802.3bp) and some applications (e.g., automotive sensors, industrial devices) require power delivery over the link. A new standard is required to provide power over single twisted pair links where IEEE Std 802.3 Clause 33 Data Terminal Equipment (DTE) Power via Media Dependent Interface (MDI) cannot be used.

Web site: <http://www.ieee802.org/3/bu/index.html>

Status

Last met during a October 2016 Task Force interim

IEEE P802.3bu draft D3.3 sent out for 3rd Sponsor recirculation ballot

Ballot passed with 100% approval and no comments

Meeting plan

Prepare for request to proceed to RevCom submittal

IEEE P802.3bv Gigabit Ethernet Over Plastic Optical Fiber Task Force

Description

Specify an amendment to the IEEE 802.3 Ethernet standard to add physical layer (PHY) specifications for operation at 1000 Mb/s using standardized plastic optical fiber as the point-to-point data transmission medium.

Web site: <http://www.ieee802.org/3/bv/index.html>

Status

Last met during the September 2016 interim meeting series
Draft D3.1 sent out for 1st Sponsor recirculation ballot

Meeting plan

Consideration of comments received against draft D3.1
Prepare request for conditional approval of RevCom submittal

IEEE P802.3ca 25 Gb/s, 50 Gb/s, and 100 Gb/s Passive Optical Networks Task Force

Description

Amend IEEE Std 802.3 to add physical layer specifications and management parameters for symmetric and/or asymmetric operation at 25 Gb/s, 50 Gb/s, and 100 Gb/s MAC data rates on point-to-multipoint passive optical networks with distance and split ratios consistent with those defined in IEEE Std 802.3-2015

Web site: <http://www.ieee802.org/3/ca/index.html>

Status

Last met during the September 2016 interim meeting series
Selecting set of baseline proposals to satisfy project objectives

Meeting plan

Continue to work on selection of a set of baseline proposals

IEEE P802.3cb 2.5 Gb/s and 5 Gb/s Operation over Backplane Task Force

Description

Amend IEEE Std 802.3 to add 2.5 Gb/s and 5 Gb/s Physical Layer (PHY) specifications and management parameters for operation over channels such as backplanes and twinaxial copper cables consistent with current storage interconnect applications within a single rack.

Web site: <http://www.ieee802.org/3/cb/index.html>

Status

Draft D2.0 sent out for initial Working Group ballot

Last met during the September 2016 interim meeting series

Consideration of comments received against draft D2.0

Meeting plan

Continue consideration of comments received against draft D2.0

IEEE P802.3cc 25 Gb/s Ethernet over Single-Mode Fiber Task Force

Description

Provide an amendment to the IEEE 802.3 Ethernet standard to add point-to-point single-mode fiber Physical Medium Dependent (PMD) options for serial 25 Gb/s operation at reaches greater than 100 m

Web site: <http://ieee802.org/3/cc/index.html>

Status

Last met during a October 2016 Task Force interim

Draft D1.2 sent out for Task Force review

Draft D1.2 also to be submitted for Working Group preview

Meeting plan

Consideration of comments received against draft D1.2

Prepare for request to proceed to Working Group ballot

IEEE P802.3cd 50 Gb/s, 100 Gb/s, and 200 Gb/s Ethernet Task Force

Description

Define Ethernet Media Access Control (MAC) parameters, Physical Layer specifications, and management parameters for the transfer of Ethernet format frames at 50 Gb/s over copper and optical media. Define additional Physical Layer specifications and management parameters at 100 Gb/s over copper and optical media. Define additional Physical Layer specifications and management parameters at 200 Gb/s over copper and multimode fiber physical media

Web site: <http://ieee802.org/3/cd/index.html>

Status

Last met during the September 2016 interim meeting series

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

Meeting plan

Consideration of comments received against draft D1.0

Continue towards technically complete draft for working group ballot

IEEE P802.3.2 (IEEE 802.3cf) YANG Data Model Definitions Task Force

Description

Define YANG data models for IEEE Std 802.3 Ethernet.

Web site: <http://ieee802.org/3/cf/index.html>

Status

IEEE P802.3.2 PAR approved by IEEE-SA Standards Board

Approved date 22nd September 2016

Meeting plan

Start selection of baseline proposals to satisfy project objectives

IEEE 802.3 10 Mb/s Single Twisted Pair Ethernet Study Group

Description

Develop a Project Authorization Request (PAR) and Criteria for Standards Development (CSD) responses for 10Mb/s Single Twisted Pair Ethernet including optional power.

Web site: <http://ieee802.org/3/10SPE/index.html>

Status

First meeting during the September 2016 interim meeting series
Completed draft objectives, CSD and PAR for proposed project

Meeting plan

Progress approval of objectives, CSD and NesCom submittal of PAR for IEEE 802.3cg Standard for Ethernet Amendment: Physical Layer Specifications and Management Parameters for 10 Mb/s Operation over Single Balanced Twisted-pair Cabling and Associated Power Delivery

IEEE 802.3 10 Mb/s Single Twisted Pair Ethernet Study Group (con't)

Scope of proposed project

Specify additions to and appropriate modifications of IEEE Std 802.3 to add 10 Mb/s Physical Layer (PHY) specifications and management parameters for operation on single balanced twisted-pair copper cabling. Define methodology for the optional provision of power to connected Data Terminal Equipment (DTE) for use with IEEE 802.3 10 Mb/s single-pair interfaces

Draft PAR

<https://mentor.ieee.org/802-ec/dcn/16/ec-16-0152-00-00EC-ieee-p802-3cg-draft-par.pdf>

Draft CSD

<https://mentor.ieee.org/802-ec/dcn/16/ec-16-0153-00-00EC-ieee-p802-3cg-draft-csd.pdf>

Draft Objectives

http://ieee802.org/3/10SPE/objectives_10SPE_091316.pdf

IEEE 802.3 Next Generation Enterprise/ Campus/Data Center Ethernet Ad Hoc

Description

The goal of this activity is to assess emerging requirements for enterprise, campus, and data center networks, 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>

Status

Fifth meeting during the September 2016 interim meeting series

Meeting plan

Meeting 1: Extended reach 400 Gb/s optical PMDs

Provide annual status update to IEEE 802 Executive Committee

Progress proposed Industry Connections activity modification

IEEE 802.3 Next Generation Enterprise/ Campus/Data Center Ethernet Ad Hoc (con't)

Draft Industry Connections activity modification

Draft modified ICAID: <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0156-00-00EC-ieee-802-3-ng-ecdc-industry-connections-activity-modified-icaid.pdf>

Explanatory technical background material

To date the IEEE 802.3 NG-ECDC industry connections activity has provided support for multiple efforts: (a) 50GbE, (b) “X” by 50 Gb/s PMDs, (c) 25GbE Singlemode fibre (SMF) Optics, (d) Ethernet YANG Models, (e) Single Pair Extended Reach, (f) Next Generation Automotive, and (g) Extended Reach Optics (50GbE/200GbE/400GbE). To date efforts (a) through (e) resulted in successful IEEE 802.3 Calls For Interest (CFI) and the formation of IEEE 802.3 Study Groups with (a) through (c) now having approved PARs and operating as IEEE 802.3 Task Forces. There will be a IEEE 802.3 CFI for effort (f) at the November 2016 Plenary, and effort (g) continues to meet and build industry connections activity

IEEE 802.3 Next Generation Enterprise/ Campus/Data Center Ethernet Ad Hoc (con't)

Explanatory technical background material (continued)

The success of the IEEE 802.3 NG-ECDC industry connections activity has been noted by IEEE 802.3 participants, who have justified its use for some efforts through non-primary applications that can be envisioned by the same solutions for Next Generation Data Center, Enterprise, and Carrier applications. However, given Ethernet's growing diversity in application areas outside of the noted target area of the Industry Connections activity, there has been support to broaden the scope of the industry connections activity to all 'New Ethernet Applications'

IEEE 802.3 Multi-Gig Automotive Ethernet PHY call for interest

Advanced Electronic Architectures for autos are being designed using 100BASE-T1 and 1000BASE-T1, and PoDL to support Advanced Driver Assist Systems (ADAS) with fully-autonomous operation as the end goal. This level of performance requires supercomputer-levels of processing power with corresponding high-performance sensor networks. 4K and 8K uncompressed video streams for machine vision and infotainment, radar, LIDAR, and ultrasonic sensors must all be "fused" into a coherent picture of the car's external environment. In-vehicle networks supporting operation at multi-gigabit speed will be required to carry this traffic. Due to the long design and qualification cycles, work needs to start now to insure that these solutions will be available when needed.

This request for agenda time for this CFI has been received from Steve Carlson <scarlson@hspdesign.com>

IEEE 802.3 Officers

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IEEE P802.3bt DTE Power via MDI over 4-Pair: Chad Jones <cmjones@cisco.com>

IEEE P802.3bu 1-Pair Power over Data Lines (PoDL): Dan Dove <dan_dove@ieee.org>

IEEE P802.3bv Gigabit Ethernet Over Plastic Optical Fiber: Bob Grow <bob.grow@ieee.org>

IEEE P802.3ca 25 Gb/s, 50 Gb/s, and 100 Gb/s EPON: Curtis Knittle <c.knittle@cablelabs.com>

IEEE P802.3cb 2.5 Gb/s and 5 Gb/s Backplane Cables: Dan Smith <daniel.f.smith@seagate.com>

IEEE P802.3cc 25 Gb/s Ethernet over Single-Mode Fiber: David Lewis <David.Lewis@lumentum.com>

IEEE P802.3cd 50 Gb/s, 100 Gb/s, and 200 Gb/s Ethernet: Mark Nowell <mnowell@cisco.com>

IEEE 802.3.2 (IEEE 802.3cf) YANG Data Model: Yan Zhuang <zhuangyan.zhuang@huawei.com>

IEEE 802.3 Study Group chairs

IEEE 802.3 10 Mb/s Single Twisted Pair Ethernet: George Zimmerman <george@cmephyconsulting.com>

Preliminary IEEE 802.3 Meeting Plan

	Sun	Mon	Tue	Wed	Thu
AM		IEEE 802.3 Opening Plenary	IEEE P802.3bs IEEE P802.3bt IEEE P802.3ca IEEE P802.3cb 10SPE SG	IEEE P802.3bv IEEE P802.3bs IEEE P802.3bt IEEE P802.3ca IEEE P802.3cb IEEE P802.3cc IEEE P802.3cd IEEE P802.3.2	IEEE P802.3bv IEEE P802.3bt IEEE P802.3ca IEEE P802.3cb IEEE P802.3cd 10SPE SG
PM		IEEE P802.3bs IEEE P802.3bu IEEE P802.3ca IEEE P802.3cb ECDC 400G ER	IEEE P802.3bs IEEE P802.3bt IEEE P802.3ca IEEE P802.3cb IEEE P802.3.2 10SPE SG	Maintenance IEEE P802.3bv IEEE P802.3bt IEEE P802.3ca IEEE P802.3cb IEEE P802.3cc IEEE P802.3cd 10SPE SG	IEEE 802.3 Closing Plenary
			Multi-Gig Automotive Ethernet PHY CFI		
			10SPE SG		

10SPE SG: IEEE 802.3 10 Mb/s Single Twisted Pair Ethernet Study Group
ECDC 400G ER: IEEE 802.3 Industry Connections Next Generation Enterprise / Campus / Data Center Ethernet - Extended Reach 400G PMD PHYs