



# (almost) 802.3by 25Gb/s Ethernet

## Progress and next steps

Mark Nowell, Chair

# Recap

- Objectives, CSD, PAR all adopted @ 802.3 WG
- IEEE SASB approval expected 12/8
- January 2015 will be first 802.3by Task Force meeting
  - Possible to start making decisions
  - We can work towards baseline proposals
- January meeting logistics
  - Expect 2.5 days of meeting time
- Ad hocs available for consensus building on proposals
  - Today, 12/3, 12/10, 12/17, 1/7
- Target to review and adopt a project schedule in January

# Adopted Objectives

- Support a MAC data rate of 25 Gb/s
- 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 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
- Define a single-lane 25 Gb/s PHY for operation over a printed circuit board backplane consistent with channels specified in IEEE Std 802.3bj-2014 Clause 93
- Define a single-lane 25 Gb/s PHY for operation over links consistent with copper twin axial cables, with lengths up to at least 3m
- Define a single-lane 25 Gb/s PHY for operation over links consistent with copper twin axial cables, with lengths up to at least 5m
- Define a single-lane 25 Gb/s PHY for operation over MMF consistent with IEEE P802.3bm Clause 95
- Provide appropriate support for OTN

# Working towards baselines

Volunteers/Contributors working towards baselines for:

- 25GE Architecture and PCS baseline
- Backplane baseline
- Optical baseline
- Copper baseline
- PMA/XXVAUI baseline
- AN baseline
- EEE baseline
- PHY hierarchical architecture
- Definitions, abbreviations

Strongly encourage people to get involved.

# 25GE Architecture and PCS baseline

- Good progress being made
- Effective use of the ad hocs so far:
  - kim\_100114\_25GE\_adhoc.pdf
  - kim\_100814\_25GE\_adhoc.pdf
  - ran\_102214\_25GE\_adhoc.pdf
  - baden\_102214\_25GE\_adhoc.pdf
  - booth\_102914\_25GE\_adhoc.pdf
- Interim meeting proposals:
  - baden\_25GE\_01a\_1114.pdf
  - lo\_25GE\_01\_1114.pdf
  - ran\_25GE\_02a\_1114.pdf
- Expect baseline proposal(s) for January. Expect ad hoc meetings will be used to tighten proposals and build consensus

# Copper Baseline

Area with most “work” ahead

- Need an agreed-upon approach to Cable/Host configurations (M. Dudek presentation today, A. Healey 10/8 ad hoc presentation)
- Link/channel budget modeling
- Test fixtures

FEC Options

Host loss options

Cable options



User interop concerns, AN



# Thank you