IEEE 802.3
10 Gb/s, 25 Gb/s, and 50 Gb/s Bidirectional Access Optical PHYs (NGBIDI)
Study Group
Closing Report

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IEEE 802.3 NGBIDI Study Group
Study Group information

Study Group Organization

Frank Effenberger, IEEE 802.3 BIDI Study Group Chair

Duane Remein, IEEE 802.3 BIDI Study Group Secretary

Study Group charter

Move that the IEEE 802.3 Working Group request the formation of a Study Group to develop a Project Authorization Request (PAR) and Criteria for Standards Development (CSD) responses for Bidirectional 10 Gb/s, 25 Gb/s and 50 Gb/s Optical Access PHYs Study Group.

Study Group web and reflector information

Reflector information: http://www.ieee802.org/3/NGBIDI/email/thrd1.html

Home page: http://ieee802.org/3/NGBIDI/index.html

IEEE 802.3 NGBIDI Study Group
Activities during July 2018 plenary

- Met on Wednesday Nov 14
- Approved agenda and Sep minutes
- Heard two presentations on silent start and loss budgets
- Reviewed the comments received on the PAR, CSD, and objectives
  - Adopted revised PAR, CSD, and objectives to address these comments

Comments Received on PAR

In the PAR section 5.6: Add a missing Stakeholder that was listed in the CSD “municipal and independent operators”

Revised PAR located at:

https://mentor.ieee.org/802-ec/dcn/18/ec-18-0175-01-00EC-ieee-p802-3cp-draft-par.pdf

Approved by SG (18, 0, 0)

802.3 WG Motion

Move that the IEEE 802.3 Working Group approve the IEEE P802.3cp PAR, in https://mentor.ieee.org/802-ec/dcn/18/ec-18-0175-01-00EC-ieee-p802-3cp-draft-par.pdf

M: Frank Effenberger
S:
(Technical ≥ 75%)
Results all Y: / N: / A:
Motion

Comments Received on CSD

- Broad Market Potential – Add to the list of potential user groups to make the stakeholder list consistent. – add “subscribers.”

- Technical Feasibility - change:

  “The basic technologies for 10 Gb/s, 25 Gb/s, and 50 Gb/s transmission over at least 10 km and at least 40 km of single mode fiber are well established”

to

  “The basic technologies for 10 Gb/s, 25 Gb/s, and 50 Gb/s capable of transmission over at least 10 km and at least 40 km of single mode fiber are well established”

  Revised CSD located at: https://mentor.ieee.org/802-ec/dcn/18/ec-18-0176-03-00EC-ieee-p802-3cp-draft-csd.pdf Approved by SG (17, 0, 0)

802.3 WG Motion

Move that the IEEE 802.3 Working Group approve the IEEE P802.3cp CSD responses, in https://mentor.ieee.org/802-ec/dcn/18/ec-18-0176-03-00EC-ieee-p802-3cp-draft-csd.pdf

M: Frank Effenberger
S:
(Technical ≥ 75%)
Results all Y: / N: / A:
Motion

Comments Received on Objectives

Objectives are not clear on how many PHYs we intend to define. Suggested edit:

Delete the line:

- Support distances of at least 10 km, at least 20 km, and at least 40 km

Add the lines:

For each data rate define PHYs for operation up to at least 10 km

For each data rate define PHYs for operation up to at least 20 km

For each data rate define PHYs for operation up to at least 40 km

Revised Objectives located at:

http://www.ieee802.org/3/NGBIDI/public/1811/181114_802d3_OBJ_BiDi_v3.pdf

Approved by SG (18, 0, 0)

IEEE P802.3cp objectives (as modified 11/14)

- Support full-duplex operation only
- Support bidirectional transmission over a single strand of single mode fiber using a single wavelength in each direction
- Support MAC data rates of 10 Gb/s, 25 Gb/s, and 50 Gb/s
- ~~Support distances of at least 10 km, at least 20 km, and at least 40 km~~
- For each data rate define PHYs for operation up to at least 10 km
- For each data rate define PHYs for operation up to at least 20 km
- For each data rate define PHYs for operation up to at least 40 km
- Preserve the Ethernet frame format utilizing the Ethernet MAC
- Support a BER of better than or equal to 10^{-12} at the MAC/PLS service interface (or the frame loss ratio equivalent)
- Support optional Energy-Efficient Ethernet operation
- Support silent start* operation to prevent bidirectional PHYs interfering with P2MP networks

* Silent start means that the upstream-facing PHY does not transmit unless a valid downstream signal is received. This prevents the bidirectional PHY from jamming transmission on the P2MP network in cases of unintentional connection

802.3 WG Motion

Move that the IEEE 802.3 Working Group approve the IEEE P802.3cp Objectives, in http://www.ieee802.org/3/NGBIDI/public/1811/181114_802d3_OBJ_BiDi_v3.pdf

M: Frank Effenberger
S:
(Technical ≥ 75%)
Results all Y: / N: / A:
Motion

802.3 WG Motion

Move that the IEEE 802.3 Working Group request the re-chartering of the Bidirectional 10 Gb/s, 25 Gb/s, and 50 Gb/s Optical Access PHYs Study Group.

M: Frank Effenberger
S:
(Procedural > 50%)
Results all Y: / N: / A:
Motion

Questions?

Thank you!