



CMS visit to Tier1 CCIN2P3



# CCIN2P3 Network

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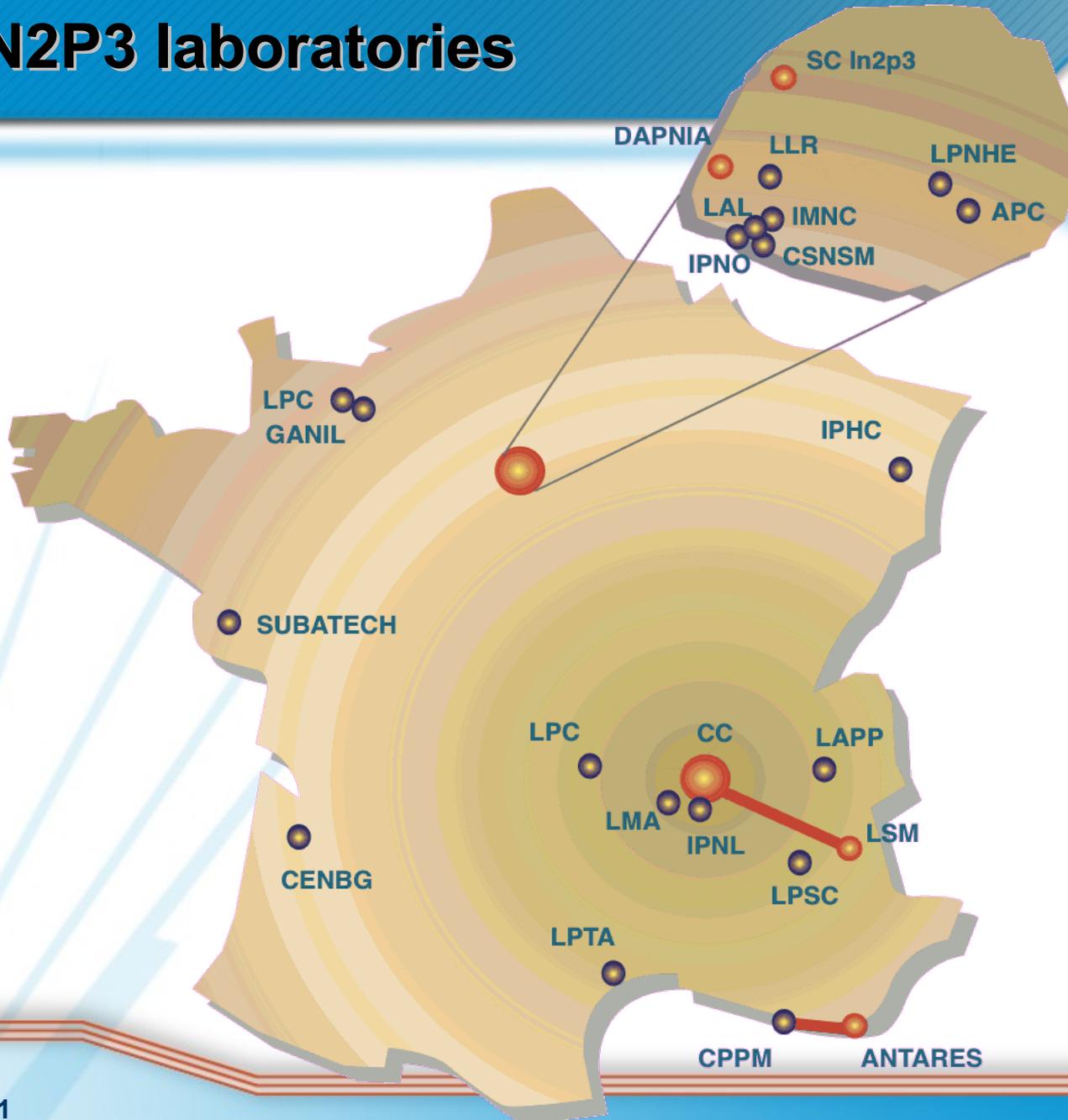
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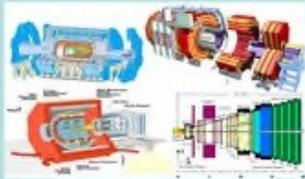
saclay



# IN2P3 laboratories



# LHC Large Hadron Collider



Trigger and Data Acquisition System



Tier-0

10 Gbps links  
Optical Private Network

Tier-1

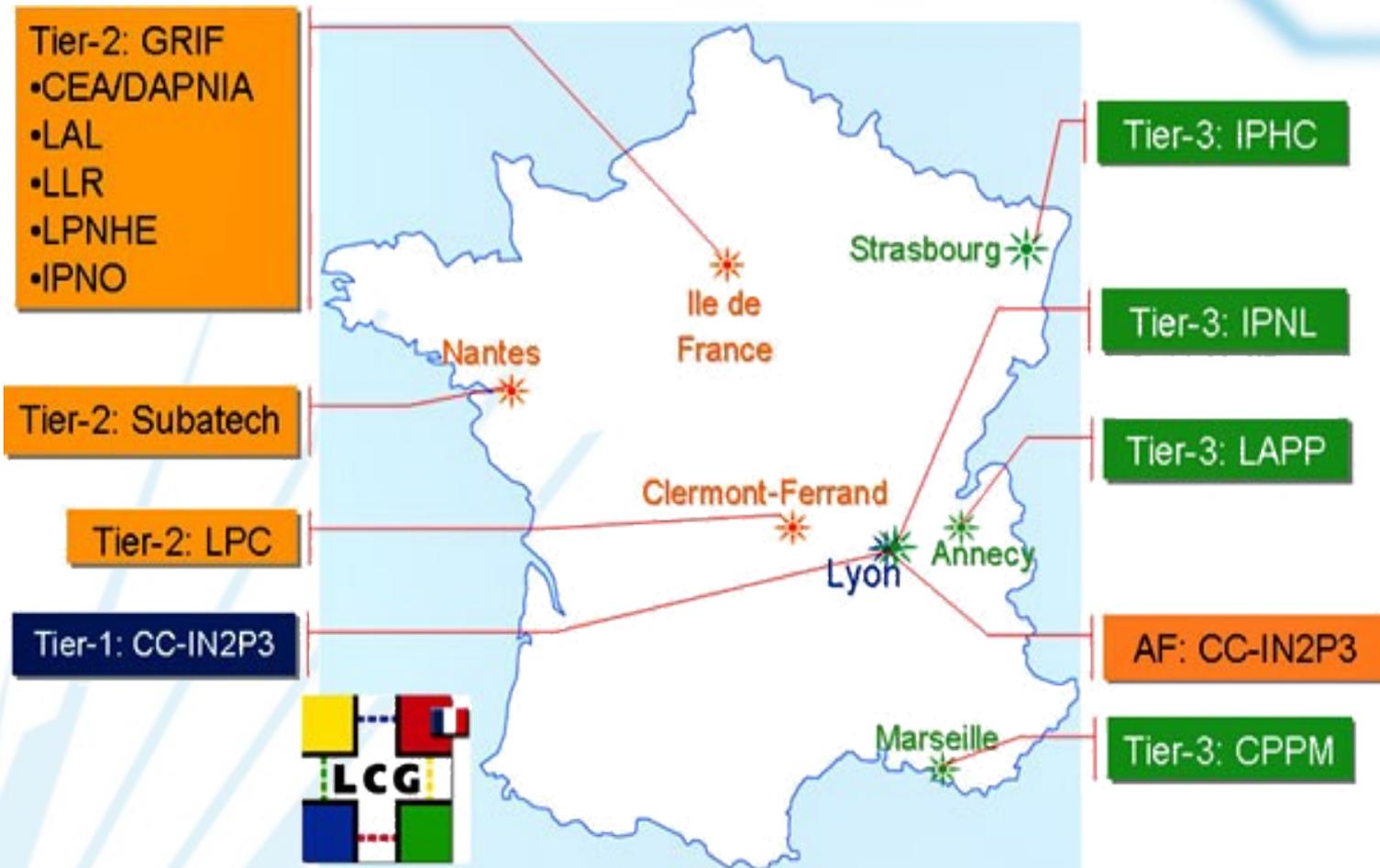


General Purpose/Academic/Research Network

Tier-2



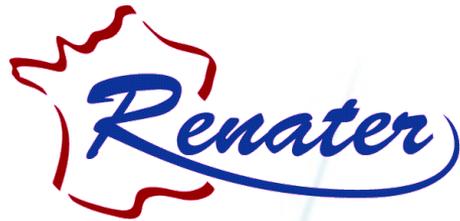
# LCG LHC Computing Grid



+ Foreign Tiers2 : Belgium, Romania, Japan, China

**CMS Tiers2 : GRIF, Belgium, China**

# RENATER4



SFINX  
Global Internet eXchange, accès aux autres prestataires de service Internet en France

Connexion à l'Internet mondial

GEANT2: [www.geant2.net](http://www.geant2.net)  
Connexion vers les réseaux de la Recherche en Europe, et les réseaux de la Recherche : des pays méditerranéens

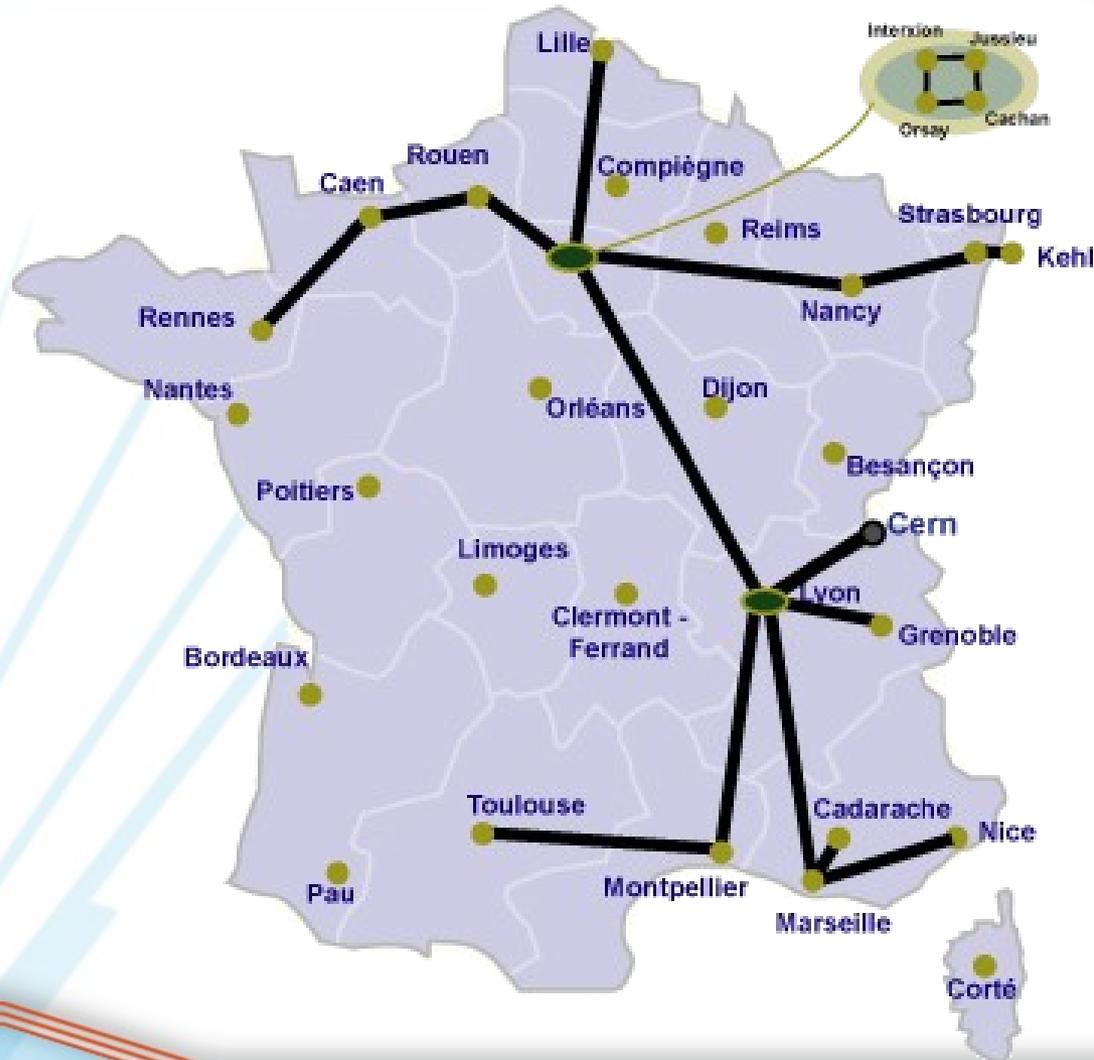
de la zone Asie Pacifique

de l'Amérique du sud



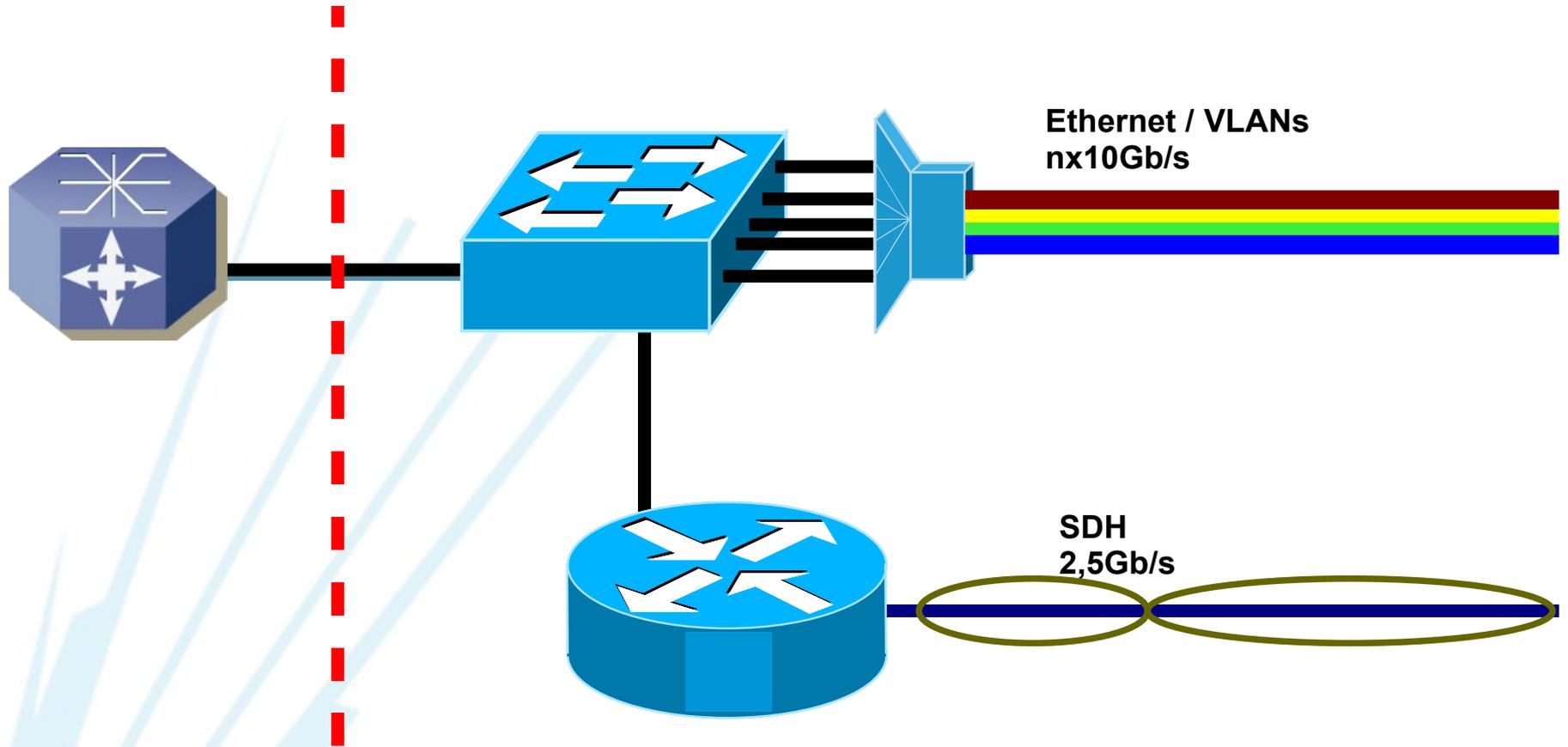
- Réseau en Ile de France
- 2,5 Gbit/s
- Liaisons projets de recherche
- NR
- NRI

# RENATER4 Dark Fibers

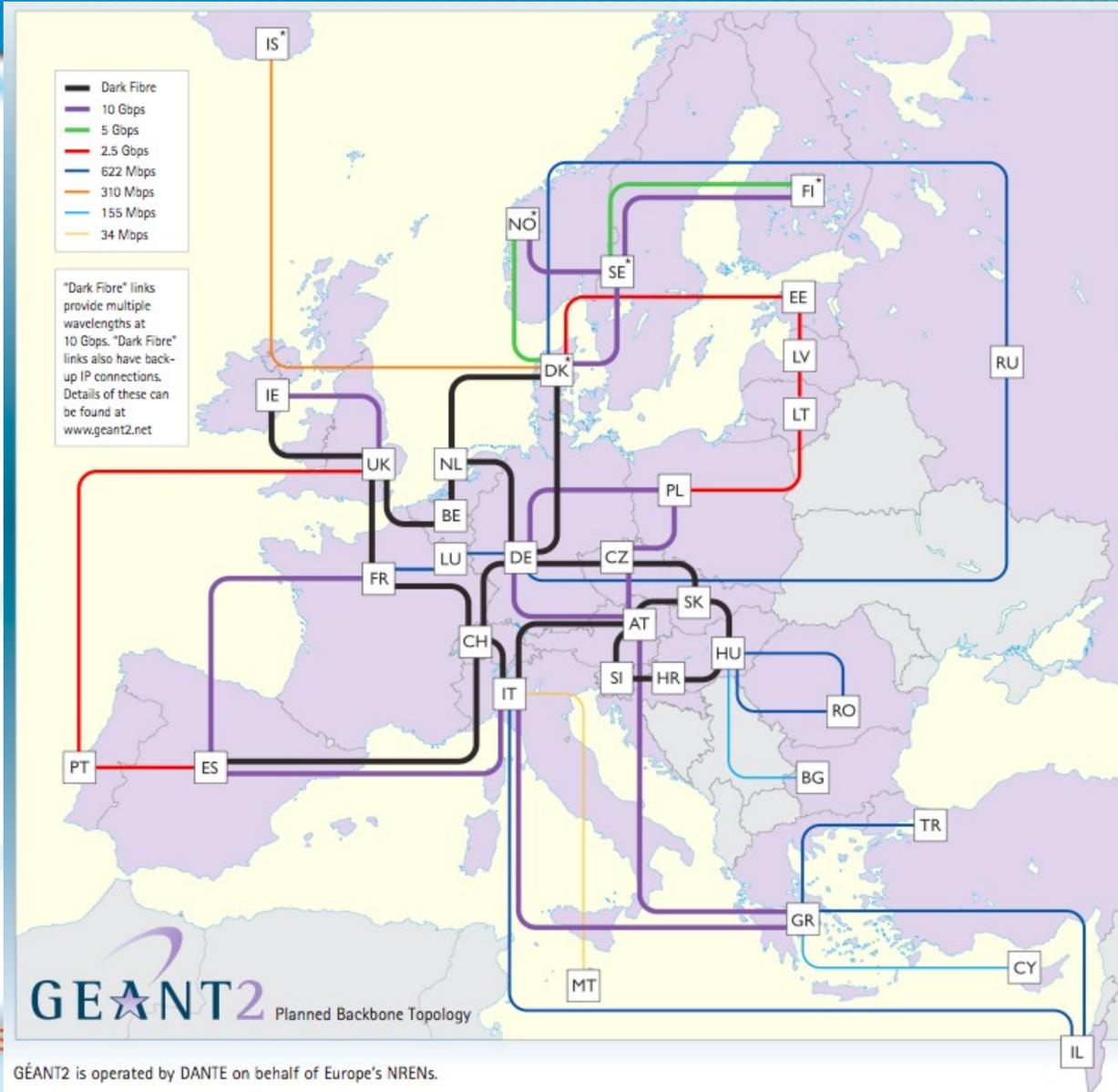




# NR RENATER



# GEANT2



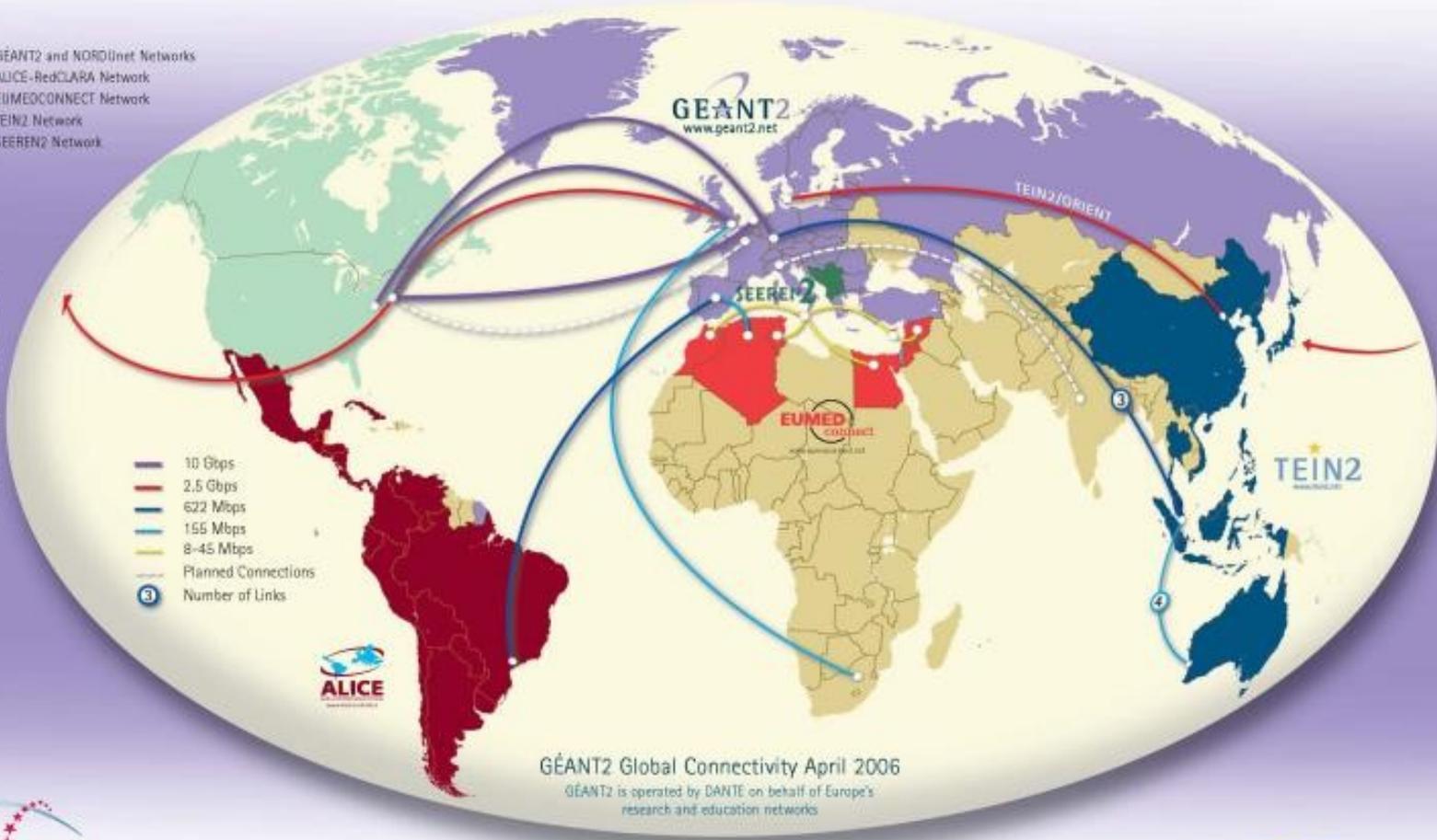
GEANT2 is operated by DANTE on behalf of Europe's NRENs.

# GEANT2



- GEANT2 and NORDUnet Networks
- ALICE-RedCLARA Network
- EUMEDCONNECT Network
- TEIN2 Network
- SEEREN2 Network

www.geant2.net



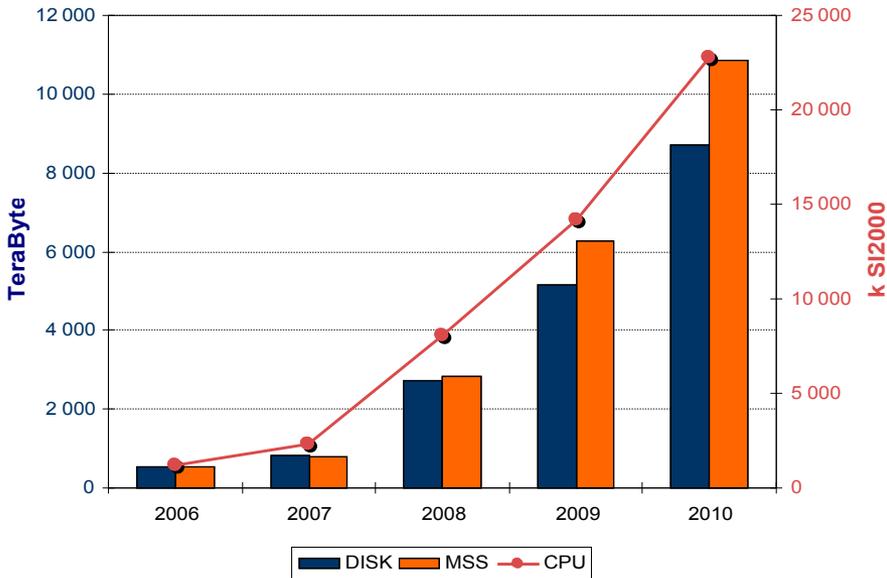
★ Connect ★ Communicate ★ Collaborate



# Tier1 CCIN2P3



Tier-1 & Analysis Facility Resource Deployment



The CCIN2P3 Tier1 must double each year its computing power and disk capacity between 2006 and 2010 !

- For 2007 we will install
  - . 700 computing servers
  - bi-processor quad-core
  - . 2 Peta bytes of disk space
  - and the hundred of disk servers associated



# CCIN2P3 network needs

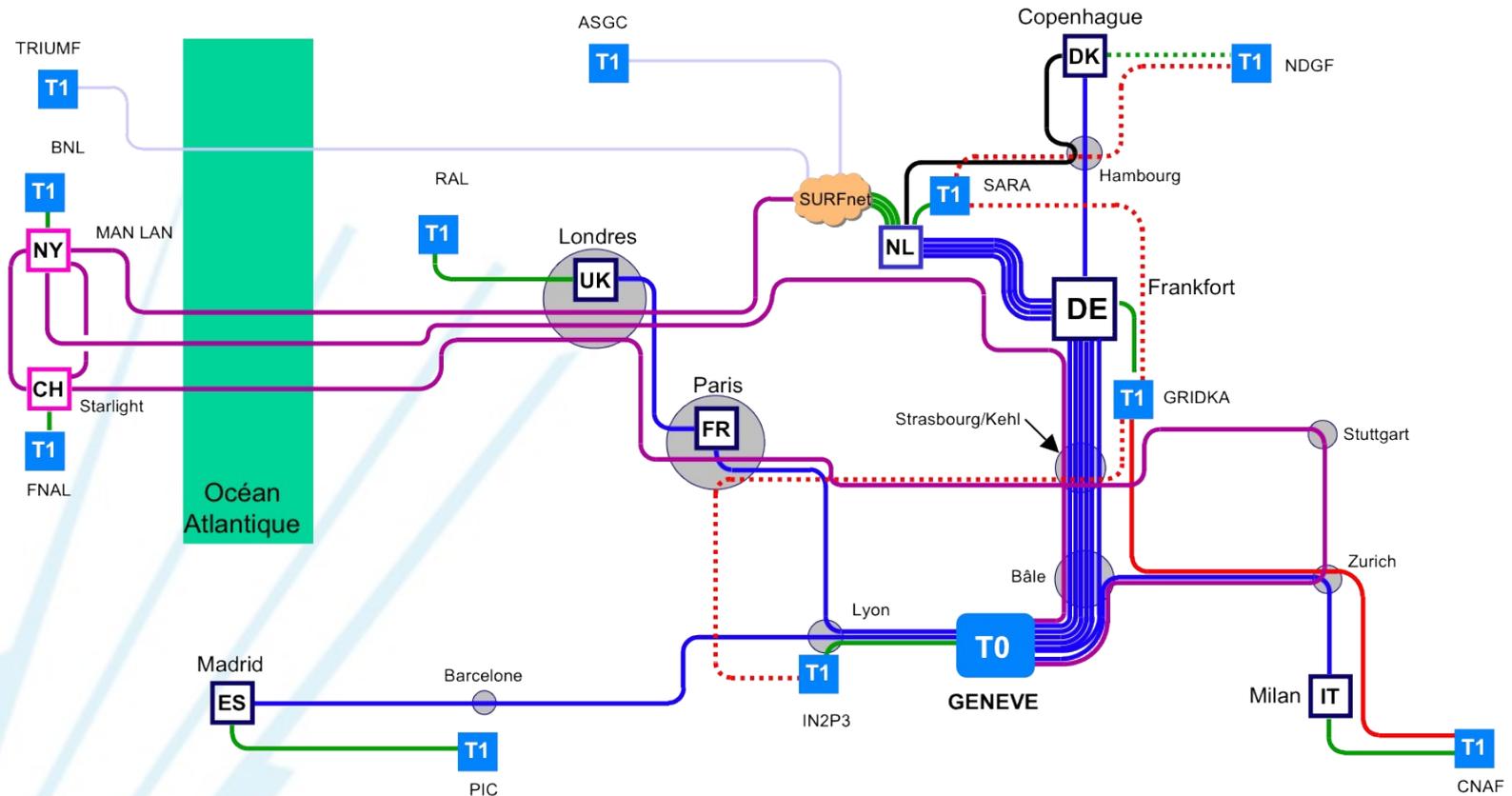


network infrastructure needs for LHC	CCIN2P3
CERN	4 Gb/s
Tier1s	5 Gb/s
French Tier2s	1 Gb/s
Foreign Tier2s	3 Gb/s

from experiments requirements for 2008

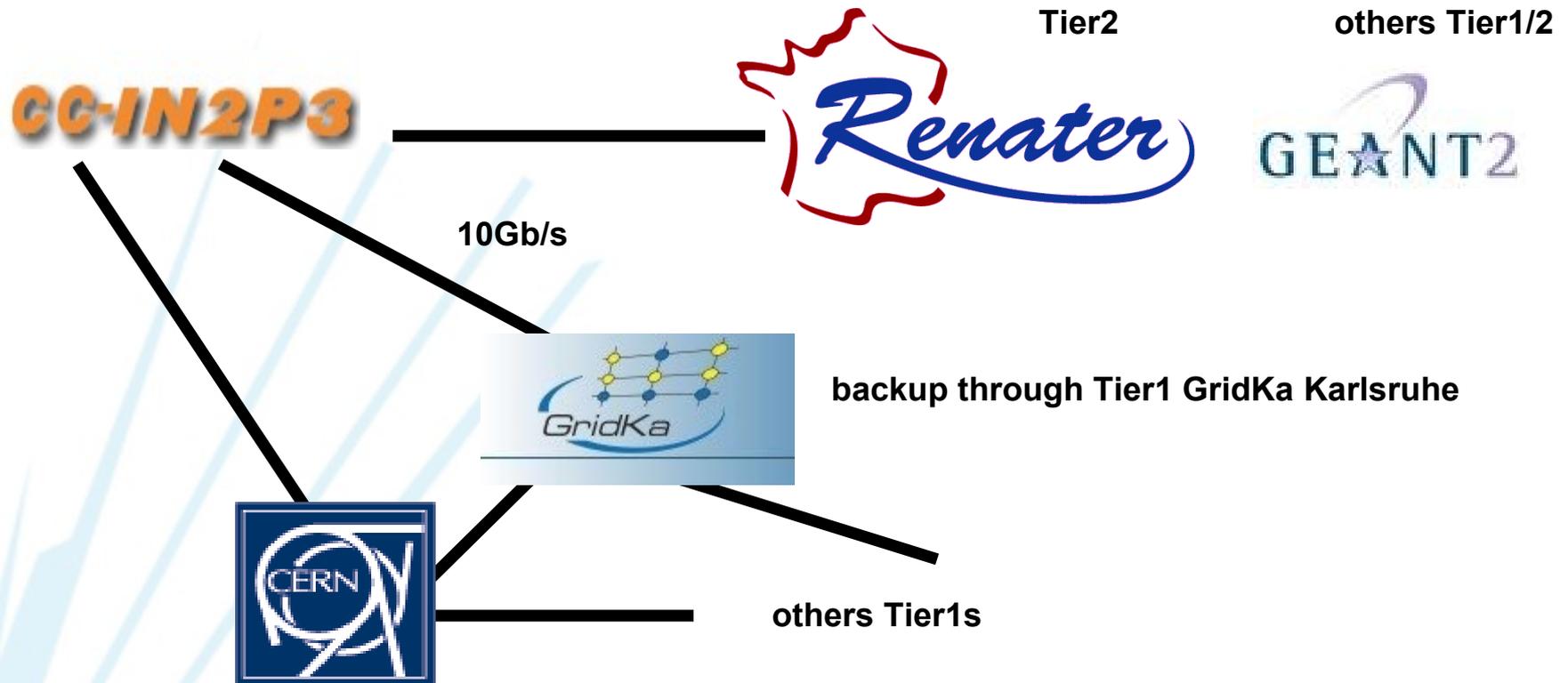


# Fiber paths

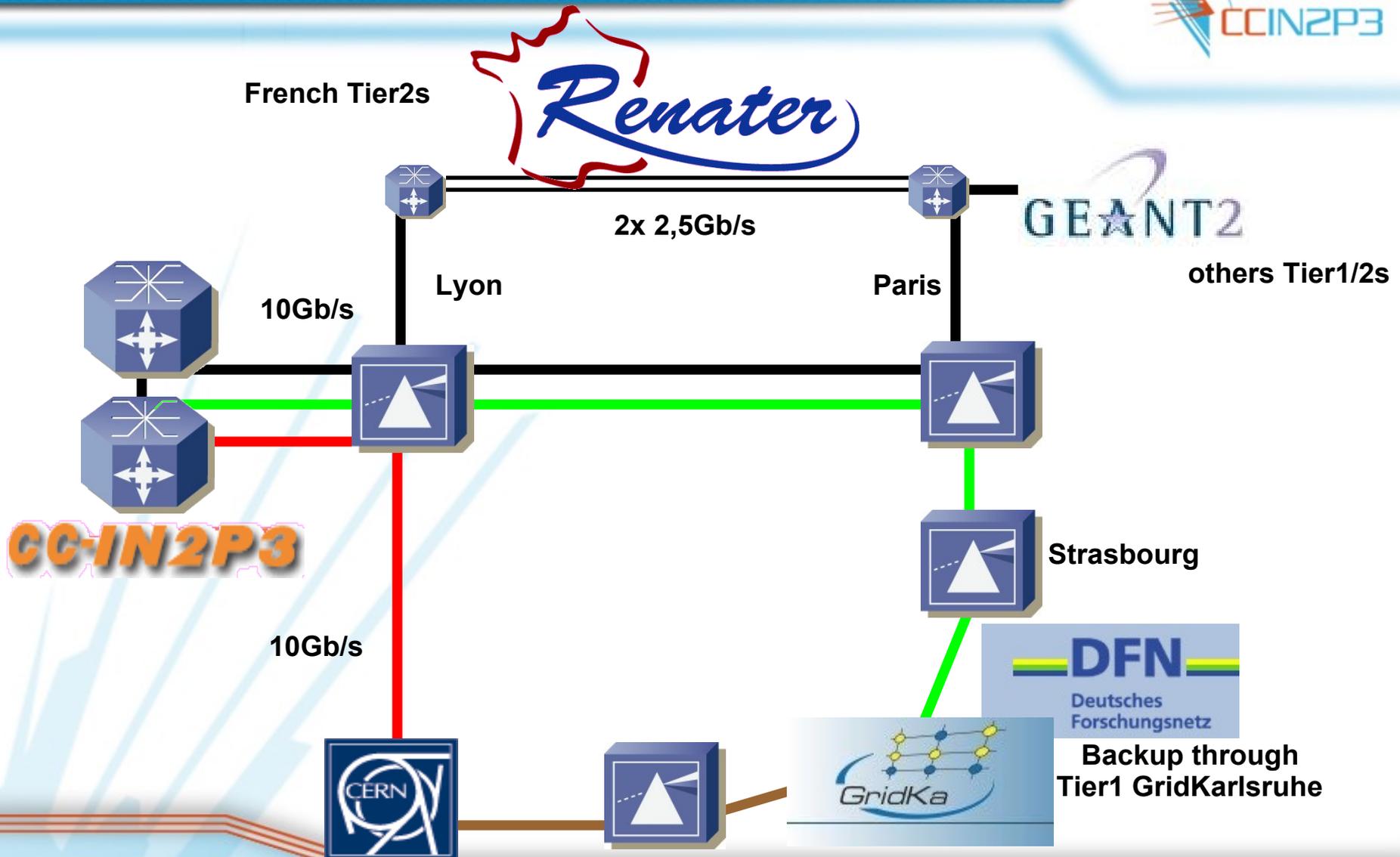


Michael Enrico - DANTE - 2007-07-27

# CCIN2P3 logical infrastructure

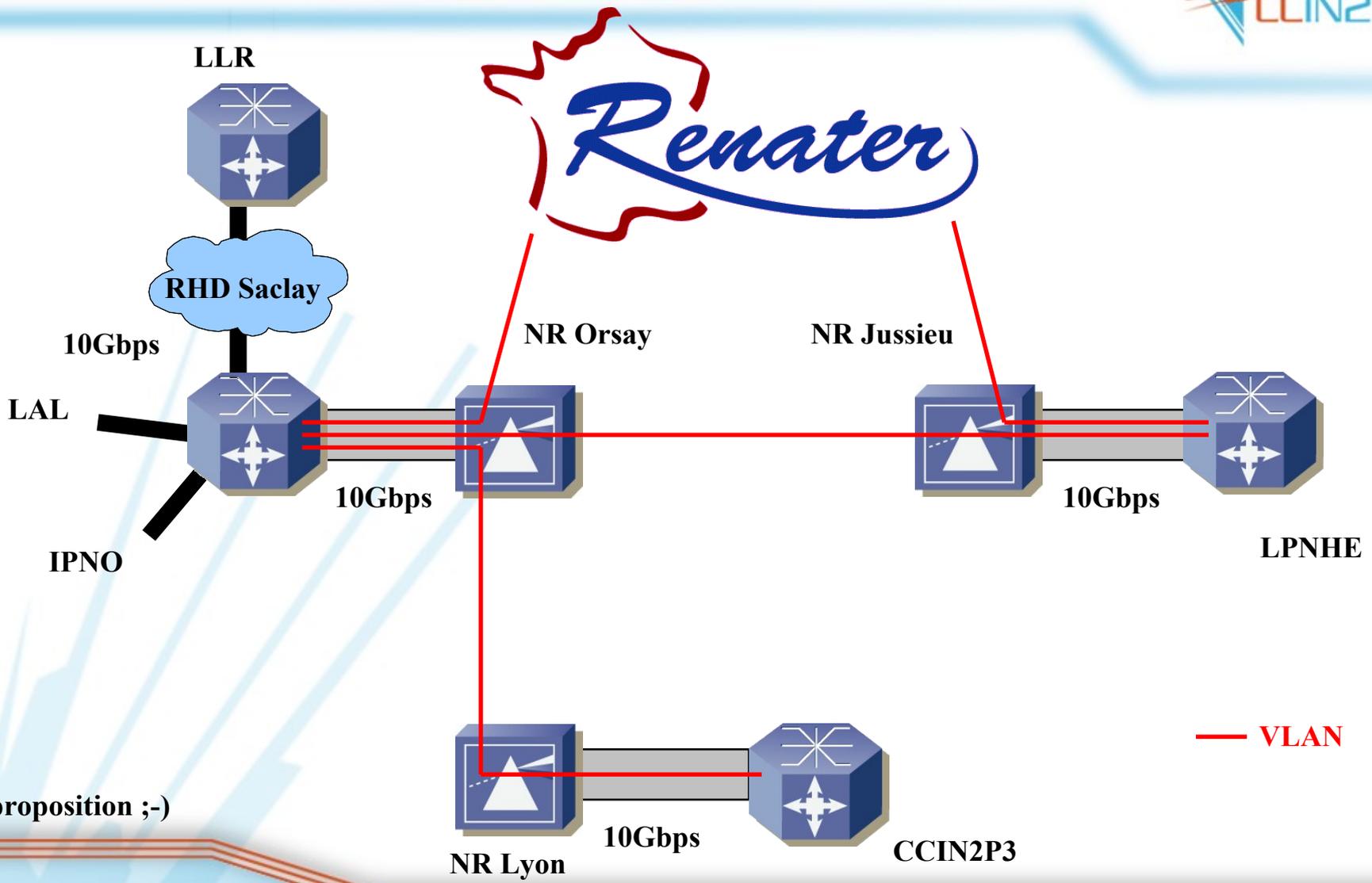


# CCIN2P3 physical infrastructure



# Tier2 GRIF

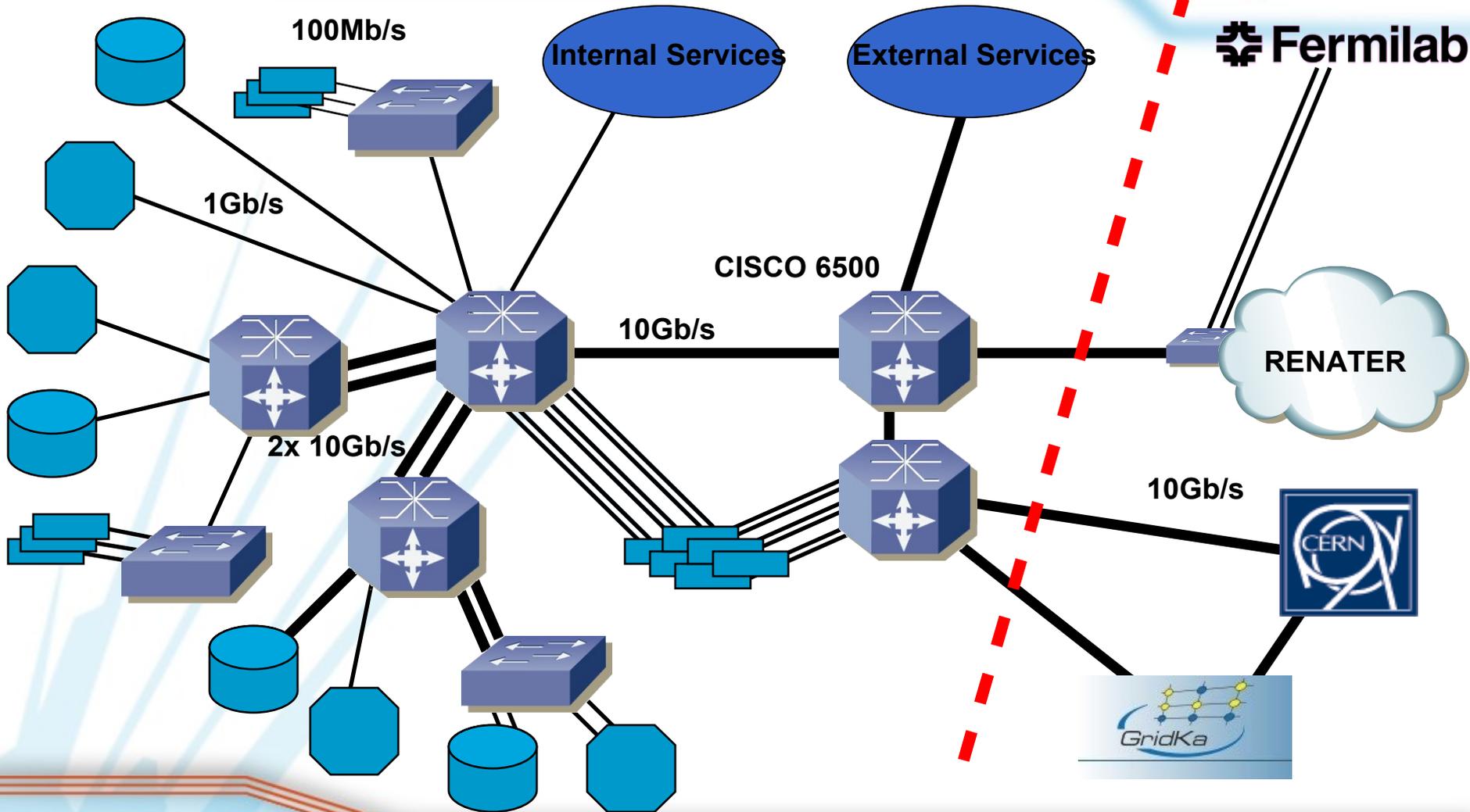
## Grille de Recherche Ile de France



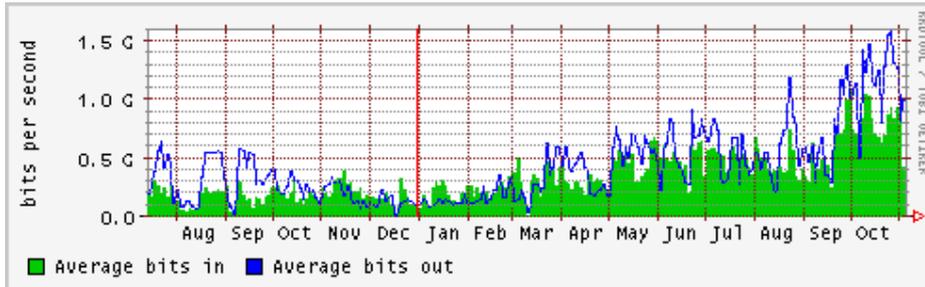
proposition ;-)

# LAN CCIN2P3

- > 1500 computing servers
- > 2 PB disks
- > 6 PB tapes

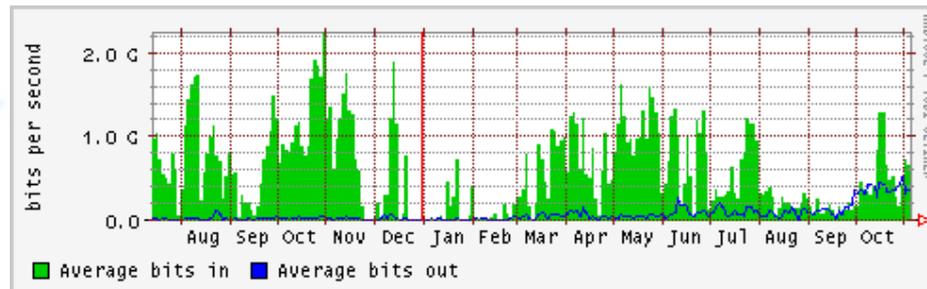






CCIN2P3-RENATER

CCIN2P3-CERN



CCIN2P3-GRIDKA

