# Internet Measurements in the LAC region

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# Agenda

- Recent study on traffic paths within each country
  - Reports and goals
  - Main results
- Measurements data sources
  - Coverage
  - Bias
  - Plan of action
- R&D Ambassadors program

# Introduction

- Internet Measurements at country level and at region level
- 2020: study based on latency
- Other studies based on information available in routing tables
- This studies allowed to see the big picture of the connectivity in our region
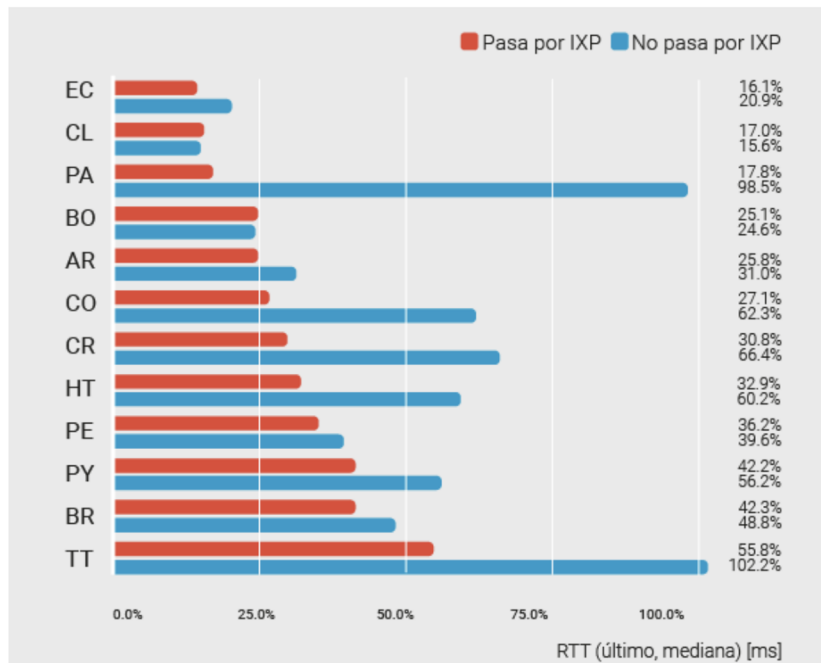
# Traffic path analysis for each LAC country

- Active measurements of ICMP traceroutes
- Same country as origin and target
- Geolocation
- Motivation:
  - AS centrality
  - Reasonable path lengths
  - How local traffic remains
  - Presence of IXPs

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# Traffic path analysis for each LAC country



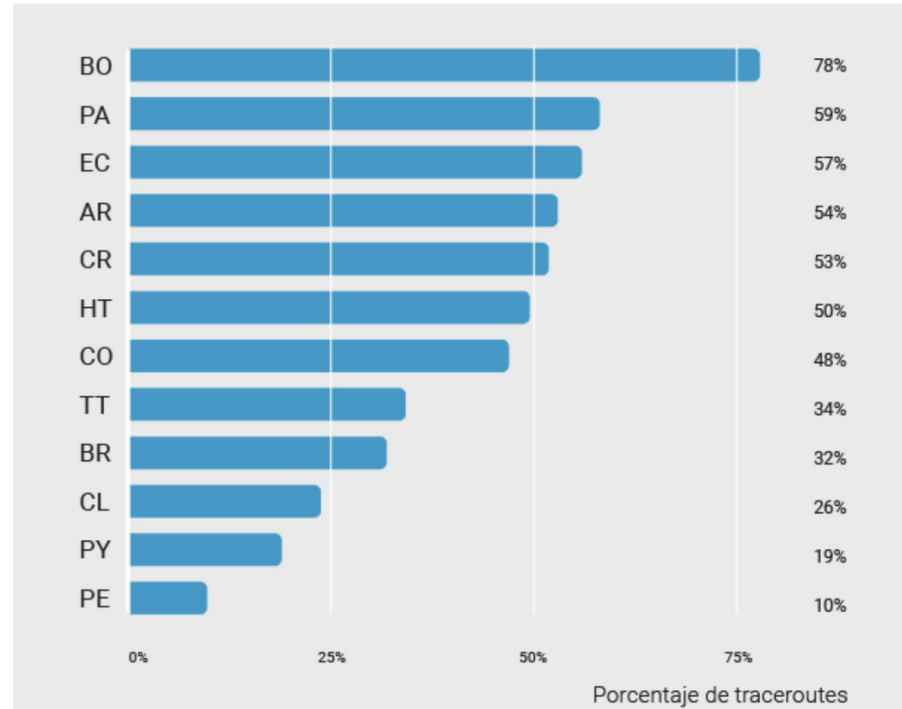Latencia interna vs. latencia externa
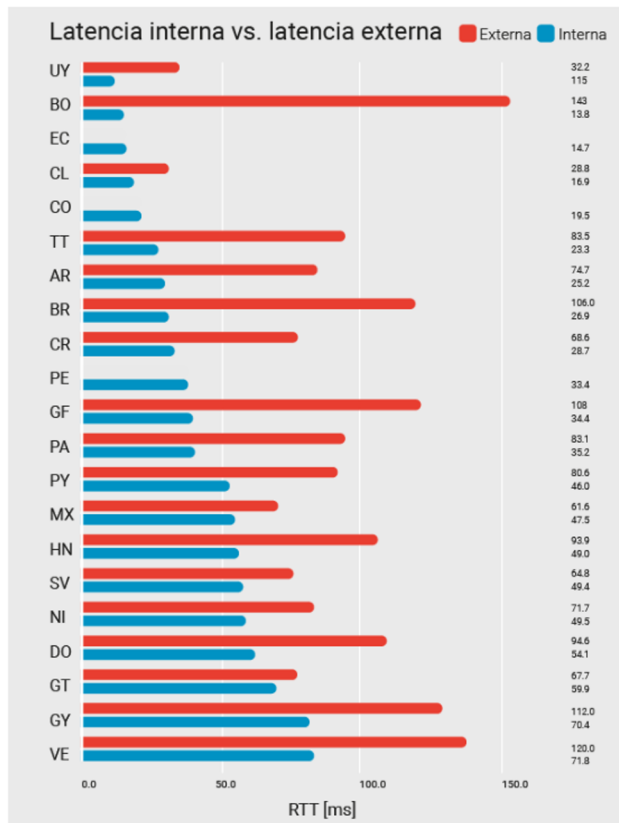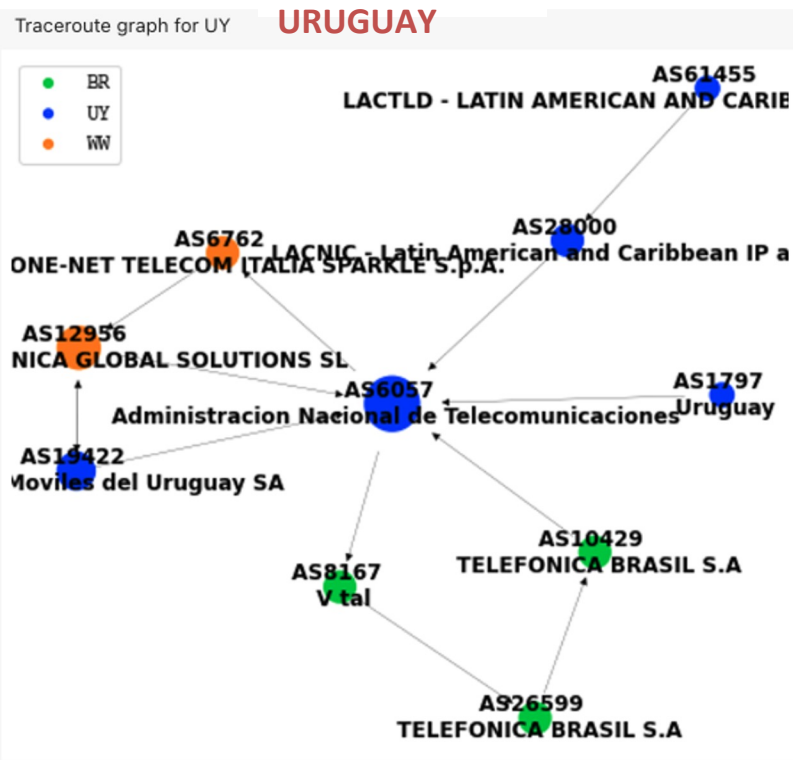


Traceroutes internos a cada país
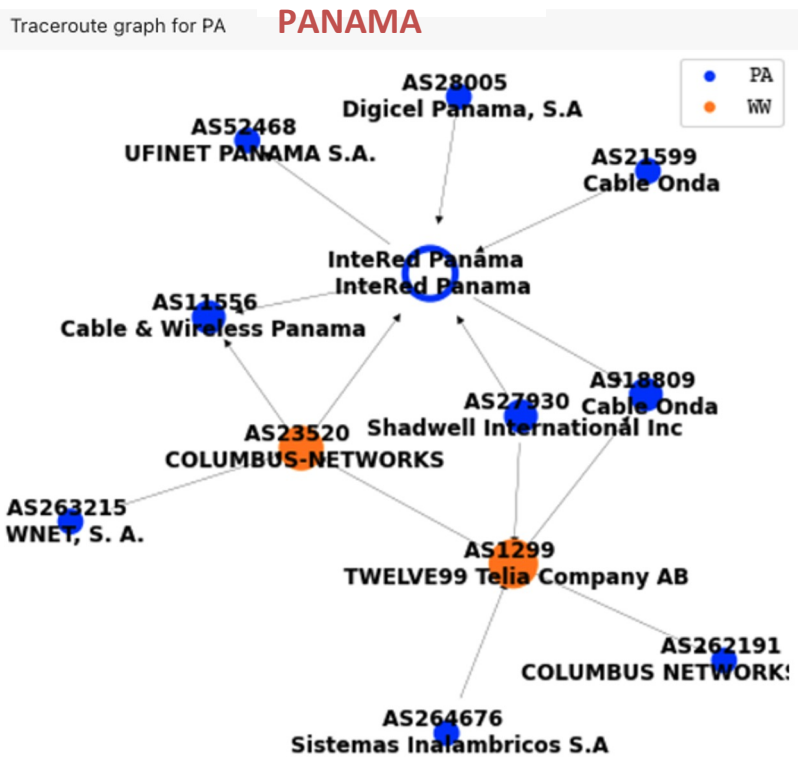
# Traffic path analysis for each LAC country

- \> 40% in countries with mature IXPs
- IXPs in top ranking of AS centrality



Traceroutes que pasan por el IXP

| País | Porcentaje |
|------|-----------|
| BO | 78% |
| PA | 59% |
| EC | 57% |
| AR | 54% |
| CR | 53% |
| HT | 50% |
| CO | 48% |
| TT | 34% |
| BR | 32% |
| CL | 26% |
| PY | 19% |
| PE | 10% |

Porcentaje de traceroutes

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# Traffic path analysis for each LAC country



Traceroute graph for PA — **PANAMA**

Traceroute graph for UY — **URUGUAY**

# Measurement Data Sources

- Speedchecker
- RIPE Atlas
- Plan of action



ASNs de la región LAC cubiertos (y no cubiertos)
por plataformas de mediciones

RIPE Atlas    20    Speedchecker
        18
        118  60  443

        10939

ASNs enrutados
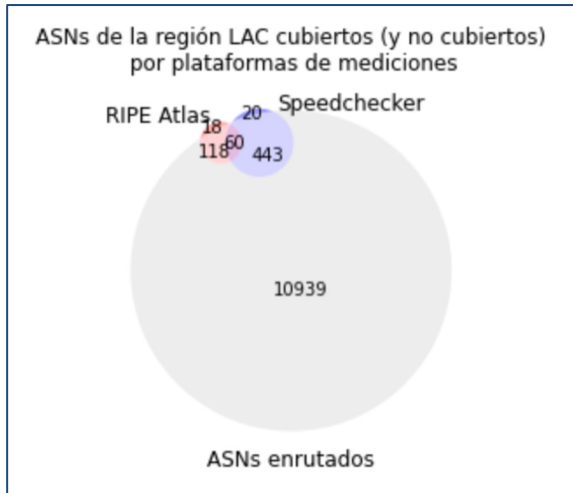
# Measurement Data Sources

- Webinars and Deployathons
  - MX, BO, CO, PA
  - GT, HN, CR

Connected RIPE Atlas probes in the LACNIC region

# R&D Ambassadors Program

- Infrastructure deployment in LAC
  - LACNIC DNS anycast servers and DNS root servers
  - Measurement platforms
  - BGP collectors
  - Critical technologies: IPv6, RPKI validation, ROA creation, DNS/DNSSEC adoption
  - Local technical capabilities
  - Promote regional research activities

# R&D Ambassadors Program

- R&D Ambassadors program
  - Strengthen relationships with tech collaborators in the community
  - Strengthen tech capabilities
- How it works
  - Propose a work plan lasting a year
  - Detail activities to carry out
  - LACNIC offers benefits and chance to present the results at our annual meetings

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Thank you!

# References

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