

Size should not matter

IEEE 802.3

Ethernet in the First Mile

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Marc Kimpe (marc.kimpe@adtran.com)

What's your point ?

- Defining a new Ethernet over Copper is nice and necessary.

BUT:

- Let's not forget the systems that have already been through the mill
- Primarily ADSL and SHDSL
- Size of the pipe is smaller but it should not matter

A question of control

- There is very little control over the copper
- Would like to avoid rewiring
- Cannot easily change the loop length or make-up
- Hard to place repeaters/hubs/access points in the access network
- Will encounter long loops

ADSL and SHDSL



- already standardized
- already compromised over
- already interoperable
- already spectrally compatible
- probably not all functions can be supported, but Ethernet is not synonymous with 10Mbps symmetric, it is synonymous with a 10BaseT plug

ADSL and SHDSL



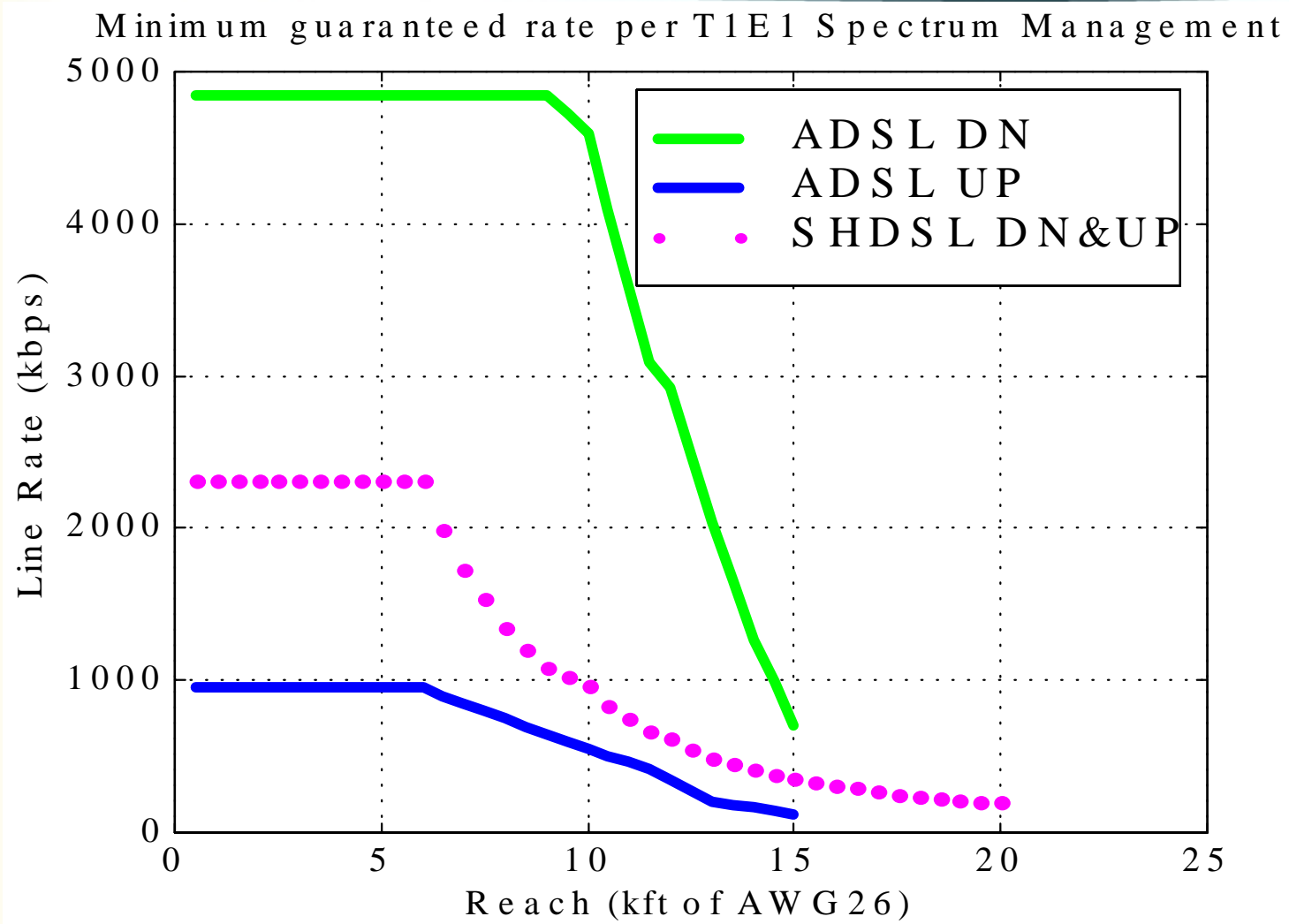
ADSL

- G.992.1/G.992.2
- Asymmetric Rates
- Splitter
- FEXT limited
- Residential
- 1-pair operation

SHDSL

- G.991.2
- Symmetric Rates
- No splitter
- NEXT limited
- Business
- 1 or 2-pair operation

Rate /Reach per T1.417 & agreed text within T1E1



Rate or Reach will always be higher than above

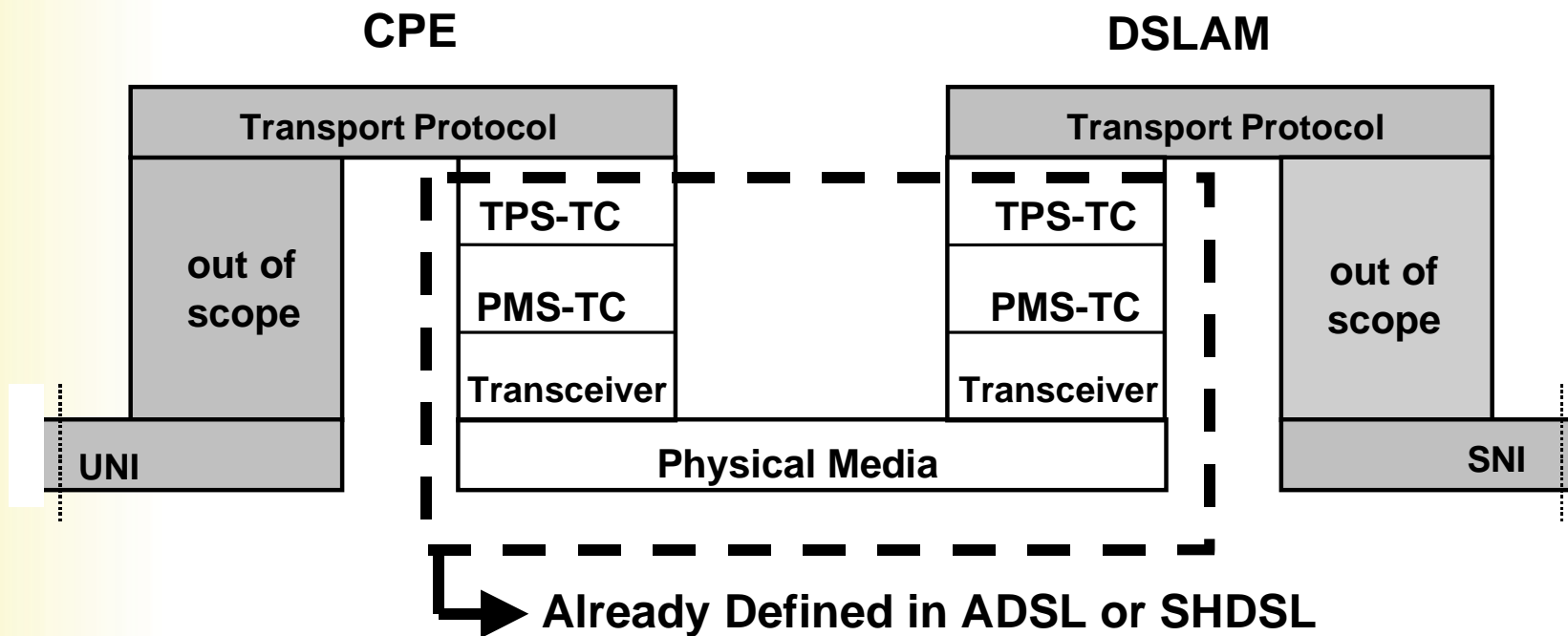
Proposal



- Keep Ethernet in the First Mile “universal”
- Define a transport protocol that can be used for ADSL and SHDSL in the same way that ATM can be carried across both xDSL.

Proposal

- Typical Protocol reference model for xDSL



PMS-TC Physical Media Specific- Transmission Convergence

TPS-TC Transmission Protocol Specific – Transmission Convergence

Conclusion

- Goal: Define transport of Ethernet over all xDSL
- Coordinate with ITU to get one method
- Option 1: define encapsulation
(oksman_1_0701/ mizrahi_1_0701) & adaptation layer
- Option 2: leave encapsulation to ITU
and define adaptation layer (SC097-R2)
- Option 2 is preferable