RIPE NCC
RIPE NETWORK COORDINATION CENTER

Database Services Overview

A Deep Dive into Our Services and Impact

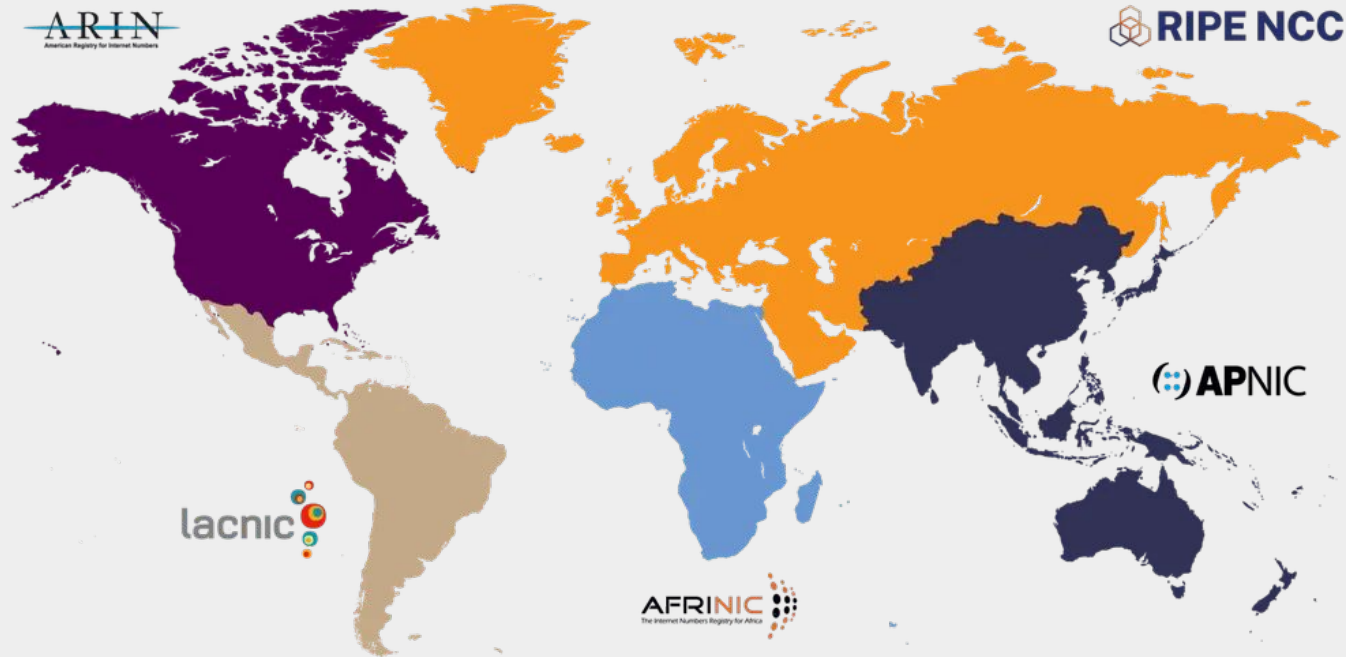Miguel Herrán Mosquera | RIPE NCC | ESNOG-33 | 23 May 2025

Introduction

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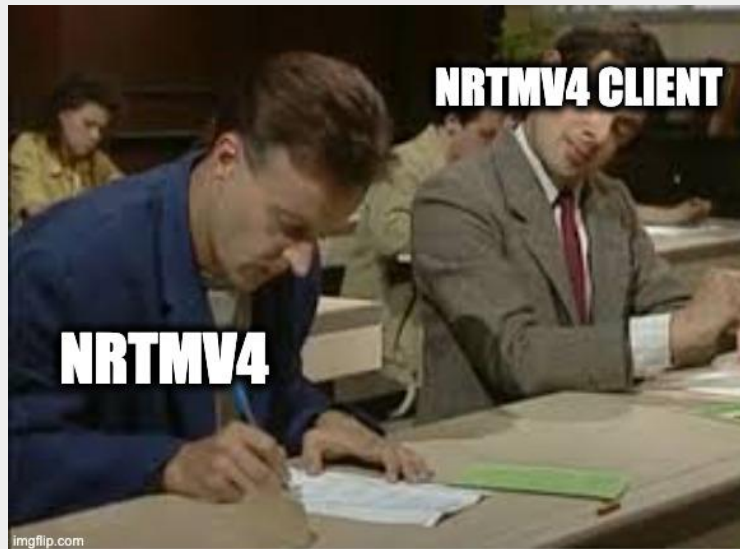
Near Real Time Mirroring (NRTM)

- Upgrade from v3
  - Using https
  - Signing guarantees integrity
- Update Notification File
- Snapshot and Deltas logic
- Snapshot generated at midnight
- Deltas every minute if any change
- Clients
  - Java-based client
- NRTMv4 Documentation
- Internet Routing Registry Daemon(IRRd)

Registration Data Access Protocol (RDAP)

Heads up and future improvements

- A modern way of querying RIPE Database objects.

- Limited to certain object types (AUT-NUM, DOMAIN, INET(6)NUM, PERSON, ROLE, MNTNER).

- Sensitive information is filtered out (we keep email in main Entity object).

- RDAP relation and search is implemented and ready to use.

- Investigating how to close gaps between RDAP and WHOIS

- Idea to achieve is to have RDAP as an alternative to WHOIS

MD5 Passwords

Bye bye to MD5 hashes

- MD5 hashes will be removed by end of 2025
  - First inactive passwords in Q2
  - Then: active passwords in Q3-Q4
- Recommend Using RIPE NCC Access (SSO)
- API KEYs for non interactive updates
  - RIPE NCC Access (SSO) is required as Auth method
  - Related to a specific user, not an organisation
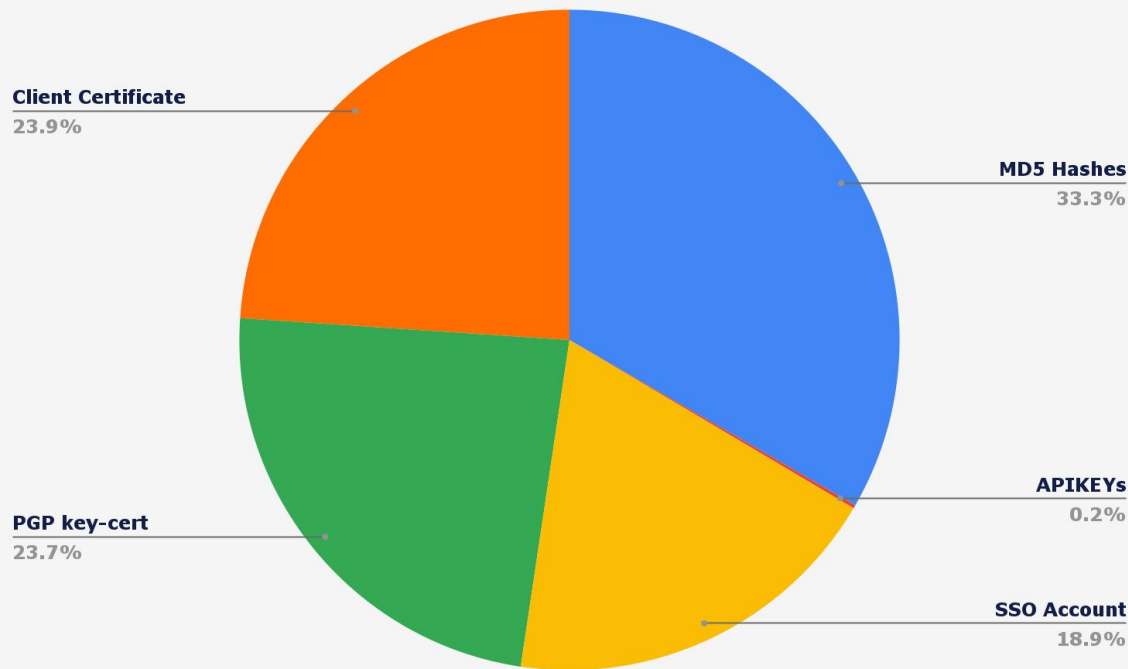- OAuth 2.0 coming soon.

Authentication Methods Usage

Client Certificate
23.9%

MD5 Hashes
33.3%

PGP key-cert
23.7%

APIKEYs
0.2%

SSO Account
18.9%

This is an overview of the authentication methods used for making updates until April 2025

Update about UTF-8 status

- UTF-8: Some database interfaces already support UTF-8
    - REST API, Syncupdates, Mailupdates, RDAP, NRTMv4, Port 43 (using -Z utf8)

- Currently, we convert from UTF-8 to Latin-1 in Database Objects

- Should we support UTF-8 in the RIPE Database objects? And if so, where?

- Read more in this RIPE Labs article

Is This a Farewell?

- Different Test environments
- [RIPE Database Training Course](#)
- Stay up to date!
  - Subscribe to the [Mailing List](#)
  - Follow [Upcoming RIPE Meeting](#)
  - RIPE Database Support Email (ripe-dbm@ripe.net) and the Contact [Form](#)

Questions
& Comments **?**

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THANK YOU!