

IEEE 802.3 Working Group March 2014 Plenary Week

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Current IEEE 802.3 activities

- IEEE 802.3 Task Forces
 - 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 Reduced Twisted Pair Gigabit Ethernet PHY
 - IEEE P802.3bq 40GBASE-T
 - IEEE P802.3br Interspersing Express Traffic
 - 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 802.3 400 Gb/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
 - Review status of submission of IEEE Std 802.3-2012 for adoption by ISO/IEC JTC1 SC6 under PSDO agreement
 - Consider any other maintenance business
- Web page
 - <http://www.ieee802.org/3/maint/index.html>

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

Met during the January 2014 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 P802.3bm 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 January 2014 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 P802.3bn 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 January 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 Reduced Twisted Pair Gigabit Ethernet PHY 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 cables

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

Status

Met during the January 2014 meeting series

Selecting set of baseline proposals to satisfy project objectives

Completed PAR modification request (see below for details)

Meeting plan

Continue to work on selection of a set of baseline proposals

Seek approval for PAR modification request submission to NesCom

IEEE P802.3bp Reduced Twisted Pair Gigabit Ethernet PHY Task Force (con't)

Summary of modification

The IEEE P802.3bp project has decided to support only single pair operation. Based on this, in PAR item 2.2 'Amendment title', item 5.2B 'Scope of project' and item 5.5 'Need for the project', fewer than three twisted pairs has been changed to a single twisted pair. In addition PAR item 4.2 'Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot' and item 4.3 'Projected Completion Date for Submittal to RevCom' the dates were corrected.

Draft PAR modification request

http://www.ieee802.org/3/bp/P802_3bp_PAR_modification_0114.pdf

Unmodified (grandfathered 5C responses) CSD responses

<http://www.ieee802.org/3/bp/5Criteria.pdf>

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 January 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

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

Approval date 11th December 2013

First meeting during January 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 P802.3bt 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

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

Approval date 11th December 2013

First meeting during January 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

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

Approval date 11th December 2014

First meeting during January 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 400Gb/s Ethernet Study Group

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/3/400GSG/index.html>>

Status

Met during the January 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 P802.3bs Standard for Ethernet Amendment Media Access Control Parameters, Physical Layers and Management Parameters for 400 Gb/s Operation

IEEE 802.3 400Gb/s Ethernet Study Group (con't)

Scope of proposed project

Define Ethernet Media Access Control (MAC) parameters, physical layer specifications, and management parameters for the transfer of Ethernet format frames at 400 Gb/s.

Draft PAR

<http://www.ieee802.org/3/400GSG/project_docs/PAR_400_14_0121.pdf>

Draft CSD

<http://www.ieee802.org/3/400GSG/project_docs/CSD_400_14_0121.pdf>

Draft Objectives

<http://www.ieee802.org/3/400GSG/project_docs/Objectives_13_1114.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
 - First meeting during January 2014 meeting series
 - Initial data gathering for report
- Meeting plan
 - Continue data gathering for report

IEEE 802.3 Gigabit Plastic Optical Fibre (POF) call for interest

Deployment of Ethernet continues to stimulate the need for PHY technologies that address particular market needs. Plastic Optical Fibre provides distinct advantages for deployment of Gigabit Ethernet in diverse environments. POF is an attractive and complementary medium for automotive application environments. It also provides significant installation advantages for home networking. This Call for Interest will request the formation of a study group to explore the available technologies, market need and market application requirements for a POF 1000 Mb/s Physical Layer specification.

This request for agenda time for this CFI has been received from Carlos Pardo <carlospardo@kdpof.com>

IEEE 802.3 100 Mb/s operation over a single twisted pair call for interest

Since the March 2012 plenary the IEEE 802 Community has been working on several automotive related activities, indicating huge interests from automotive and industrial control stakeholders in Ethernet based solution. The IEEE P802.3bp Task Force is working on 1000BASE-T1 to support 1Gb/s operation over a single twisted pair in the harsh automotive environment, the IEEE P802.3bu Task Force is working on the provision of power via a single twisted pair, and in IEEE 802.1 there are several activities related to Time Sensitive Networks in support of future Automotive Advanced Driver Assistance Systems such as highly automated driving.

To enable this multi-million port Ethernet market there is also a need for a solution to support 100 Mb/s operation over a single twisted pair in the harsh automotive environment, as not all of these ports will be capable of supporting 1Gb/s. Many users, premium and volume car manufactures, and their suppliers, desire an IEEE 802.3 standard based solution in order to enable and extend a multi-vendor supplied eco-system for the automotive industry.

This request for agenda time for this CFI has been received from Thomas Hogenmueller <thomas.hogenmueller@de.bosch.com>

IEEE 802.3 25 Gigabit Ethernet call for interest

The use of 4x10G breakout via 40G interfaces has become very popular over the last few years in hyper-scale data centers. As these data centers prepare to transition to 100 Gigabit Ethernet, there is an expectation to use 100G (4 x 25 Gb/s) interfaces specified in IEEE P802.3bj and P802.3bm. What the industry is missing is the ability to provide a breakout solution that – like 4x10G with 40G – matches the single-lane line rate of 25 Gb/s. Where 4x10G could draw upon 10 Gigabit Ethernet, 4x25G has no ability to draw upon a 25 Gigabit Ethernet specification. This Call-for-Interest is a request for the formation of a study group to explore the enhancements required and market requirements to take advantage of interoperable interfaces specified in P802.3bj and P802.3bm to provide a single-lane 25 Gb/s Ethernet specification.

This request for agenda time for this CFI has been received from Brad Booth <brbooth@microsoft.com>

IEEE 802.3 Officers

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

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IEEE P802.3bj 100 Gb/s Backplane and Copper Cable: Adam Healey <adam.healey@lsi.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 Reduced Twisted Pair Gigabit Ethernet 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 P802.3bt 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 802.3 400 Gb/s Ethernet: John D'Ambrosia <john_dambrosia@dell.com>

Preliminary IEEE 802.3 Meeting Plan

	Mon	Tue	Wed	Thu
AM		IEEE P802.3bj IEEE P802.3bm IEEE P802.3bn IEEE P802.3bp IEEE P802.3br IEEE P802.3bt IEEE P802.3bu NG-EPON_IC	IEEE P802.3bj IEEE P802.3bn IEEE P802.3bp IEEE P802.3br IEEE P802.3bt IEEE P802.3bu 400G_SG	IEEE P802.3bj IEEE P802.3bn IEEE P802.3bp IEEE P802.3br IEEE P802.3bt IEEE P802.3bu
PM	IEEE 802.3 Opening Plenary	Maintenance IEEE P802.3bj IEEE P802.3bn IEEE P802.3bp IEEE P802.3br IEEE P802.3bu NG-EPON_IC	IEEE P802.3bj IEEE P802.3bn IEEE P802.3bp IEEE P802.3br IEEE P802.3bt IEEE P802.3bu	IEEE 802.3 Closing Plenary
	Optical backplane tutorial	IEEE 802.24 Internet of Things (IoT) Nuts and Bolts (NaB)	25 Gigabit Ethernet CFI	
		Gigabit Plastic Optical Fibre (POF) CFI	400G_SG NG-EPON_IC	IEEE 802.3 400 Gb/s Ethernet Study Group IEEE 802.3 Industry Connections Next Generation Ethernet Passive Optical Network Ad Hoc
		100 Mb/s operation over a single twisted pair CFI		

IEEE 802.3 Standards

- IEEE Std 802.3™-2012 (30th Aug 12 / 28th Dec 12)*
- IEEE Std 802.3.1™-2013 (14th Jun 13 / 2nd Aug 13)*
- IEEE Std 802.3bk™-2013 (23rd Aug 13 / 30th 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 P802.3bj/D3.1 100 Gb/s Backplane and Copper Cable
 - First Sponsor recirculation ballot draft
- IEEE P802.3bm/D2.1 40 Gb/s and 100 Gb/s Operation Over Fiber Optic Cables
 - First Working Group recirculation ballot draft