SA3CC Meeting – 2023

RNP Updates

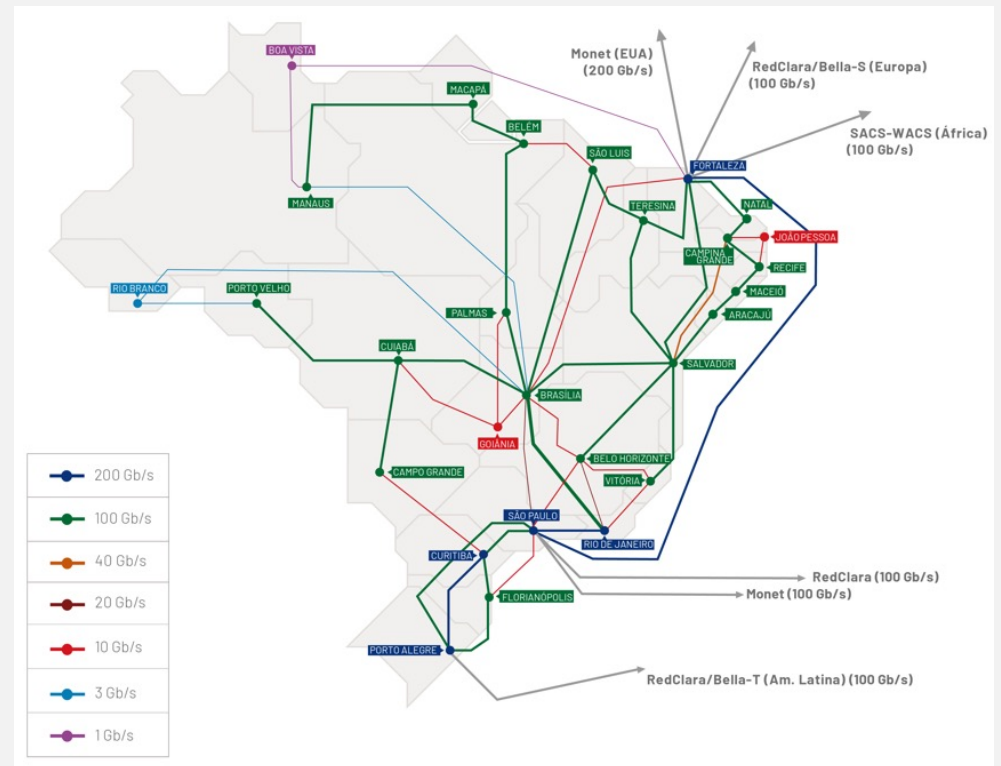**RNP** Educação, Pesquisa e Inovação em Rede
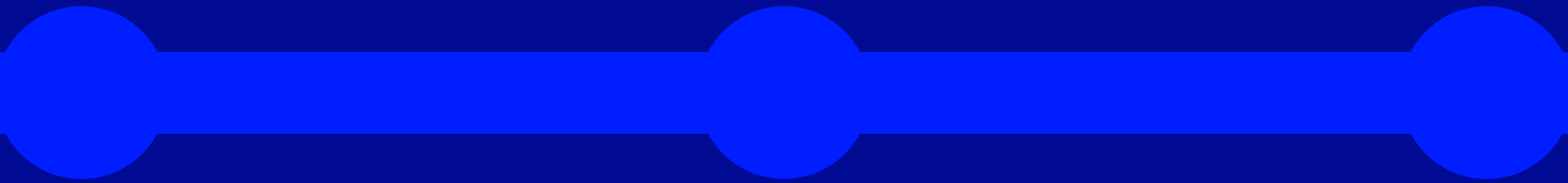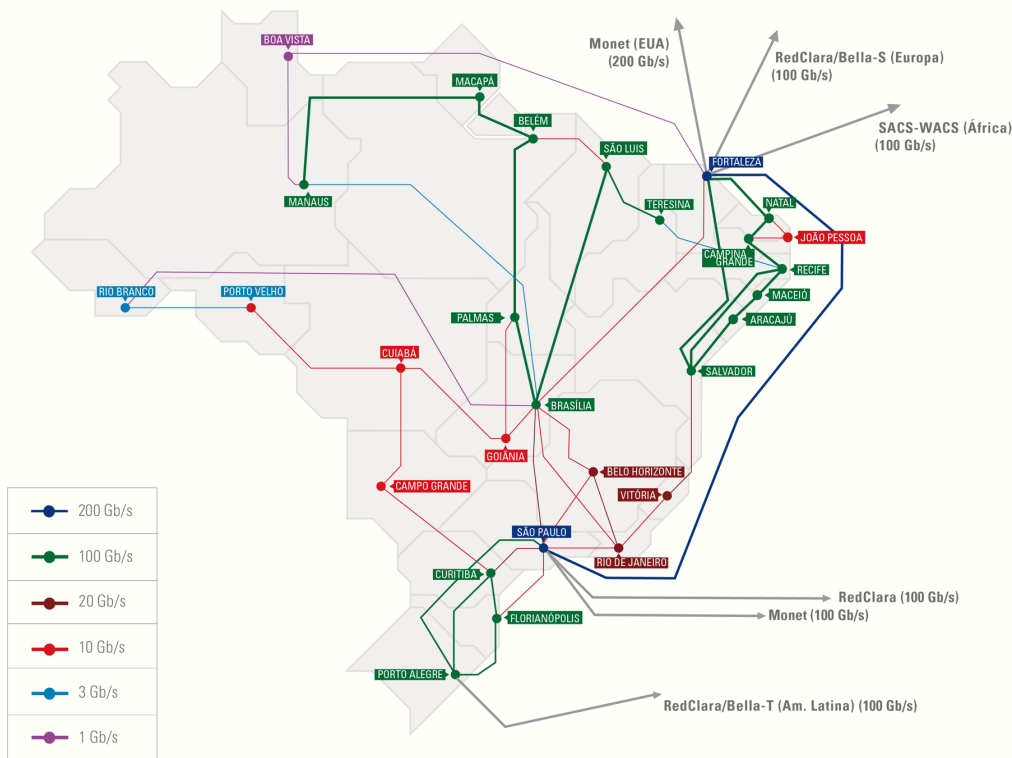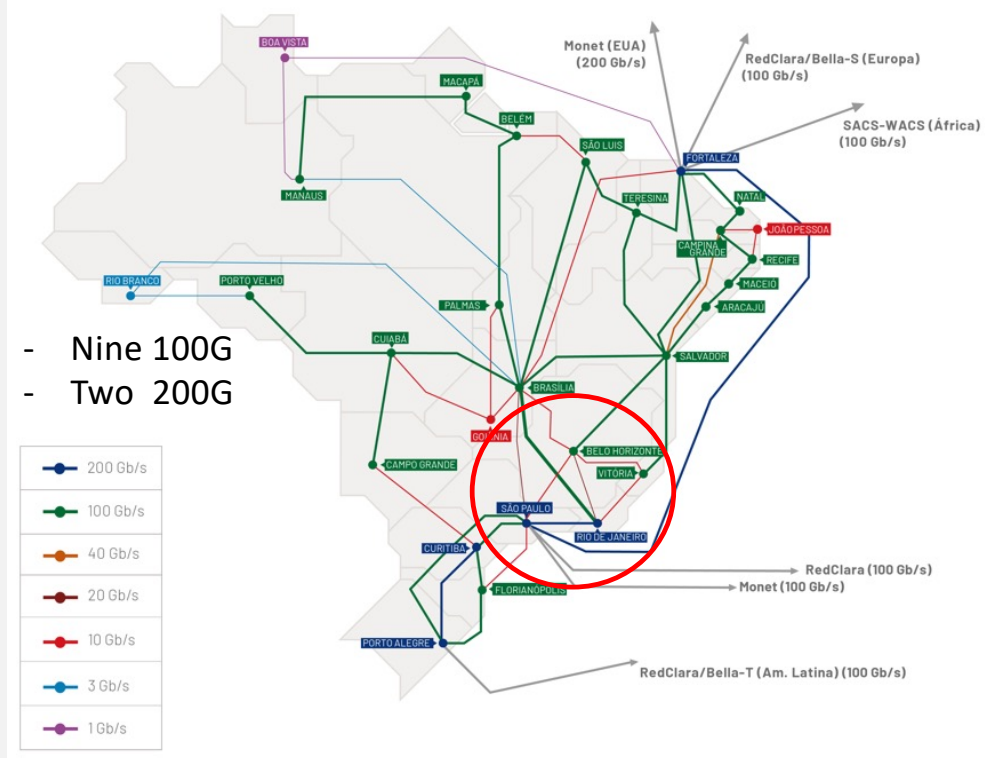
Our backbone: current vision

- 7th generation (still) under deployment

- Strategy:
  - Investments in lightening optical fibers from electrical power companies and in some cases hw/sw support
  - Channel swap with ISPs
  - No leased lines except for few states on the Amazon Region

Our backbone: what's new?


July 2022

- Nine 100G
- Two 200G

July 2023

Our backbone: what's coming

- Nine more 100G circuits (some redundants)

- Deployment of the next phases of Eletrosul and Furnas projects

  - Eletrosul (purple):
    - Londrina – Curitiba
    - Curitiba – Porto Alegre

  - Furnas (pink):
    - São Paulo – Goiânia – Brasília
    - Brasília – Belo Horizonte
    - Belo Horizonte – Vitória
   - Vitória – Teixeira de Freitas (point of connection to Chesf Project)

International connections

- Partnership with academic initiatives:
  - Bella (RedCLARA + Geánt)
  - AmLight
- Points of connections:
  - Fortaleza – RedCLARA (Bella-S) + AmLight
  - São Paulo – RedCLARA + AmLight
  - Porto Alegre – RedCLARA
- Dark fibers:
  - Fortaleza – connecting important sites (TiSparkle, Telxius, Angola Cables)
  - São Paulo: connecting Equinix SP2, SP3 and SP4 to RNP PoP (NIC.br datacenter)
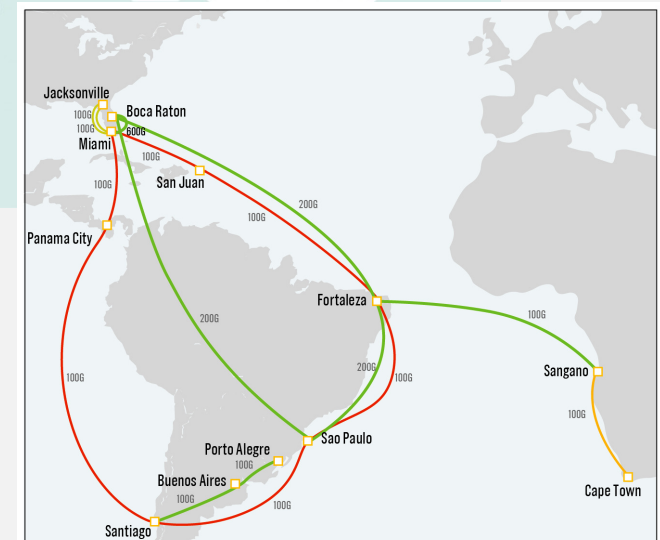
RNP's contribution to SA3CC

- "Update on RNP in support of data movement between the observatories in Chile and S. Africa and the R&E communities in South America, Africa, the U.S., Europe, and other destinations of interest"

- Connection between Porto Alegre and São Paulo exclusively to LSST Project
  - 100G link (Porto Alegre – Curitiba)
  - 100G link (Curitiba – São Paulo)
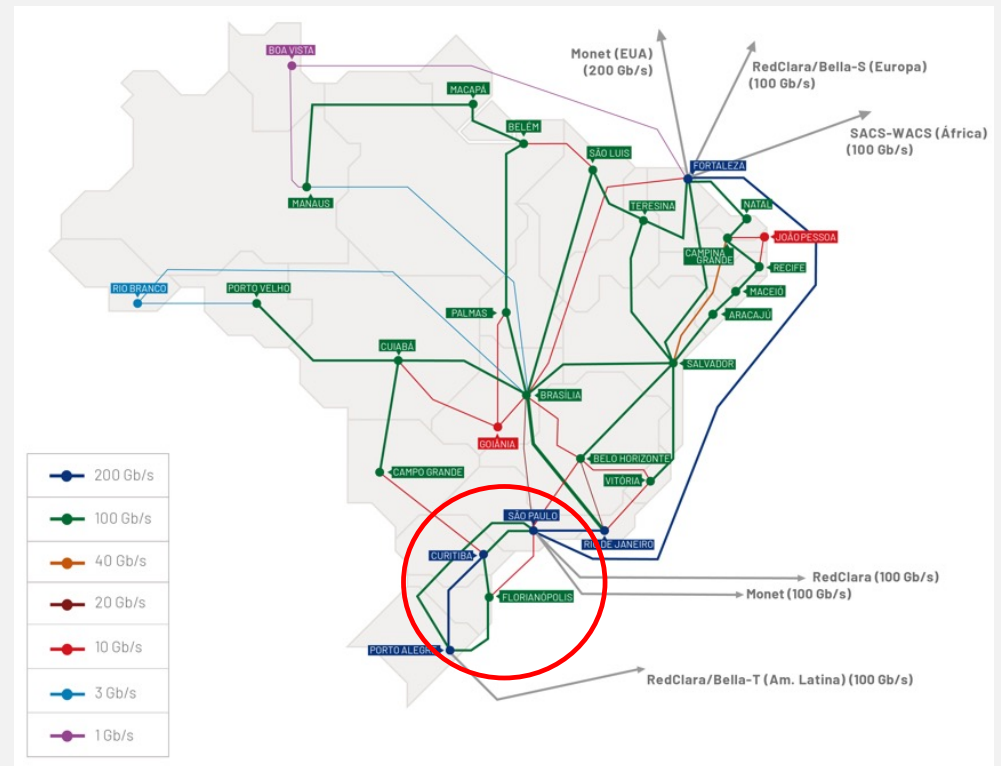
Relevants projects

- eCiber: infrastructure to connect the most relevant research with 100G circuits (INPE, LNCC, CNPEM)

- Infovia 00:
  - Part of a larger program (8 phases)
  - From Macapá/AP to Santarém/PA
  - Optical cable laid across the Amazon River – 438 mi (705 km)
  - Fully operational
  - Neutral operator (12 ISPs and telcos)

- Infovia 01:
  - From Santarém/PA to Manaus/AM
  - Under experimental operation

- Very important initiatives to boost research in the region

Programa Amazônia Integra

Videos:

https://youtu.be/STBJ0m00KV0 (English)
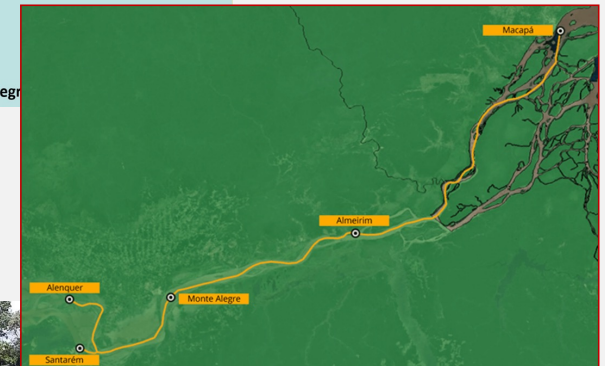
https://youtu.be/0lNsbEiLBII (Spanish/español)

Summary

- Backbone: implementation of 7th generation is close to finish

- In terms of strategy
    - Prioritization of redundancy
    - Continuing to seek new long-term partners
    - Scalable solutions are still preferable
    - Focus on swap strategy (faster and cheaper) – process about to be launched

- RNP honored the commitments made with our partners (LSST/AmLight and RedCLARA/Bella)

Thank you

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