



Dark fibres on RENATER-4

Émilie Camisard





Agenda

- Deployment of RENATER-4 infrastructure
- Differences between RENATER-3 and 4
- Dark fibres in RENATER-4
- What involvement in TF-NGN?



RENATER-4 deployment (1)

- June 2004: Call for tenders was started:
 - Network operation => CS
 - Existing network equipments maintenance => CS
 - Routing equipments => CS (with Cisco equipments: GSR 12400)
 - Switching equipments => CS (with Cisco equipments – Catalyst 6500 and 4500)
 - Maintenance of new equipments above => CS
 - WDM equipments => CS (with Alcatel equipments – 1696)
 - Maintenance of optical equipments above => CS
 - Link provisioning between metropolitan nodes (except Paris Area) => Cegetel+France Télécom for leased lambdas, Cegetel+neuf telecom+Level3 for dark fibre



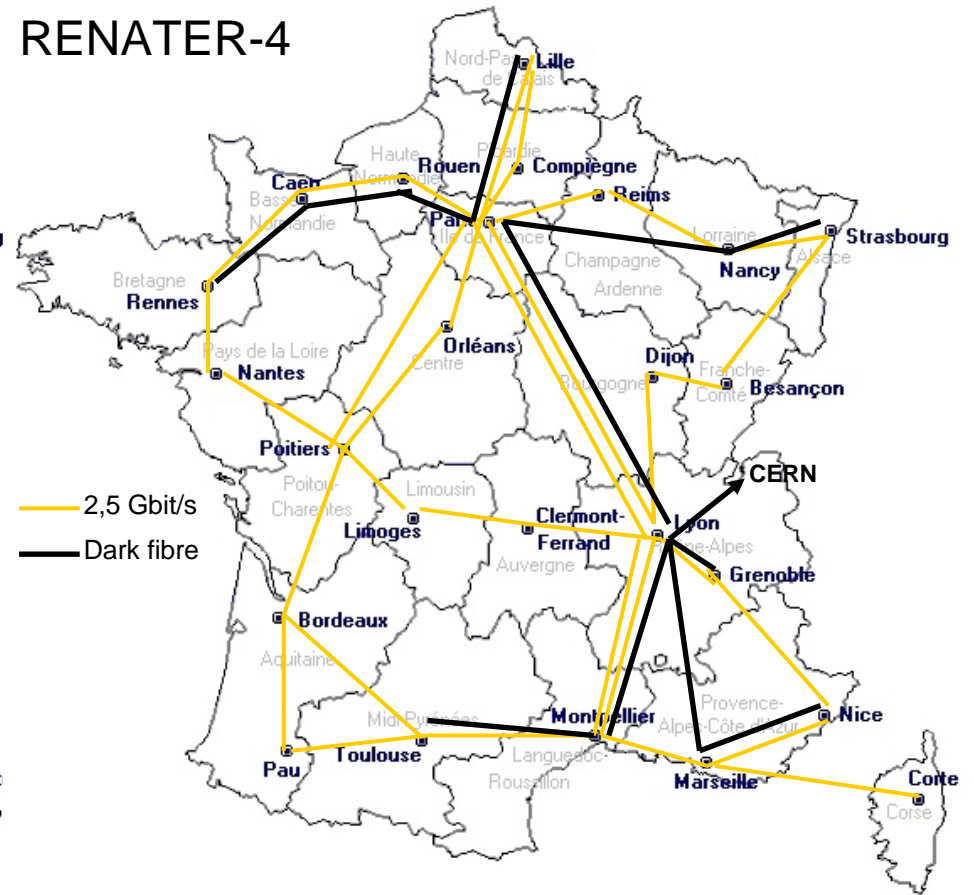
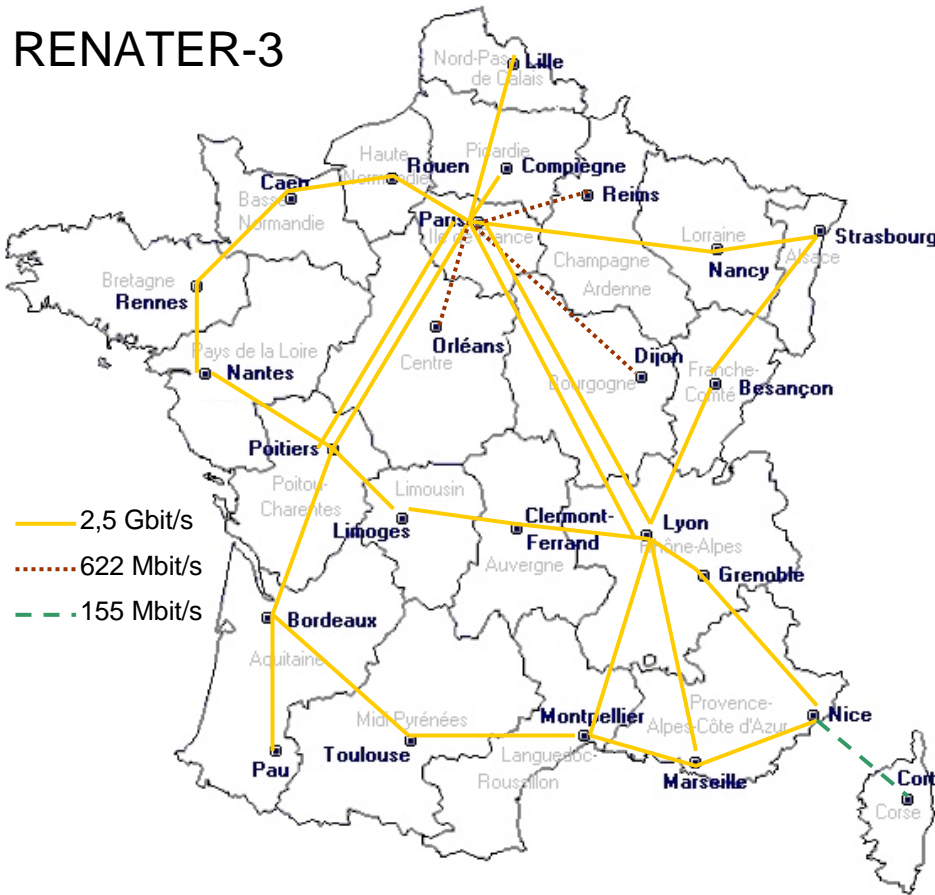


RENATER-4 deployment (2)

- End of January 2005: Markets attribution
- Summer 2005:
 - Currently deploying links with leased lambdas.
 - Routing and switching equipments configuration in every node
- Dark fibres delivered from september to november 2005
- WDM equipments delivered in autumn



RENATER-4: national infrastructure



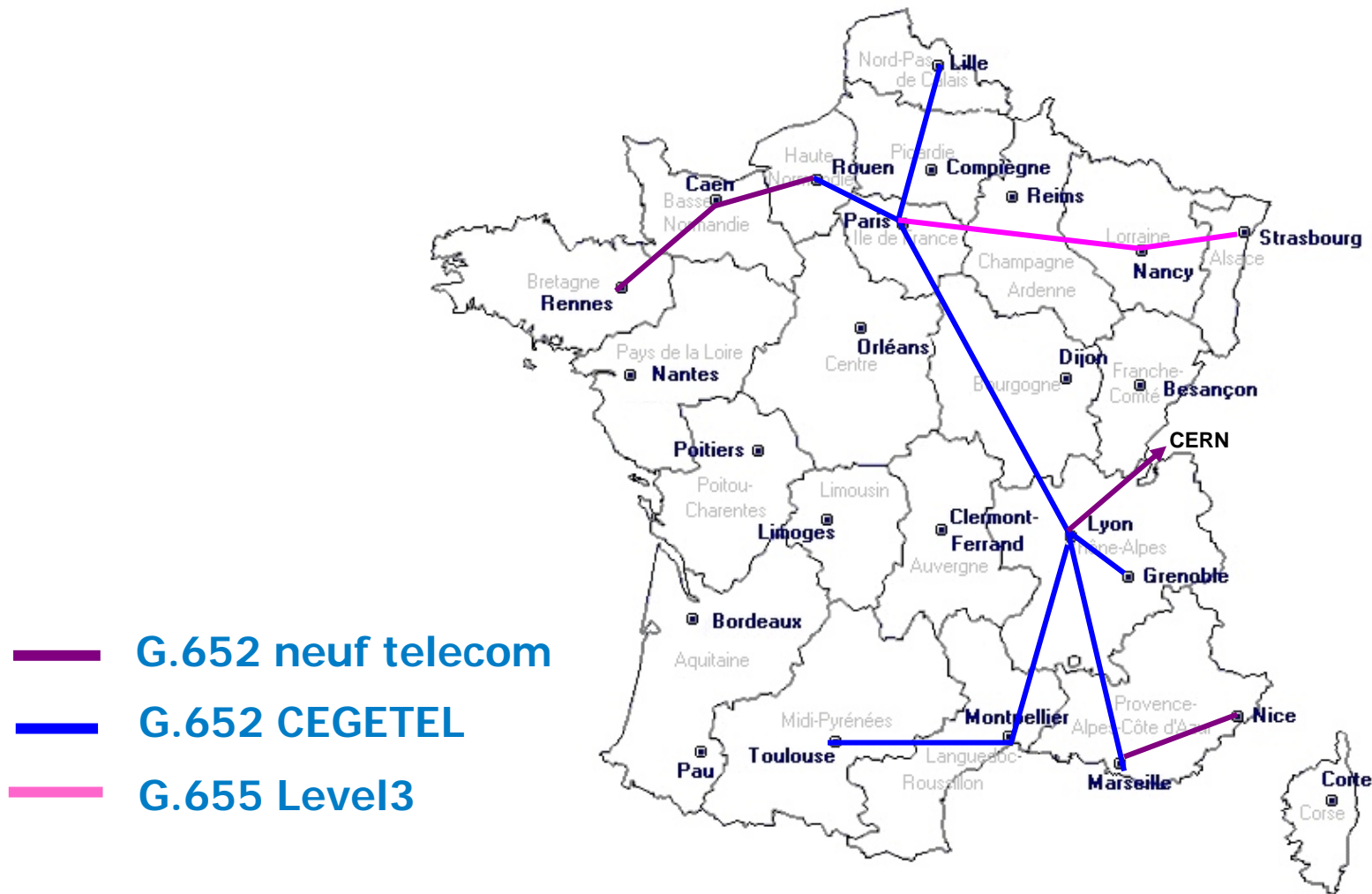
29 July 2005



18th TF-NGN, Paris



RENATER-4: dark fibres



29 July 2005

● ● ● ● ● 18th TF-NGN, Paris

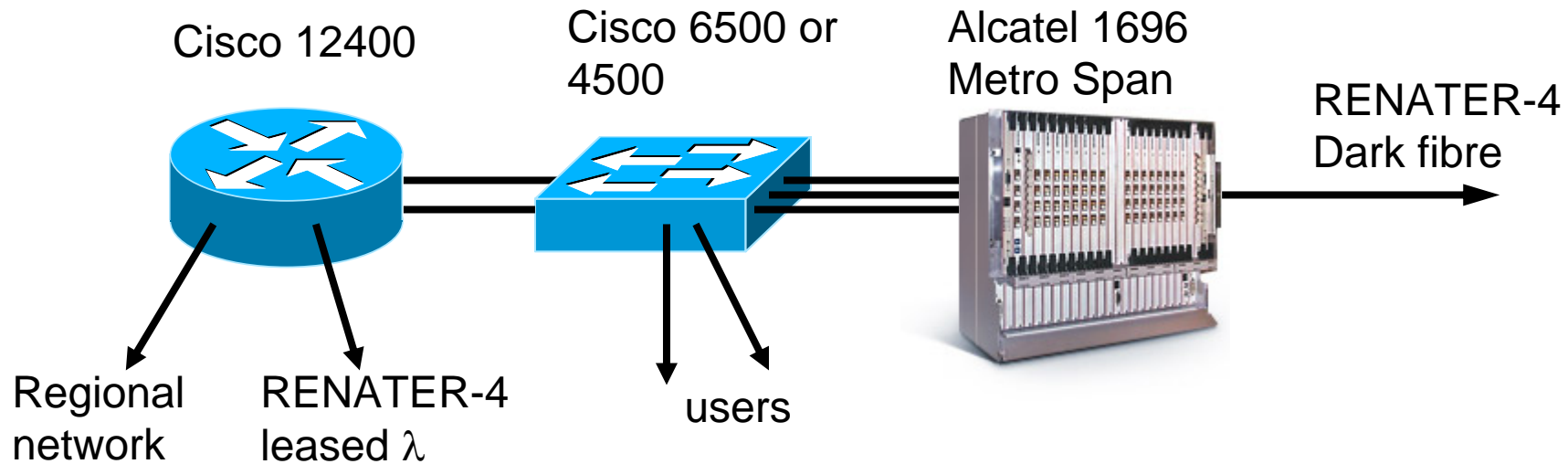


Dark fibres: physical architecture

- RENATER nodes: signal regeneration, lambda add & drop where projects are present.
- Shelters: reamplification (except in few points where a signal regeneration is needed)
- 8 λ configuration (less regeneration points than if 16 λ)

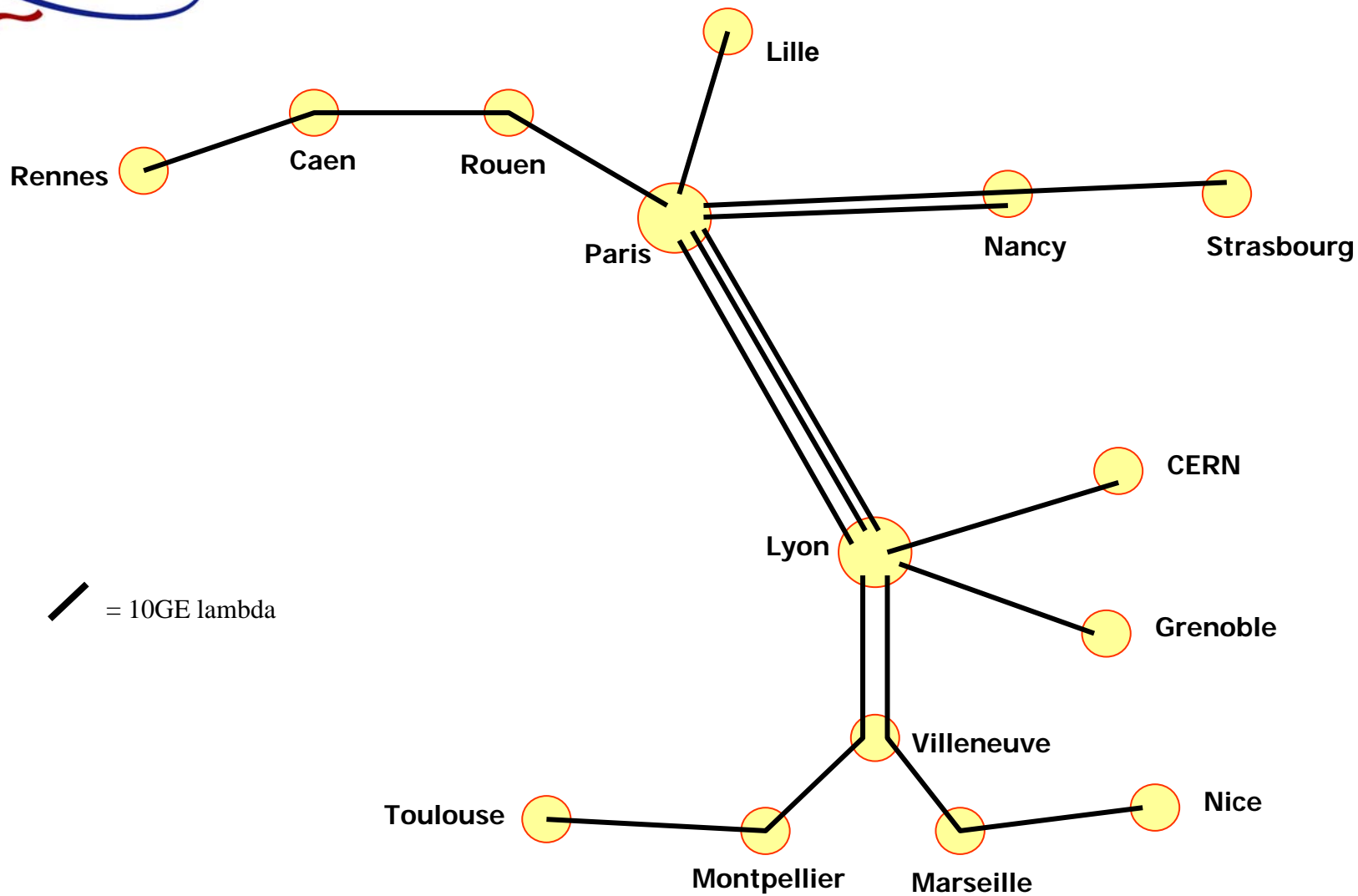


RENATER-4 terminal node with dark fibre



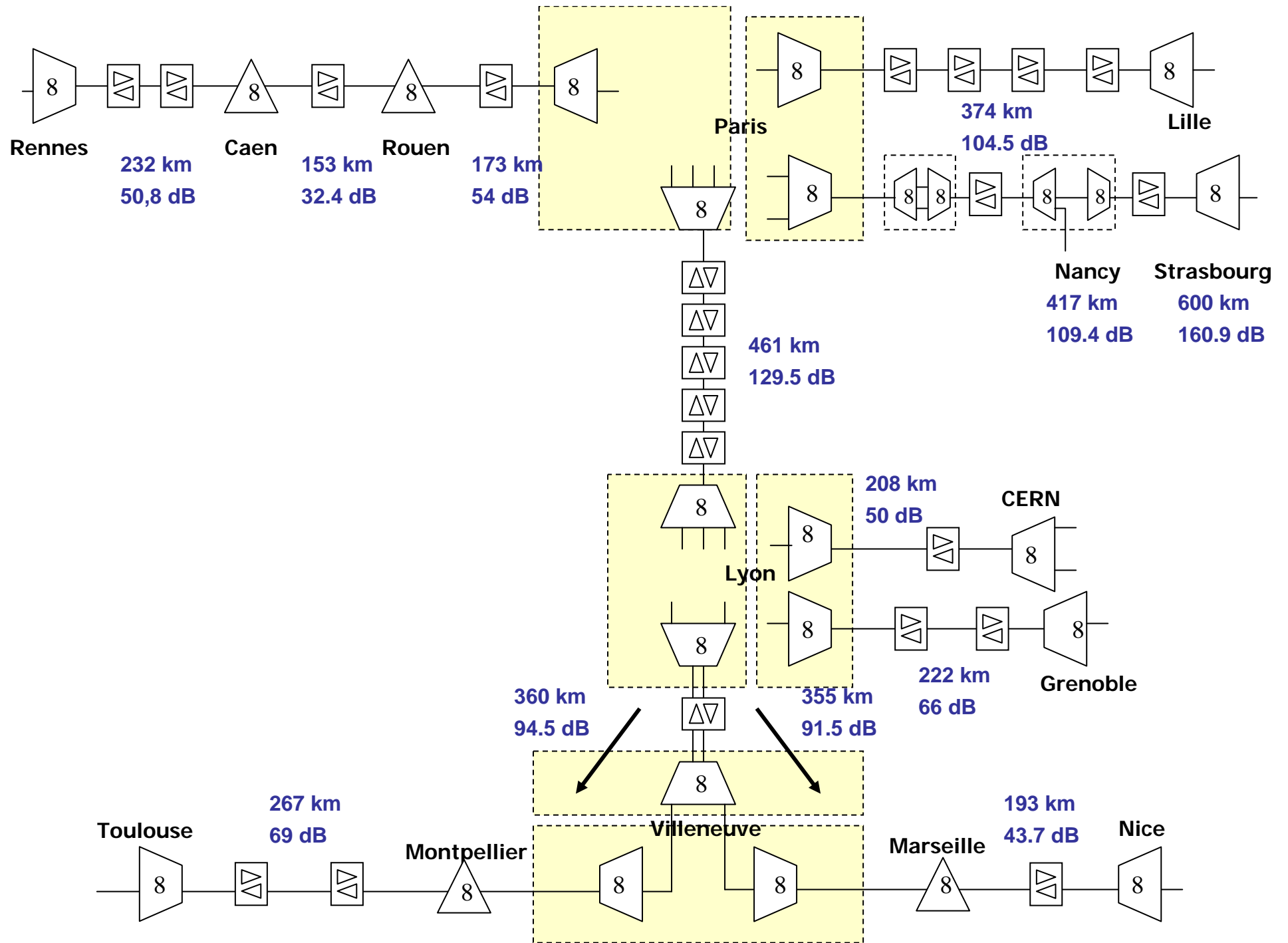


Lambdas in dark fibre



29 July 2005

● ● ● ● ● 18th TF-NGN, Paris





What is interesting us in optics

- Transceivers compliance between manufacturers
 - Signal compliance between RENATER and GEANT2 or regional networks
- Tunable lasers
- 100 Gbit/s link technology





Any questions?

/

Thank you for your attention !