RIPE NCC
RIPE NETWORK COORDINATION CENTRE

# Advancing Network Security

## The Latest in RPKI Developments

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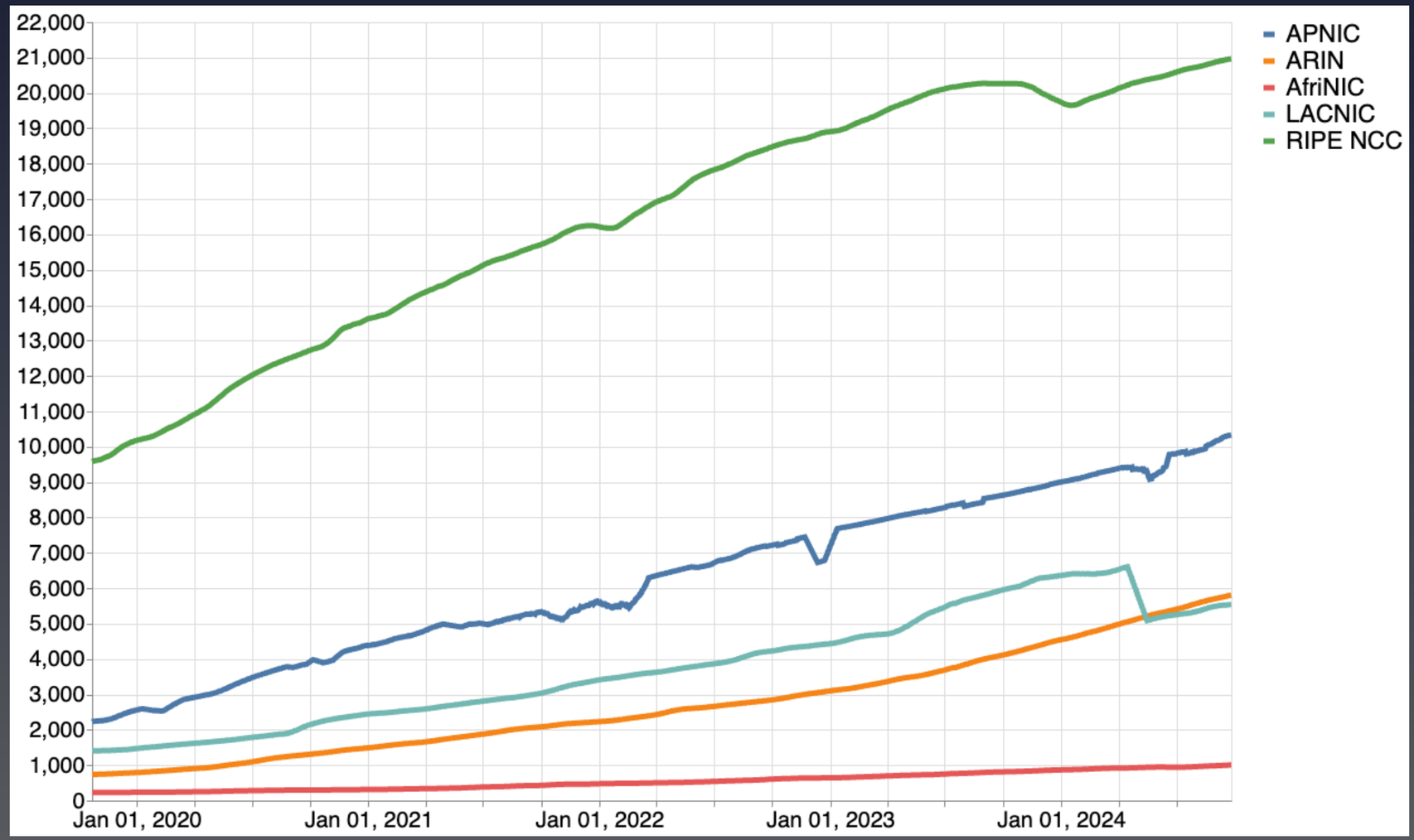
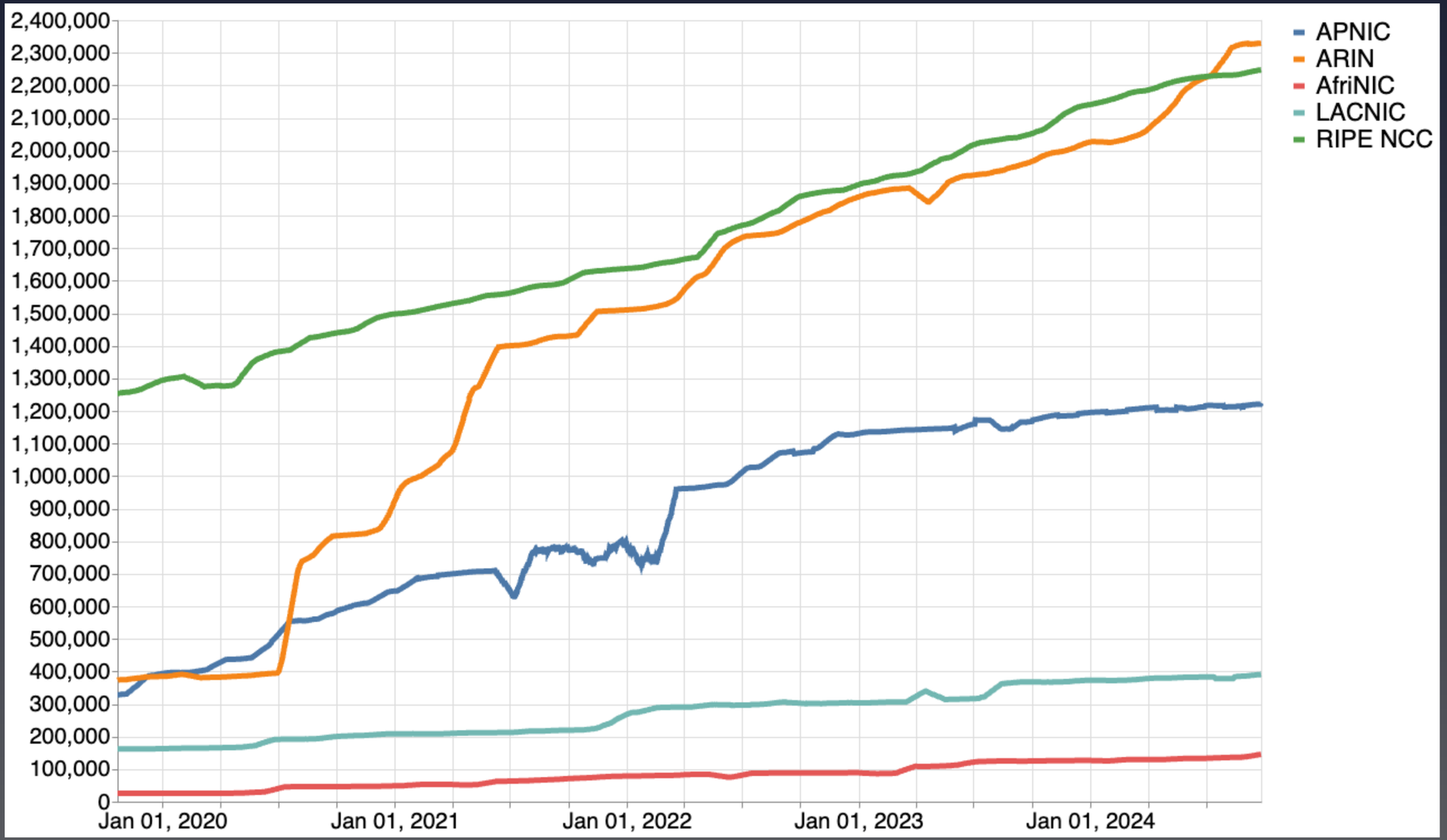
# Overview

- RPKI Adoption
- RPKI developments at RIPE NCC
- ASPA

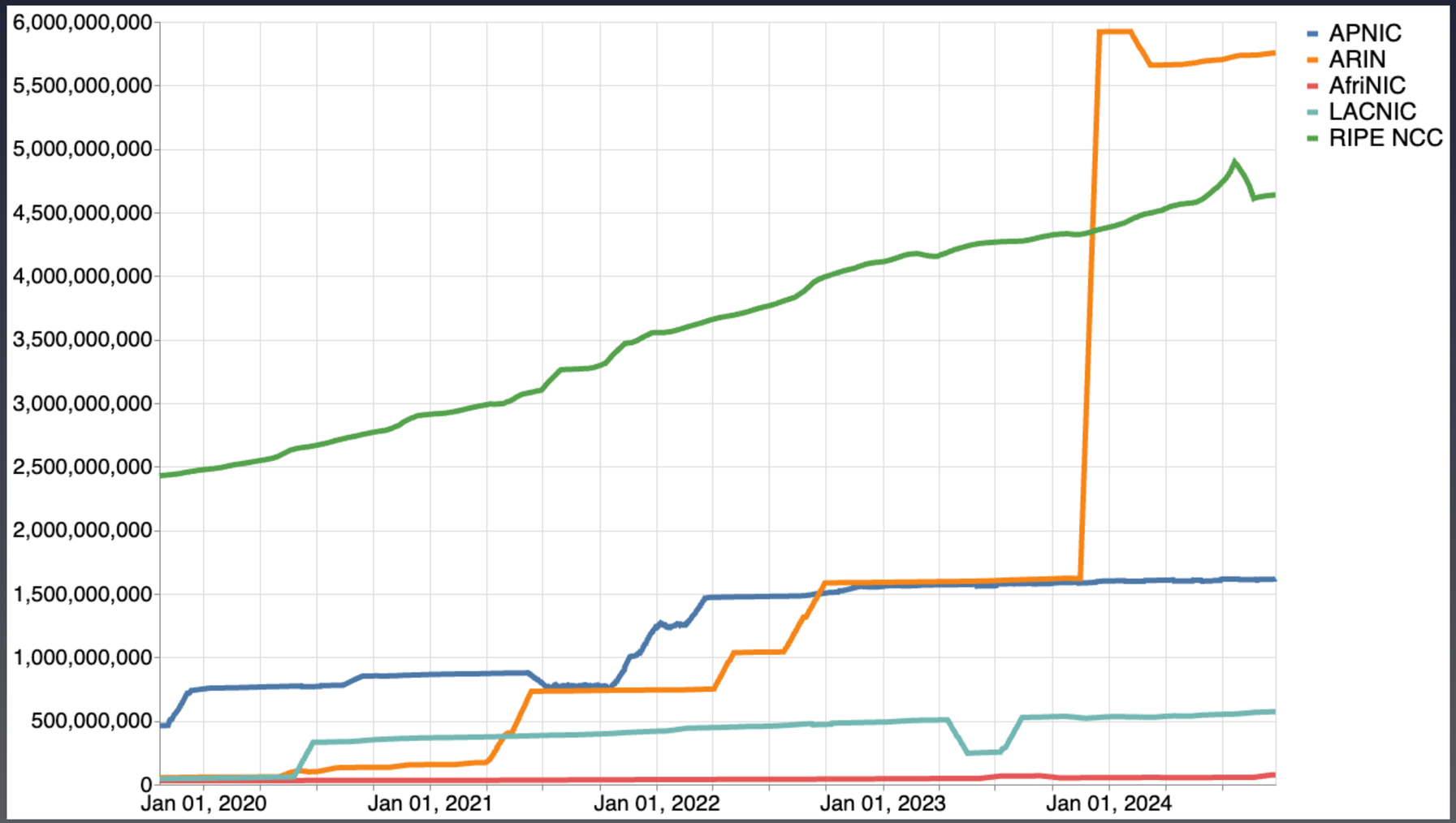
# RPKI adoption: certificates



# RPKI adoption: IPv4 prefixes (/24)



# RPKI adoption: IPv6 prefixes (/48)



# RPKI adoption: validation?

- Validation is even more important than creating ROAs
- Globally, more than 50% of both IPv4 and IPv6 traffic is covered with ROAs
  - https://www.kentik.com/blog/rpki-rov-deployment-reaches-major-milestone/
- About 22% of ASes are fully protected by ROV and about 90% at least partially protected from invalids
  - https://rovista.netsecurelab.org/analytics
- There are multiple validation software options
  - https://rpki.readthedocs.io/en/latest/ops/tools.html

# RPKI adoption at RIPE NCC

- 21014 CA certificates under RIPE trust anchor
  - Potentially 20773 members, 20246 end-users with certifiable resources
- 46684 ROA objects (one per ASN)
- ~276K VRPs

# RIPE NCC: Developments

- New RPKI dashboard (in beta-testing phase very soon)
  - Improved work with different workflows
  - Optimised for cases of large ROA prefix numbers
  - Bug fixes
- RPKI is now ISAE3000 type 1 certified
- Rsync servers have increased capacity

# RIPE NCC: Upcoming

- New Trust Anchor HSM
- Better ROA History in the RPKI UI
- Autonomous System Provider Authorisation (ASPA) support in production API
- BGPSec support
- RPKI Signed Checklists (RSC) support

# ASPA

- RPKI objects, describing
  - Hops in the AS path
  - Provider-customer relationships
- Signed by the ASN holder
- Verified by RPKI validators
- Passed to routers through RTR
- Protects from cases where ROV may fail to protect

# ASPA

- Close to become IETF RFC (profile, verification and RTR)
- Supported by RIPE NCC test environment
- Multiple validators implementations
- OpenBGPD and NIST routers implement ASPA

# Questions

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