



(an Academic Network at São Paulo)

Luis F. Lopez
Center for Advanced Network Applications
Medical School – University of São Paulo



núcleo de aplicações em redes avançadas



Brasil



The State Of São Paulo

1. The State of São Paulo:

- Produces ~ 30% of Brazilian GDP
- Produces ~ 40% of Brazilian Science & Technology
- Has a Science Foundation (FAPESP) similar to NSF, supported by 1% of the State Government budget
 - FAPESP supports research in:
 - Universities
 - Research Centers
 - Small businesses

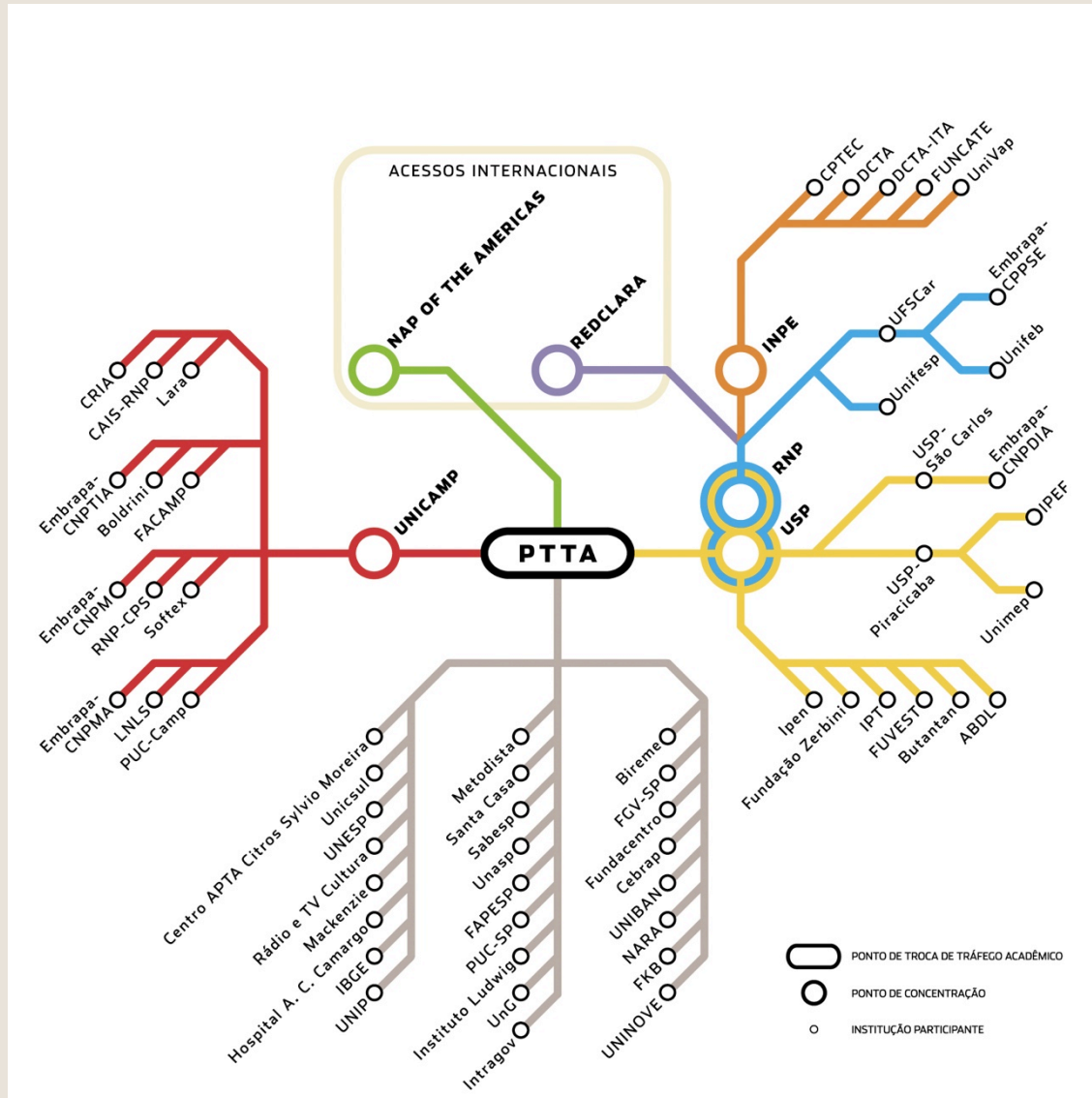
2. ANSP

- First application approved by FAPESP on February, 1989, as a project connected to Fermilab (then, the name *an Academic Network at São Paulo* – in English!).
- Initially meant to link the Physics community in São Paulo (USP, Unicamp, Unesp, IPT) to the Fermilab.
- Later, until 1994, the only access from Brazil to Internet, both for research & education and commercial purposes.
- Currently links 56 institutions from the State of São Paulo to virtually all networks over the world.

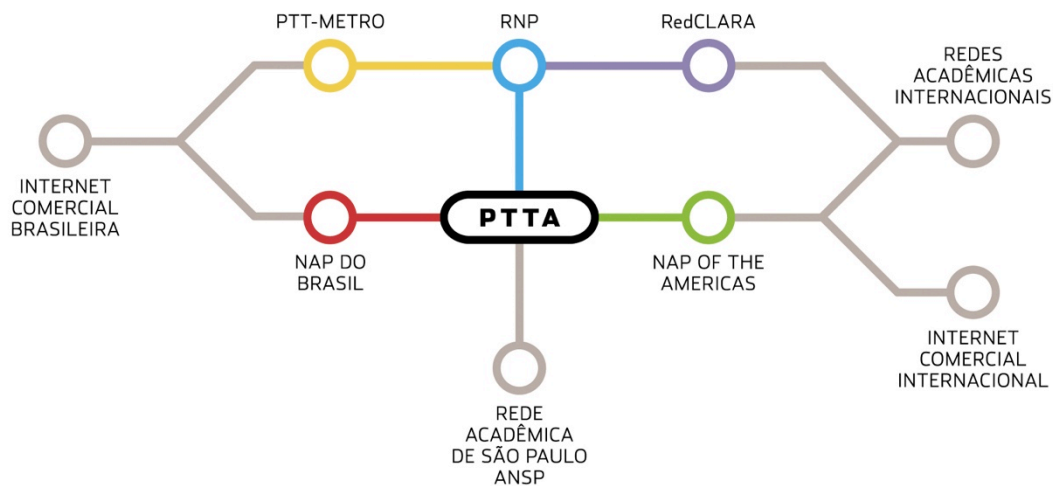
- **ANSP** peers directly to
 - **RNP** (Rede Nacional de Ensino e Pesquisa);
 - **RedCLARA** (Cooperación Latino Americana de Redes Avanzadas);
 - **Cenic** (Corporation for Education Network Initiatives in California);
 - **Internet2**;
 - **NLR** (National LambdaRail);
 - **AtlanticWave**;

And through them, to the rest of the NRENs in the world.

- ANSP is also a funding member of the **GLIF** (Global Lambda Integrated Facility).



ANSP has the topology of a distributed peering point



ANSP is connected to all the NRENs and the commercial Internet

- ANSP runs only the BGP (Border Gateway Protocol) so that it is completely transparent for its users, who may have whichever peering/transit policies they want.
- Currently, ANSP connects to Brazilian commercial networks and to the Brazilian NREN (RNP – Rede Nacional de Educação e Pesquisa) with a total capacity of 10 Gbps each (USP and Unesp connect also directly through two additional 10 Gbps links).
- Internationally, ANSP works with CIARA/FIU and RNP, providing two 10 Gbps links between São Paulo and Miami, which connect to the rest of the world through Atlantic Wave and Internet2.

ANSP offers to its members:

- Internet access (both commercial and R&E);
- Network connectivity (both physical and logic);
- High end data center (currently 1,000 sq ft) and
- Network project and operation consulting.

- **KYATERA**

- First application approved by FAPESP in 2005;
- Initially meant to be a test bed for photonic research (Optical networks equipment is an important sector of the industry in the State of São Paulo);
- Currently works synergically with ANSP, providing to the R&E community also a experimental test bed of general use.
- The new test bed is planned and maintained by ANSP and Telefonica (now VIVO). Currently offers 10 Gbps lambdas and 100 Gbps lambdas are planned for 2013, depending on the demand (projects from Astronomy, Oil&Gas Research and Future Internet are expected).



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THANK YOU!