
AmLight ExP
Americas Lightpaths Express & Protect

AmLight Express and Protect (AmLight-ExP), #OAC-1451018

# South American Astronomy Coordination Committee (SAACC) Meeting

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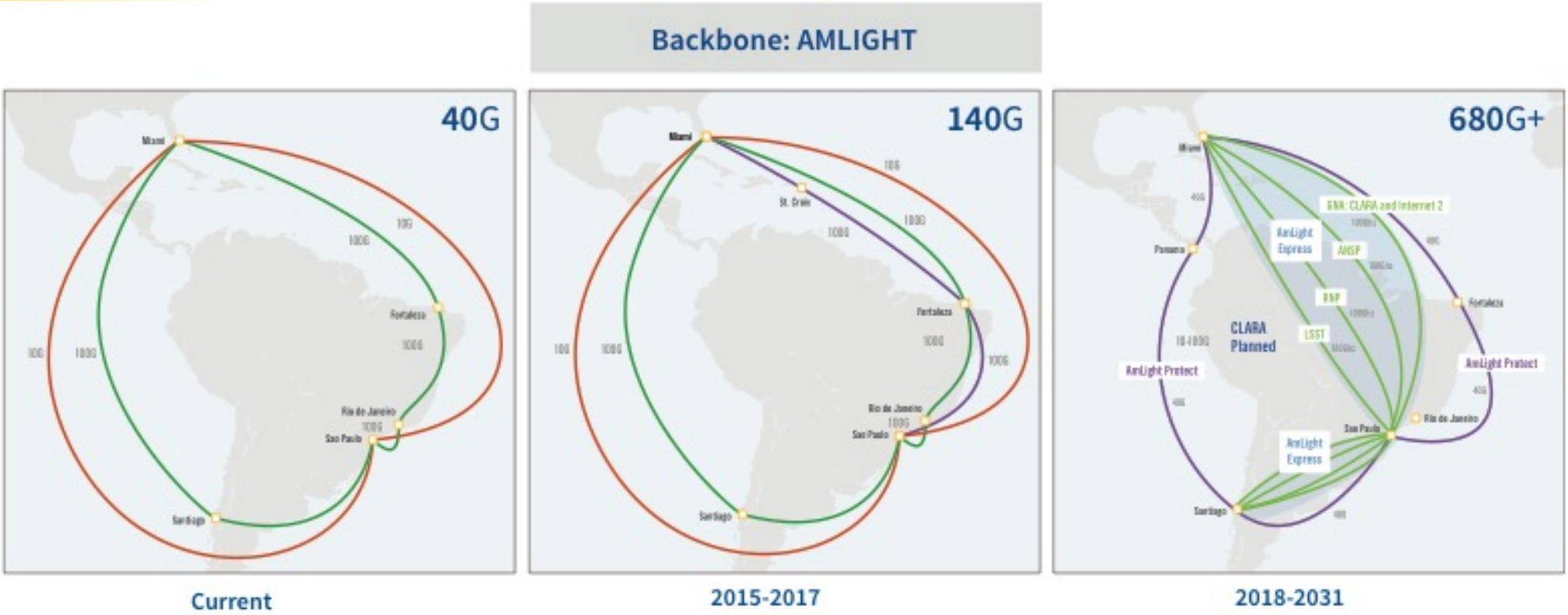
# AmLight Express & Protect Vision




- Community-operated network infrastructure
- Leased capacity on two submarine cable systems, evolving to a hybrid model that includes spectrum from Boca Raton to Sao Paulo
- Express (spectrum) capacity will provide up to 6 optical channels, which will be lit with 100G transponders today
- Protect (leased) capacity ring will back up the Express capacity



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# Current Status: Network Infrastructure

- 100G ring Miami-Fortaleza, Fortaleza-Sao Paulo, Sao Paulo-Santiago, Santiago-Miami (yellow)
  - Panama being added Q2 2018
- 10G ring from Miami-Sao Paulo-Miami for protection (red dashed)
- 10G Miami-Santiago for protection (yellow dashed)
- 100G and 10G rings are diverse, operating on multiple submarine cables
- Total upstream capacity presently at 230Gbps


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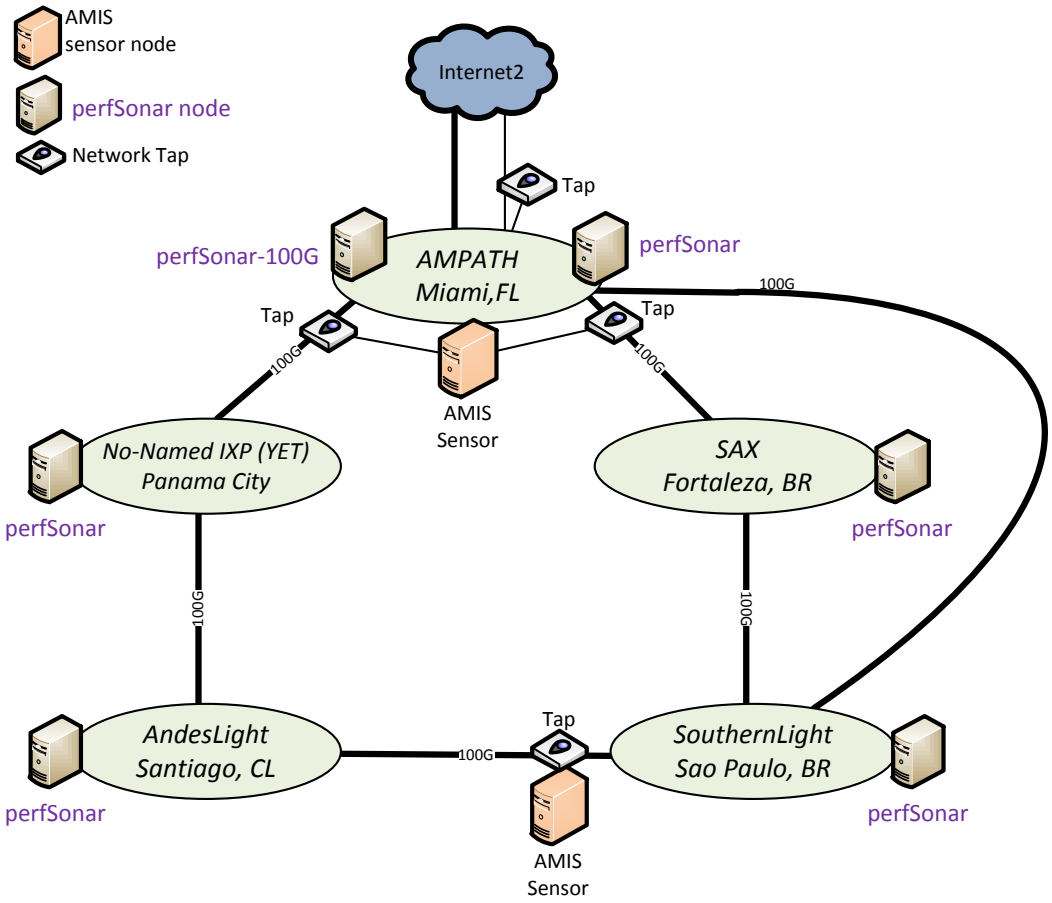
# Current Status: Monitoring and Measurement

- Each AmLight PoP has a 10G perfSonar node with two NICs (BWCTL and OWAMP)
- Two 100G network taps installed in Miami to support the IRNC AMIS project
- One 100G network tap being installed between Sao Paulo and Santiago
- Maddash portal available



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# Plans for year 4: Build Express backbone, and enhance Protect ring

- Spectrum activation planned for Year 4:
  - Two 100G channels via Fortaleza (RNP and ANSP) (Q3 2018)
  - One direct 100G channel from Miami to Sao Paulo (ANSP) (Q4 2018)
- Add Panama to the 100G Protect ring: (Q2 2018)
  - Miami, Fortaleza, Sao Paulo, Santiago, Panama, Miami




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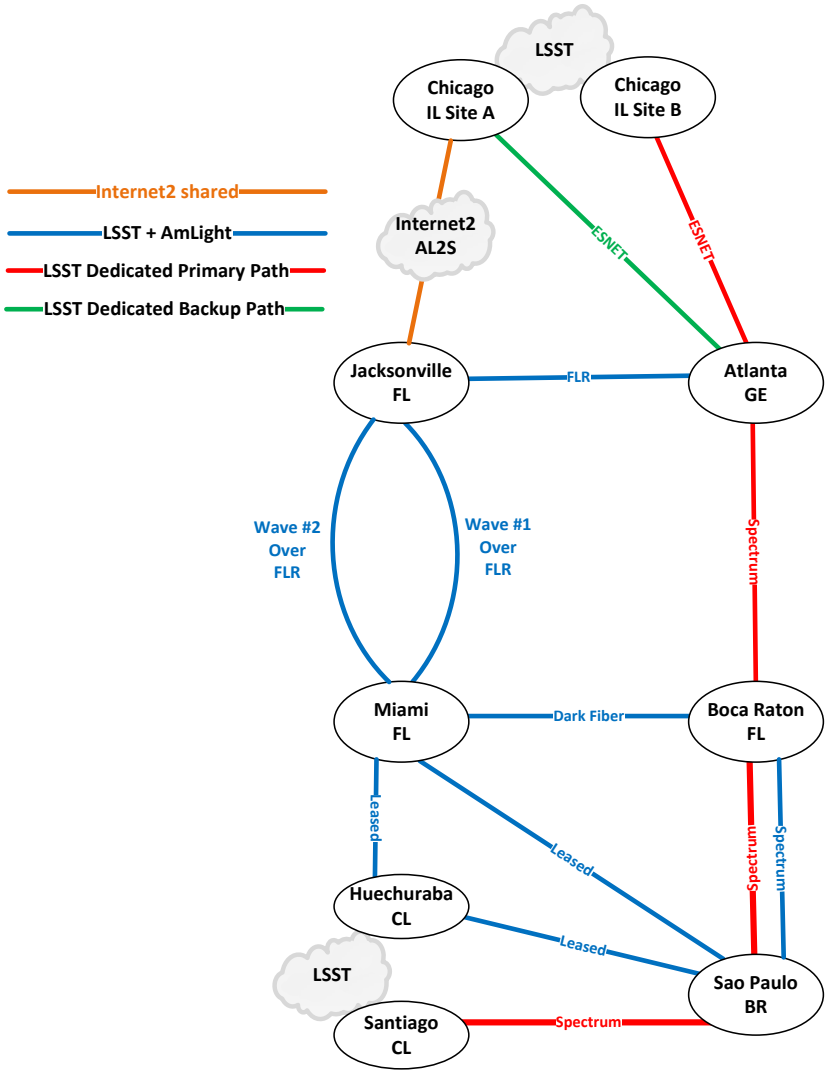
# Potential network paths for LSST to Chicago

- AmLight Express lands in Boca Raton
- AmLight Protect lands in Miami
- LSST dedicated primary path extends to Atlanta
- Dedicated Primary and Backup paths to Chicago on ESnet
- LSST secondary backup path extends to Miami, then to JAX over FLR
- Internet2 AL2S network for transport from Jacksonville to Chicago
- Shared links will have QoS enabled to prioritize LSST traffic



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# THANK YOU!

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