

ADSL co-existence and spectrum management for 2PASS-TL / 2BASE-TL.

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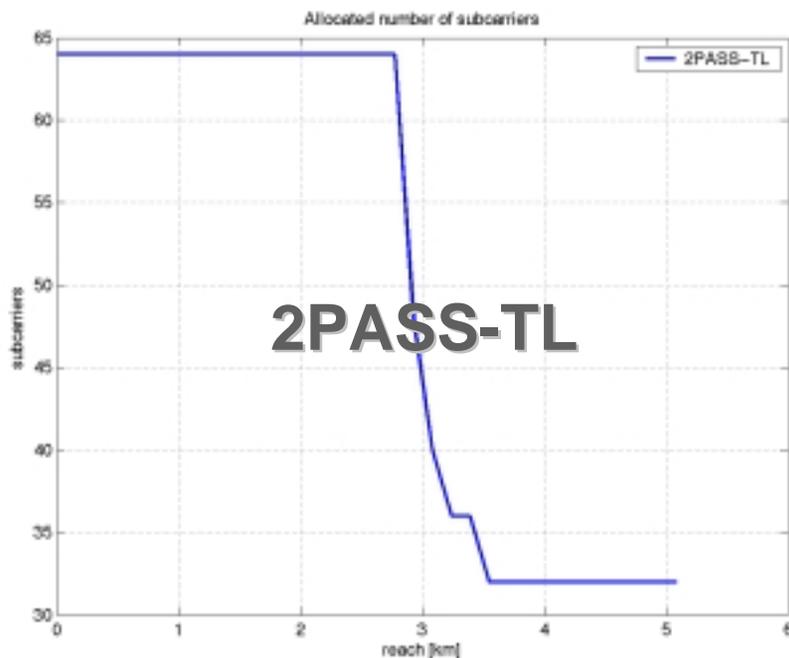
Outline

- Spectrum management
 - T1.417 spectrum compliance rules
- Co-existence with ADSL, an important example
 - ADSL as victim
 - Upstream
 - Downstream
- Summary

Spectrum Management

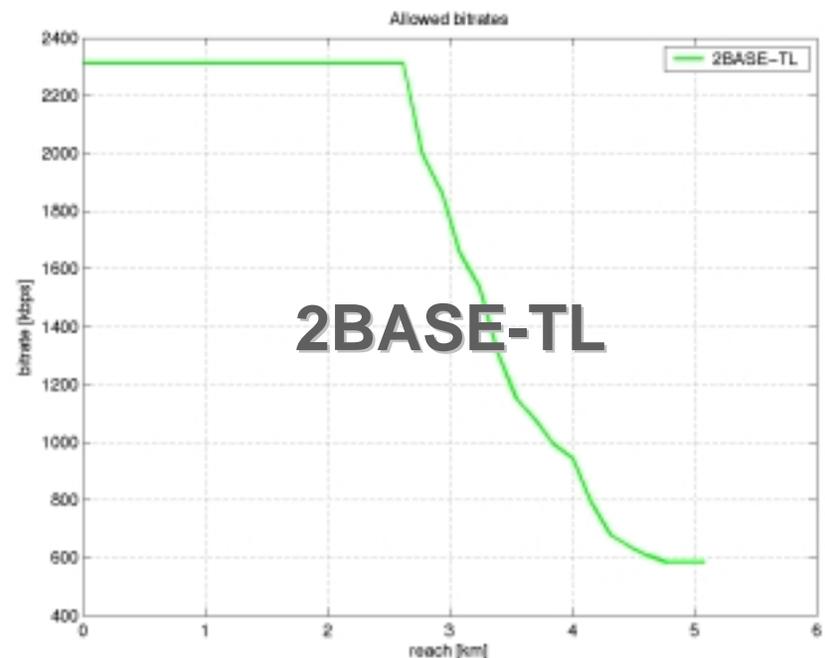
T1.417 Spectrum compliance rules for ADSL

Put restrictions on alien system PSDs
Limited PSDs yields...



2PASS-TL

Limited number of US subcarriers



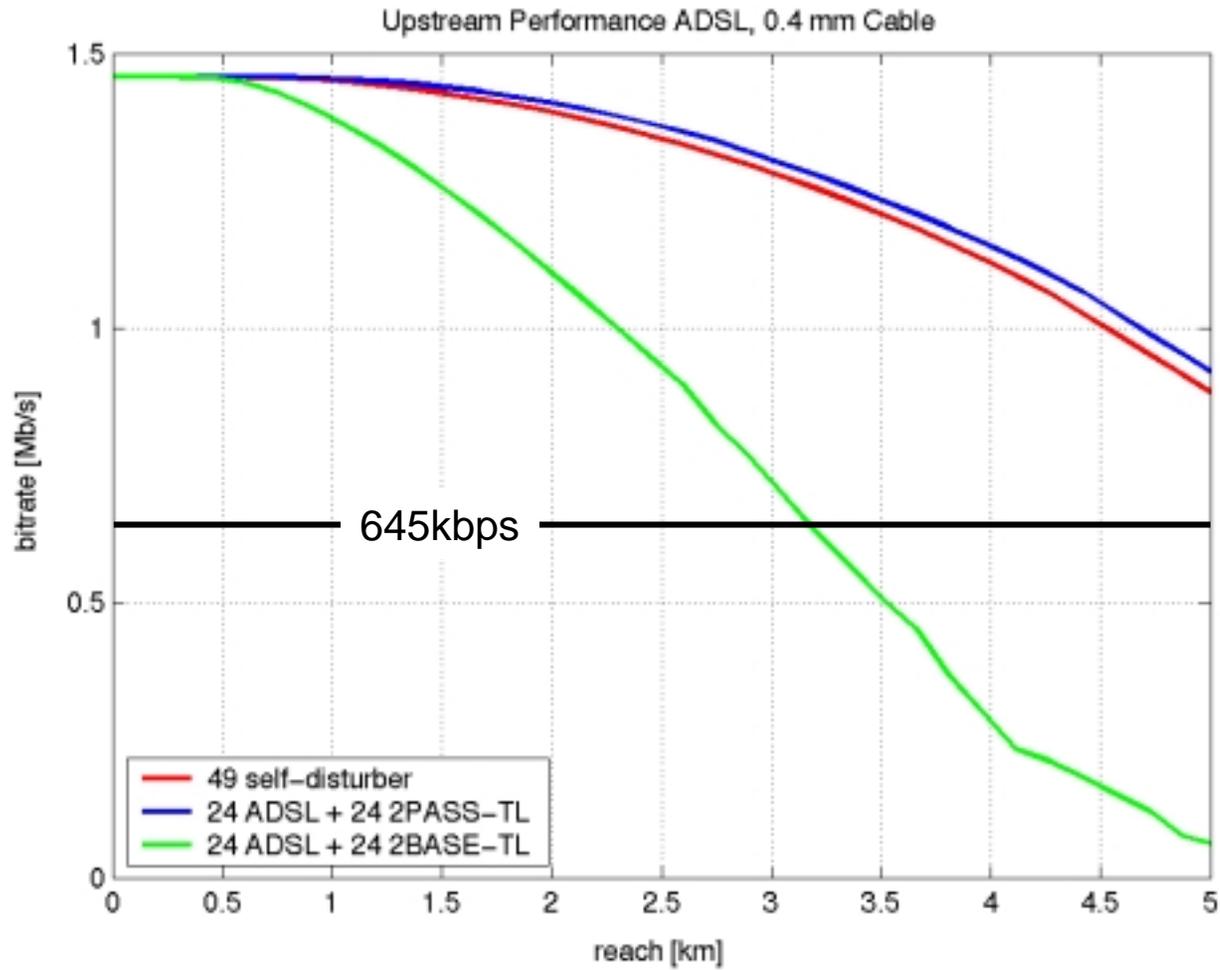
2BASE-TL

Limited bitrates

ADSL co-existence

Upstream ADSL as victim

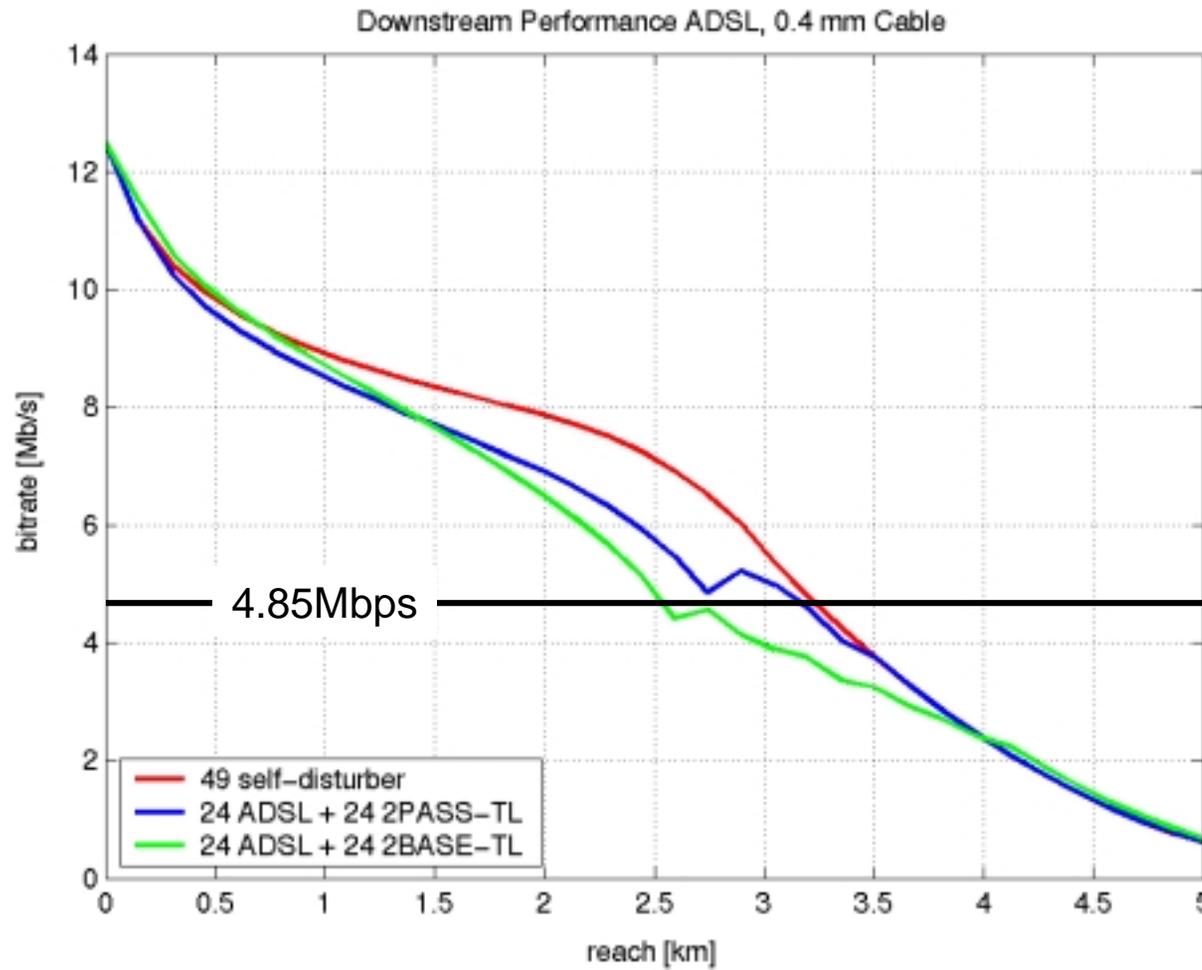
With variable
PSDs for
2PASS-TL (US)
2BASE-TL



ADSL co-existence

Downstream ADSL as victim

With variable
PSDs for
2PASS-TL (US)
2BASE-TL



According to
T1.417 Spectrum
Compliance Rule

Summary

- How do we handle...
 - Spectrum Compliance issues
 - Co-existence... in order to keep the 1st project criteria?
- 1. By extending 61A to include 2PASS-TL / 2BASE-TL
- 2. By adding annexes containing...
 - 63A : PMD profiles
 - 63B : PMD performance... similar to 62A (,62B)

Simulation Assumptions

- **Parameters**

- ADSL as system under test
 - T1.413 ADSL parameters
 - Coding gain = 5 dB
 - ADSL US tones: 6-31
 - ADSL DS tones: 33-255
 - Maximum bitload: 14 bits/tone
- 2PASS-TL (ADSL2 Annex J) as system under test
 - T1.413 ADSL parameters (except G.992.3 Annex J)
 - Coding Gain = 5 dB
 - Maximum bitload: 14 bits/tone
 - Using G.992.3 Annex J family of PSD masks allowing up to 64 subcarriers in upstream.
- 2BASE-TL (SHDSL) as system under test
 - G.991.2 parameters
 - Symmetric PSD masks

2nd order parameters due to variable PSD masks

Reach [kft]	2PASS-TL [subcarriers]	2BASE-TL [kbps]
0-8.5	64	2312
9	64	2000
9.5	48	1872
10	40	1656
10.5	36	1544
11	36	1312
11.5	32	1152
12	32	1080
12.5	32	992
13	32	944
13.5	32	792
14.0	32	680
14.5	32	640
15.0	32	608
15.5	32	584
16.0	32	584
16.5	32	584

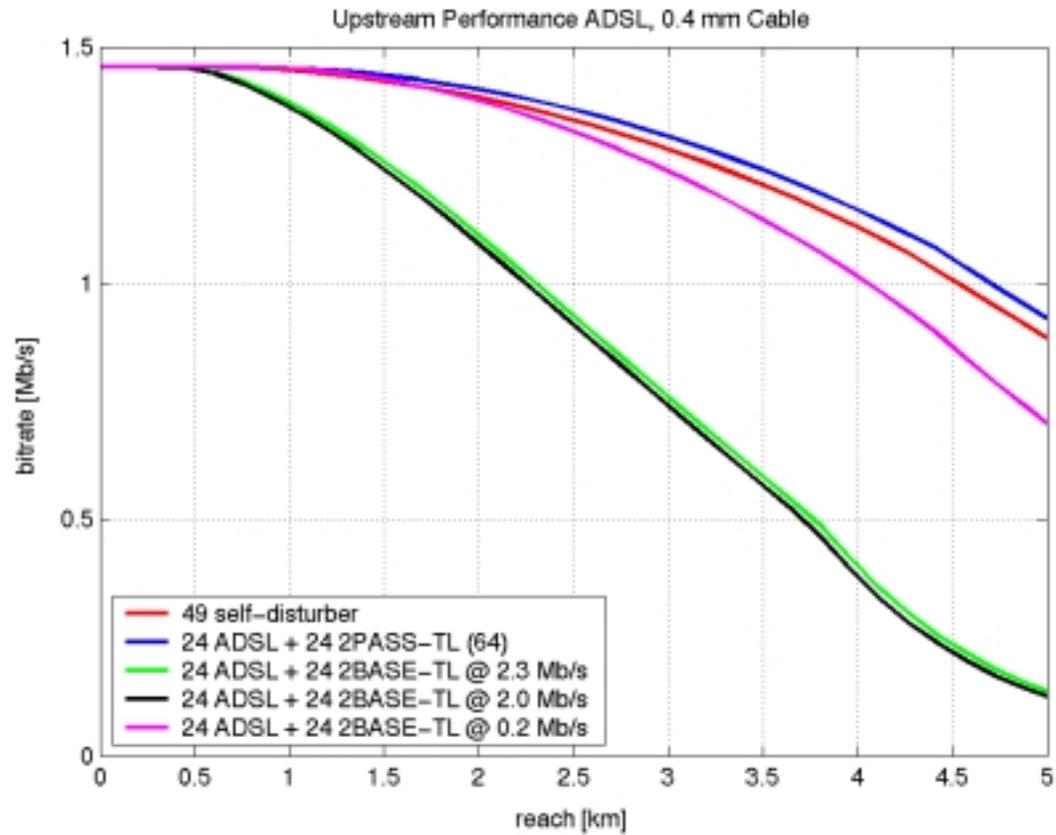
Backup Slides



Backup Slide

Upstream ADSL as victim

With fixed PSDs for
2PASS-TL (64)
2BASE-TL (2.3, 2.0, 0.2)



Backup Slide

Downstream ADSL as victim

With fixed PSDs for
2PASS-TL (64)
2BASE-TL (2.3, 2.0, 0.2)

