

IEEE 802.3 Working Group July 2014 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 Force

IEEE P802.3bj 100 Gb/s Backplane and Copper Cable

IEEE P802.3bm 40 Gb/s and 100 Gb/s Fiber Optic

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

IEEE P802.3bp 1000BASE-T1 PHY

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 802.3 Study Group

IEEE 802.3 Gigabit Ethernet Over Plastic Optical Fiber

IEEE 802.3 1 Twisted Pair 100 Mb/s Ethernet

IEEE 802.3 Industry Connection Ad Hoc

Next Generation Ethernet Passive Optical Networking (NGEPON)

IEEE 802.3 Maintenance

Meeting plan

- Consider new maintenance requests

- Reviewing status of outstanding maintenance requests

- Consider any other maintenance business

Web page

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

IEEE 802.3 Rules

Two proposed rule changes under consideration

1-03/14:- Include 5 Criteria questions removed from LMSC Operations Manual

This change modifies the IEEE 802.3 rules to include Five Criteria (5C) questions that are no longer included in criteria for standards development (CSD) defined in clause 14 of the IEEE 802 LMSC Operations Manual.

Full details: http://ieee802.org/3/rules/updates/prop_change_1_0314.pdf

2-03/14: Reduce minimum duration of initial WG ballots to 30 days

This change would reduce the minimum duration of initial WG ballots to 30 days (including e-mail time).

Full details: http://ieee802.org/3/rules/updates/prop_change_2_0314.pdf

Expect vote at the IEEE 802.3 closing plenary

Decided if changes accepted, rejected or sent out for a Working Group ballot

IEEE P802.3bj 100 Gb/s Backplane and Copper Cable Task Force

Description

Provide an amendment to the IEEE 802.3 Ethernet standard to specify 100 Gb/s 4 lane operation on backplanes and twinaxial copper cables

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

Status

IEEE P802.3bj draft D3.2 was approved as an IEEE Standard on Thursday 12th June 2014

Meeting plan

Will not be meeting

IEEE P802.3bm 40 Gb/s and 100 Gb/s Fibre Optic Task Force

Description

Provide an amendment to the IEEE 802.3 Ethernet standard to add 100 Gb/s Physical Layer (PHY) specifications using a four-lane electrical interface for operation on multimode and single-mode fiber optic cables and 40 Gb/s Physical Layer (PHY) specifications for operation on extended reach (> 10 km) single-mode fiber optic cables

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

Status

Met during the May 2014 meeting series

Draft D3.0 sent out for Initial sponsor ballot

Meeting at a co-located Interim meeting

All day Sunday and Monday morning (see preliminary meeting plan slide)

Consideration of comments received against draft D3.0

Meeting plan

Consideration of remainder (if any) comments received against draft D3.0

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

Met during the May 2014 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 P802.3bp 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 on fewer than three pairs of twisted copper cable

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

Status

Met during the May 2014 meeting series

PAR modification request approved 12th June 2014

Title change from '1 Gb/s Operation over Fewer than Three Twisted Pair Copper Cable' to '1 Gb/s Operation over a Single Twisted Pair Copper Cable'

Similar changes to PAR item 5.2.b 'Scope of the project'

Selecting set of baseline proposals to satisfy project objectives

Meeting plan

Continue to work on selection of a set of baseline proposals

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

Met during the May 2014 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 P802.3br 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

Met during the May 2014 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 P802.3bs 400 Gb/s Ethernet

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

IEEE P802.3bs 400 Gb/s Ethernet PAR approved

Approval date 27th March 2014

First meeting during May 2014 meeting series

Selecting set of baseline proposals to satisfy project objectives

IEEE P802.3bs 400 Gb/s Ethernet PAR modification

Approval date 12th June 2014, correction to item 5.5 'Need for the project' and item 5.6 'Stakeholders for the Standard' PAR responses

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

Met during the May 2014 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 P802.3bu 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

Met during the May 2014 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 802.3 Gigabit Ethernet Over Plastic Optical Fiber Study Group

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/GEPOFSG/index.html>

Status

First meeting during May 2014 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 P802.3bv Standard for Ethernet Amendment: Physical Layer Specifications and Management Parameters for 1000 Mb/s Operation Over Plastic Optical Fiber

IEEE 802.3 Gigabit Ethernet Over Plastic Optical Fiber Study Group (con't)

Scope of proposed project

This amendment adds physical layer (PHY) specifications for IEEE Std 802.3 operation at 1000 Mb/s using standardized plastic optical fiber as the point-to-point data transmission medium. Appropriate management parameters will be enhanced or added in support of the PHY specifications.

Draft PAR

http://ieee802.org/3/GEPOFSG/DraftPAR_GEPOF_1b_0514.pdf

Draft CSD

http://www.ieee802.org/3/GEPOFSG/DraftCSD_GEPOF_1a_0514.pdf

Draft Objectives

<http://www.ieee802.org/3/GEPOFSG/Objectives.pdf>

IEEE 802.3 1 Twisted Pair 100 Mb/s Ethernet Study Group

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/3/1TPCESG/index.html>

Status

First meeting during May 2014 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 P802.3bw Standard for Ethernet Amendment Physical Layer Specifications and Management Parameters for 100 Mb/s Operation over a Single Balanced Twisted Pair Cable (100BASE-T1)

IEEE 802.3 1 Twisted Pair 100 Mb/s Ethernet Study Group (con't)

Scope of proposed project

The scope of this project is to specify additions to and appropriate modifications of IEEE Std 802.3 Standard for Ethernet to add a point-to-point full duplex 100 Mb/s Physical Layer (PHY) specifications and management parameters for operation over single twisted pair balanced cabling.

Draft PAR

http://ieee802.org/3/1TPCESG/public/P802_3bw_PAR_220514.pdf

Draft CSD

http://ieee802.org/3/1TPCESG/public/20140528_CSD_IEEE802_3bw.pdf

Draft Objectives

http://ieee802.org/3/1TPCESG/public/20140513_V2_Objectives.pdf

IEEE 802.3 Industry Connections Next Generation Ethernet Passive Optical Network (NG-EPON) Ad Hoc

Description

The activity has been chartered to generate a report which will detail: (a) operators' requirements, (b) technological and economic tradeoffs of various approaches to next generation EPON, (c) the state of the art for optical subscriber access network technology, and (d) potential solutions that merit further consideration.

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

Status

Third meeting during May 2014 meeting series

Data gathering for report

Meeting plan

Continue data gathering for report

IEEE 802.3 25 Gb/s operation over a single lane Call for Interest

The use of Top of Rack 4x10Gb/s breakout using 40Gb/s interfaces has become very popular over the last few years in hyper-scale data centers and cloud services providers. As these data centers prepare to transition to 100Gb/s Ethernet, there is an expectation to use the 100Gb/s 4x25Gb/s interface specified in IEEE P802.3bj and IEEE P802.3bm as effectively as is done with the 4x10Gb/s 40Gb/s Ethernet interface. Efficient and effective data center and cloud architectures would utilize the 25Gb/s technology within the 4x25Gb/s 100Gb/s interface technology and enable breakout to single lane 25Gb/s interfaces. At this time, there is no ability for data centers and cloud services providers to enable this network efficiency without a common specification for 25Gb/s Ethernet. This Call For Interest is a request for the formation of a study group to 1) explore enhancements that take advantage of interfaces within IEEE P802.3bj and IEEE P802.3bm to provide a single lane 25Gb/s Ethernet specification for server interconnects, and 2) the market requirements supporting the server-TOR application of a 25Gb/s Ethernet interface. This request for agenda time for this CFI has been received from Mark Nowell <mnowell@cisco.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 P802.3bj 100 Gb/s Backplane and Copper Cable: Adam Healey <adam.healey@avagotech.com>

IEEE P802.3bm 40 Gb/s and 100 Gb/s Fiber Optic: Dan Dove <dan_dove@ieee.org>

IEEE P802.3bn EPON Protocol over Coax (EPoC): Mark Laubach <laubach@broadcom.com>

IEEE P802.3bp 1000BASE-T1 PHY: 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 802.3 Study Group chairs

IEEE 802.3 Gigabit Ethernet Over Plastic Optical Fiber: Bob Grow <bob.grow@ieee.org>

IEEE 802.3 1 Twisted Pair 100 Mb/s Ethernet: Thomas Hogenmueller <thomas.hogenmueller@de.bosch.com>

Preliminary IEEE 802.3 Meeting Plan

	Sun	Mon	Tue	Wed	Thu
AM	IEEE P802.3bm co-located interim IEEE 802.3 Next Generation Ethernet Passive Optical Network Ad Hoc	IEEE P802.3bm co-located interim	IEEE P802.3bm IEEE P802.3bn IEEE P802.3bp IEEE P802.3bq IEEE P802.3bu 100M_single_TP_SG	IEEE P802.3bn IEEE P802.3bp IEEE P802.3bq IEEE P802.3br IEEE P802.3bs IEEE P802.3bt 1G_POF_SG 100M_single_TP_SG	IEEE P802.3bn IEEE P802.3bp IEEE P802.3br IEEE P802.3bs IEEE P802.3bt 1G_POF_SG
PM	IEEE P802.3bm co-located interim IEEE 802.3 Next Generation Ethernet Passive Optical Network Ad Hoc	IEEE 802.3 Opening Plenary	IEEE P802.3bm IEEE P802.3bn IEEE P802.3bp IEEE P802.3bq IEEE P802.3bt 100M_single_TP_SG	Maintenance IEEE P802.3bn IEEE P802.3bp IEEE P802.3bq IEEE P802.3br IEEE P802.3bs IEEE P802.3bt 1G_POF_SG 100M_single_TP_SG	IEEE 802.3 Closing Plenary
			25G_CFI		

100M_single_TP_SG: IEEE 802.3 1 Twisted Pair 100 Mb/s Ethernet Study Group

1G_POF_SG: IEEE 802.3 Gigabit Ethernet Over Plastic Optical Fiber Study Group

25G_CFI: IEEE 802.3 25 Gb/s operation over a single lane Call for Interest

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 / TBD)

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 P802.3bm/D3.0 40 Gb/s and 100 Gb/s Operation Over Fiber Optic Cables
Initial Sponsor ballot draft