Connect. Communicate. Collaborate

GÉANT2 – Networking for European Research and Education

Hans Döbbeling, DANTE

SIRIKT2007, Kranjska Gora, 19. April 2007

What is GÉANT2?

Connect. Communicate. Collaborate

A European R&E Networking Model:

- 7th generation of pan-European research network infrastructure – continuation of a success story
- Project partners include the EC, 30 of Europe's national research and education networks (NRENs), DANTE and TERENA
- Connects 34 European countries and serves over 3500 research and education establishments across Europe
- Over 30 million users
- Provides extensive international connectivity to other world regions
- Funded jointly by NRENs and European Commission
- Project timescale September 2004 - August 2008

GÉANT2 Objectives

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- Provide a gigabit-speeds infrastructure to support European research and education
- Deploy the first international ***hybrid*** network: routed IP traffic combined with switched point-to-point circuits
- Implement end-to-end QoS provision
- Provide a research infrastructure for network technology developments
- Develop a wider range of network services
  - Performance monitoring
  - Security
  - Bandwidth on demand
  - Testbed facility
  - Mobility and roaming

GÉANT2 Objectives (cont'd)

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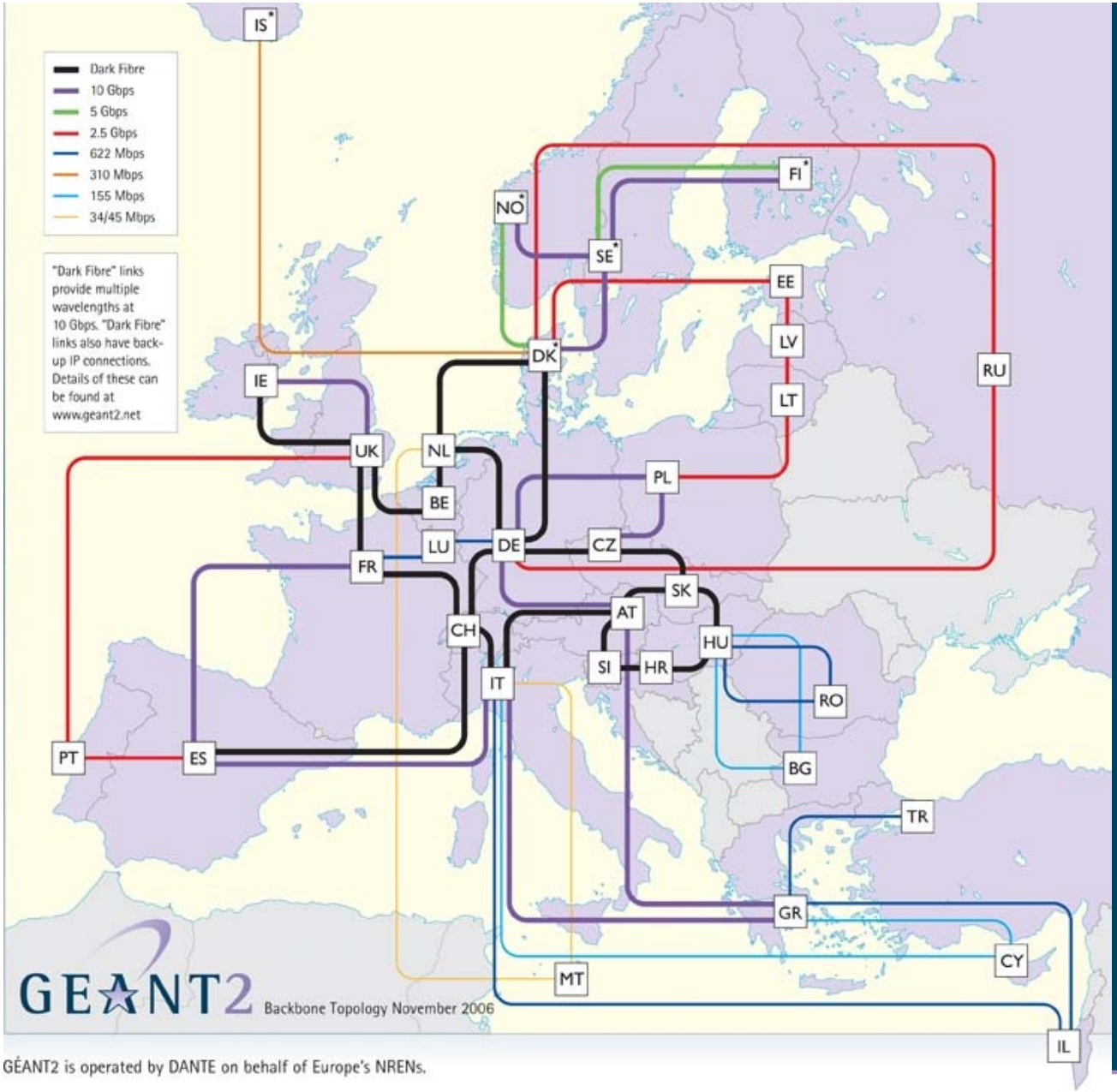
- Provide user support and consultancy
- Benchmark and support development of NRENs
- Coordinate RTD activities
- Extend geographic reach of the network
- Conduct strategic studies into the future of European research networking (eg. SERENATE, EARNEST)
- Disseminate benefits and achievements of the network



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GÉANT2 Topology

November 2006

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Hybrid Networking
VPNs, OPNs

3 examples

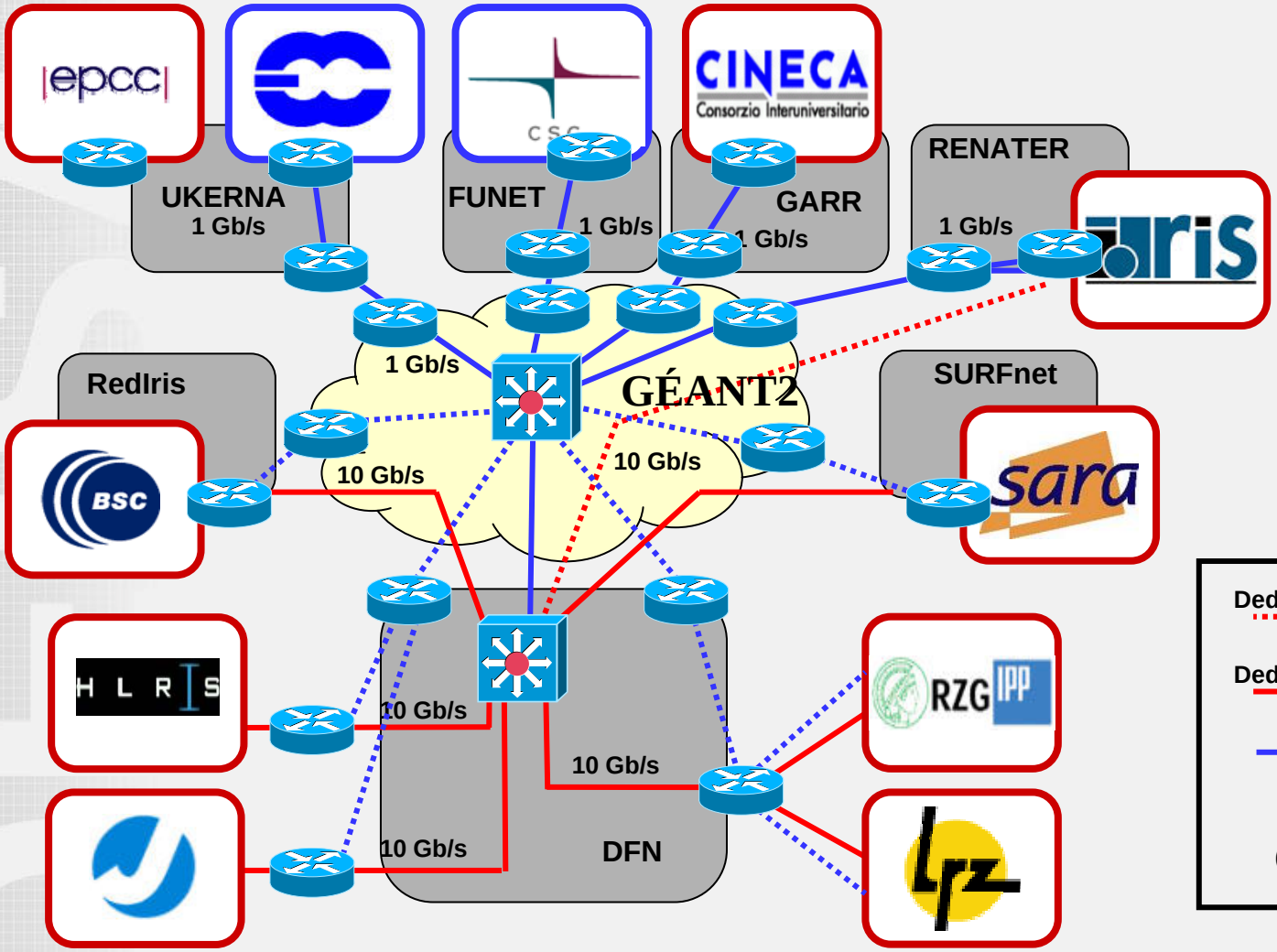
DEISA
CERN LHC
eVLBI

eDEISA - Network

(technical overview)

April 2007

Distributed European Infrastructure for Supercomputing Applications



Dedicated 10 Gb/s wavelength (in preparation)

Dedicated 10 Gb/s wavelength

1 Gb/s LSP

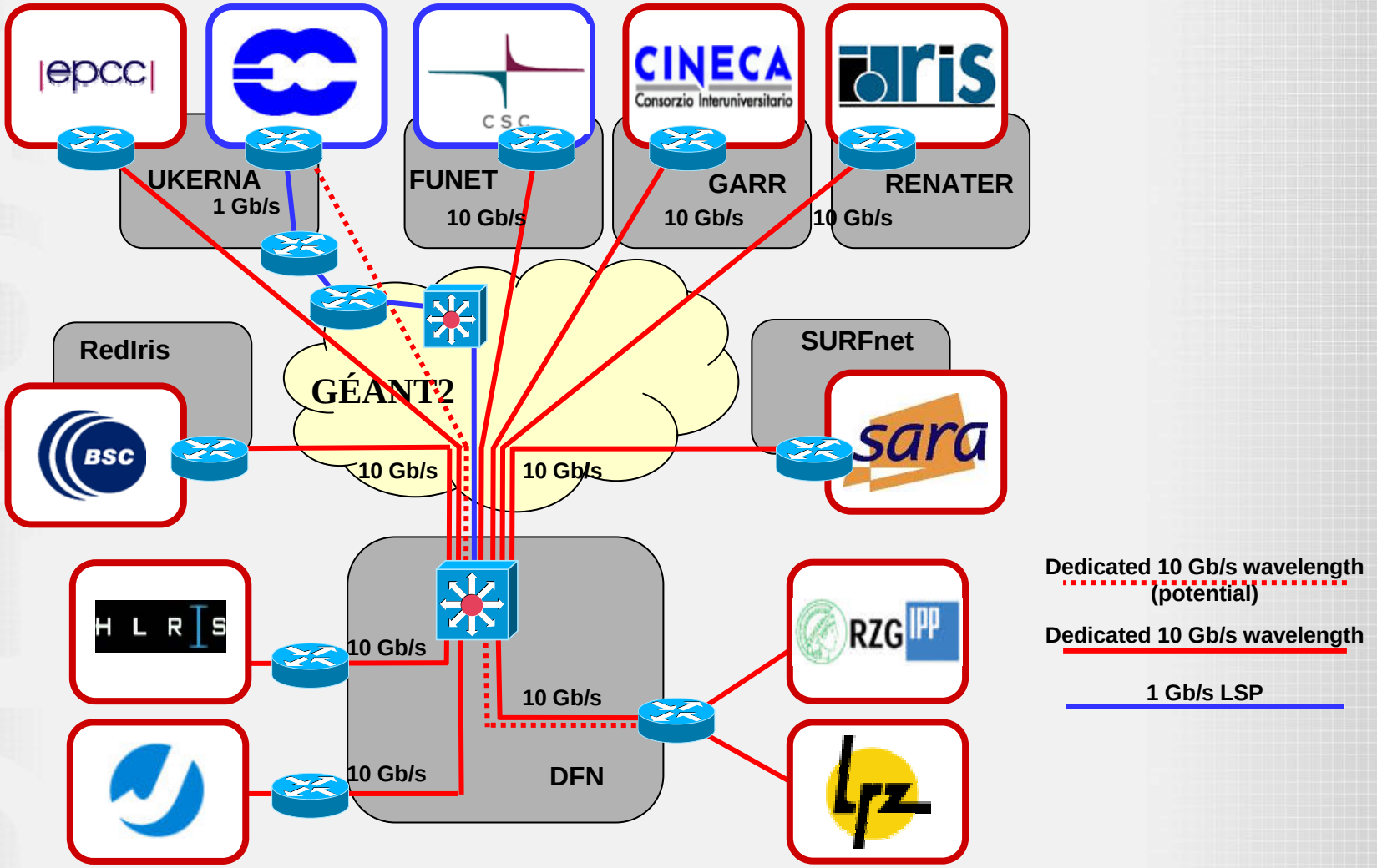
Old 1 Gb/s LSP (will be removed soon)

eDEISA - Network

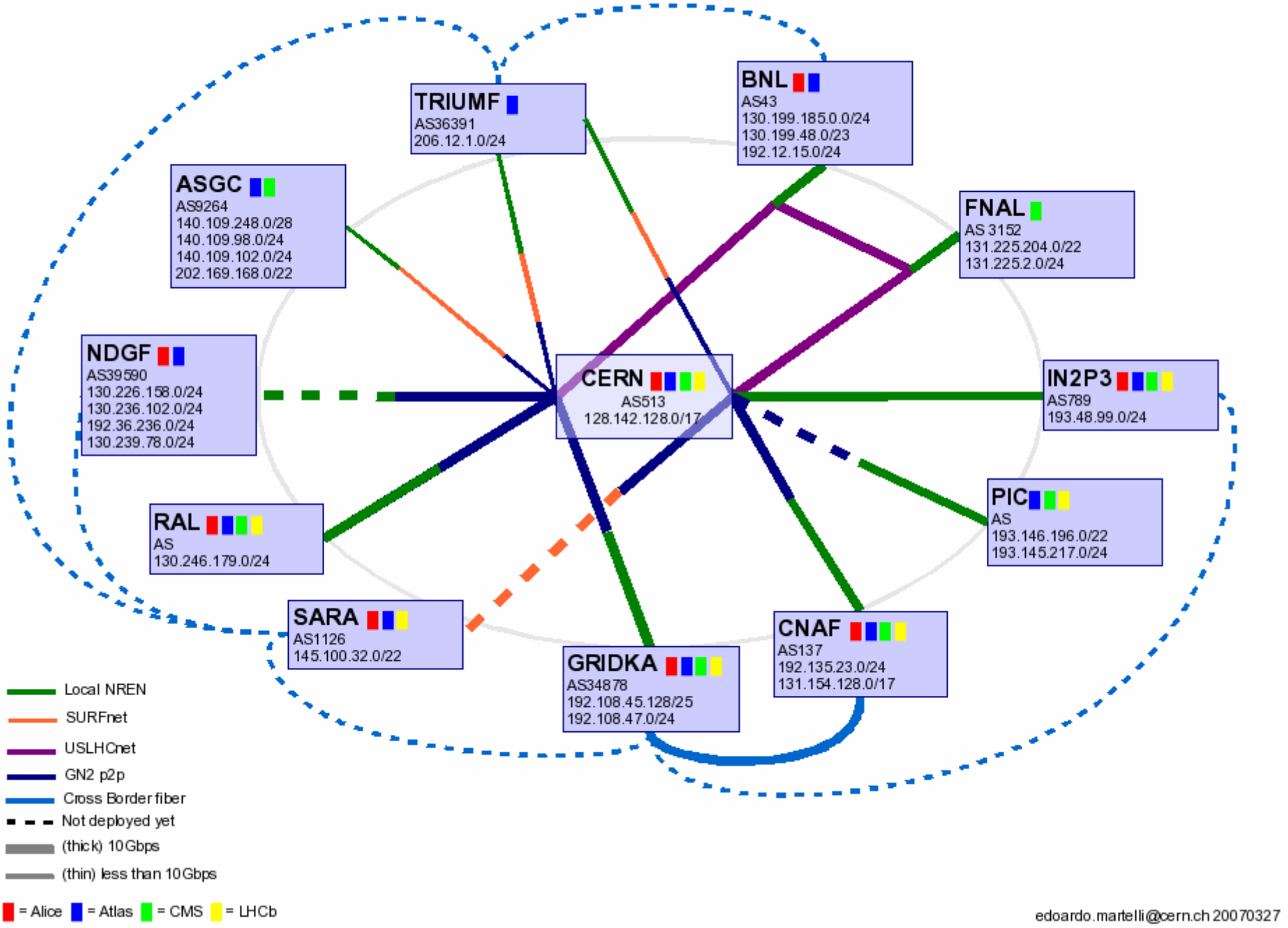
(technical overview)

estimated beginning of Q3 / 2007

Distributed European Infrastructure for Supercomputing Applications



LHCOPN – current status



edoardo.martelli@cern.ch 20070327






Radio Astronomy Network
eVLBI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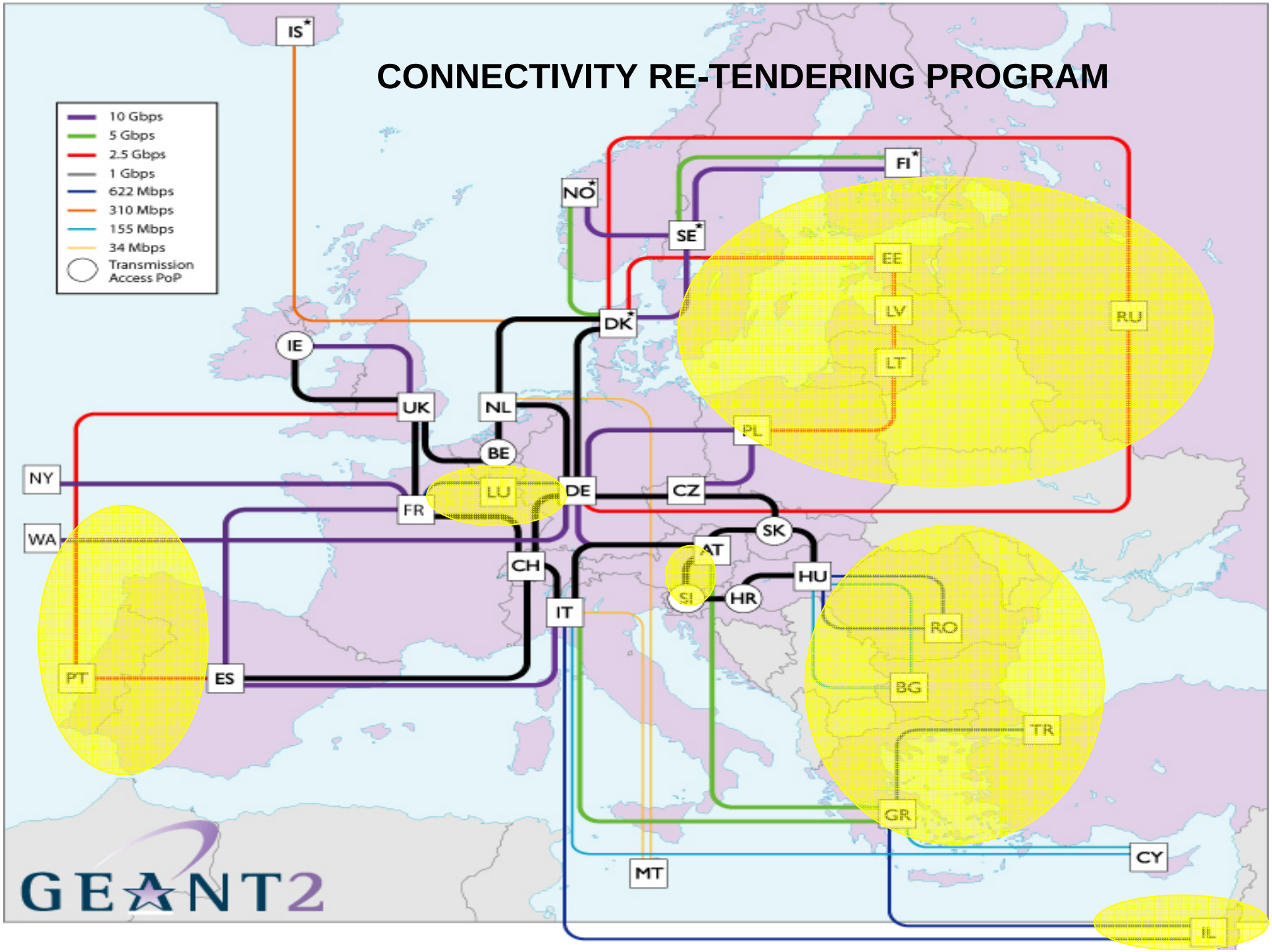
A hybrid network:
Use of Wavelengths on Fibre footprint

PerfSonar
Multi Domain Monitoring

Roaming Access
eduroam


CONNECTIVITY RE-TENDERING PROGRAM
10 Gbps
5 Gbps
2.5 Gbps
1 Gbps
622 Mbps
310 Mbps
155 Mbps
34 Mbps
Transmission Access PoP
IS
NO
SE
FI
EE
LV
LT
RU
DK
IE
UK
NL
PL
BE
NY
LU
DE
CZ
FR
WA
SK
AT
CH
HU
SI
HR
IT
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GEANT2

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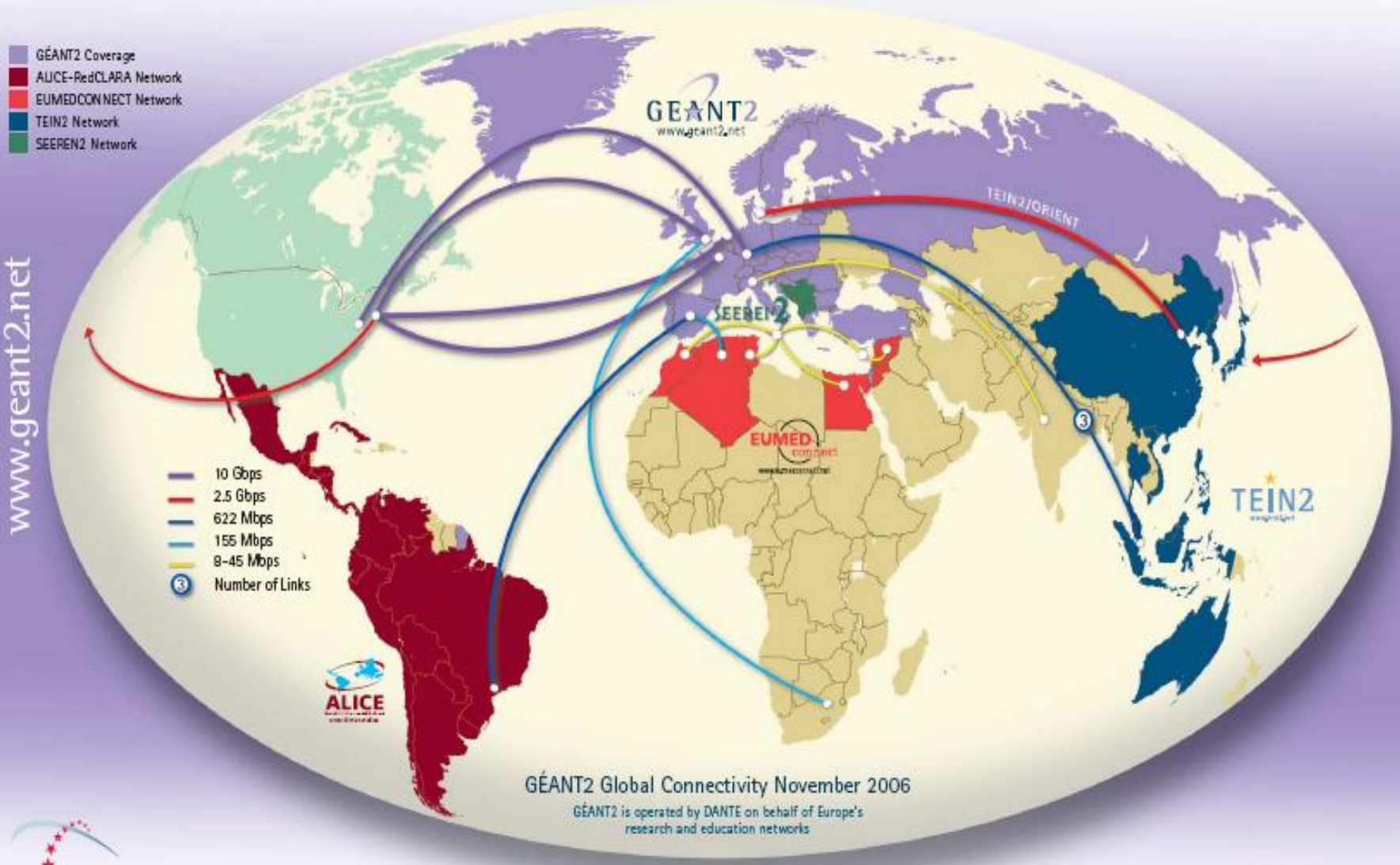
GÉANT2 global outreach

connecting other world regions

GÉANT2 At the Heart of Global Research Networking



DANTE
www.dante.net

★Connect ★Communicate ★Collaborate

European Commission
Information Society and Media

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For More Information

- www.geant2.net
- www.dante.net
- For latest news and factsheets http://www.geant2.net/media
- For research activities http://www.geant2.net/research

EUMEDCONNECT Topology October 2005

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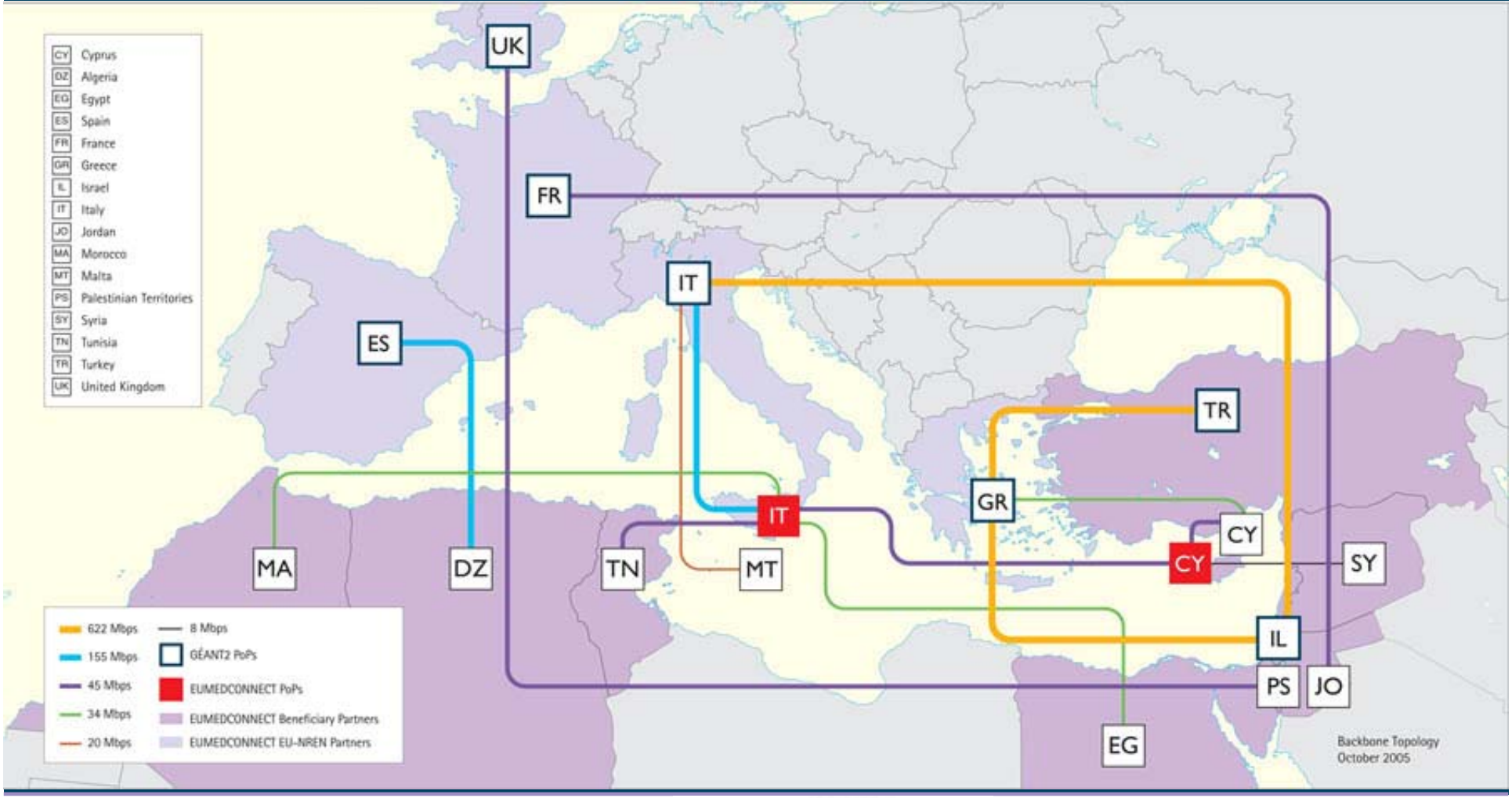

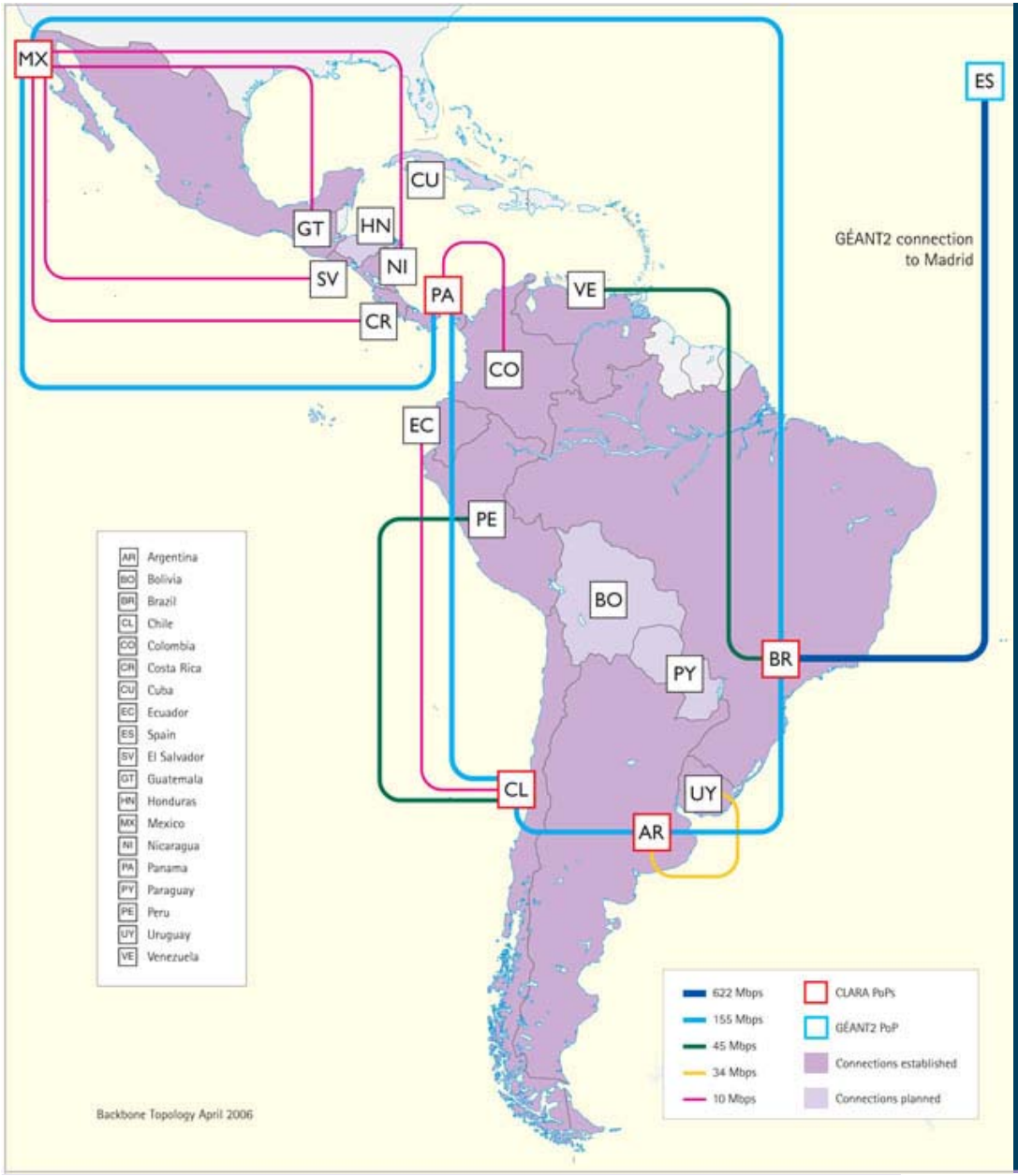

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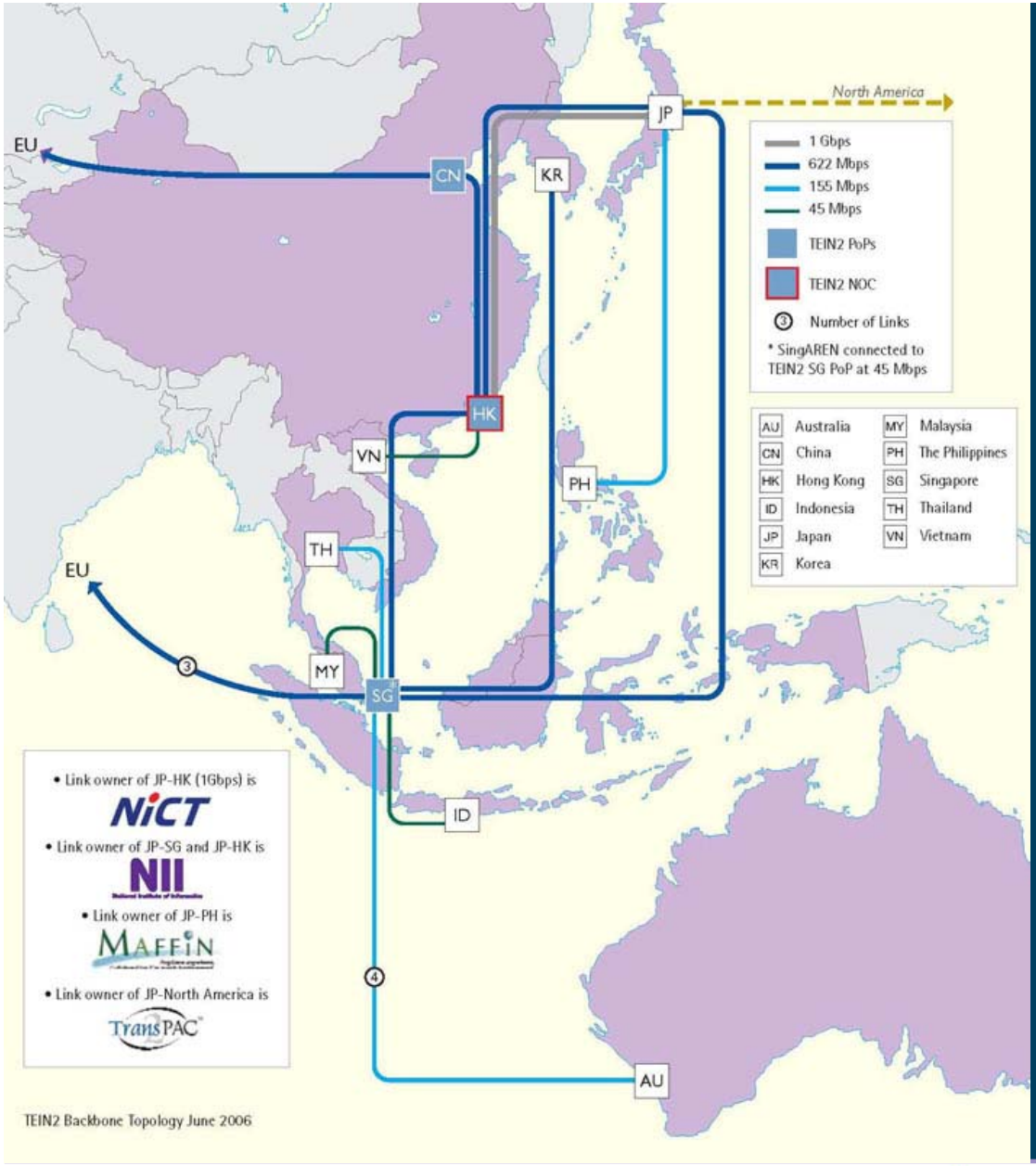
ALICE Topology

April 2006



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TEIN2 Topology

June 2006