25GSMF Study Group

Support for 10km/40km Reach Objectives

Peter Jones
Cisco Systems
Version 6

Current State

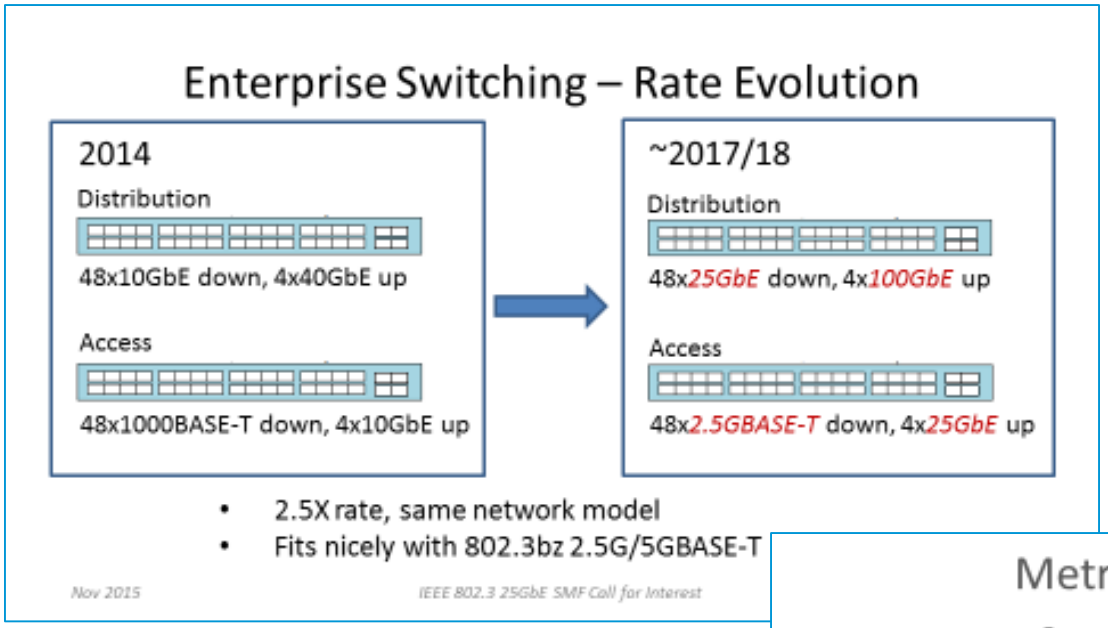
- Drafts Objectives from lewis_01_010616_25GSMF.pdf - “25 Gb/s SMF Draft Objectives”.

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

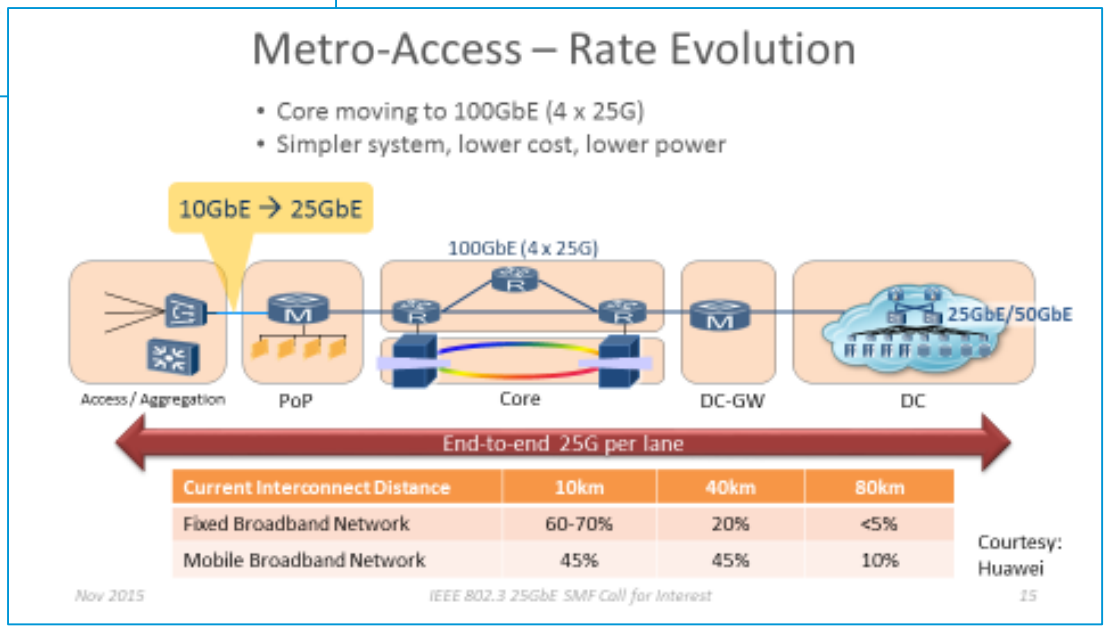
  Provide Physical Layer specification which support 25 Gb/s operation over at least 40 km on SMF.

- This was presented on the AdHoc call Jan 6th 2016 and accepted without opposition on the call.
- This deck provides context for supporting for 10km/40km objectives.

Use cases discussed in CFI

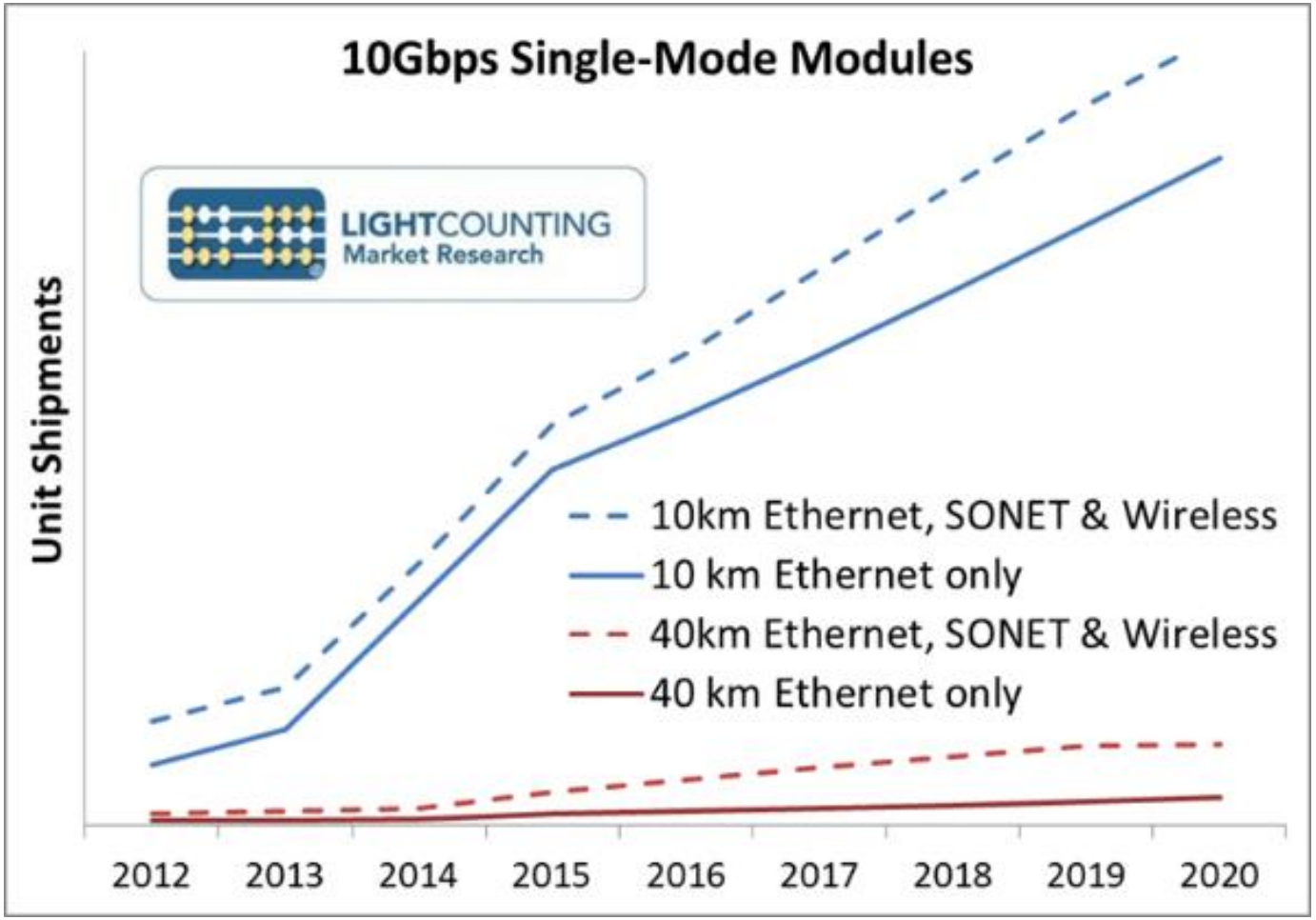


Provides a 2.5x speed increase in campus compared to 10GbE using existing SMF cable plant.
Aligns with 25Gb/s lane rate evolution.



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

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
  - Both use cases from the CFI see a significant market by offering a “simple” upgrade path for existing 10GbE SMF Ethernet users.
  - Provide a 2.5X speed increase while allowing users to leverage currently installed fiber optic cabling
- Simplification
  - Address the market with just 2 reach options (10km & 40km) to reduce fragmentation
  - Provides a very simple and significant value proposition.
  - Enables rapid adoption of the technology.
  - This assumes that there is a small cost delta between 10km and lower distances (e.g. 2km)

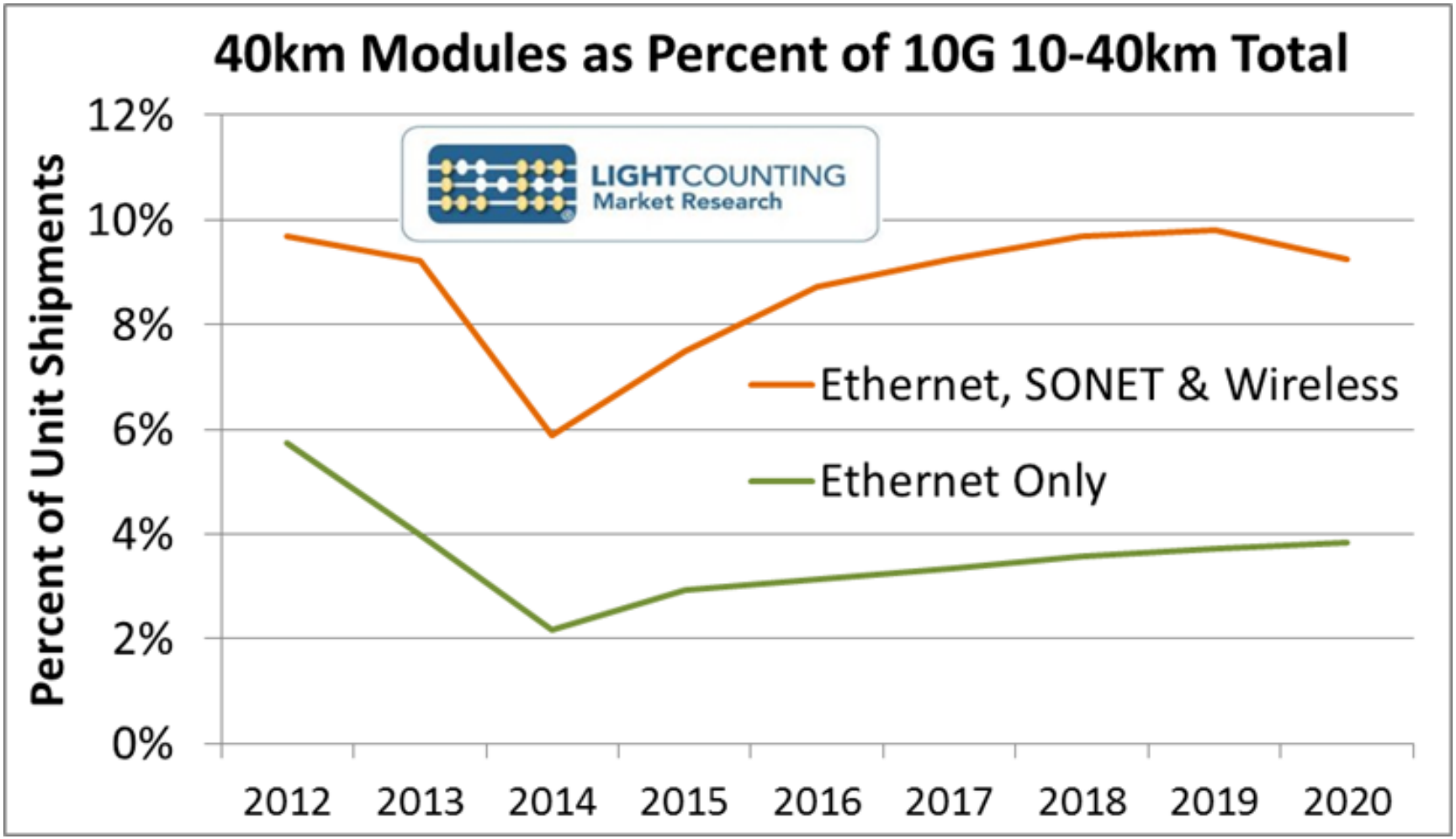
Conclusion

- 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.