



Connect. Communicate. Collaborate

The GÉANT2 Network

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International ICFA Workshop on HEP Networking, Grid
and Digital Divide Issues for Global e-Science

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What is GÉANT2?

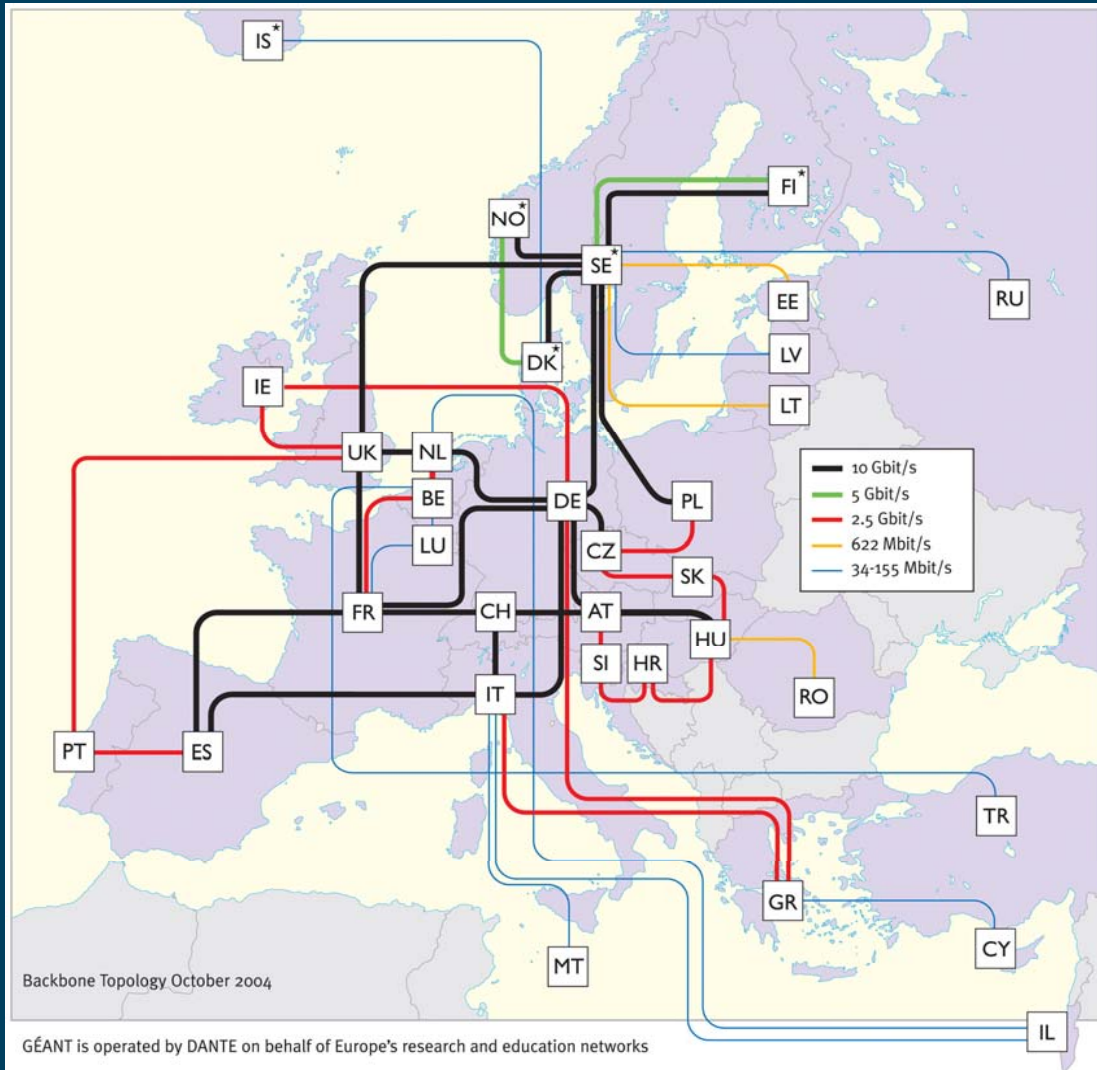
- Pan-European research network infrastructure
- Project partners include 30 of Europe's national research and education networks (NRENs), DANTE and TERENA. Will connect 34 European countries and serve over 3500 research and education establishments across Europe
- Provide international connectivity to other world regions
- Funded jointly by NRENs and European Commission

GÉANT2 Project Partners



GÉANT2 Timescale

- Project Duration September 2004 – August 2008
- Procurement of Connectivity and Equipment
- Contract Signatures May/June 2005
- Network Rollout 2H2005
 - Smooth transition of service
 - In sync with NRENs



GÉANT Topology

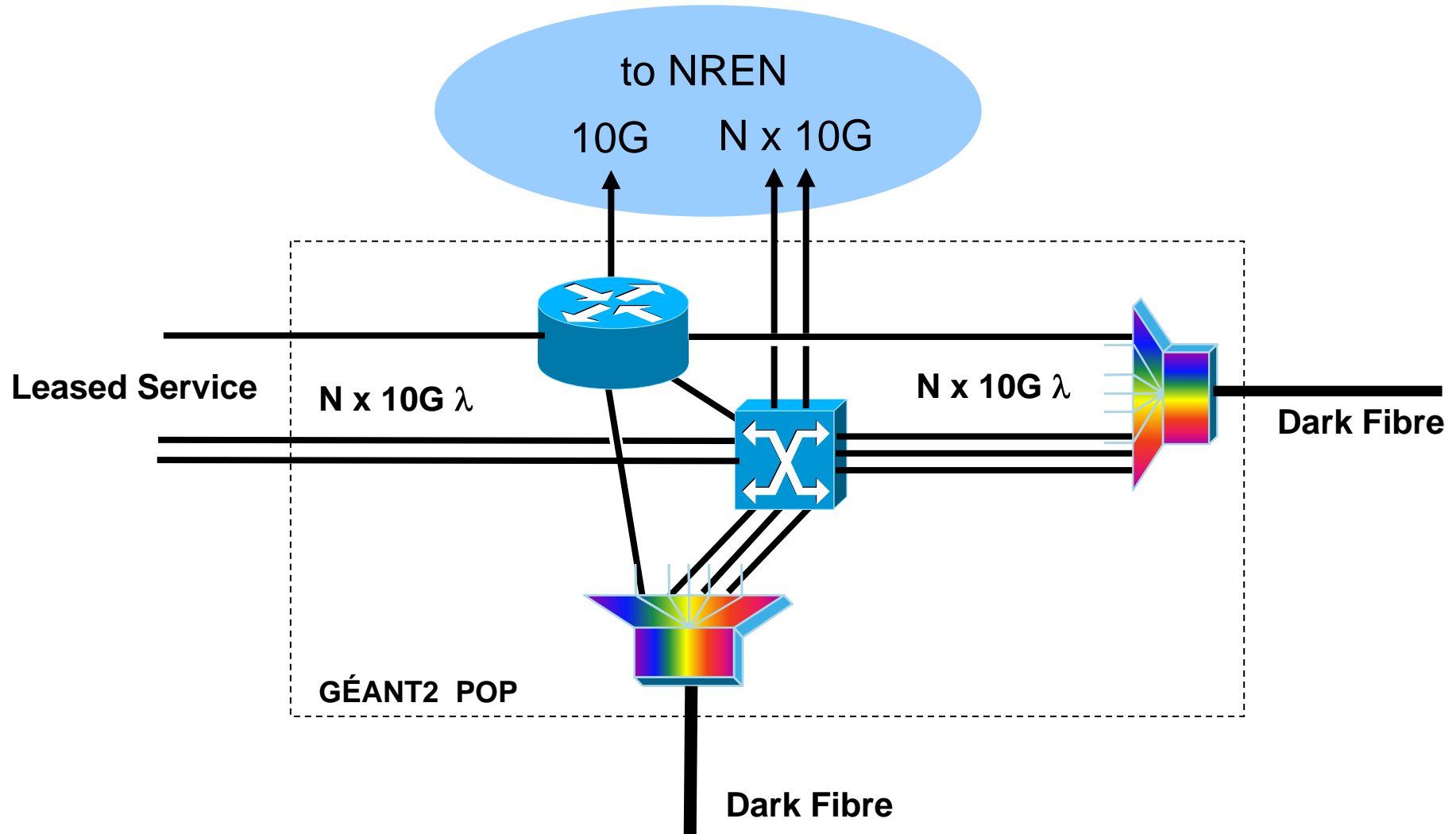
Latest upgrades:

- Estonia – 622 Mbps
- Bulgaria – 155 Mbps

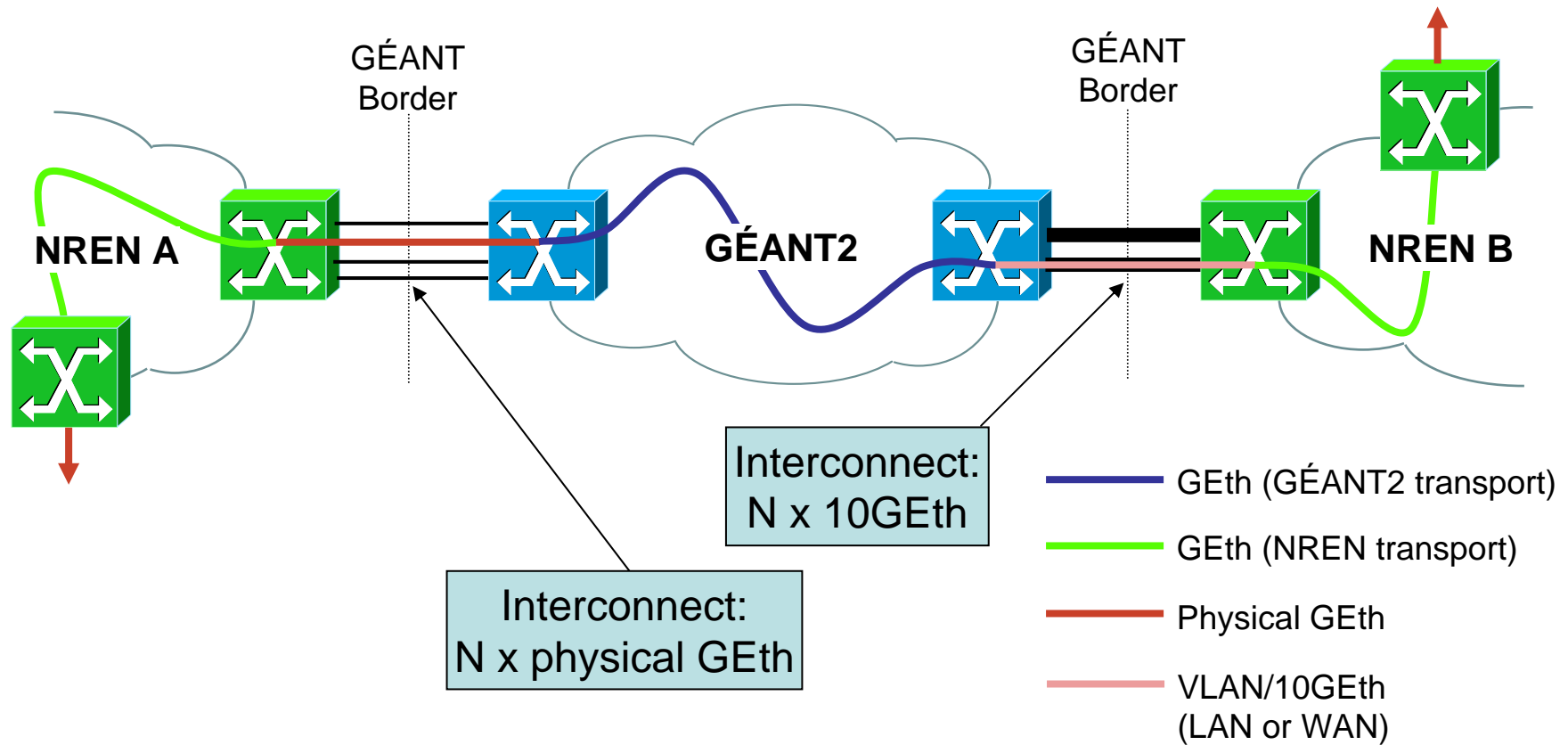
GÉANT2's Objectives

- Provide a gigabit-speeds infrastructure to support European research and education
- Hybrid - IP and P2P services
- Develop a wider range of network services
 - Performance monitoring
 - Security
 - Bandwidth on demand
 - Testbed facility
 - Mobility and roaming

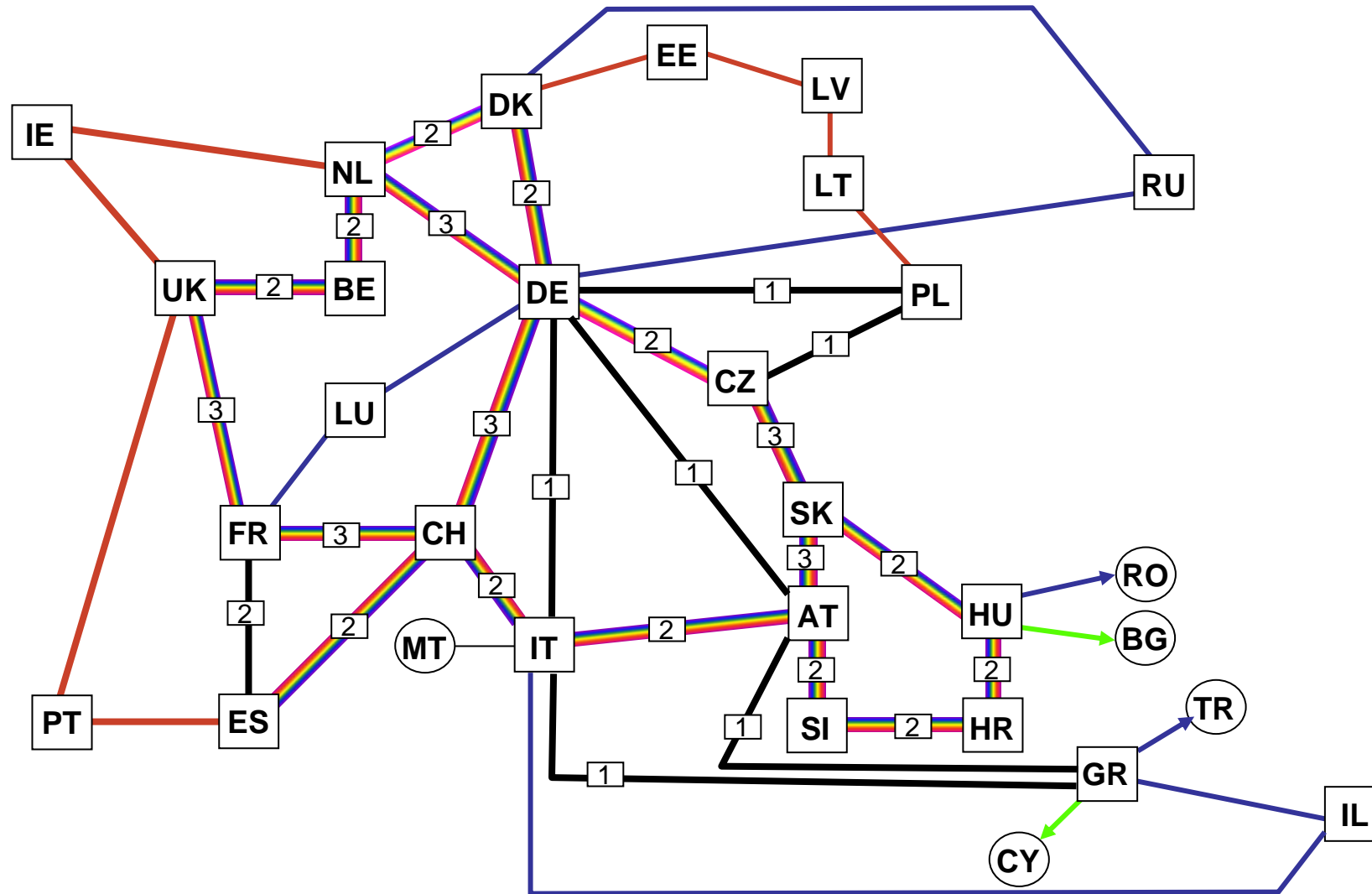
GÉANT2 Hybrid POP



GB Ethernet p2p Service



The (approximate) GÉANT2 Footprint



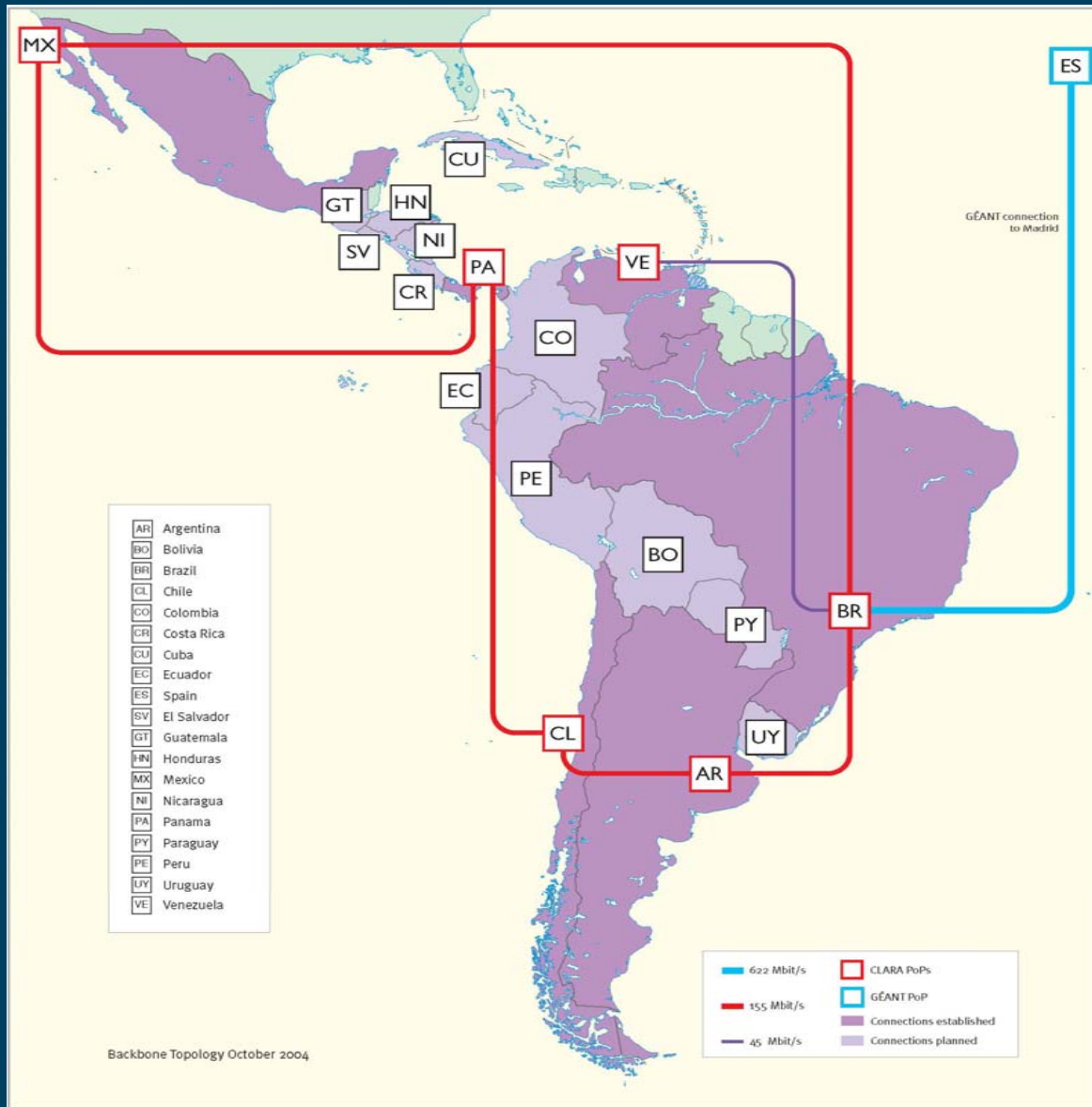
GEANT2 Cost Sharing & Economy

- Equitable & fair
- Level differences in Europe
- Annual subscriptions by NRENs

- Dark Fibre footprint is paid for by the subscriptions
- Small incremental cost for extra wavelengths

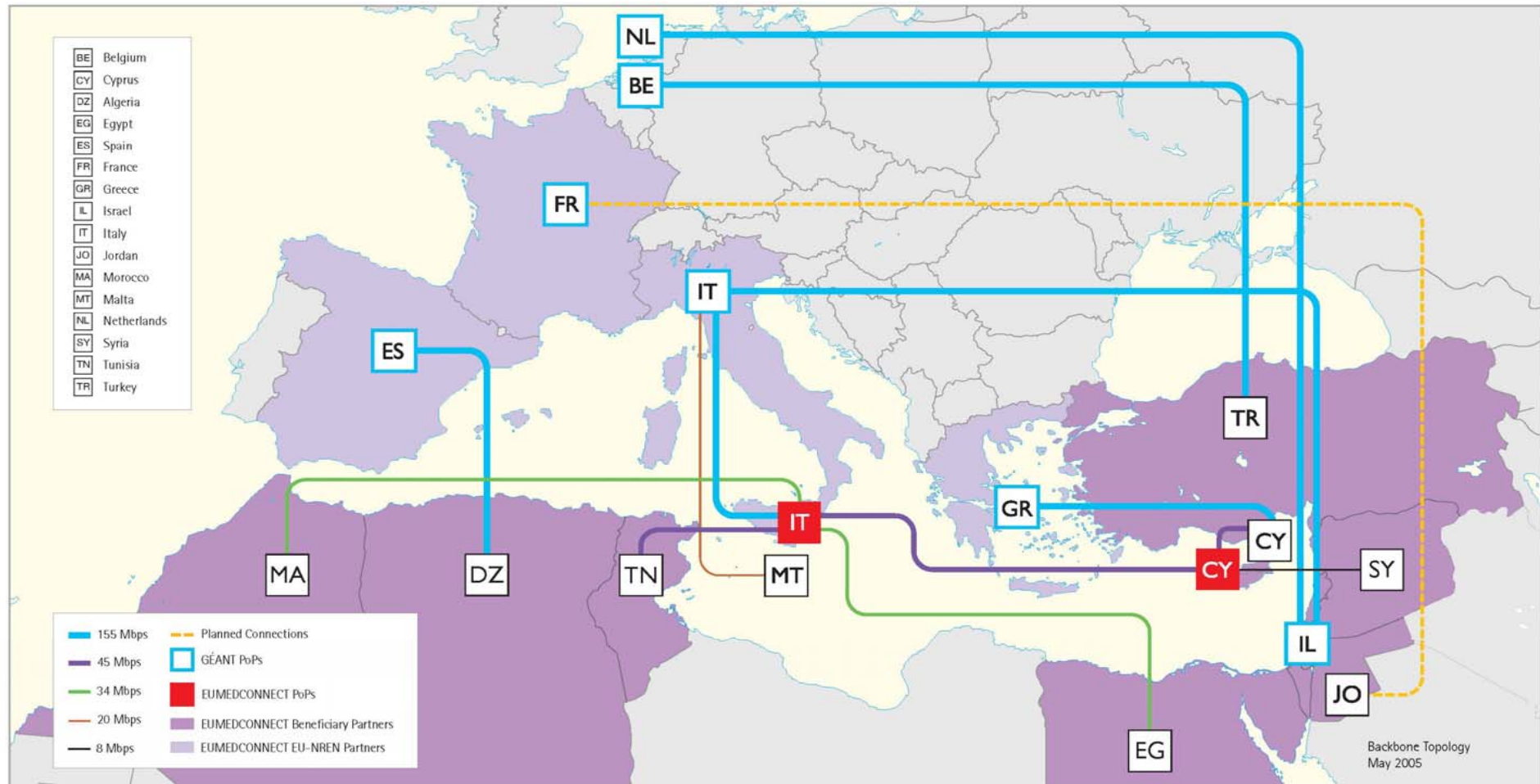
Support for Projects and Research Organisations

- eVLBI
 - CERN LHC (11 Tier1 sites, 7 in Europe)
 - DEISA
 - EGEE
 - ESA
 -
-
- The challenge is to build networks out of P2P services across multiple domains

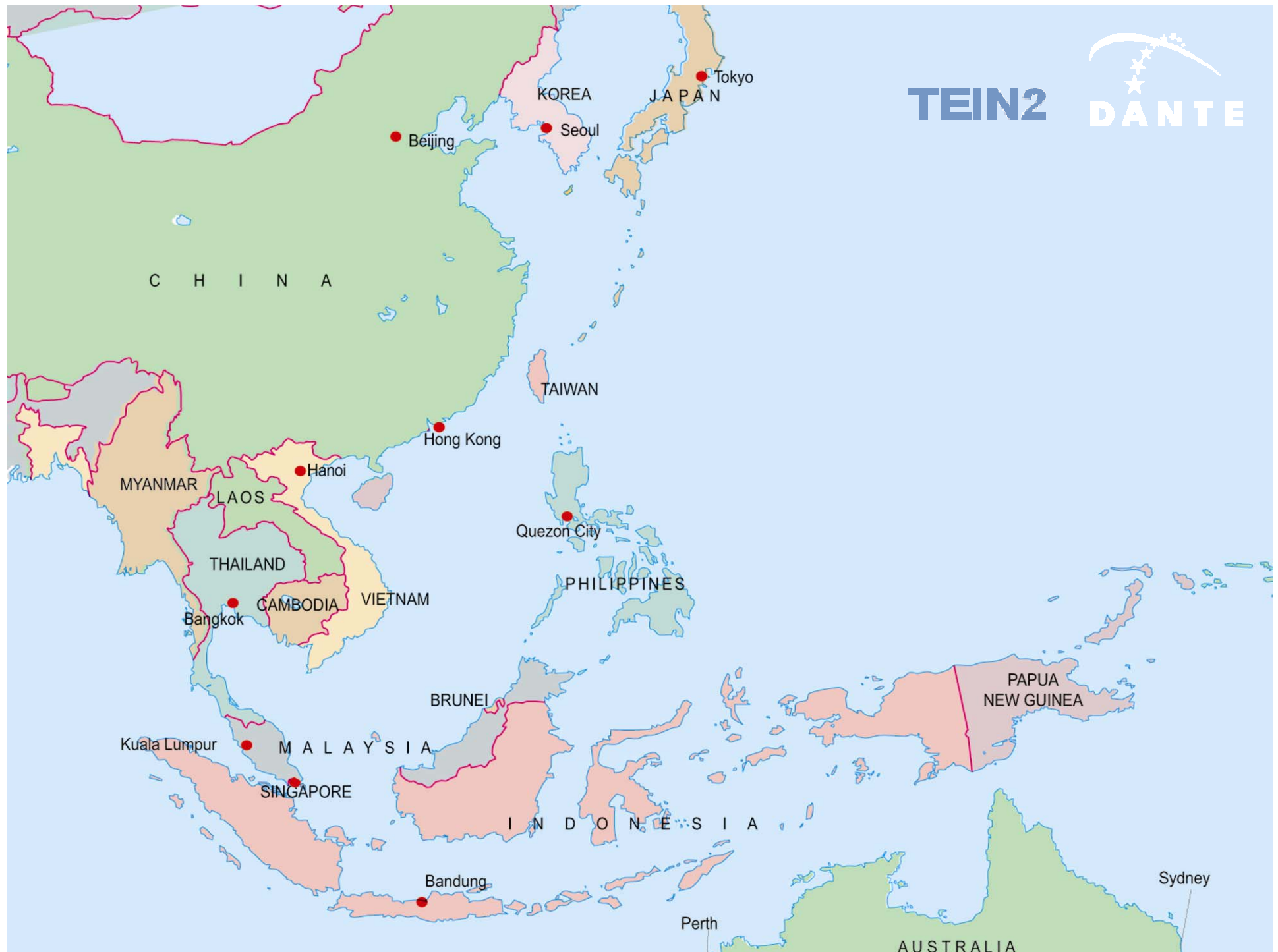


ALICE Topology October 2004

EUMEDCONNECT – May 2005



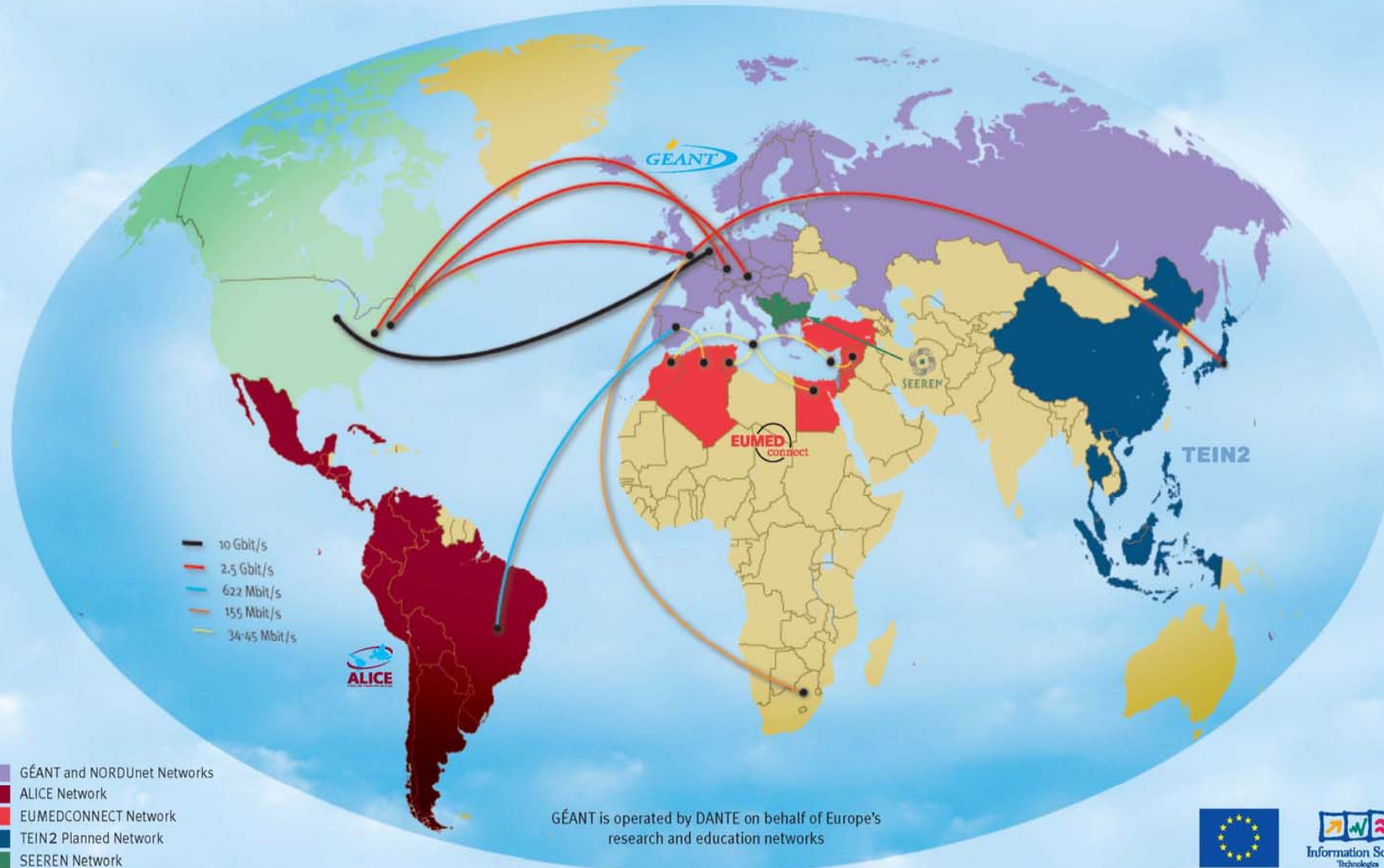
TEIN2



World Class Research Networking

GÉANT: The world's most advanced international research network

GÉANT Global Connectivity October 2004



GÉANT is operated by DANTE on behalf of Europe's research and education networks



Global Connectivity

- 2 10G links to North America in 2H2005
 - Internet2, ESnet, Canarie, Sinet
- Tender for China/Europe Link
- Peering with South Africa, ...

- Alice
- Eumedconnect
- TEIN2