



RIPE NCC
RIPE NETWORK COORDINATION CENTER

Operational Update **RIPE Database**

RIPE NCC Database Team

Meet Our Team



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Progress since RIPE 88



Three Whois releases since RIPE 88

- Whois Release 1.112.1 (June)
 - Added maximum references update validation
- Whois Release 1.113.2 (July) (included 1.113 changes)
 - Inetnum AGGREGATED-BY-LIR status (implements 2023-04 / RIPE-822)
 - Client Certificate authentication for REST API lookups
 - ROA Overlapping INVALID ROA and VALID ROA fix
- Whois Release 1.114 (September)
 - Block queries and updates by IP
 - DoS filter for updates
 - Warn when passwords used in mail updates



RIPE Database Updates Issue (16, 17 and 24 June)

- “So what happened last night to the DB?” - Database Working Group
- On 16/17th and 24th June, there was an [incident](#) affecting the Whois update service.
 - Denial of (update) service
 - High volume of update notification emails
- Caused by many updates with lots of “mnt-by:” references
- Mitigations:
 - Validate maximum number of outgoing references (including “mnt-by:”)
 - Use “mnt-ref:” to require authentication before anyone can reference your organisation, mntner, person, role, etc

Whois Feature Statistics



352 inetnums with "ALLOCATED-ASSIGNED PA" status
(130 /24's out of 12k)



93k abuse-c addresses, 17% to be validated (on track)



1,896 (9%) LIR Organisations Synchronise LIR Portal users to
Default Maintainer



286 mntner, irt, person, role objects with "mnt-ref:" attribute



52 inetnums with "AGGREGATED-BY-LIR" status
(and 4M ASSIGNED PA)



Only **0.6%** of RDAP entity queries blocked by daily limit

Operational Work



- Removed old metal servers (now complete)
 - Cost reduction: reduces data centre footprint
- Kubernetes (on-premise) (testing)
 - Modernise infrastructure



- Document differences between Whois and RDAP
 - [Published](#) to db-wg on 16th October as RDAP Transparency Report
 - RDAP usage is < 10% of all DB queries
 - **Internet Routing Registry (IRR)** object types not supported by RDAP
 - Is lack of IRR data holding back RDAP adoption?
 - APNIC article [Is RDAP ready to replace Whois?](#) (2021)
 - Complex language defined in RPSL for IRR not a good fit for RDAP
 - Aspects of IRR function under review for inclusion in RPKI signed data model
 - NLNet Labs RPKI Documentation: [The Internet Routing Registry](#)
 - RPKI can be used to make BGP more secure

Missing History in RIPE Database



- Raised at [RIPE 84](#)
- Approximately **0.3% of existing objects** are missing some history (23k / 9M objects)
- Also **deleted object history** (not visible in Whois but that may change due to NWI-2)
- Generally, only the first (oldest) version is missing (created between 2001 - 2004)
- Internal resource registry is not affected
- Impact:
 - Version history queries (internal and external) (90k monthly)
 - Whois code and Database structures
 - Community history
- Progress
 - Restored 300k objects from initial dump (September 2001)
 - Now working on restoring remaining gaps between 2001 - 2004

Numbered work items



- NWI-12: NRTMv4
 - Annual key rollover was successful (7 October)
 - [NRTMv4 documentation](#) added
 - NWI-12: NRTM notification file/signature race condition (in progress)
 - Client implementation (in progress)



Upcoming Changes



- [RDAP RIR Search](#) (Q4 2024)
 - Basic searches already implemented
 - Relation searches will be implemented
- Objects with "[administrative](#)" status are not returned
 - "The object instance has been [allocated administratively](#) (i.e., not for use by the recipient in their own right in operational networks)."
 - If the prefix is either delegated but unallocated or only partially delegated to the RIPE region, then a 404 is returned. An object with "administrative" status is never returned.



Can we still send email to a user after a bounce?

- Whois currently stops sending mails to an email address if delivery fails **once**
 - A good reputation with mail services is important
 - Add a warning to Whois update responses
 - User has to notice and contact Database support themselves
- Half of all delivery failures are due to **soft bounces**
 - [SMTP basic status code](#) 4xx (Transient Negative Completion)
 - [SMTP enhanced status code](#) 4.XXX.XXX (Persistent Transient Failure)
- We plan to **re-enable delivery** after soft bounces
 - Wait at least 24 hours
 - Check if the mail was undeliverable due to a soft bounce
 - Mark the address as deliverable again
 - If the next mail is also undeliverable then double the wait time before retrying
- Do not re-enable on permanent failures (for now)

Confirm consent for publishing users personal data



- Currently there is (personal) data in the RIPE Database that is not maintained by the RIPE NCC:
 - The person with access to their maintainer is responsible for keeping this up-to-date
 - If this is personal data, they are responsible for informing the relevant individual and getting their consent ([RIPE Database Terms and Conditions](#))
 - You can read the relevant [RIPE Labs articles](#)
- We want to start verifying this by receiving confirmation from the responsible parties that the relevant individuals have been informed and consented to their processing of personal data
- Currently working on the requirements and implementation phases of this process; likely done in phases and similar to the abuse-c validation project
 - 42% of all objects connected to an LIR organisation
 - 58% of all objects connected to an end-user organisation



RIPE NCC are retiring the "ns.ripe.net" service

- Affects all domain objects containing "nserver: ns.ripe.net" (approx. 1k objects)
- Details in a [RIPE Labs article](#) and announced via the DNS Working Group
- RIPE NCC are notifying affected users by email
- Final deadline is now **15 January, 2025**

RIPE NCC Draft Activity Plan 2025



- Draft Activity Plan and Budget 2025 is [available for review](#)
- RIPE Database commitments for 2025 (Section 2.3):
 - Remove MD5 hashed passwords from the RIPE Database
 - Improve the resilience of the RIPE Database Query and Update service
 - Modernise deployment and management of DB applications
 - Implement standards and improve compliance
 - RDAP
 - NRTMv4
 - ISO 27001 compliance



Questions & Comments



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THANK YOU!