

P802.3cd
50 Gb/s, 100 Gb/s and 200 Gb/s Ethernet
Task Force
Opening Report

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San Diego, CA
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IEEE P802.3cd Task Force

Project information

Task Force Organization

Mark Nowell, Cisco, TF Chair

Kent Lusted, Intel, TF Recording Secretary

Matt Brown, APM, Editor-in-Chief

Task force web and reflector information

Reflector information: <http://www.ieee802.org/3/50G/reflector.html>

Home page: <http://www.ieee802.org/3/cd/index.html>

Project Documentation

PAR: <http://www.ieee802.org/3/cd/P802.3cd.pdf>

CSD: <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0060-00-ACSD-802-3cd.pdf>

Objectives: http://www.ieee802.org/3/cd/P802d3cd_objectives_v2.pdf

Activities since March 2016

One interim meeting and 8 ad hoc meetings have been held

Whistler Interim <http://www.ieee802.org/3/cd/public/May16/>

Ad hocs <http://www.ieee802.org/3/cd/public/adhoc/archive/index.html>

Interim TF meeting in May 2016, Whistler

Reviewed 23 presentations

6 Straw Polls

14 Motions

Adopted New Objectives http://www.ieee802.org/3/cd/P802d3cd_objectives_v2.pdf

- Define a two-lane 100 Gb/s PHY for operation over SMF with lengths up to at least 500m
- Define a 100 Gb/s PHY for operation over SMF with lengths up to at least 2 km

Adopted

- nomenclature
- Baselines for 50GAUI, CAUI-2 C2C & C2M, 50GBASE-LR, 50GBASE-FR, 50GBASE-SR, 200GBASE-SR4

Adopted Objectives (1 of 2)

- Support full-duplex operation only
- Preserve the Ethernet frame format utilizing the Ethernet MAC
- Preserve minimum and maximum FrameSize of current IEEE 802.3 standard
- Support optional Energy-Efficient Ethernet operation
- Provide appropriate support for OTN
- Support a MAC data rate of 50 Gb/s and 100 Gb/s
- Support a BER of better than or equal to 10^{-12} at the MAC/PLS service interface (or the frame loss ratio equivalent) for 50 Gb/s and 100 Gb/s operation
- Support a MAC data rate of 200 Gb/s
- Support a BER of better than or equal to 10^{-13} at the MAC/PLS service interface (or the frame loss ratio equivalent) for 200 Gb/s operation

Adopted Objectives (2 of 2)

50 Gb/s Ethernet PHYs

**** new**

Define single-lane 50 Gb/s PHYs for operation over
copper twin-axial cables with lengths up to at least 3m.
printed circuit board backplane with a total channel insertion loss of ≤ 30 dB at 13.28125 GHz.
MMF with lengths up to at least 100m
SMF with lengths up to at least 2km
SMF with lengths up to at least 10km

100 Gb/s Ethernet PHYs

Define a two-lane 100 Gb/s PHY for operation over
copper twin-axial cables with lengths up to at least 3m.
printed circuit board backplane with a total channel insertion loss of ≤ 30 dB at 13.28125 GHz.
MMF with lengths up to at least 100m
SMF with lengths up to at least 500m ******

Define a 100 Gb/s PHY for operation over SMF with lengths up to at least 2 km ******

200 Gb/s Ethernet PHYs

Define four-lane 200 Gb/s PHYs for operation over
copper twin-axial cables with lengths up to at least 3m.
printed circuit board backplane with a total channel insertion loss of ≤ 30 dB at 13.28125 GHz.
Define 200 Gb/s PHYs for operation over MMF with lengths up to at least 100m

P802.3cd Project Documentation heads up

Recently added objective: 100G SMF over 2km

Potential baselines (based on contributed presentations):

- $2\lambda \times 50$ Gb/s
- $1\lambda \times 100$ Gb/s

- PAR language does not limit consideration of any baselines to the new objectives but some language ambiguity could be addressed in the "Need" section
- CSD responses at time of writing assumed only 50 Gb/s signaling technologies would be adopted

Plan: Wait for TF baseline adoption and then address any changes to documentation with approval @ TF, WG, EC etc. as necessary

P802.3cd Task Force Meeting: week plan

Meeting Tues PM, all day Wednesday & Thursday morning

Harbor GHI, 2nd Harbor Tower

Goals for the meeting

Review technical presentations

Review/update/refine current objectives

Adopt baselines

Big ticket items

Outstanding baselines

In 802.3 WG closing plenary

Progress update

Request approval of added objectives

Questions?

Thank you!