

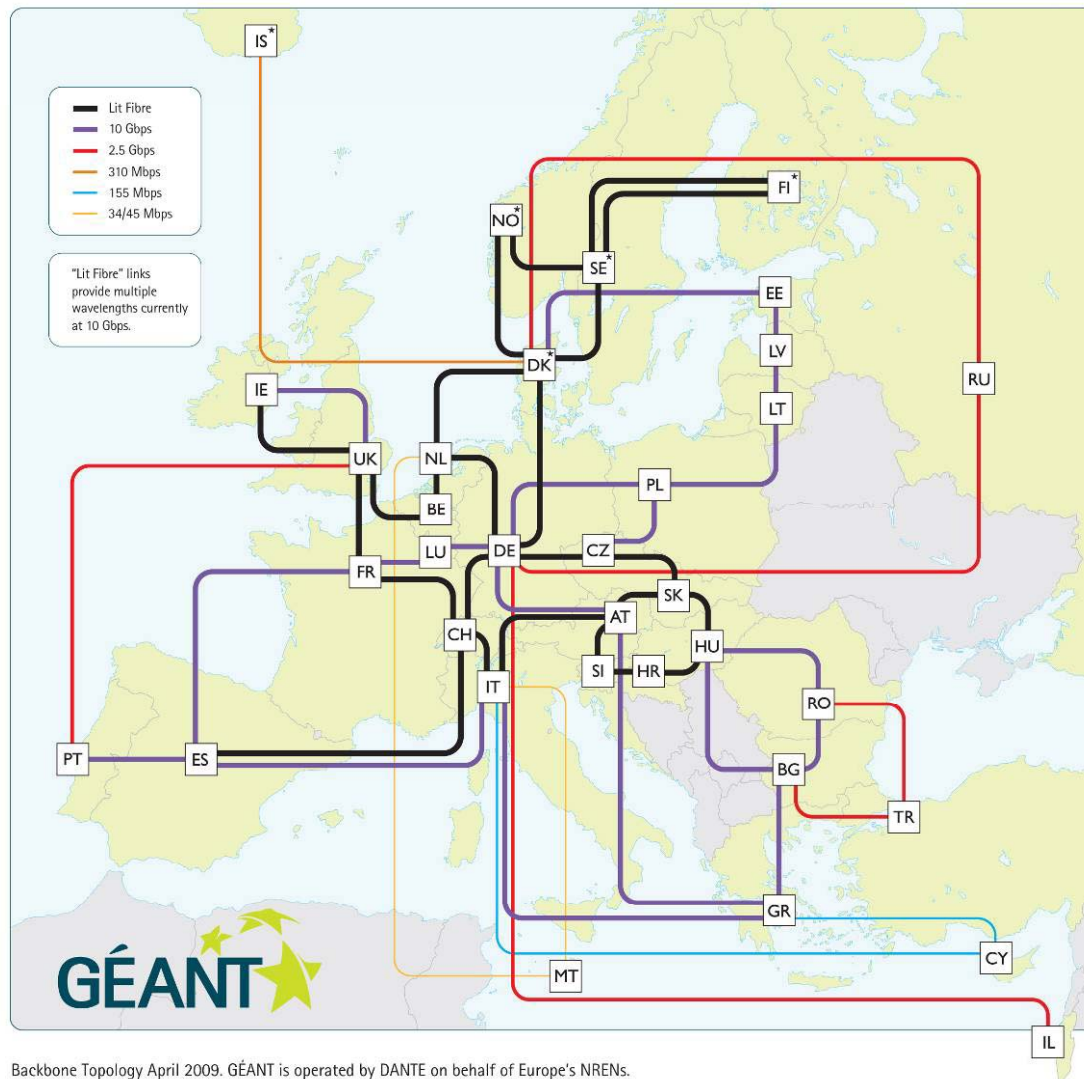
GEANT developments and global Connectivity

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- GEANT = pan-European network intreconnecting 34 European NRENs and providing connectivity to other world regions
- GN3 = EC funded project 4 years from April 2009
 - Deliver, operate and develop the GEANT network
 - Carry out a development programme to enhance the services offered by GEANT
 - *Backbone service developments (SA1, JRA1)*
 - *Multidomain service developments (SA2, JRA2)*
 - *end-user oriented services (SA3, JRA3)*
- Some Keywords for GN3: 100Gbps, delivery of circuits, performance management,

GÉANT topology

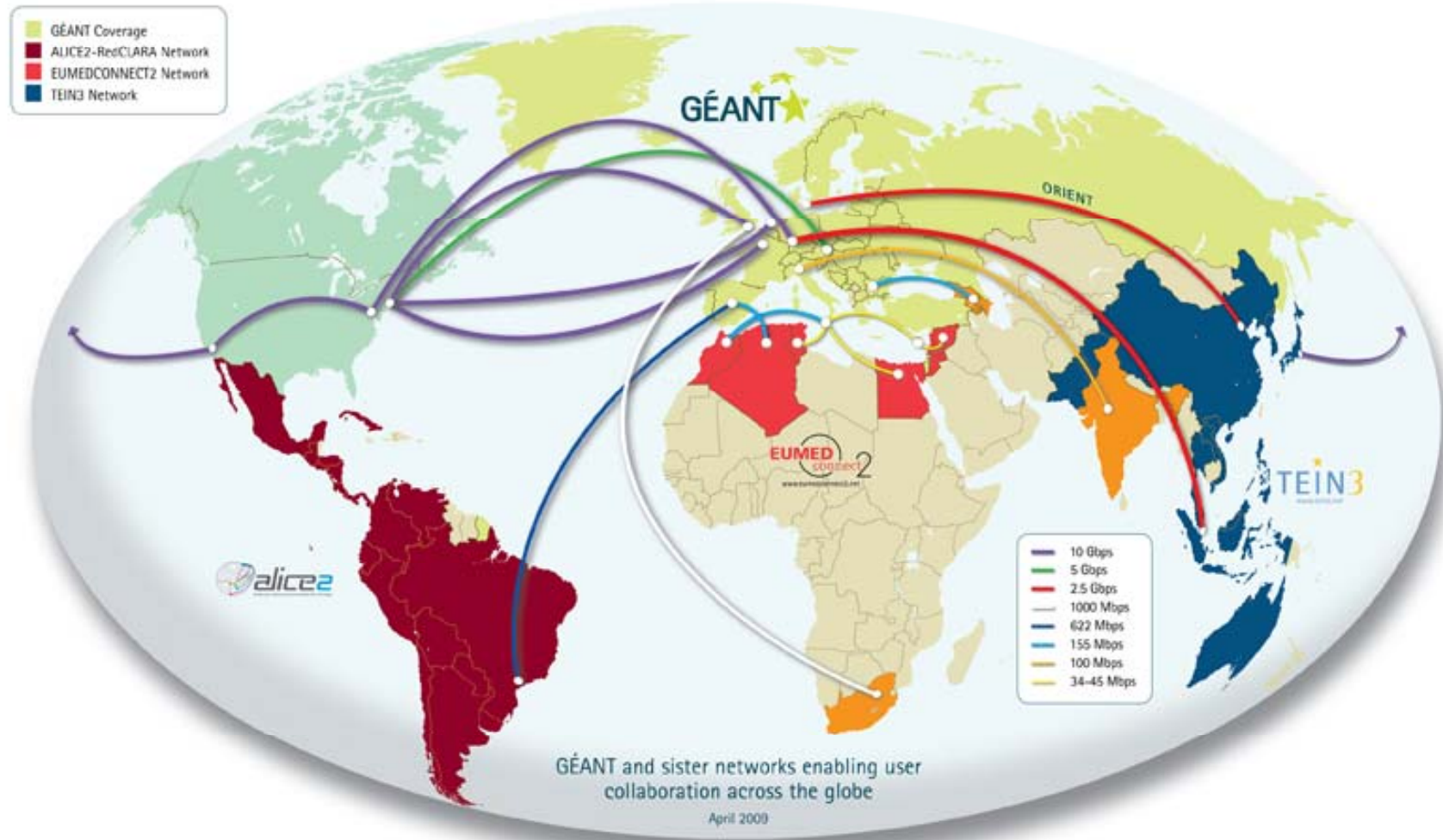


Backbone Topology April 2009. GÉANT is operated by DANTE on behalf of Europe's NRENs.

GÉANT topology –
April 2009

- Juniper T1600, M120
- Alcatel MCC 1678
 - For circuit services
 - Based on NG-SDH
 - Might be replaced, RFI being prepared
 - *Could converge in IP or DWDM layer*
- Alcatel LM 1626 for DWDM
 - Proven with 40Gbps
 - 100Gbps ?
 - RFI being prepared

GÉANT global connectivity - Today



GÉANT global connectivity – April 2009

connect • communicate • collaborate

GÉANT IP connectivity to North America



IP connectivity

A End	B End	Capacity	Peering with
Washington	Frankfurt	10Gbps	I2 Esnet
New York	Amsterdam	10Gbps	I2 Esnet Canarie NLR SINET
New York	Vienna	5Gbps	ESnet

GÉANT Circuit Enabled Connectivity



A End	B End	Capacity	To be used by
New York	Paris	10Gbps	I2, Esnet, Canarie
New York	London	10Gbps	I2, Esnet

Usage:

7 GE between EU and North American R&E locations

Interoperability testing between GN3 community and Internet2

In short...



- the GÉANT community reaches today
 - 50 NRENs outside of “greater” Europe
 - *19 in the Americas*
 - *10 in Mediterranean, Middle East and Africa*
 - *21 in Asia and Oceania*