

# IEEE P802.3cb 2.5 Gb/s & 5 Gb/s Backplane and Cable Task Force Closing Report

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# IEEE P802.3cb 2.5 Gb/s & 5 Gb/s Backplane and Cable Project information

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## Task Force Organization

Yong Kim, Broadcom, IEEE P802.3cb Task Force Chair

Daniel F Smith, Seagate, IEEE P802.3cb Task Force Vice Chair

Daniel F Smith, Seagate, IEEE P802.3cb Arch Ad Hoc Chair

William Lo, Marvell & Yong Kim, Broadcom, P802.3cb TF co-Editor

## Task force web and reflector information

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

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

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

CSD: <https://mentor.ieee.org/802-ec/dcn/15/ec-15-0101-00-ACSD-802-3cb.pdf>

Objectives: <http://www.ieee802.org/3/cb/8023cb-objectives.pdf>

Timelines: [http://www.ieee802.org/3/cb/8023cb\\_timeline\\_0316.pdf](http://www.ieee802.org/3/cb/8023cb_timeline_0316.pdf)

No Private area yet.

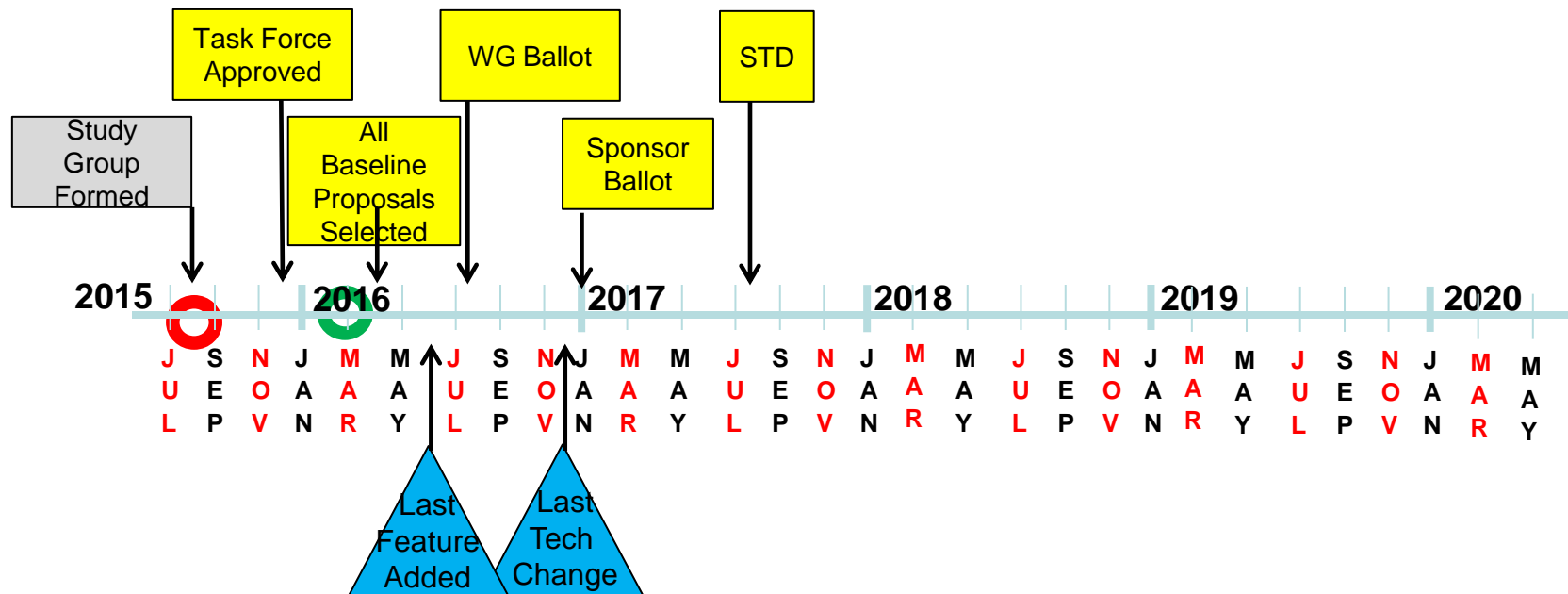
# IEEE P802.3cb Activities This Week

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- 1.5 day meeting
  - 5~10 attendees (light attendance and as expected from the prior poll)
- Major items discussed, and decisions made.
  - Refinements to 2.5 Gb/s and 5 Gb/s PCS and PMA baselines adopted
  - Backplane Channel model baseline adopted.
  - Cable to be removed from the scope due to the lack of contribution.
  - Timeline adopted.
- Major actions to be taken.
  - Task Force requests to vote on PAR, CSD, Objective modifications to remove Cable from our scope of work.
  - Draft D0.1 authorized to be written and to be made available after March 2016 plenary and conduct a TF ballot prior to May Interim.
  - Schedule an additional Interim meeting in June in SF Bay area for one day to be scheduled around June 23<sup>rd</sup> ~ 28 and announced 30 days in advance.

# 802.3cb 2.5 Gb/s and 5 Gb/s Backplane Timeline

## FASTEST Possible Timeline – and achievable –meaningful and timely contributions



## Assumptions -- Stretch goals from now till July Plenary

TF D0.1 Generated – April 18, 2016

TF Ballot (1<sup>st</sup>) – April 25 ~ May 9<sup>nd</sup> 2016

Comment Resolution – May 23<sup>rd</sup> week Interim.

TF D1.0 Generated – June 6<sup>th</sup> ~June 20<sup>th</sup> 2016

Comment Resolution at June Interim – 1 day out of [June 23<sup>rd</sup> ~ June 28]

TF D1.1 Generated – pre-circulate to WG. July 11<sup>th</sup>.

# 802.3cb PAR Modification

[http://www.ieee802.org/3/cb/8023cb\\_PAR-Rev\\_0316.pdf](http://www.ieee802.org/3/cb/8023cb_PAR-Rev_0316.pdf)

## 2.1 Title: Approved Draft Standard for Ethernet

Amendment: Physical Layer Specifications and Management Parameters for 2.5 Gb/s and 5 Gb/s Operation over Backplane ~~and Copper 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](mailto:david_law@ieee.org)

Phone: +44 1631 563729

### Contact Information for Working Group Vice-Chair

Name: Adam Healey

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5.2.b. Scope of the project: The scope of this project is to specify additions to and appropriate modifications of IEEE Std 802.3 to add 2.5 Gb/s and 5 Gb/s Physical Layer (PHY) specifications and management parameters for operation over ~~channels such as backplanes and twinaxial copper cables~~ consistent with current storage interconnect applications within a single rack.

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.

5.5 Need for the Project: There is a greater bandwidth need than the current 1 Gb/s Ethernet connectivity over backplane ~~and copper cable~~ that serves rotational storage devices ("Hard Disk Drives", HDDs). The object based HDD market is expected to grow significantly to meet the

# 802.3cb CSD Modification

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[http://www.ieee802.org/3/cb/8023cb\\_CSD-Rev\\_0316.pdf](http://www.ieee802.org/3/cb/8023cb_CSD-Rev_0316.pdf)

- Only modification is in Distinct Identity criterion.

## Distinct Identity

Each proposed IEEE 802 LMSC standard shall provide evidence of a distinct identity. Identify standards and standards projects with similar scopes and for each one describe why the proposed project is substantially different.

*Substantially different from other IEEE 802.3 specifications / solutions*

- There are no existing standards, or projects developing standards, addressing the specification of Ethernet PHYs operating at 2.5 Gb/s and 5 Gb/s speed over channels such as backplanes and twinaxial copper cables.

# Motion #

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Move that the IEEE 802.3 Working Group approve the IEEE P802.3cb Objectives modification, as per 0316\_cb\_close\_report.pdf

Moved by: Yong Kim

Seconded by: Peter Wu

(Technical 75% Required)

Motion Passes by Voice. 4:30 PM

# 802.3cb Objective Modification

[http://www.ieee802.org/3/cb/8023cb\\_Objectives-Rev\\_0316.pdf](http://www.ieee802.org/3/cb/8023cb_Objectives-Rev_0316.pdf)

- Three distinct changes
  - Removal of Cable from objectives.
  - Change to 5 Gb/s total channel insertion loss to 16 dB (from 15 dB) based on adopted baseline from Calbone\_3cb\_01\_0316a.pdf
  - Reflect adopted baseline Baud rates for 2.5 Gb/s and 5 Gb/s.

- Define a PHY for 2.5 Gb/s operation over a printed circuit board backplane ~~and/or twinaxial copper cable~~ with total channel insertion loss of  $\leq 11$  dB at 1.5625 GHz
- Define a PHY for 5 Gb/s operation over a printed circuit board backplane ~~and/or twinaxial copper cable~~ with total channel insertion loss of  $\leq$  ~~15~~ 16 dB at ~~3~~ 2.578125 GHz



# IEEE P802.3cb 2.5 Gb/s & 5 Gb/s Backplane Task Force Plans

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## Next Steps

- Identify longer-term editing staff.
- IEEE 802.3 WG Chair, David Law, indicated that, should he be confirmed to be the 802.3 WG Chair, he will appoint Daniel F. Smith, Seagate, who serves as the Vice Chair of P802.3cb TF, to be the P802.3cb Task Force Chair.
- TF D0.1 to be generated – April 18, 2016
- TF Ballot (1<sup>st</sup>) – April 25 ~ May 9<sup>nd</sup> 2016
- Comment Resolution – May 23<sup>rd</sup> week Interim.
- Stretch goal of technically complete draft before July 2016 Plenary.

Questions?

Thank you!