RIPE NCC
Database Update

Ed Shryane | 18 October 2018 | RIPE 77
The RIPE NCC Database Team
The three focus points

RIPE76-77

Operations

Working Group & Policies

Usability
Working Group and Policies

• Minor Releases 1.91.[3-6]
  - Validate reserved words and prefixes.
  - Don't return internal Zonemaster errors on domain update.
  - Fixed Syncupdates compressed responses.
  - Handle non-break space characters.

• Release 1.92.[0-6]
  - NWI-5 Implementation.
  - Bug fixes
    - Replace short-format attribute names on update.
    - Fixed rtr-set members and mp-members syntax.
NWI-5 Implementation - Preparation

- Extensive DB-WG effort in discussing, agreeing and preparing for the NWI-5 changes.
- Impact Analysis and Implementation Plan published, and Labs articles explaining the changes.
- Communications involving the RIPE community, Working Groups, other RIRs, Network Operators.
NWI-5 Implementation - Main Changes

- No new “out of region” aut-num, route(6) objects.
- Existing “out of region” objects moved to RIPE-NONAUTH source.
- No origin authentication on route(6) creation.

Impact Analysis: https://www.ripe.net/manage-ips-and-asns/db/impact-analysis-for-nwi-5-implementation

Labs article: https://labs.ripe.net/Members/denis/out-of-region-route-6-and-aut-num-objects-in-the-ripe-database
NWI-5 Implementation - Details

- Out of Region objects can still be updated or deleted.
- Whois queries both RIPE and RIPE-NONAUTH sources by default, but either can be specified.
- AS Numbers that do not exist in the RIPE database can still be used as the route(6) origin (with a warning).
- Reserved AS numbers cannot be used as the origin.
- Origin AS holder will be notified on route(6) creation using notify: attribute on aut-num object.
- The “mnt-routes” attribute on aut-num is deprecated, and filtered out on update (with a warning).
- Whois REST API redirects to the correct source as necessary.
NWI-5 Implementation - Rollout

- Test releases were deployed to RC.
- Maintainers of all affected objects were notified in advance, and also when objects were updated.

- Whois Updates
  - Removed mnt-routes attribute from 27K aut-num objects.
  - Removed the RPSL maintainer (updated 16K objects).
  - Updated source on 71K out of region objects.
  - 34 Pending route(6) objects (created or dropped).

- Rollback plan (not needed).

- Lessons learned
  - Lots of communication and testing before the release.
  - Announce bugfix releases in RC.
  - Announce when deployment is (finally) done.
NWl-5 Implementation

NWI-5 - AFRINIC IRR

- Most out of region objects (~70%) have an AFRINIC prefix.
- AFRINIC is encouraging use of their IRR.
- Route(6) prefix must be allocated to AFRINIC.
- ASN authentication is now not necessary.

Source: https://www.afrinic.net/blog/381-dealing-with-recent-routing-registry-changes
NWI-5 Out of Region Objects Created

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NWI-5 Out of Region Objects Modified

![Graph showing NWI-5 out of region objects modified from 20180801 to 20181012.](image-url)
NWI-5 Out of Region Objects Deleted
Abuse-c (2017-02) Implementation

- Validate Abuse-c email addresses on organisations and resources, at least once a year (~70k).
  - Combination of a static syntax check and online check.
  - Performed trial validations of LIR abuse-c addresses, 20-25% considered invalid.
  - Notify the organisation by opening a ticket, and send a validation link to the abuse-c address.
  - If the abuse-c address is validated, then automatically close the ticket.
  - If not validated, then send reminders and escalate ticket after 3 weeks.
- Phase 1: Trial run for 900 LIR abuse-c addresses (end Oct.).
- Phase 2: Validate all abuse-c addresses (early next year).
Email Address Syntax Validation

- Currently email addresses validated using .+'@'+ regex
- Relaxed validation causes problems parsing data, and sending mail.
- Stricter validation catches the following:
  - Trailing <mailto:user@host.org>
  - Leading mailto:user@host.org
  - Leading question mark ‘? user@host.org’
  - Leading colon ‘: user@host.org’
  - Trailing date user@host.org YYYYMMDD
  - Double at-sign user@@@host.org
- 0.5% of existing addresses (22K/4M) fails the stricter check.
- An automated cleanup can fix 95% of the invalid values.
NWI-7: Abuse-C On Resources

- Functionality introduced in Whois 1.90 (October 2017).
- There are now 7408 abuse-c references on resources (inetnum, inet6num, aut-num).
- However, 21% (1572) of these duplicate the org: abuse-c.
- Should we add extra validation to avoid this duplication (and cleanup the duplicates)?
Upcoming Work

- 2017-02 Abuse-c (Phase 2)
- Monitoring
- GDPR
- Refactoring
- RPKI
- Security
- Site Reliability
- Web Application
- Configuration Management
- Usability
- Maintenance
- Bug Fixing
- Load Testing
- Transfers
Questions