An RDAP Extension for RPKI Registration Data

Request for Adoption

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November 4, 2024

Motivation

- Resource Public Key Infrastructure (RPKI) is increasingly becoming critical for internet routing security
- RPKI enables Internet Number Resource (INR) holders to cryptographically assert about their registered IP addresses and autonomous system numbers to prevent route hijacks and leaks
- Making RPKI registration data available through RDAP could complement existing RPKI diagnostic tools when troubleshooting a route hijack or leak
- Beside troubleshooting, it could allow users to explore the RPKI hierarchy in a human-friendly way, without interacting with the signed objects directly

What It Is Not

- This extension MUST NOT be used to directly influence internet routing
- Neither RDAP nor this extension define the necessary security properties or distribution mechanisms required to securely add, remove, or modify internet routes

Salient Features

- Extension identifier: `rpki1`
- Object classes:
  - `rpki1_roa` for Route Origin Authorization (ROA)
  - `rpki1_aspa` for Autonomous System Provider Authorization (ASPA)
  - `rpki_x509_resource_cert` for X.509 Resource Certificate
- Search results:
  - `rpki1_roaSearchResults` for ROA objects
  - `rpki1_aspaSearchResults` for ASPA objects
  - `rpki1_x509ResourceCertSearchResults` for X.509 Resource Certificate objects
- Lookup, search, and reverse search
- Relationship with IP Network, Autonomous System Number, and Entity object classes

Request For Adoption

- To help standardize RPKI registration data access through RDAP
- This draft includes input from some members of the RPKI community

References

- Draft: https://datatracker.ietf.org/doc/draft-jasdips-regext-rdap-rpki/
- GitHub: https://github.com/jasdips/rdap-rpki