IEEE 802.3 Working Group
July 2015 Plenary Week

David Law

Chair, IEEE 802.3 Working Group

dlaw@hp.com

Web site: www.ieee802.org/3

Current IEEE 802.3 activities

IEEE 802.3 Task Forces

    IEEE P802.3bn EPON Protocol over Coax (EPoC)

    IEEE P802.3bp 1000BASE-T1

    IEEE P802.3bq 40GBASE-T

    IEEE P802.3br Interspersing Express Traffic

    IEEE P802.3bs 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 P802.3bw 100BASE-T1

    IEEE P802.3 (IEEE 802.3bx) Maintenance #11 (revision)

    IEEE P802.3by 25 Gb/s Ethernet

    IEEE P802.3bz 2.5G/5GBASE-T

IEEE 802.3 Study Group

    IEEE 802.3 25GBASE-T

IEEE 802.3 Call for Interest

    Next Generation Ethernet Passive Optical Networking (NGEPON)

    2.5 Gb/s and 5 Gb/s Backplane and Short Reach Copper call for interest

IEEE 802.3 Maintenance

Meeting plan

- Consider new maintenance requests

- Reviewing status of outstanding maintenance requests

- Progress IEEE P802.3 (IEEE 802.3bx) Maintenance #11 (revision)

  - Draft D3.1 sent out for 1st Sponsor recirculation ballot

  - Consideration of comments received against draft D3.1

  - Prepare request for approval to proceed to RevCom submittal

- Consider any other maintenance business

Web page

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

IEEE P802.3bn EPON Protocol over Coax (EPoC) Task Force

Description

Provide an amendment to the IEEE 802.3 Ethernet standard to add physical layer specifications and management parameters for symmetric and/or asymmetric operation of up to 10 Gb/s on point-to-multipoint Radio Frequency (RF) distribution plants comprising either amplified or passive coaxial media. It also extends the operation of Ethernet Passive Optical Networks (EPON) protocols, such as MultiPoint Control Protocol (MPCP) and Operation Administration and Management (OAM)

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

Status

Last met during the May 2015 interim meeting series

Draft D1.5 sent out for Task Force review

Draft D1.5 also submitted for Working Group preview

Meeting plan

Consideration of comments received against draft D1.5

Prepare for request to proceed to Working Group ballot

IEEE P802.3bp
1000BASE-T1 Task Force

Description

Specify additions to and appropriate modifications of IEEE Std 802.3 to add a point-to-point 1 Gb/s Physical Layer (PHY) specifications and management parameters for operation over a single twisted pair copper cables.

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

Status

Last met during the May 2015 interim meeting series

Draft D1.5 sent out for Task Force review

Draft D1.5 also submitted for Working Group preview

Meeting plan

Consideration of comments received against draft D1.5

Prepare for request to proceed to Working Group ballot

IEEE P802.3bq
40GBASE-T Task Force

Description

Specify a Physical Layer (PHY) for operation at 40 Gb/s on balanced twisted-pair copper cabling, using existing Media Access Control, and with extensions to the appropriate physical layer management parameters.

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

Status

Last met during the May 2015 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 P802.3br
Interspersing Express Traffic Task Force

Description

Specify additions to and appropriate modifications of IEEE Std 802.3 to add support for interspersing express traffic over a single physical link.

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

Status

Last met during the May 2015 interim meeting series

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

Meeting plan

Consideration of comments received against draft D2.1

Prepare for request to proceed to Sponsor ballot

IEEE P802.3bs
400Gb/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 400 Gb/s

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

Status

Last met during the May 2015 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 P802.3bt
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. Compatibility with existing equipment will be maintained.

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

Status

Baseline proposal selection to satisfy objectives and draft development

Last met during a June 2015 Task Force interim

Draft D1.1 sent out for Task Force review

Meeting plan

Continue to work on selection of a set of baseline proposals

Consideration of comments received against draft D1.1

IEEE P802.3bu1-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

Baseline proposal selection to satisfy objectives and draft development

Last met during a June 2015 Task Force interim

Draft D1.1 sent out for Task Force review

Meeting plan

Continue to work on selection of a set of baseline proposals

Consideration of comments received against draft D1.1

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 May 2015 interim meeting series

Draft D1.1 sent out for Task Force review

Draft D1.1 also submitted for Working Group preview

Meeting plan

Consideration of comments received against draft D1.1

Prepare for request to proceed to Working Group ballot

IEEE P802.3bw
100BASE-T1 Task Force

Description

Specify additions to IEEE Std 802.3 Standard for Ethernet to add a point-to-point full duplex 100 Mb/s Physical Layer (PHY) specifications for operation over single twisted pair balanced cabling.

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

Status

Last met during the May 2015 interim meeting series

Draft D3.1 sent out for 1st Sponsor recirculation ballot

Meeting plan

Consideration of comments received against draft D3.1

Prepare for request to proceed to RevCom submittal

IEEE P802.3by
25 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 25 Gb/s for server to switch interconnections.

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

Status

Last met during the May 2015 interim meeting series

Draft D1.1 sent out for Task Force review

Draft D1.1 also submitted for Working Group preview

Meeting plan

Consideration of comments received against draft D1.1

Prepare for request to proceed to Working Group ballot

IEEE P802.3bz
2.5G/5GBASE-T Task Force

Description

Define Ethernet Media Access Control (MAC) parameters, physical layer specifications, and management objects for the transfer of Ethernet format frames at 2.5 Gb/s and 5 Gb/s over balanced twisted pair transmission media used in structured cabling.

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

Status

IEEE P802.3bz PAR approved by IEEE-SA Standards Board

Approval date 26 March 2015

First met during May 2015 interim meeting series

Meeting plan

Review IEEE P802.3bz draft D0.1

Preparation to proceed to Task Force review with draft D1.0

IEEE 802.3
25GBASE-T Study Group

Description

Develop PAR, CSD and objectives modifications to add 25GBASE-T to the scope of the IEEE P802.3bq 40GBASE-T project

Web site: http://www.ieee802.org/3/25GBASET/public/index.html

Status

Objective modifications approved by IEEE 802.3 at March 2015 Plenary

Draft CSD modifications approved by IEEE 802.3 at March 2015 Plenary

Meeting plan

Seek approval of IEEE P802.3bq 40GBASE-T PAR modification request by IEEE 802.3 prior to seeking approval of both the PAR and CSD by the IEEE 802 LMSC Executive Committee

IEEE 802.3
25GBASE-T Study Group (con't)

Scope of proposed modified IEEE P802.3bq project

Specify Physical Layers (PHYs) for operation at 25 Gb/s and 40 Gb/s on balanced twisted-pair copper cabling, using existing Media Access Control, and with extensions to the appropriate physical layer management parameters.

Draft PAR modification request

http://www.ieee802.org/3/25GBASET/draft_P802.3bq_PAR_modification_300115.pdf

Draft CSD

http://www.ieee802.org/3/25GBASET/draft_P802.3bq_modified_CSD.pdf

Objectives

http://www.ieee802.org/3/25GBASET/draft_P802.3bq_modified_objectives.pdf

IEEE 802.3 Next Generation Ethernet Passive Optical Networking call for interest

The volume of traffic in residential and business access networks continues to increase, driven by the combination of growing number of subscribers, numbers of devices per subscriber, and innovative applications requiring more bandwidth. It is expected that in the next 2-3 years, the combined bandwidth demand from residential and business applications will surpass the capabilities of existing 1G-EPON and 10G-EPON PHYs. Service providers that have invested in EPON now spearhead the industry drive to develop the next generation of access technology that would offer increased capacities and seamless upgrade capabilities. The Next Generation EPON (NG-EPON) Call for Interest, to be held at the July plenary meeting in Hawaii, will present the market drivers and potentially-relevant recent technical advancements, and will request the formation of a study group to further explore the next generation of EPON technology.

This request for agenda time for this CFI has been received from Curtis Knittle <c.knittle@cablelabs.com>

IEEE 802.3 2.5 Gb/s and 5 Gb/s Backplane and Short Reach Copper call for interest

This is a call for interest to initiate a Study Group to explore the need for 2.5 Gb/s and 5 Gb/s Ethernet on Backplane and short reach copper (e.g. Twin-axial) cabling. We believe there is a market need, driven by enterprise rotational and solid state storage devices that currently use 1 Gb/s Ethernet to migrate to higher speed applications.

Devices currently using 1 Gb/s in backplanes, as well as other 1 Gb/s applications for Ethernet, will also benefit from the new data rates provided by this work.

This request for agenda time for this CFI has been received from Yong Kim <ybkim@broadcom.com>.

IEEE 802.3 Officers

IEEE 802.3 Chair: David Law <dlaw@hp.com>

IEEE 802.3 Vice Chair: Adam Healey <adam.healey@avagotech.com>

IEEE 802.3 Secretary: Pete Anslow <panslow@ciena.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 P802.3bn EPON Protocol over Coax (EPoC): Mark Laubach <laubach@broadcom.com>

IEEE P802.3bp 1000BASE-T1: Steve Carlson <scarlson@hspdesign.com>

IEEE P802.3bq 40GBASE-T: Dave Chalupsky <david.chalupsky@intel.com>

IEEE P802.3br Interspersing Express Traffic: Ludwig Winkel <ludwig.winkel@siemens.com>

IEEE P802.3bs 400 Gb/s Ethernet: John D'Ambrosia <john_dambrosia@dell.com>

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): Dave Dwelley <ddwelley@linear.com>

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

IEEE P802.3bw 100BASE-T1: Thomas Hogenmueller <thomas.hogenmueller@de.bosch.com>

IEEE P802.3by 25 Gb/s Ethernet: Mark Nowell <mnowell@cisco.com>

IEEE P802.3bz 2.5G/5GBASE-T: Dave Chalupsky <david.chalupsky@intel.com>

IEEE 802.3 Study Group chairs

IEEE 802.3 25GBASE-T: Dave Chalupsky <david.chalupsky@intel.com>

Preliminary IEEE 802.3 Meeting Plan

	Sun	Mon	Tue	Wed	Thu
AM		IEEE 802.3 Opening Plenary	IEEE P802.3bn IEEE P802.3bp BASE-T IEEE P802.3br IEEE P802.3bu IEEE P802.3bv IEEE P802.3by	BASE-T IEEE P802.3br IEEE P802.3bs IEEE P802.3bt IEEE P802.3bv IEEE P802.3bw	IEEE P802.3bn IEEE P802.3br IEEE P802.3bs IEEE P802.3bt IEEE P802.3bw
PM		IEEE P802.3bn IEEE P802.3bp BASE-T IEEE P802.3bu IEEE P802.3by Maintenance	BASE-T IEEE P802.3br IEEE P802.3bs IEEE P802.3bt IEEE P802.3bv IEEE P802.3by	BASE-T IEEE P802.3br IEEE P802.3bs IEEE P802.3bt IEEE P802.3bv IEEE P802.3bw	IEEE 802.3 Closing Plenary
		IEEE 802.11 as a component IEEE-SA 2015 patent policy update	Next Generation EPON CFI 2.5/5Gb/s Backplane and Copper CFI		

BASE-T: IEEE P802.3bq / IEEE P802.3bz / IEEE 802.3 25GBASE-T Study Group

IEEE 802.3 Standards

IEEE Std 802.3™-2012 (30th Aug 12 / 28th Dec 12)*

IEEE Std 802.3bk™-2013 (23rd Aug 13 / 30th Aug 13)*

IEEE Std 802.3bj™-2014 (12th Jun 14 / 3rd Sep 14)*

IEEE Std 802.3bm™-2015 (16th Feb 15 / 27th Mar 15)

IEEE Std 802.3.1™-2013 (14th Jun 13 / 2nd Aug 13)*

* Available through Get IEEE 802
http://standards.ieee.org/getieee802/802.3.html

Note 1: Dates are Approval date / Publication date

Current project drafts

IEEE P802.3bn/D1.5 EPoC

  Working Group ballot preview draft

IEEE P802.3bp/D1.5 1000BASE-T1

  Working Group ballot preview draft

IEEE P802.3bq/D2.1 40GBASE-T

  1st Working Group recirculation ballot draft

IEEE P802.3br/D2.1 Interspersing Express Traffic

  1st Working Group recirculation ballot draft

IEEE P802.3bv/D1.1 Gigabit Ethernet Over Plastic Optical Fiber

  Working Group ballot preview draft

IEEE P802.3bw/D3.1 100BASE-T1

  1st Sponsor recirculation ballot draft

IEEE P802.3/D3.1 (IEEE 802.3bx) Maintenance #11 (revision)

  1st Sponsor recirculation ballot draft

IEEE P802.3by/D1.1 25Gb/s Ethernet

  Working Group ballot preview draft