A more consistent RPKI service for the global Internet community

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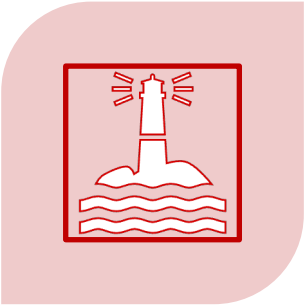
What's your role in the Internet routing system?

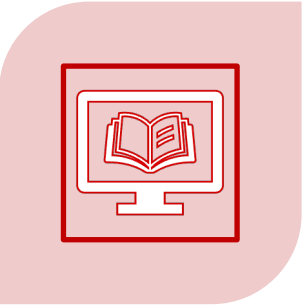
- Operator of content network
- Operator of transit network
- Developer of tools
- Researcher
- Other?

What I would like you to take from this preso…



AWARENESS ABOUT THE NRO RPKI PROGRAM

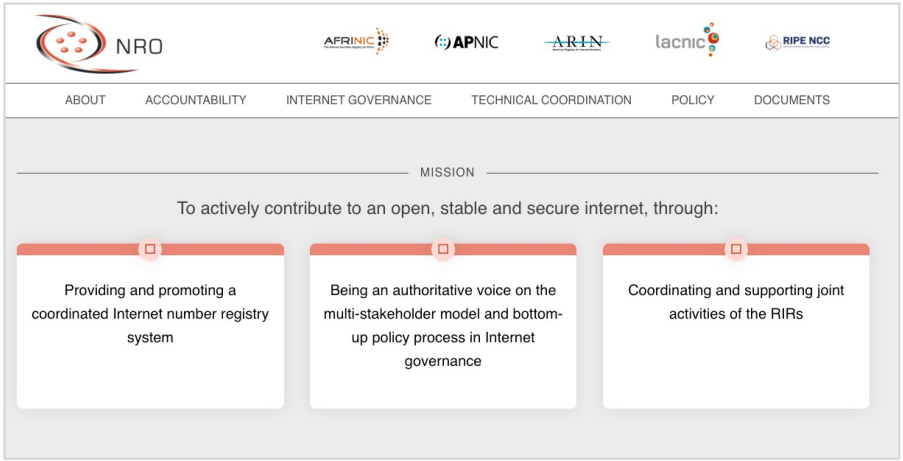
ENOUGH INTEREST TO REACH OUT



ENOUGH CURIOSITY TO WANT TO LEARN MORE

A bit about me and the NRO

- About me
  - Telematics Engineer ⇢ Product Manager ⇢ Ontological Coach
  - IETF attendee but have not actively participated in any WG
  - LACNIC ⇢ Master's ⇢ APNIC ⇢ NRO
- NRO = Number Resource Organization



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THE NRO RPKI PROGRAM

Program Intro

NRO Strategic Review Process

- NRO EC agreed to work toward providing a robust, coordinated and secure RPKI service

The NRO RPKI Program was created

- Purpose: "**To provide a more consistent and uniformly secure, resilient and reliable RPKI service**"
- Removing barriers for RPKI adoption currently experienced by network operators who create RPKI objects through multiple RIRs.

Why is this program important?

- It creates a space for structured **coordination and collaboration** on RPKI among the RIRs
- Current diversity/inconsistency among RIRs

Annex I. Compliance Status of the top-level ORSs (as of July 2021)

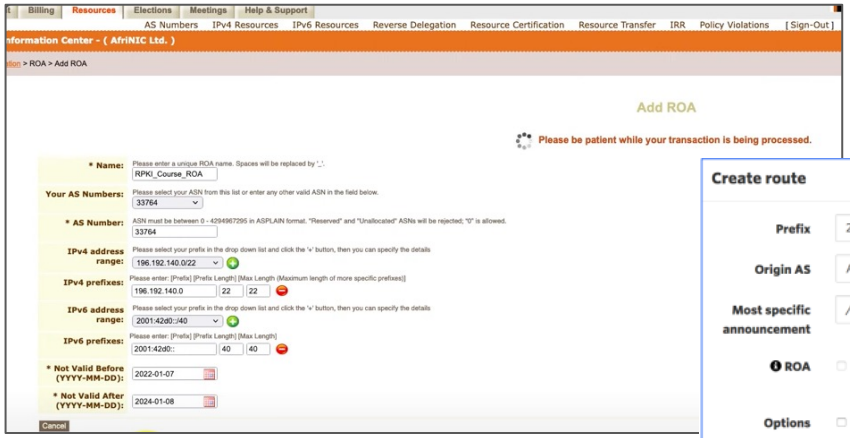
Registry	Index		ARIN	APNIC	LACNIC	AFRINIC	RIPE
ROA Certificate	1a	Auto Renewal of a ROA	NO	YES	YES	NO	YES
	1b	Standard Validity	825d 10yr	1yr	1yr	10yr	2yr
	1c	Alerting on expiration or renewal	YES	NO	NO	NO	NO
ROA Certificate	2a	API for ROA Management	YES	NO	NO	NO	YES
	2b	API Security	NO	NO	NO	NO	NO
Infrastructure Reliability	3a	Service health Status	YES	NO	NO	NO	NO
	3b	Service health degradation notification	YES	NO	NO	NO	NO
ROA Validation	4a	Invalid subnet validation	NO	NO	NO	NO	NO
	4b	ASN change validation	NO	NO	NO	NO	NO

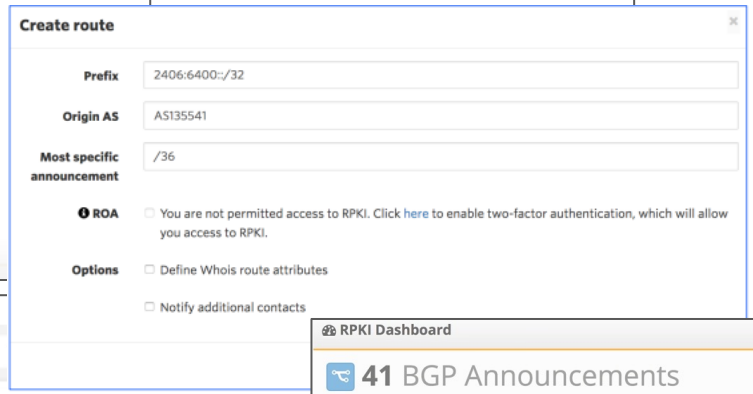
Source:
https://manrs.org/resources/common-roa-management-requirements-and-security-standards-for-operators-of-rpki-services-ors/

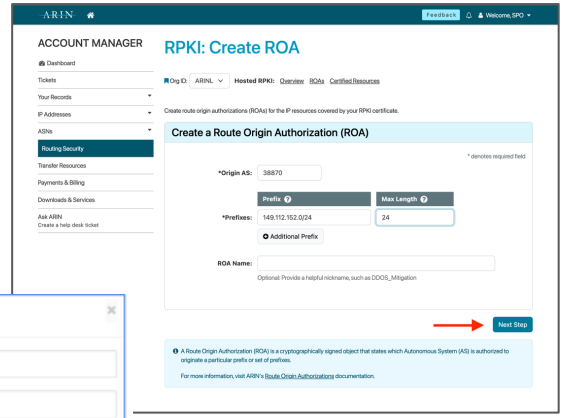
Differences in different aspects of the RPKI system

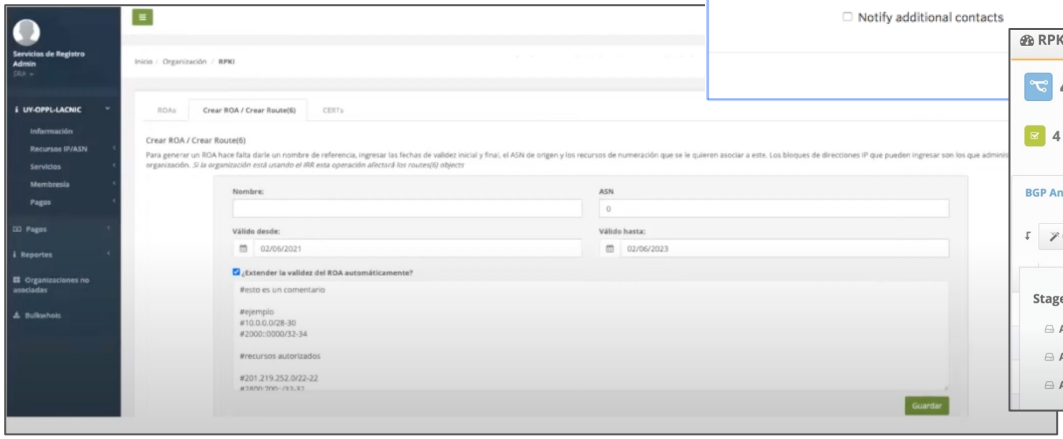
- In RPKI related services being offered
  - Hosted/delegated, testing env, API
- In user experience
- In API endpoints
- In design decisions, implementations, etc.

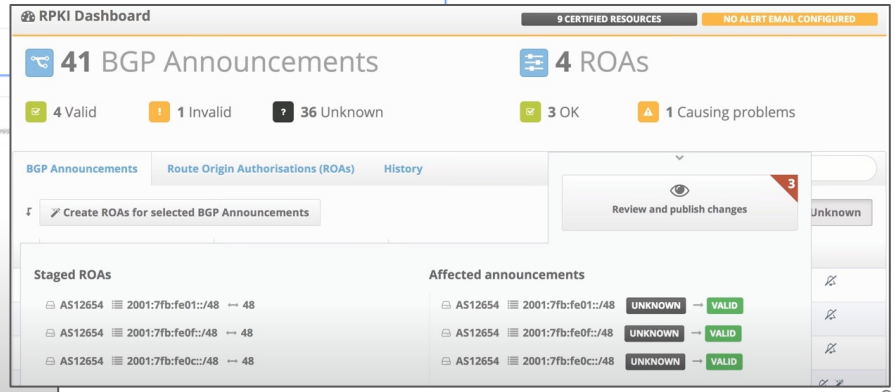
E.g. Differences in the UI











Are those differences hindering the adoption of RPKI?

What do we want to achieve?

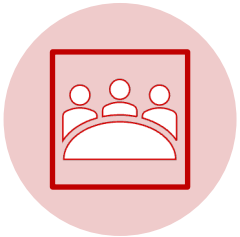
- **Purpose**: “To provide a more consistent and uniformly secure, resilient and reliable RPKI service”

- More specifically, we want to achieve the following **outcomes**:
  - Definition of what a **single global RPKI system** looks like.
  - Better **understanding** and improved **transparency of the robustness** of the RPKI system
  - **Enhanced security consistency** of the RPKI system across the different RIRs
  - The technical community is kept **informed and engaged** throughout the program, and their **concerns are addressed in a coordinated way**.

What does a single global RPKI system look like?

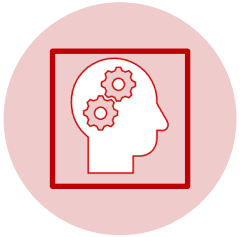
- List of RPKI-related services/features with **current status for each RIR**
  - To identify and prioritise gaps
- Problem statement for **current TA configuration**, including history since 2005
- Prep for **user research** to validate whether the differences in RPKI-related services among RIRs are hindering RPKI adoption.

Who is “we”? – The Program Team

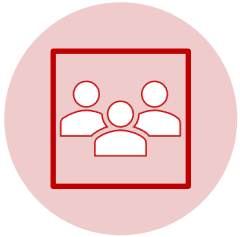


The **NRO EC**, as the executive sponsor of the program, with a role of strategic goal prioritisation, approval and funding.

The NRO **RPKI Program Manager**, with a role of operational direction, oversight and support



The **RPKI Steering Group**, which includes RPKI experts from the five RIRs and has a role of specific direction and advise related to agreed objectives



Other RIR **RPKI Subject Matter Experts** (SMEs) and consultative groups, with a role of goal delivery and execution

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LEARN MORE AND REACH OUT

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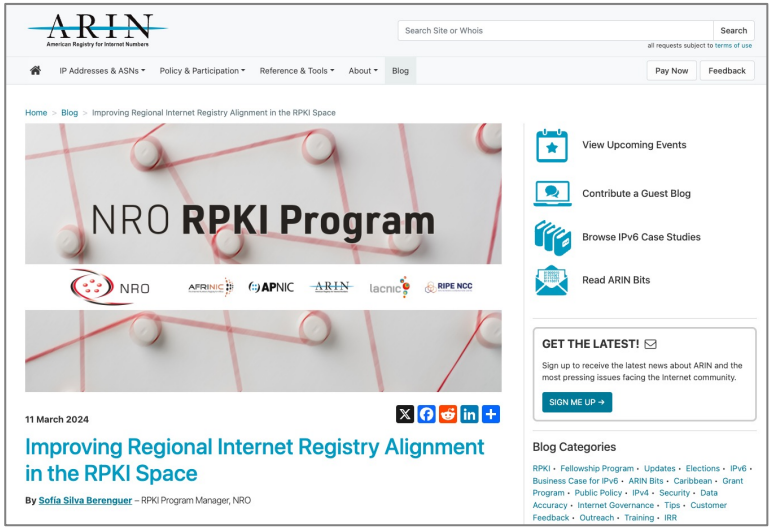
Do you want to know more?

- Visit our webpage:
  - https://www.nro.net/technical-coordination/security/certification/#rpki_program

- Read our blog series:
  - https://www.arin.net/blog/2024/03/11/improving-rir-alignment-rpki/
  - https://www.arin.net/blog/2024/05/15/nro-rpki-program-series-2/



We want to hear from you!

- What are the **main barriers or obstacles** for RPKI adoption that could be solved (or at least improved!) through **better coordination and collaboration** among the RIRs?

- Do you have ideas of initiatives we should consider?

- Please share them sending an email to **rpki_program@nro.net**

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THANKS FOR YOUR ATTENTION!

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