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# **25 Gb/s Ethernet over a single lane for server interconnect Study Group**

## **Progress update and next steps**

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Ad hoc – 24-Sept-2014

# Agenda

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- Progress @ September Interim meeting
  - Objectives
  - CSD
  - PAR
- Next Steps
  - Admin stuff and November Plenary
  - Big items and Study Group, pre-Task Force work

## 25 Gb/s Ethernet Sept Interim Meeting summary

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- Excellent progress:
  - Full set of objectives adopted
  - All Criteria for Standards Development responses completed and adopted
  - Project Authorization Request completed and adopted
- Congratulations to the study group for excellent use of ad hocs to enable discussion and build consensus
  - Unanimous motions throughout SG meeting!!

# Objectives adopted by Study Group

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- 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
- Y:83 N:0 A:1
- 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 Y:74 N:0 A:3
  - 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 Y:62 N:0 A:14
  - 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 *Same motion as 3m objective*
  - Define a single-lane 25 Gb/s PHY for operation over MMF consistent with IEEE P802.3bm Clause 95 Y:75 N:0 A:3
  - Provide appropriate support for OTN Y:71 N:0 A:9

# CSD responses

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- All CSD responses adopted
- See [http://www.ieee802.org/3/25GSG/25GE\\_CSD\\_0914\\_adopted.pdf](http://www.ieee802.org/3/25GSG/25GE_CSD_0914_adopted.pdf)
  - Managed Objects *Y:63 N:0 A:0*
  - Coexistence *Y:61 N:0 A:1*
  - Broad Market Potential *Y:72 N:0 A:0*
  - Compatibility *Y:62 N:0 A:0*
  - Distinct Identity *Y:62 N:0 A:0*
  - Technical Feasibility *Y:75 N:0 A:0*
  - Economic Feasibility *Y:71 N:0 A:0*

# Project Authorization Request

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- PAR form was edited “live” and pdf was generated and adopted
- See [http://www.ieee802.org/3/25GSG/25GE\\_PAR\\_final\\_110914.pdf](http://www.ieee802.org/3/25GSG/25GE_PAR_final_110914.pdf)
  - Motion to adopt passed: *Y:53 N:0 A:0*

## Next Steps (admin)

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- Approvals during Plenary meeting @ 802.3 Working Group and 802 EC
  - Comments from other 802 groups will need to be reviewed and responded to during the week.
- PAR Approval at NESCOM on Dec 9<sup>th</sup>
  - Pre-submittal complete
- If all goes well... P802.3by Task Force first meeting will be January 2015

# Next Steps (technical)

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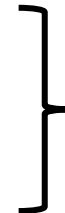
Until January 2015, we remain in Study Group mode and therefore are unable to make any decisions.

- However, we can continue to explore topics, refine proposals, build consensus, so that we are able to make decisions quickly once we become Task Force.
- Ad hocs, Plenary meetings will all be used

## **Big ticket items**

Significant leverage available of previous 25Gb/s technical specification work. Therefore focus should be on agreeing on approach first.

- Overall architecture approach
- Twin-axial cable specification approach
  - Cable reaches, host losses, FEC operation and Auto-neg



Ad hoc meetings  
are excellent for  
this





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# Thank you

IEEE 802.3 25Gb/s Study Group