RPKI update

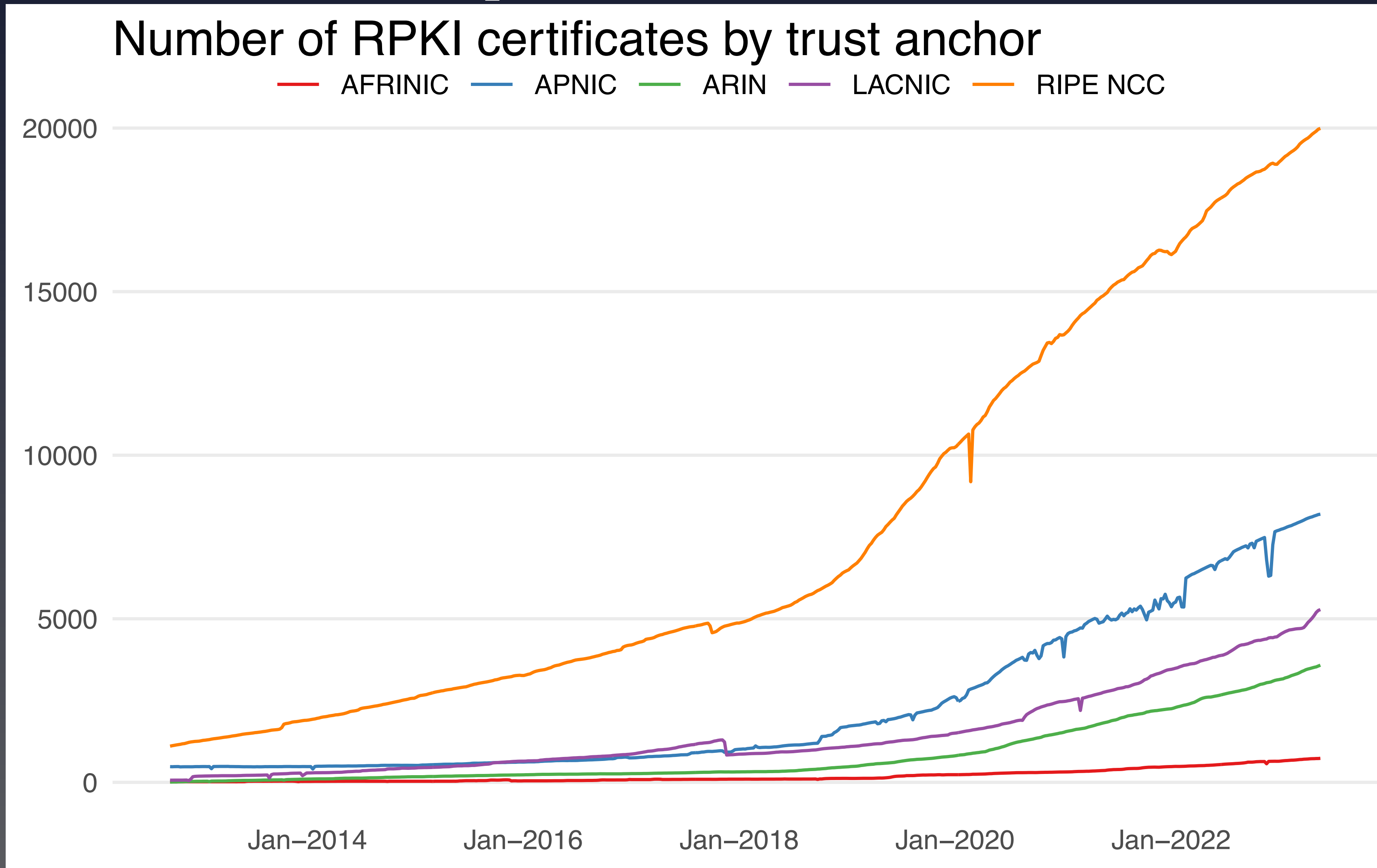Ties de Kock | RIPE 86 | 24 May 2023

Overview

- RPKI Adoption

- RPKI developments at RIPE NCC
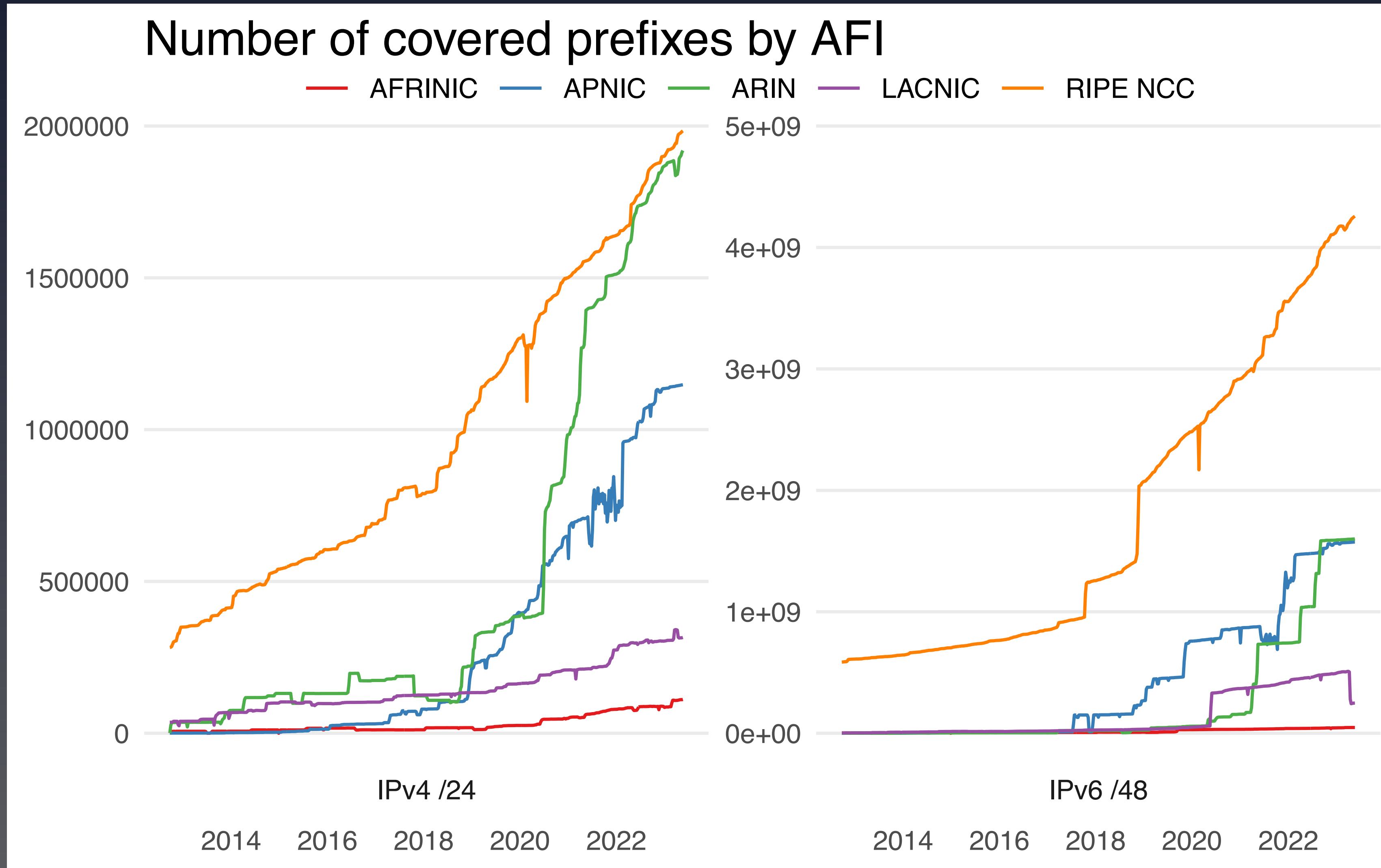
- Roadmap

RPKI Adoption at RIPE NCC

- 20004 CA certificates under RIPE Trust Anchor

  - Out of 22,714 members, 19,946 End Users with certifiable resources

RPKI Adoption: certificates

Number of RPKI certificates by trust anchor

— AFRINIC — APNIC — ARIN — LACNIC — RIPE NCC

RPKI Adoption: Prefixes Covered

Number of covered prefixes by AFI

AFRINIC — APNIC — ARIN — LACNIC — RIPE NCC
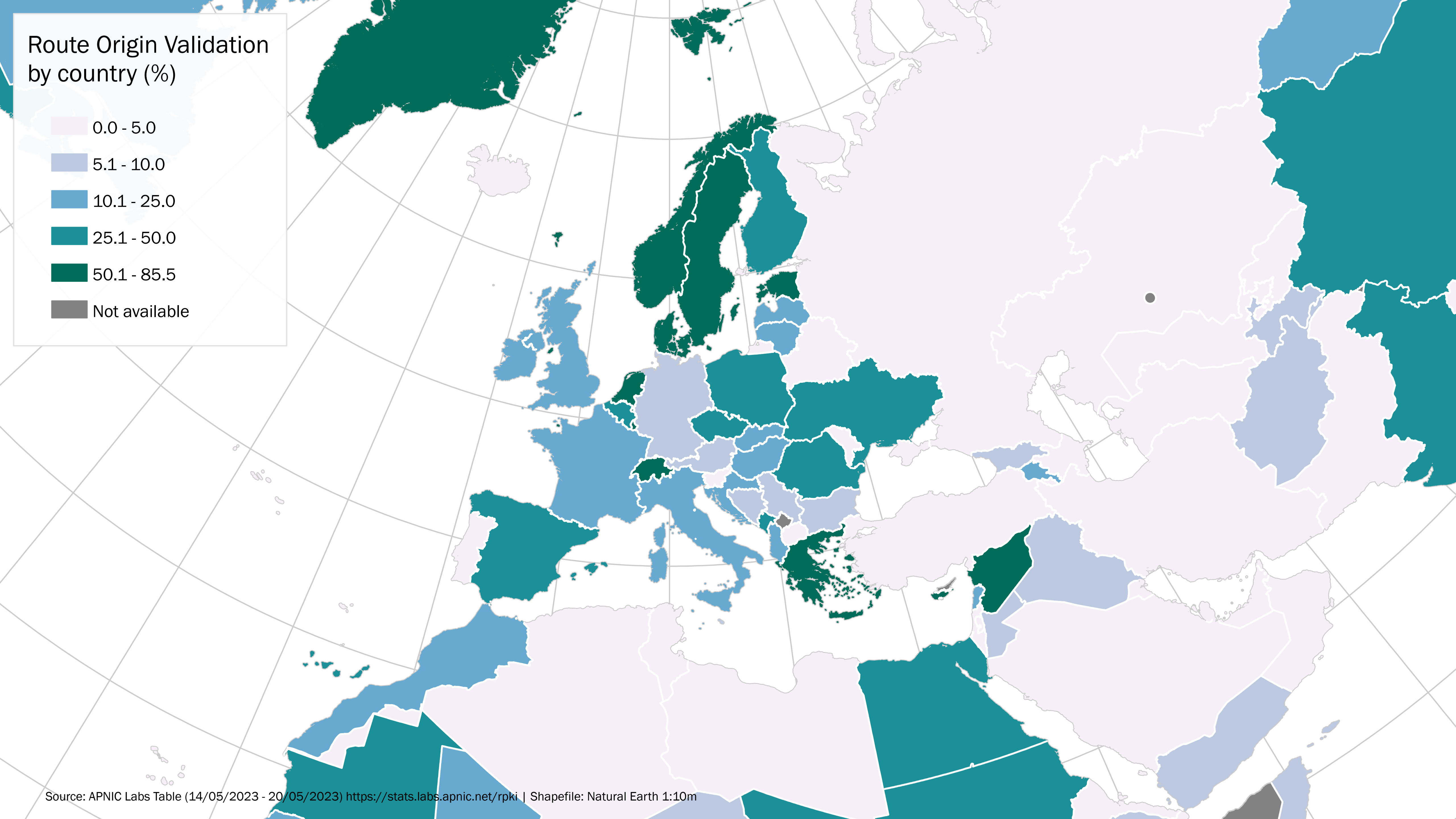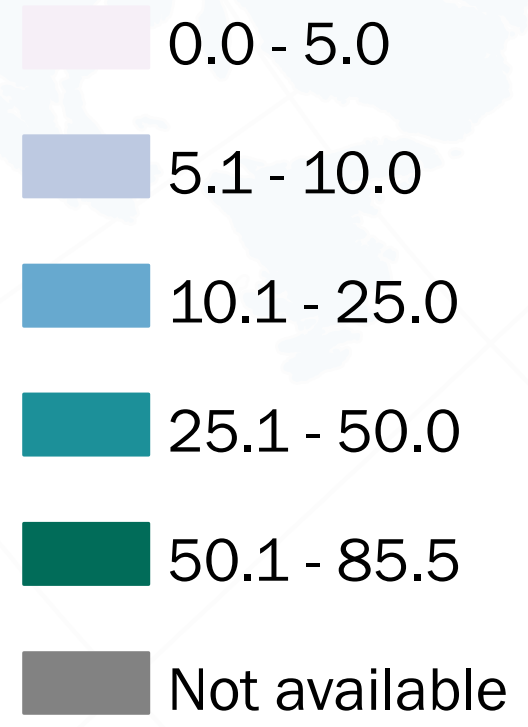
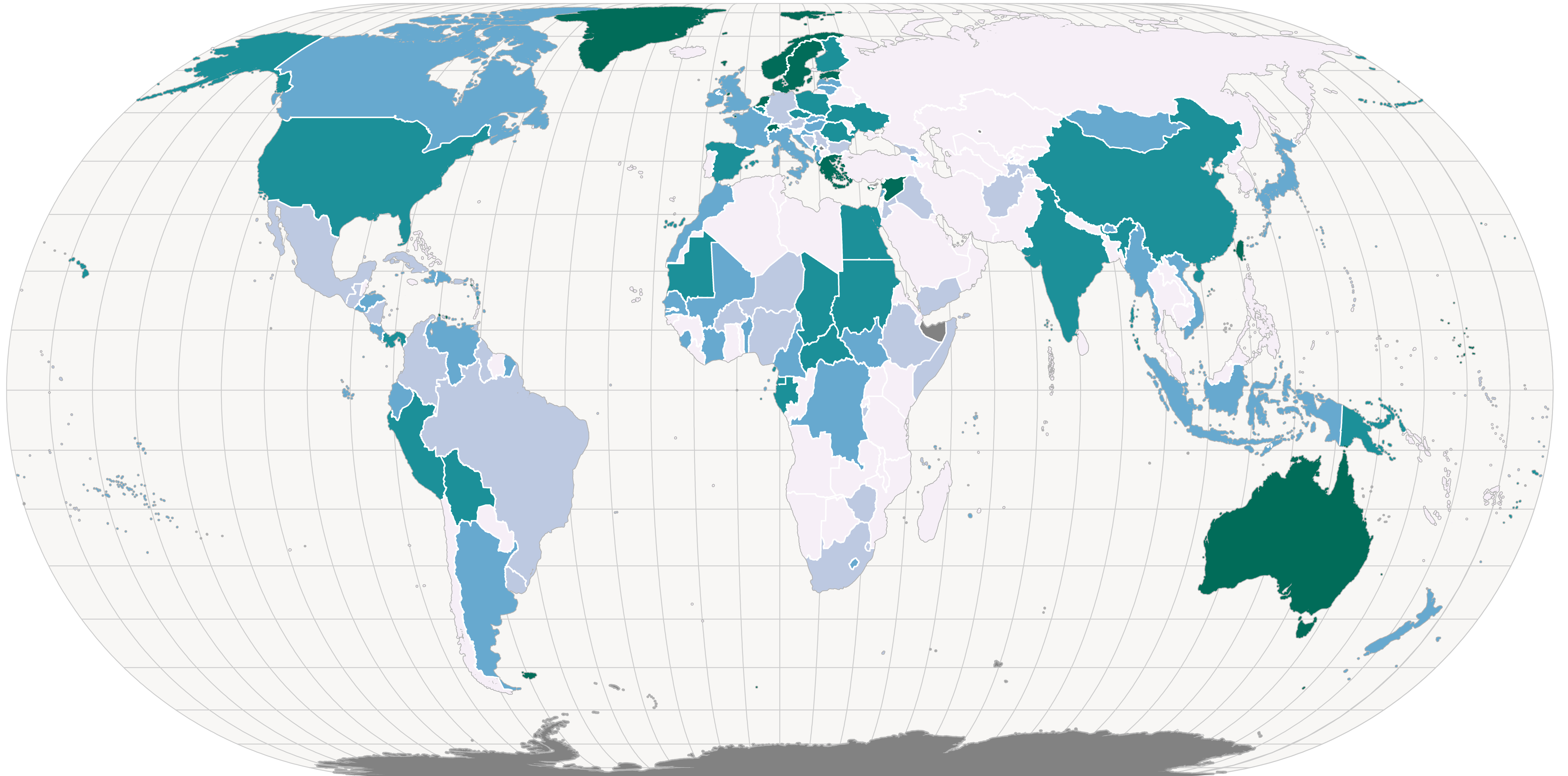IPv4 /24 · IPv6 /48

RPKI Adoption: Validation?

- Validation is more important than having the objects in place

- Qualitative data

- Quantitative data: two methodologies:

    - APNIC RoV drop invalid rate

    - RoVista

        - IP-ID side-channel measurements: Measure traffic between two remote hosts

Route Origin Validation by country (%)

- 0.0 - 5.0
- 5.1 - 10.0
- 10.1 - 25.0
- 25.1 - 50.0
- 50.1 - 85.5
- Not available

Route Origin Validation
by country (%)

| 0.0 - 5.0 | 5.1 - 10.0 | 10.1 - 25.0 | 25.1 - 50.0 | 50.1 - 85.5 | Not available |

Developments Over the Last Year

- Publish in parent

  - 166 (live) CAs publishing, 2,095 ROAs/3,664 VRPs

- (draft) ASPA support

  - Available in API in our (public) pilot environment

- Adopt and use a public status page

- Technical improvements

Ongoing Development - Process

- Continuously working on the CA system (and infrastructure)

- 24 hour staging period

- Quality assurance

  - Validation testbed

  - API tests

  - End-to-End testing

Ongoing Development

- Increase our rsync capacity

- Improving the RPKI dashboard

  - From the ground up, the current code from 2013

  - Better user experience

  - Two steps: rewrite with minor improvements, followed by a re-design

- RPKI compliance: ISAE 3000 certification

Upcoming Development: Mid-term

- New on-line HSMs

- New objects (hosted RPKI)

  - ASPA support in production API

  - RSC support

- Integrated management of ROUTE objects

Questions ?

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