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Routing Registry

Report

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Overview

- some statistics
- populating the routing registry
- PRIDE tools
- what's new ?
- what is in development ?

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Some statistics

’as-macro’: 41

’aut-num’: 686

’community’: 7

’domain’: 25,529

’inetnum’: 44,369

’inet-rtr’: 89

’mntner’: 520

’person’: 58,122

’route’: 12,790

Total number of objects (960229 18:53:33): 142,153
Growth: 250 % a year

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Populating the routing registry

- we require that new ASs register their routing policy
- we actively encourage people to register their routing policies during our training courses for new registries
- we plan to go after people to encourage them to register their routing policies

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PRIDE tools

- we have not much time but try to keep things up to date:
    - perl 5 version
    - problems that appear by the growing number of registries:

      - conflicting data
      - AS0 hack

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RIPE database

What is new?

- near real-time mirroring support
- password security for override
- new fast ‘whois’ type update protocol added
- support for the Berkeley DB package
- near real-time mirroring supported

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What is in development ?

- new hierarchical authorization scheme (alpha version is ready)
- roll back/forward to any database state
- lookup of persons in any database

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Hierarchical authorization

- several objects have parents that are authoritative for objects direct below them:
  - ‘inetnum:’
  - ‘domain:’
  - ‘route:’

    Note: The origin AS is here the parent!

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Hierarchical authorization

- objects are usually protected by their own maintainer:
  - ‘mnt-by: RIPE-NCC-MNT’
- objects that have a hierarchy defined can have a maintainer that protects objects directly below itself:
  - ‘mnt-lower: LocalRegistry-MNT’

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Hierarchical authorization

Example:

The RIPE NCC allocates address space to a Local Registry. We can handover authority over this address space to the local registry by using the following object:

inetnum: 195.0.0.0 -195.0.255.255

mnt-by: RIPE-NCC-MNT

mnt-lower: LocalRegistry-MNT

status: ALLOCATED PA

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Lookup of persons in any database

- registries will be registered in the DNS like:

  RIPE.registries.int CNAME whois.ripe.net

- every registry has their own (unique) name that is a suffix for the NIC handle: DK13-RIPE

- unique names are guaranteed now, but there is more:

  We also know at the same time where the data is located!

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Near real-time mirroring

How does it work?

- updates are sent to the master database
- approved (atomic) updates/deletions get a serial number
- a tool queries a master/secondary database every once and a while to get the new updates and updates the local database
- when error: resync by ftp

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Near real-time mirroring Current status

- We have now two mirrors in Europe, ANS is experimenting, APNIC has plans
- other serial number format then just an ever increasing integer proposed:

  stored: (NEW|UPD) DATE TIME SERIAL

  DATE in UTC time, SERIAL is increasing number that skips to zero after a predefined value is reached (2^31)
- Proposal: we can now easily roll back & forth by adding another attribute:

  replaced: SOURCE DATE TIME SERIAL

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Questions ?