



**RIPE NCC**

RIPE NETWORK COORDINATION CENTRE

# RIPE NCC Database Update

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# The RIPE NCC Database Team







# Working Group and Policies

# Whois Releases



- Whois 1.94.1
  - Consistent Latin-1 normalisation for updates
- Whois 1.95
  - Not released
- Whois 1.95.1
  - API to create role - mntner pairs
  - Do not include personal data in historical queries (notify, e-mail, address attributes)
  - Do not include person/role references in historical queries (admin-c, tech-c, ping-hdl, zone-c)
  - Consistent latin-1 normalisation for query input
  - Don't allow inet6nums smaller than a /64 to be created

# Whois Outages



- Database Failover (10th July)
  - Switched to standby database to apply system updates and configuration changes
  - Approx. 7s downtime for Whois Updates
    - Failover waited for updates already in progress to complete
    - Some updates failed (plan to improve this)
    - Queries were unaffected
  - Improved resiliency (i.e. proved failover works, in case of database outage)

# RDAP Implementation



- Modern, standardised Whois query protocol
- Working to improve consistency and compliance
  - Consistency with the other RIRs
  - Compliance with the RFCs
    - <https://datatracker.ietf.org/wg/weirds/documents/>
- Implemented many improvements
  - [Whois 1.94.1](#)
  - [Whois 1.95.1](#)
- Further work after RIPE 79

# 2017-02, “Regular Abuse-c Validation”



- Completed Initial Validation
  - LIR organisation abuse-c (February)
  - LIR resources abuse-c (March)
  - End User organisation and resources abuse-c (April - May)
- Improved “Greylisting”, reduced “Network Transient Errors”
- Clarified text in email templates
- Bug fixes (edge cases)
- ~ 77k abuse-c email addresses, ~5.5k were marked as invalid
- Thanks for your feedback

# NWI-8, “User Synchronisation”



- Problem Definition
  - “LIRs would like a mechanism to easily add/remove users to centralised SSO authentication groups for maintaining objects in the RIPE Database”
- Solution Definition (Phase 1)
  - Focus on **synchronising** LIR user accounts with their default maintainer
  - Defer authentication groups (and any new authentication method) until later
- Implemented in August, deployed 23rd September
- Approx. 50 organisations have enabled synchronisation already
- Demo



# NWI-9, “In-band Notification”



- Problem Definition
  - *“There is a need within the routing community to have changes to all/nominated routing data objects in the RIPE Database pushed out to them, regardless of membership status.”*
- Progress Since RIPE 78
  - Legal Review
    - NRTM was made a member-only service through a GM decision in 2011, when a new Charging Scheme model was introduced
    - Opening the NRTM service needs an Executive Board resolution
    - Replace separate NRTM agreement (in review)
  - Solution Definition(s)
    - HTTP / WebSocket / JSON solution proposed at RIPE 78, but there are alternatives



# GDPR

# GDPR - Progress Since RIPE 78



- Person - Mntner Pairs
  - Default to creating a "Role - Mntner" pair in the DB Web Application
  - Create a "Role - Mntner" pair during membership application process
- Following Legal Review
  - Do not include personal data in historical queries (notify, e-mail, address attributes).
  - Do not include person/role references in historical queries (admin-c, tech-c, ping-hdl, zone-c).
  - <https://ripe76.ripe.net/presentations/101-GDPR-Database-WG-RIPE-76.pdf>
- Bug fix
  - Show Version (—show-version flag) - apply query limit for personal data

# GDPR - Progress Since RIPE 78



- RIPEstat Database Widget now Consistent with Whois
  - No version history for person and role objects
  - Filter out references to nic-hdl in historical versions
    - Except for references to abuse-c
  - Don't return version history on deleted objects
  - Don't return anything if the user exceeded the query limit for personal data



# GDPR - Progress Since RIPE 78



- Unreferenced Object Cleanup
  - Delete unreferenced (person/role - mntner - organisation) objects after 90 days
  - <https://www.ripe.net/manage-ips-and-asns/db/support/clean-up-of-unreferenced-data>
- Extended cleanup to include any combination of:
  - mntner - organisation
  - organisation - person/role
  - mntner - person/role - organisation



# Proposed Cleanups

# Cleanup Locked Person Objects



- Background
  - ~620k locked person objects (out of 2M total) in the RIPE database
  - Locked persons are maintained by the RIPE NCC
- Goals
  - Align with RIPE-730 Policy - “Registration data (range, contact information, status etc.) must be correct at all times (i.e. they have to be maintained).”
  - Align with GDPR - assign responsibility for contact details to the correct maintainer
- What we’re not doing
  - Not deleting persons or replacing with dummy data
  - Not validating correctness of contact details

# Cleanup Locked Person Objects



- Statistics
  - We found that 90% of references to locked persons are from IPv4 assignments
  - 74% of those assignments are the responsibility of 10 LIRs
- Implementation
  - Announce to *ncc-announce*, *ncc-services-wg*, *db-wg*
  - Update the locked persons maintainer (one LIR at a time)
    - Where possible, set the person *mnt-by* to the **assignment maintainer (67%)**
    - Otherwise, set the person *mnt-by* to the **LIR maintainer (33%)**
  - Notify End User and LIR organisations
    - Ask them to validate contact details for their resources



# Remove Aut-num “mnt-lower” Attribute



- *“mnt-lower: This attribute has no meaning in the aut-num object. In the RIPE NCC service region, we do not allocate blocks of AS numbers for users to assign from. All AS numbers are assigned by the RIPE NCC therefore there is no hierarchy to ‘maintain’ or authorise against. This attribute should be deprecated.”*
  - RIPE Database Documentation
- Remove from object template
- Remove this attribute from 948 out of 35,144 aut-num objects
- Announce to db-wg and maintainers, before and after removal

# Remove “Status” Remarks Attribute

- A remark was added to LEGACY resources in 2015
  - "For information on "status:" attribute read <https://www.ripe.net/data-tools/db/faq/faq-status-values-legacy-resources>"
  - The link explains why the status was changed to LEGACY due to policy:
    - 2012-07 "RIPE NCC Services to Legacy Internet Resource Holders"
- Cleanup
  - We now consider this remark to be obsolete
  - Already cleaned up a similar remark on aut-num objects in August 2017
- Implementation
  - Remove the remarks attribute from 19,059 inetnum and 15 aut-num objects.
  - Email maintainers of affected objects before and after the change



# Set Default Maintainer

- The Default Maintainer allows an LIR to update their organisation and allocation resource objects
- Extend Default Maintainer to **all** top-level resources
  - ASNs
  - IPv4 and IPv6 assignments
  - IPv4 Legacy
- Nightly job to (re-)synchronise default maintainer
  - Fix inconsistencies due to manual updates
  - **Add** the default maintainer, and **remove** other user maintainer(s)



# Upcoming Work





# (Draft) Activity Plan 2020

- Align RDAP implementation with other RIRs
- Further improvements to the resilience of the database
- Be responsive to requests for new features
- Further modernise the NRTM service (NWI-9)
- Reduce the number of out-of-region route(6) objects
  - 2018-06 Policy “Non-Authoritative Route Object Clean-up”
  - NWI-3 (for discussion)
- GDPR
- Usability improvements
  - Search UI, route object creation, queries with personal authentication



# Questions



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