



- Switch Troncal GREUNA (Cisco 7606)
- Router Acceso GREUNA (Catalyst 6503)
- Router Acceso REUNA2 (Cisco 7204)
- Conexión GREUNA 1Gbps

- Instituciones Conectadas:**
- AURA – Consorcio AURA
  - UACH – Universidad Austral de Chile
  - UBB – Universidad del Bío-Bío
  - UCHILE – Universidad de Chile
  - UCN – Universidad Católica del Norte
  - UCT – Universidad Católica de Temuco
  - UDA – Universidad de Atacama
  - UDEC – Universidad de Concepción
  - UFRO – Universidad de La Frontera
  - ULAGOS – Universidad de Los Lagos
  - ULS – Universidad de La Serena
  - UMCE – Universidad Metropolitana de Ciencias de la Educación
  - UNAP – Universidad Arturo Prat
  - USACH – Universidad de Santiago de Chile
  - UTA – Universidad de Tarapacá
  - UTEM – Universidad Tecnológica Metropolitana

# Connectivity of Chilean NREN

<http://www.reuna.cl/>

## GREUNA, National Infrastructure of Chile

- The National Research and Education Network, Arica to Osorno
- 310 Mbps in the central cord (La Serena to Concepción) and 155 Mbps in the edges.
- 15 universities, Conicyt and AURA
- The international connection is by RedCLARA at 90 Mbps

## RedCLARA (Latin American)

- Since April 2007 RedCLARA topology have a lineal (point-to-point) topology.
- Regional connections at 155 Mbps
- Connected to GÉANT at 622 Mbps



### RedCLARA Topology April 2007

- GÉANT2 PoP - Spain
- RedCLARA PoPs
- Connections established
- Connections planned
- PoP Los Angeles - Pacific Wave
- PoP Miami - Atlantic Wave
- 622 Mbps. ALICE
- 155 Mbps. ALICE
- 90 Mbps
- 45 Mbps
- 34 Mbps
- 10 Mbps
- 1 Gbps. WHREN-LILA
- 2.5 Gbps. WHREN-LILA
- 155 Mbps. LAUREN
- 155 Mbps. LAUREN, planned

The links of Ecuador, Colombia, Peru and Uruguay are paid by ALICE.

# Transnational infrastructure is limiting development in Latin America

Prediction of connectivity between radiotelescopes within the EXPReS project



Telescope	Current BW	Expected BW	Year	Notes
JIVE correlator	7 x 1 Gbps	16 x 1 Gbps	2007/8	connected
WSRT (14x25m)	1 Gbps		< 2006	connected
Onsala (20+25m)	1 Gbps	10 Gbps	2007	connected
Jodrell Bank (76m)	1 Gbps	10 Gbps	< 2007	connected
Cambridge (32m)	1 Gbps		< 2006	connected
Torun (32m)	1 Gbps		< 2006	connected
Metsähovi (14m)	10 Gbps		2006	connected
CNIG-Yebes (40m)	2 Mbps	1 Gbps	2007	
Effelsberg (100m)	2 Mbps	1 Gbps	2007	
Medicina (32m)	1 Gbps		2006	connected
Sardinia (64m)		2,5 / 10 Gbps	2009	
Shanghai (25m)	100 Mbps	1 Gbps	2007	
Urumqi (25m)		1 Gbps	2007	
Miyun (50m)		1 Gbps	2007	
Yunnan (10m)		1 Gbps	2007	
VIRAC (32m)		1 Gbps	2007	still needs RA receiver
Hartebeesthoek (26m)		1 Gbps	unknown	
TIGO (6m)	1 - 7 Mbps	64 Mbps		
Arecibo (305m)	< 32 Mbps	1 Gbps	2007	

Europa

China

South Africa

Chile

Puerto Rico



European FP6 Project connecting radio telescopes to one global superinstrument

<http://www.expres-eu.org/>

Chile needs also to Europe transcontinental bandwidth of 1 Gbps free of costs for R&D!