APNIC 50

Prop132 deployment report

An NIR Technical workshop implementation report for
Prop132 “AS0 for unallocated and unassigned resources”

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Prop132 “AS0 for unallocated and unassigned resources”

- We have implemented Prop132
  - APNIC now publishes and maintains an AS0 “ROA” for all un-delegated resources in our registry
  - These are the IPv4 and IPv6 resources listed as “available” or “reserved” in our daily published delegated statistics files
  - The AS0 ROA is defined in RFC6483 as “a disavowal of routing origination”

A ROA with a subject of AS 0 (AS 0 ROA) is an attestation by the holder of a prefix that the prefix described in the ROA, and any more specific prefix, should not be used in a routing context.

Deployment status

- This is now a fully deployed service
  - With systems monitoring 24/7 integrated into our operations platforms
  - Deployed in the cloud for the publication point (data repository)
  - At this stage, deployed in a stand-alone Trust Anchor Locator (TAL)

Implementation report:testbed

- An initial Testbed was deployed for APRICOT/APNIC49
  - Based on the “Krill” system from NLNet Labs
  - Operating on the delegated files as a daily view of registry
  - Using a temporary, soft-keyed Trust Anchor (TA) in a TAL file
  - Publishing the repository inside APNIC VM on the test network
  - This service was used by a small number of people (<10)
    - We were able to confirm issues with discrete ROA per prefix
    - We understood our operational needs to manage the ROA as resources are issued by APNIC

How we took testbed to production

- We have now deployed this service into production
  - Still based on delegated files, but with a delay to prevent accidental exclusions if delegated files are out of synchronization with registry
  - Live updates to Registry (delegations) are applied within 5 minutes to both main RPKI and AS0 RPKI state
    - Delegations are removed from the AS0 ROA within 5 minutes of resources being assigned or allocated from the free pool.
  - We are collecting statistics on use, and the scale of BGP effects which will be presented to the Routing Security SIG

Implementation report: Production

- In-house deployment on VM under operations monitoring
  - HSM backed trust anchor keypair
    - Same level of assurance as main line TA
- Cloud deployment of repository (GCP/GKE)
  - Both rsync and RRDP supported
  - Will distribute in GCP
    - When 2nd and further nodes commissioned
    - When the main RPKI RRDP/rsync service is distributed

How does this affect the NIR

- Only returns to APNIC from the NIR will appear on the AS0
  - Once they are marked as “available” or “reserved” in delegated statistics
- Returns to NIR Historical blocks, Returns held in the NIR and not returned to APNIC
  - Do **NOT** appear on the AS0 ROA
- We have no plans to change this. If you wish AS0 to cover your held resources, happy to talk (GK)

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