

# 25GSMF Study Group

## Support for 10km/40km Reach Objectives

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Version 2

# Current State of Length Objectives

- Draft objectives from lewis\_01a\_011316\_25gsmf.pdf - “25GSMF Study Group: Draft Objectives Responses”.

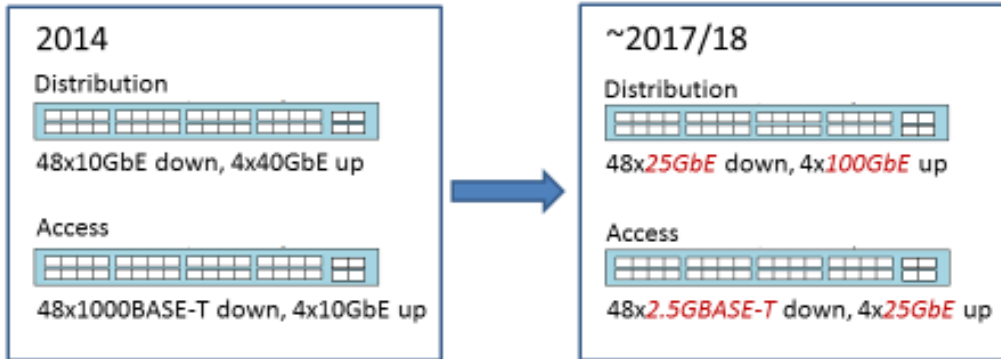
***Provide Physical Layer PMD specification which support 25 Gb/s operation over at least 10 km on SMF.***

***Provide Physical Layer PMD specification which support 25 Gb/s operation over at least 40 km on SMF.***

- This was discussed on the AdHoc call Jan 13th 2016 and represents the consensus of the AdHoc call.
- This deck provides context for supporting for 10km/40km objectives.

# Use cases discussed in CFI

## Enterprise Switching – Rate Evolution



- 2.5X rate, same network model
- Fits nicely with 802.3bz 2.5G/5GBASE-T

Nov 2015

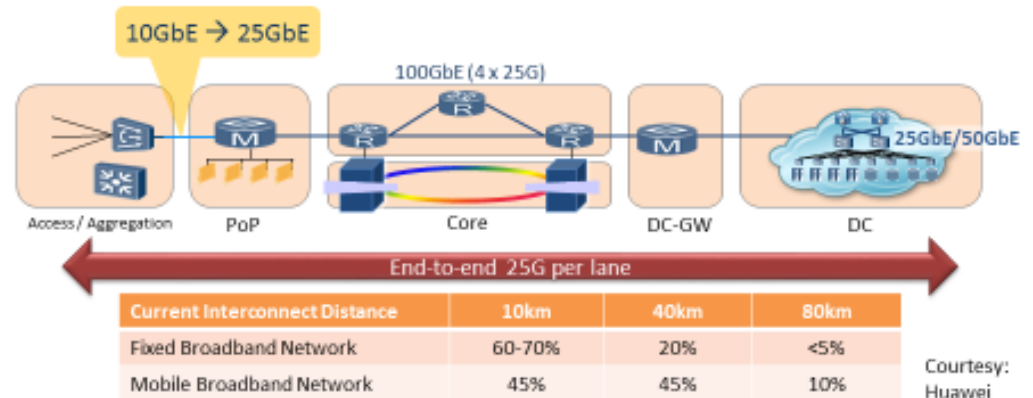
IEEE 802.3 25GbE SMF Call for Interest

Provides a 2.5x speed increase in campus compared to 10GbE using existing SMF cable plant. Aligns with 25Gb/s lane rate evolution.

Provides a 2.5x speed increase in metro access compared to 10Gb over existing SMF cable plant. Aligns with 25Gb/s lane rate evolution.

## Metro-Access – Rate Evolution

- Core moving to 100GbE (4 x 25G)
- Simpler system, lower cost, lower power



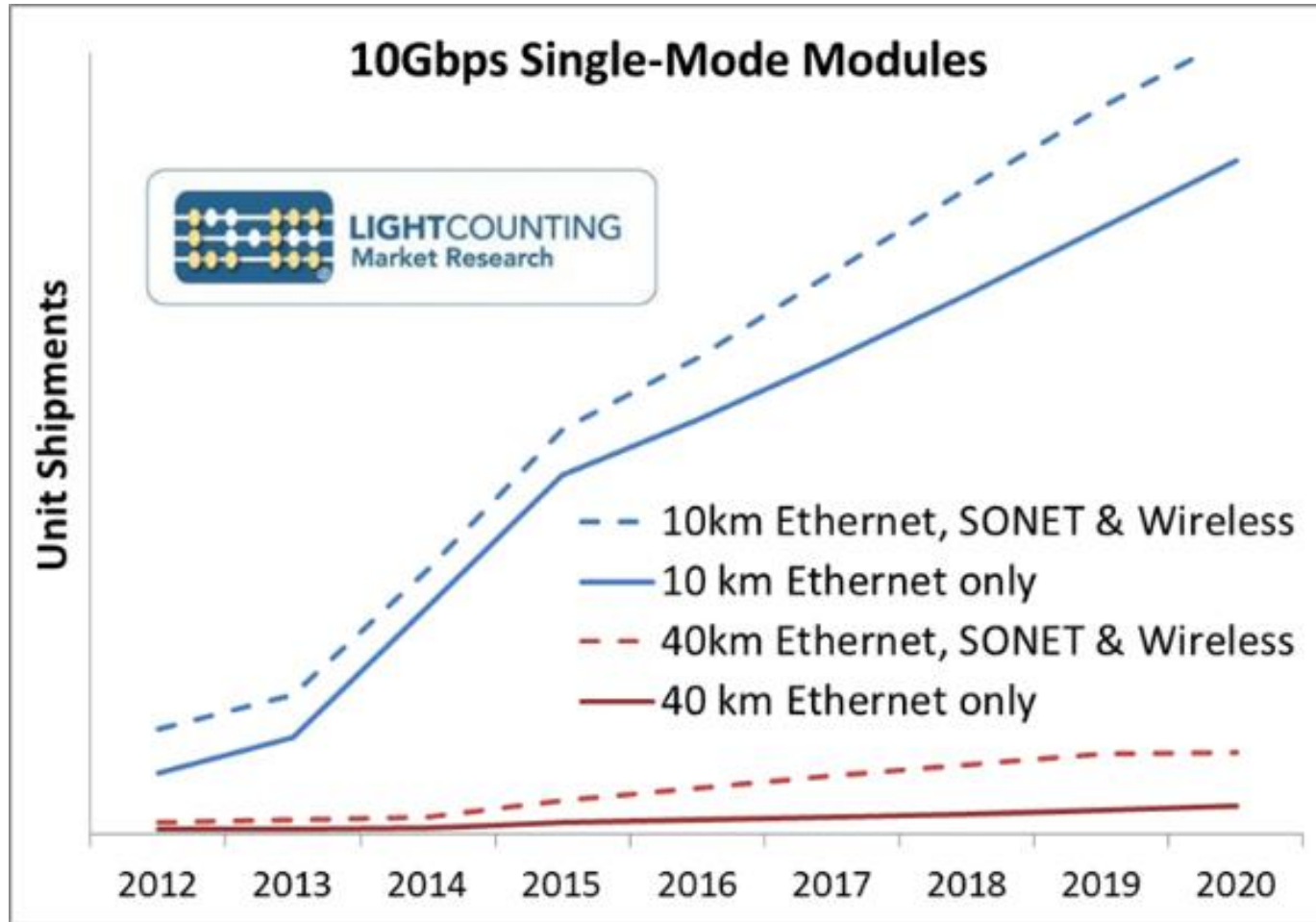
Nov 2015

IEEE 802.3 25GbE SMF Call for Interest

Courtesy: Huawei

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# 10Gb/s SMF: Unit shipments 10km-40km



NOTE: 40km averages ~9% of 10km-40km 10G SMF total units, and about 5% of 10km-40km 10G Ethernet SMF units

# Thoughts

- Common threads
  - A simple upgrade path for existing 10GbE SMF Ethernet users.
  - 2.5X speed increase with currently installed SMF cabling.
- Simplification
  - Support only 2 reach options (10km & 40km) and reduce fragmentation.
  - Very simple and significant value proposition.
  - Enables rapid adoption of the technology.
- Assumption
  - Small cost delta between 10km and shorter reach (e.g. 2km).

# Conclusion

- The 25GSMF SG should
  - Build on the success of 10GbE SMF
    - 10GBASE-LR -10km
    - 10GBASE-ER - 40km
  - By targeting:
    - The same fiber optic cabling
    - At the same reaches

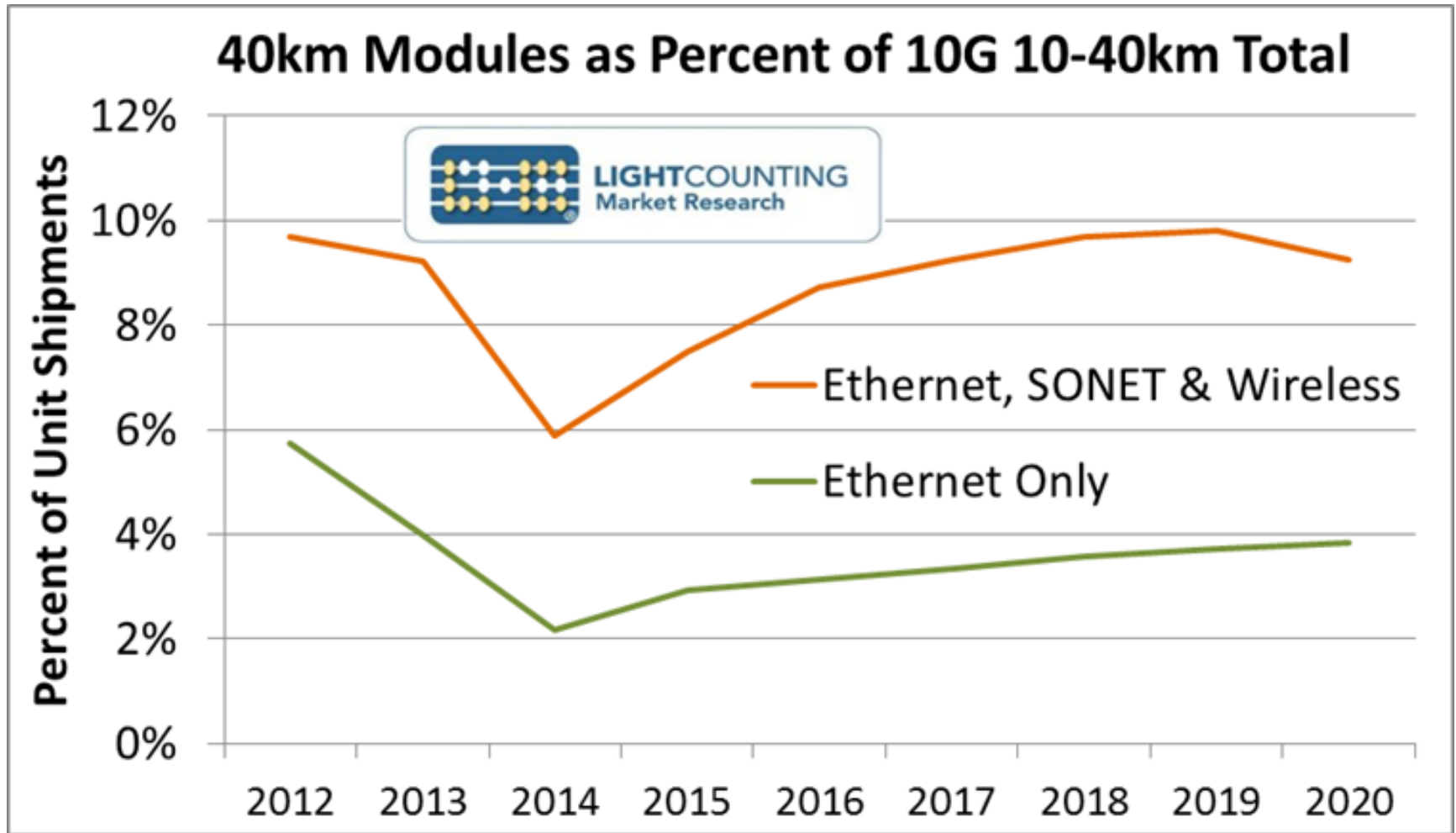
Thank you.

# Backup





# 10Gb/s SMF: 40km as percent 10G 10km-40km SMF Units



Thank you.