Response to Comments on PAR revision

http://www.ieee802.org/3/bm/P802_3bm_PAR_0113.pdf

Comments on PAR 802.3bm

- ✔ Remove first item #5.2 from 8.1 not necessary for a PAR modification (similar to the discussion we had last November with the two PARs 802.3 submitted. This will cause confusion with the NesCom review.
- ✗ 5.2 Scope of Standard states that it is for "twisted pair PHY types". If you are changing the Scope of the project, would you not want to change the scope of the resulting Standard?
- ≈ 5.2.b – What is Energy Efficient Ethernet (EEE) really pointing to in IEEE Std 802.3-2012?
- ≈ What is the real difference between this and 802.3az?
- ≈ Is this a marketing term? Is this a reuse of MAC functions to put the PHY to sleep?

Jon Rosdahl, CSR Technology Inc.

Responses

- Comment #1 accepted
- Comment #2 – The stated scope of 802.3 includes the provision of **power** over selected twisted-pair cables. We aren't changing that capability and it will remain within scope. We request the comment be withdrawn.
- Comment #3 – EEE is specified in Clause 78 and affects numerous points within IEEE Std 802.3-2012. Our plan is to use the existing EEE protocol and extend it to support fiber-optic interfaces with minimal changes to existing clauses.
- Comment #4 – The changes to IEEE 802.3 introduced by 802.3az did not address how to communicate EEE capability and state on fiber-optic cables. Our plan is to specify that with minimal change to existing specifications.
- Comment #5 – EEE is specified in Clause 78 of IEEE Std 802.3-2012 and may also be used as a marketing term by those implementing it. EEE also describes capability that spans numerous 802.3 clauses. It is not technically a MAC function, but rather is specified in the Management, Reconciliation Sub-layer, PCS, PMA and PMD clauses.

P802.3bm

Submitter Email: david_law@ieee.org
Type of Project: Modify Existing Approved PAR
PAR Request Date: 09-Jan-2013
PAR Approval Date:
PAR Expiration Date:
Status: Unapproved PAR, Modification to a Previously Approved PAR for an Amendment
Root PAR: P802.3bm **Approved on:** 30-Aug-2012

1.1 Project Number: P802.3bm
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Standard for Ethernet
Amendment: Physical Layer Specifications and Management Parameters for 40 Gb/s and 100 Gb/s Operation Over Fiber Optic Cables

Changes in title: ~~IEEE~~ Standard for Ethernet Amendment: Physical Layer Specifications and Management Parameters for 40 Gb/s and 100 Gb/s Operation Over Fiber Optic Cables

3.1 Working Group: Ethernet Working Group (C/LM/WG802.3)
Contact Information for Working Group Chair
Name: David Law
Email Address: david_law@ieee.org
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Contact Information for Working Group Vice-Chair
Name: Wael Diab
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3.2 Sponsoring Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee (C/LM)
Contact Information for Sponsor Chair
Name: Paul Nikolich
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 07/2014
4.3 Projected Completion Date for Submittal to RevCom: 02/2015

5.1 Approximate number of people expected to be actively involved in the development of this project:
5.2.a. Scope of the complete standard: This standard defines Ethernet local area, access and metropolitan area networks. Ethernet is specified at
selected speeds of operation; and uses a common media access control (MAC) specification and management information base (MIB). The Carrier Sense Multiple Access with Collision Detection (CSMA/CD) MAC protocol specifies shared medium (half duplex) operation, as well as full duplex operation. Speed specific Media Independent Interfaces (MIIs) provide an architectural and optional implementation interface to selected Physical Layer entities (PHY). The Physical Layer encodes frames for transmission and decodes received frames with the modulation specified for the speed of operation, transmission medium and supported link length. Other specified capabilities include: control and management protocols, and the provision of power over selected twisted pair PHY types.

5.2.b. Scope of the project: This project is to specify additions to and appropriate modifications of IEEE Std 802.3 to add 100 Gb/s Physical Layer (PHY) specifications and management parameters, using a four-lane electrical interface for operation on multimode and single-mode fiber optic cables, and to specify optional Energy Efficient Ethernet (EEE) for 40 Gb/s and 100Gb/s operation over fiber optic cables. In addition, to add 40 Gb/s Physical Layer (PHY) specifications and management parameters for operation on extended reach (>

Changes in scope of the project: This project is to specify additions to and appropriate modifications of IEEE Std 802.3 to add 100 Gb/s Physical Layer (PHY) specifications and management parameters, using a four-lane electrical interface for operation on multimode and single-mode fiber optic cables, and to specify optional Energy Efficient Ethernet (EEE) for 40 Gb/s and 100Gb/s operation over fiber optic cables. In addition, to add 40 Gb/s Physical Layer (PHY) specifications and management parameters for operation on extended reach (>

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5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: This document will not include a purpose clause.

Changes in purpose:

5.5 Need for the Project: Rapid growth of server, network, and internet traffic is driving the need for higher data rates, higher density, lower cost fiber optic solutions, especially in the data center space. Advances in technology now allow the specification of new 100 Gb/s Physical Layer types with reduced lane count, addressing these needs. IEEE Std 802.3 does not currently define a 100 Gb/s four-lane electrical interface between host ICs and optical modules, nor does it define an extended reach solution for 40 Gb/s on single-mode fiber beyond 10 km.

5.6 Stakeholders for the Standard: Stakeholders that have been identified to date include, but are not limited to: users and producers of systems and components for servers, network storage, networking systems, data centers, high performance computing, and telecommunications carriers.

Intellectual Property
6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

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7.1 Are there other standards or projects with a similar scope?: No
7.2 Joint Development
Is it the intent to develop this document jointly with another organization?: No

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8.1 Additional Explanatory Notes (Item Number and Explanation): ~~Item# 5.2: The resulting standard will comply with IEEE Std 802, IEEE Std 802.1D, and IEEE Std 802.1Q.~~

Item# 5.2b: The scope has been expanded to allow the addition of optional Energy Efficient Ethernet (EEE) for 40 Gb/s and 100 Gb/s operation over fiber optic cables.