RPKI vs BGP Global Statistics

Tim Bruijnzeels | 21 July 2016 | IETF96

RIR level stats

- RIRs don't create the ROAs

- Averages not too meaningful

    - 12% covered for all of RIPE region

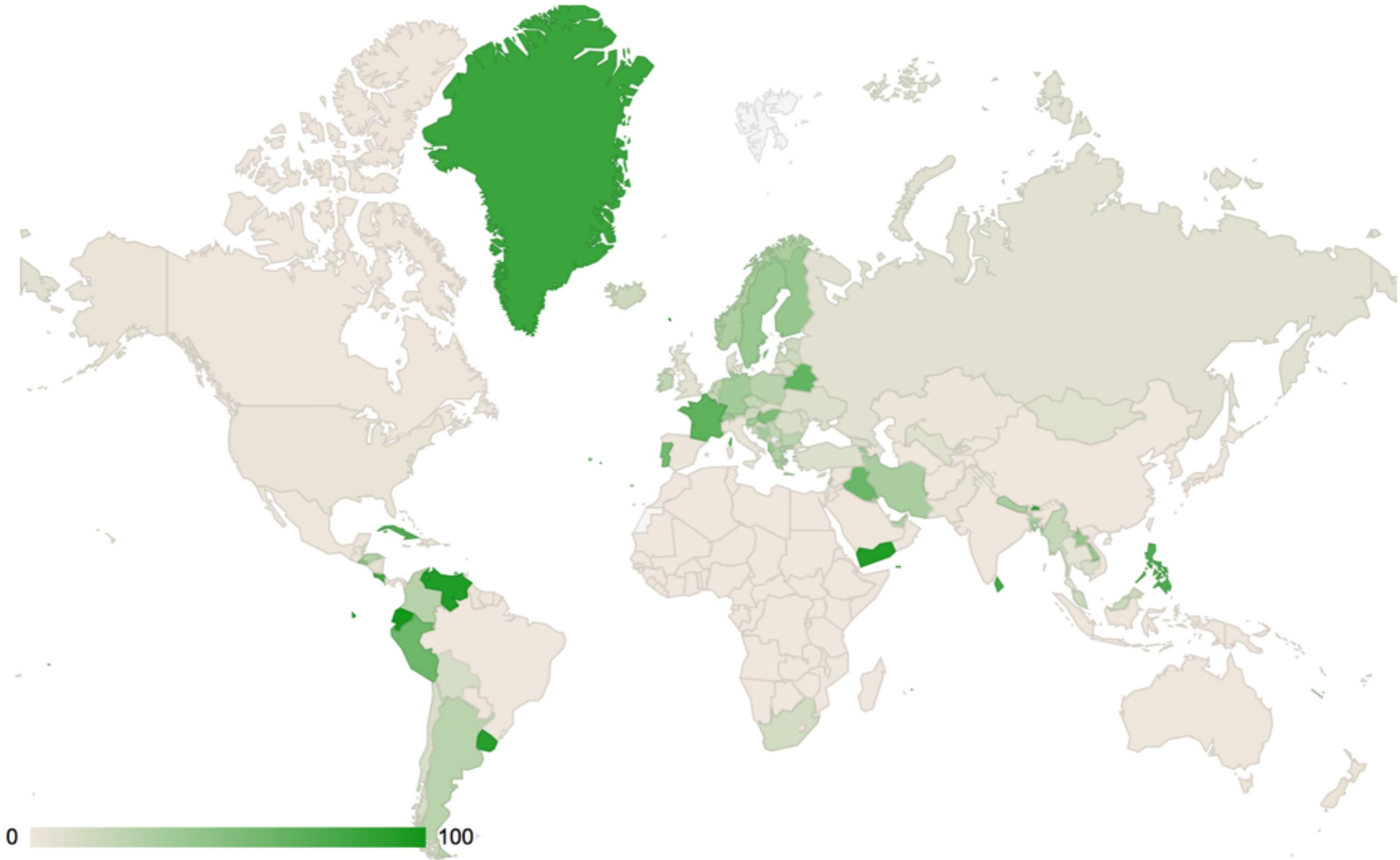   - 65% of France's IPv4 addresses covered

Method

- Announcements seen by RIS route collectors

- Divided by country as seen in RIR stats

- Compare to ROAs under RIR TAs

  - Number of announced prefixes

  - Number of announced addresses

- IPv4 only - for now

  - Are the above measurements useful for IPv6?

Fraction IPv4 prefixes covered
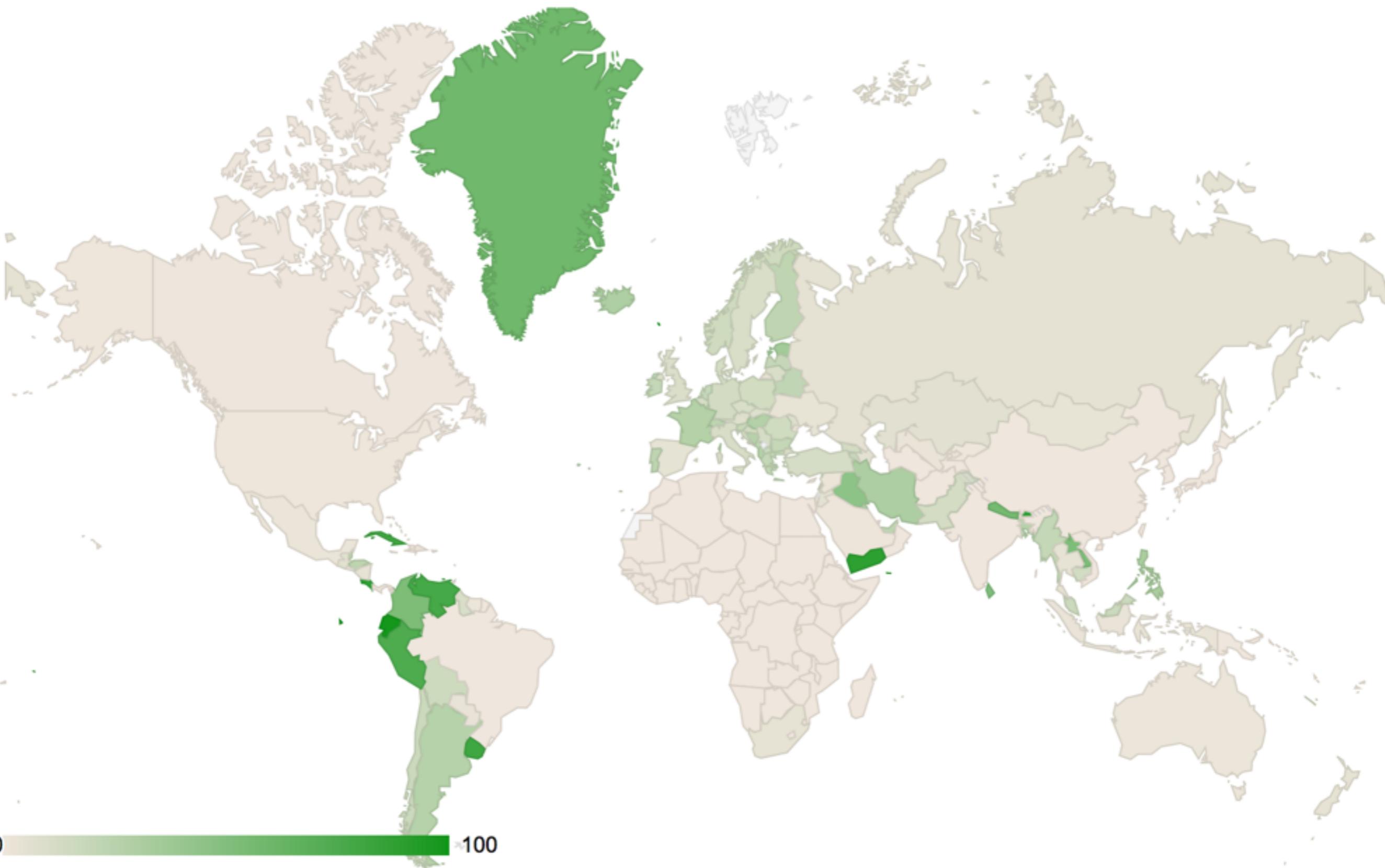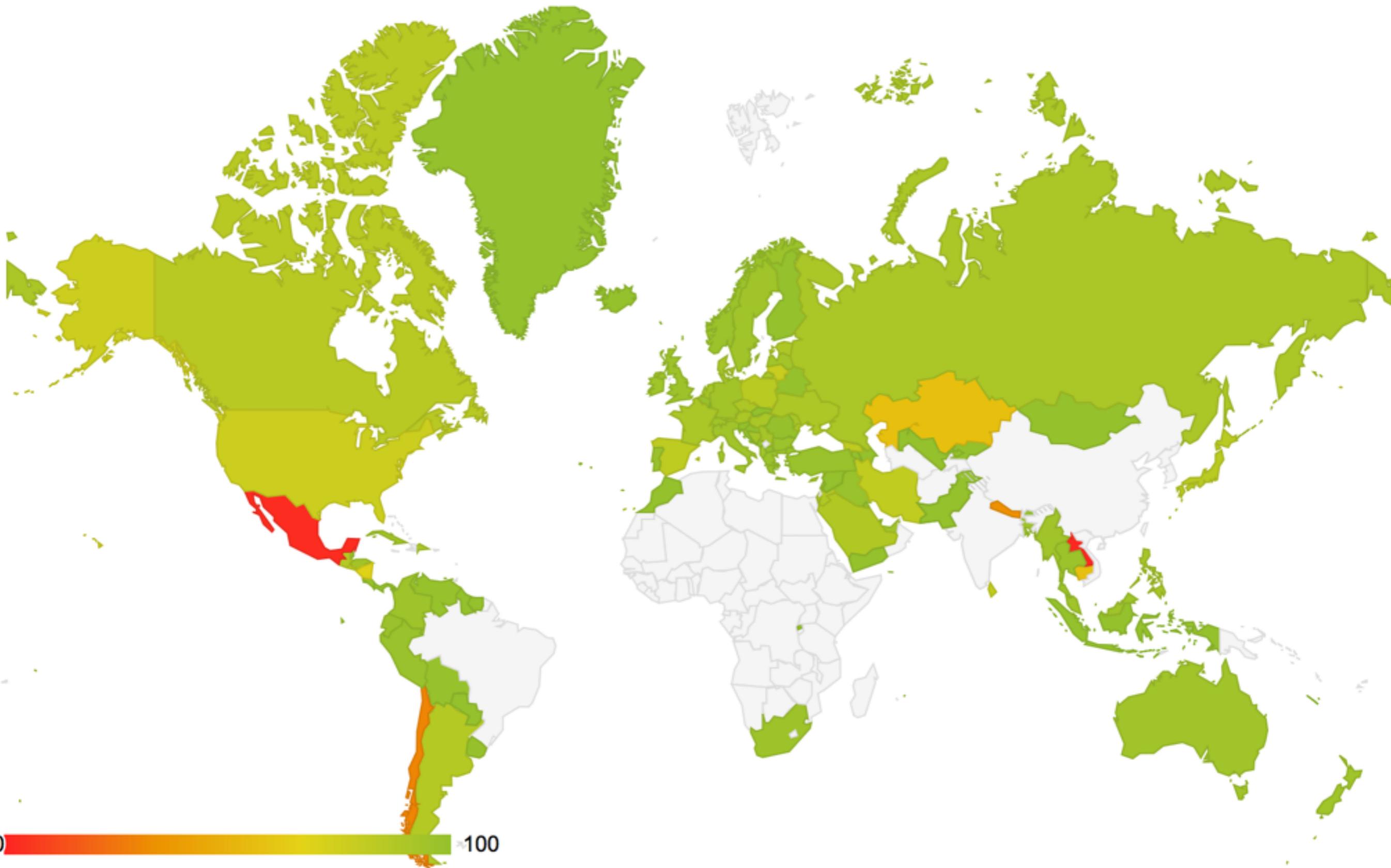
Fraction IPv4 space covered
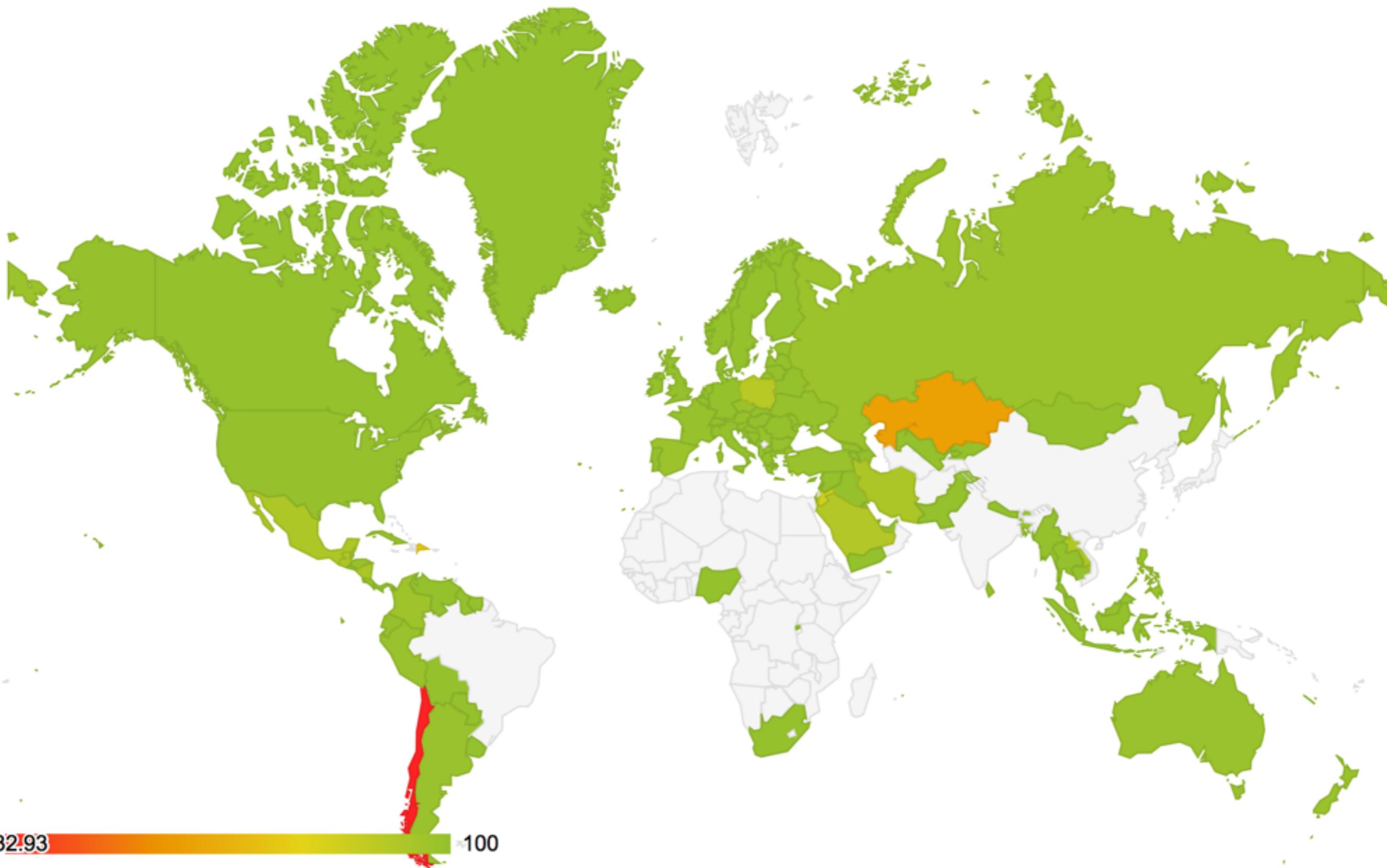
Coverage

- Big differences <u>within</u> regions

  - E.g. France 65% space, Great Britain 5%

- In RIPE region coverage in space much higher than announcement

  - A lot of Provider Independent space

  - Bigger providers issuing ROAs

Fraction IPv4 prefixes valid / covered

0 ◼ 100

Fraction IPv4 space valid / covered

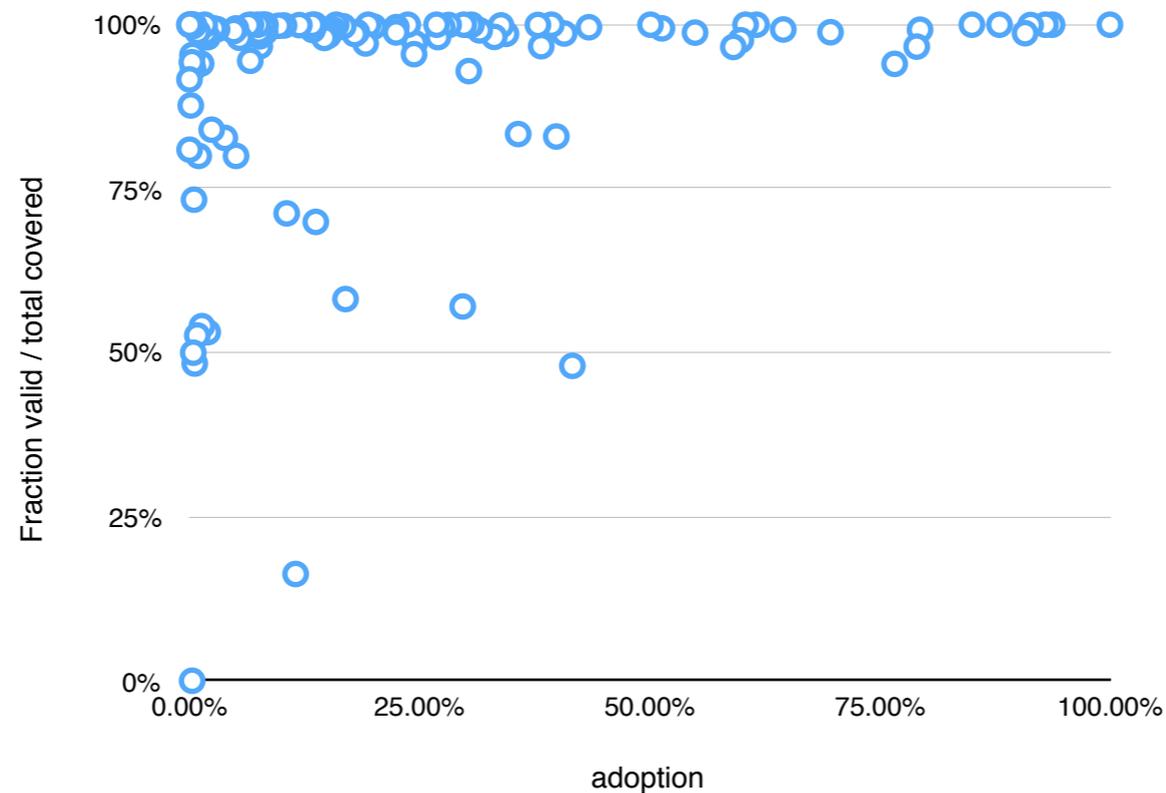

32.93 ————————————————————————— 100

Fraction valid / covered

- Data looks better for space instead of #prefixes

  - Invalid announcements often covered by valid announcements

  - Announcements with invalid length represent less space

- Lower valid fractions where there is low adoption

Adoption vs fraction valid

- No strong correlation across all data points

- But.. where there is adoption fraction seems higher

Next steps

- Hosting these stats on web site:
  https://lirportal.ripe.net/certification/content/static/statistics/world-roas.html

- Happy to share code or CSV files with interested parties