Agenda

• Global Resource Service
• Single Sign On
• PGP Updates
• Created and Last Modified
• Partial Route Object creation
GRS

How to find stuff that’s not from us
Global Resource Service

• Allows you to query other RIRs databases
  - And two Internet Routing Registries

• Using the RIPE Database interface

• Returns RIPE Routing Policy Specification Language (RPSL) formatted objects
  - So everything looks familiar

• Also available in JSON and XML output
How can we query?

• In Webupdates:

RIPE Database Query

as123

- Show full object details
- Do not retrieve related objects

You can search up to 5 terms at once in the search box above, separating them with a semicolon.

Sources | Types | Hierarchy Flags | Inverse lookup
--- | --- | --- | ---

- Search resource objects in all available databases
- Search RIPE Database only

Are you looking for the TEST Database?

By submitting this form you explicitly express your agreement with the RIPE Database Terms and Conditions
How can we query?

• Command line:

```plaintext
whois --resource as123
% This is the RIPE Database query service.
% The objects are in RPSL format.
%
% The RIPE Database is subject to Terms and Conditions.
% See http://www.ripe.net/db/support/db-terms-conditions.pdf
%
% Information related to 'AS123'

aut-num: AS123
org:    7ESG
as-name: LOGAIRCOMNET-AS
changed: unread@ripe.net 20000101
source: ARIN-GRS
remarks: ****************************
remarks: * THIS OBJECT IS MODIFIED
remarks: * Please note that all data that is generally regarded as personal
remarks: * data has been removed from this object.
remarks: * To view the original object, please query the ARIN Database at:
remarks: * http://www.arin.net/
remarks: ****************************
```
Another example

• Command line:

```bash
whois -a as123
```

```
as-block:       AS29 - AS136
descr:          ASN block not managed by the RIPE NCC
remarks:

as-block:       AS29 - AS136
descr:          ARIN ASN block
remarks:        These AS numbers are further assigned by ARIN
remarks:        to ARIN members and end-users in the ARIN region.

aut-num:        AS123
org:            7ESG
as-name:        LOGAIRCOMET-AS
changed:        unread@ripe.net 20000101
source:         ARIN-GRS
remarks:        ****************************
remarks:        * THIS OBJECT IS MODIFIED
remarks:        * Please note that all data that is generally regarded as personal
remarks:        * data has been removed from this object.
remarks:        * To view the original object, please query the ARIN Database at:
remarks:        * http://www.arin.net/
remarks:        ****************************
```
Personal data

• Because of European privacy laws, no personal information is visible

• Only AS Numbers, IP addresses, ORG objects, route and route 6 objects

• No risk of being blocked because you queried to many objects
Dummy Objects

- Some attribute values will be replaced by dummy data
- For example:
  - Author
  - Admin-c and Tech-c
- Or dummy values are created for missing mandatory attributes
Differences

• -resource
  - returns only aut-num, inet(6)num, route(6), domain
  - doesn’t return referenced objects
  - -i doesn’t work

• -a
  - you can specify which sources
  - returns referenced objects (even person) if they’re in RIPE DB
SSO
Your one stop shop
Why Single Sign On?

• We started in 2011 with SSO

• There were too many different log-in credentials for different services
  - Labs
  - LIR Portal
  - RIPE Database
  - Atlas
  - Academy
Anyone can create SSO

- Easy to create
- Mail address and self chosen password
- Can be linked to one or multiple LIRs
  - To use for the LIR Portal
  - To use for authentication in the RIPE Database
Create a RIPE NCC Access Account

http://access.ripe.net

You are here: Home > Access

Create a new RIPE NCC Access account.

RIPE NCC Access enables you to sign into various RIPE NCC services using one password.

Already have an account? Then click here to manage it.

First name
Your first name

Last name
Your last name

Email
Your email address

Password (minimum length: 8)
Your password

Confirm Password
Your password

Enter the words you see in the box below

Type the text
Privacy & Terms

Sign up
Security

- In audit logs, there is per-user granularity
- Two factor authentication
- Lost password is less cumbersome
  - Provided that your e-mail address still works
SSO and the RIPE Database

- Since 2014 you can use SSO in the RIPE Database

- It is simple to add it to your maintainer
  - Log in with your SSO account to Webupdates
  - Modify your maintainer
  - Add SSO as your authentication (default)
  - Remove MD5 if you want
Default Authentication: SSO

• If you create a new maintainer:
  - your SSO account will be the authentication by default
MD5 and the RIPE Database

• We used to publish the MD5 hash in the RIPE Database
• These hashes could be computed and the passwords discovered
• So we hid the hashes
• In 2015 we blocked all the maintainers with an unchanged password since 2011
How to add SSO to your mntner

- Make sure you are logged in
How to add SSO to your mntner

Search results

This is the RIPE Database search service. The objects are in RPSL format.
The RIPE Database is subject to Terms and Conditions.

mntner: PIROS-MNT
admin-c: FC14200-RIPE
upd-to: ferenc@ripe.net
auth: MD5-PW # Filtered
mnt-by: PIROS-MNT
created: 2016-05-17T08:55:57Z
last-modified: 2016-05-17T09:03:43Z
source: RIPE # Filtered

Update  

Ferenc Csorba | RIPE 72 | 23 May 2016
How to add SSO to your mntner default!
2 Factor Authentication

- Optional but recommended security feature
- Once enabled it requires a six digit security code in addition to your password
- Security code is generated by an authenticator app
  - Using Time-based One-Time Passwords (TOTP)
Set up 2 Factor Authentication

An authenticator app lets you generate security codes on your phone without needing to receive text messages. Any Time-based One-Time Password (TOTP) application should work. If you don’t already have one installed, you can download any of these apps. Please scan the QR code below to install the RIPE NCC account on your authenticator mobile app or use the generated secret directly.

Please type in the PIN code generated by the authenticator app

PIN-code

6-digit code

Cancel  Confirm
PGP
Securing your email updates
Generate an RSA key
Generate RSA Key

![Generate RSA Key](image)
## Export

### GPG Keychain

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
<th>Email</th>
<th>Created</th>
<th>Key ID</th>
<th>Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>sec/pub</td>
<td>Ferenc Csorba</td>
<td><a href="mailto:ferenc@ripe.net">ferenc@ripe.net</a></td>
<td>17 May 2016</td>
<td>90FF08EB</td>
<td></td>
</tr>
<tr>
<td>pub</td>
<td>GPGTools Team</td>
<td><a href="mailto:team@gpgtools.org">team@gpgtools.org</a></td>
<td>19 Aug 2010</td>
<td>00D026C4</td>
<td></td>
</tr>
</tbody>
</table>

2 of 2 keys listed
Save new Key
Now Create a key-cert Object

• Just a couple of mandatory attributes
• Only “certif:” attribute is a bit annoying 😊

key-cert:  [mandatory]  [single]  [primary/lookup key]
certif:    [mandatory]  [multiple]  [ ]
mnt-by:    [mandatory]  [multiple]  [inverse key]
source:    [mandatory]  [single]  [ ]
Edit the public key file...

- Open the public key in a text editor
- Paste "certif: " in front of every line 😣
Submit using Syncupdates or Mail...

## Lookup results

This is the RIPE Database search service. The objects are in RPSL format. The RIPE Database is subject to Terms and Conditions.

Note: this output has been filtered.

<table>
<thead>
<tr>
<th>key-cert</th>
<th>PGPKEY=D868BAC0</th>
</tr>
</thead>
<tbody>
<tr>
<td>method</td>
<td>PGP</td>
</tr>
<tr>
<td>owner</td>
<td>Alex Band <a href="mailto:hallo@alexand.nl">hallo@alexand.nl</a></td>
</tr>
<tr>
<td>fingerprint</td>
<td>EAD3 FB98 DF2A 7D71 CD4A 2115 F106 44DB D868 BAC0</td>
</tr>
<tr>
<td>certif</td>
<td>BEGIN PGP PUBLIC KEY BLOCK------</td>
</tr>
<tr>
<td>certif</td>
<td>Comment: GPGTools - <a href="https://gpgtools.org">https://gpgtools.org</a></td>
</tr>
<tr>
<td>certif</td>
<td>mQINBFV/LzkQBEAdWgvSchk1NGQkCfXlfBAq7slQnHWshfHcb1HFgd1AeHHA7rL2Y</td>
</tr>
<tr>
<td>certif</td>
<td>C5ALciUtotechnology3MHBh8n/06NP0Im6n7XkxRch32Ctk+ErgyfBxBoqfV1p56Pv3</td>
</tr>
<tr>
<td>certif</td>
<td>A6QgJ1nZSDh8s4VccQLs2U8fiH0OnNrrfpo2kClrumuDw3I5hRAaAqxeVPNjv</td>
</tr>
<tr>
<td>certif</td>
<td>5JfktLZGRaqxQ6CvKeKCLCq/ueC+t2KTY3WJ7H1wpuH2hxGc5vYzpL/355HHEzxl</td>
</tr>
<tr>
<td>certif</td>
<td>U79nxYgXe791961EBCuqsqtCultBM+Su0PfbOxXaUHeg9eVu7pCyY1M1kJGAKkuH</td>
</tr>
<tr>
<td>certif</td>
<td>IT05s2dB6X0IMCfZiCpE3EyAvJ1zoX9/rRKhxx4VQlSEEVVgfbXar9Ebm0ZfC2</td>
</tr>
<tr>
<td>certif</td>
<td>Mxv2KbLea2m/4aIFLTLeaTEnWqSPedf6WnKeFhV0E0And0LwXC6mJQYyE7D2Fl</td>
</tr>
<tr>
<td>certif</td>
<td>s010n0FOku1qrsPhzB9hwMrC0a9FD308AhqJCBSHzyY2dNg0rJHpvRvdj+Ei4a</td>
</tr>
<tr>
<td>certif</td>
<td>x2nxxISLAtdyTQSeyDLoSdYQwnKTBdKRX72Q20PwM4UEA77A/5uwFamLHPPBLw</td>
</tr>
<tr>
<td>certif</td>
<td>cufs3ifreXwNDFx1KjV13cnC4/z7H4dX3HR4dRuiuARx10NJ84Q7/1HwveT0MF</td>
</tr>
</tbody>
</table>
Add PGP authentication to mntner

• Now edit a mntner
  • add this line:

  • auth: PGP-868BAC0
Now use it!

• Query object you want update
  - (protected by minter with PGP auth)

• Click Update

• Copy entire object into text editor

• Sign it

• Copy it back into Webupdates

• Click Submit
Updated object is your text. Sign it!
RIPE Database Interfaces and PGP

- Update objects protected by PGP mntner
  - via email
  - via Syncupdates
Created & Last Modified
For your logging pleasure
The changed attribute

- The “changed” attribute was a mandatory attribute in every object

- Could be used for logging
The changed attribute (deprecated!)

- This attribute has been deprecated!
- The community agreed it would be more useful to have a “created” and “last-modified” attribute
Created and Last Modified

- All RIPE Database objects have now a “created” and “last modified” attribute
- In case we don’t have the correct date, we used 1 January 1970
- This data is automatically generated
Description attributes

- Registration Services had a business rule to use the first description attribute for the legal company name.
- RIPE Community reached consensus that this is not needed anymore.
- Now we have the ORG object containing that information.
Partial Route Object
route and route6 Object (1 mntner)

**inet6num:** 2001:db8::/32
- **tech-c:** LA789-RIPE
- **admin-c:** JD1-RIPE
- **mnt-by:** RIPE-NCC-HM-MNT
- **mnt-routes:** LIR-MNT

**route6:** 2001:db8::/32
- **tech-c:** LA789-RIPE
- **admin-c:** JD1-RIPE
- **origin:** AS2
- **mnt-by:** LIR-MNT

**aut-num:** AS2
- **tech-c:** LA789-RIPE
- **admin-c:** JD1-RIPE
- **mnt-by:** RIPE-NCC-END-MNT
- **mnt-by:** LIR-MNT

Add passwords

Session passwords
0 stored password(s)  
12lir
route and route6 Object (3 mntners)

inet6num: 2001:db8::/32
  tech-c: LA789-RIPE
  admin-c: JD1-RIPE
  mnt-by: RIPE-NCC-HM-MNT
  mnt-routes: LIR-MNT

route6: 2001:db8::/32
  tech-c: LA789-RIPE
  admin-c: JD1-RIPE
  origin: AS2
  mnt-by: END-MNT

aut-num: AS2
  tech-c: LA789-RIPE
  admin-c: JD1-RIPE
  mnt-by: RIPE-NCC-END-MNT
  mnt-by: AS-MNT

Add passwords

Session passwords
0 stored password(s) ?

12lir
as999
end72
route and route6 Object (mnt-routes)

**inet6num:** 2001:db8::/32
- **tech-c:** LA789-RIPE
- **admin-c:** JD1-RIPE
- **mnt-by:** RIPE-NCC-HM-MNT
- **mnt-routes:** LIR-MNT
- **mnt-routes:** AS-MNT

**aut-num:** AS2
- **tech-c:** LA789-RIPE
- **admin-c:** JD1-RIPE
- **mnt-by:** RIPE-NCC-END-MNT
- **mnt-by:** AS-MNT

**route6:** 2001:db8::/32
- **tech-c:** LA789-RIPE
- **admin-c:** JD1-RIPE
- **origin:** AS2
- **mnt-by:** AS-MNT

Add passwords

Session passwords

0 stored password(s) ?

as999 +
There is a better way

inet6num: 2001:db8::/32
  tech-c: LA789-RIPE
  admin-c: JD1-RIPE
  mnt-by: RIPE-NCC-HM-MNT
  mnt-routes: LIR-MNT

route6: 2001:db8::/32
  tech-c: LA789-RIPE
  admin-c: JD1-RIPE
  origin: AS2
  mnt-by: END-MNT

aut-num: AS2
  tech-c: LA789-RIPE
  admin-c: JD1-RIPE
  mnt-by: RIPE-NCC-END-MNT
  mnt-by: AS-MNT

Add passwords

Session passwords
0 stored password(s) ?

end72 +
E-mail notification

- An e-mail will be sent to the other maintainers contacts
Subject: RIPE Database updates, auth request notification
Date: 2016-05-22 17:18
From: RIPE Database Administration local <unread@ripe.net>
To: awolski@ripe.net

This is to notify you of changes in RIPE Database or object authorisation failures.

This message is auto-generated.
Please DO NOT reply to this message.

If you do not understand why we sent you this message, or for assistance or clarification please contact:
RIPE Database Administration <ripe-db@ripe.net>

Change requested from:
- From-Host: 91.143.127.69
- Date/Time: Sun May 22 17:18:54 2016

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Some objects in which you are referenced as a maintainer were requested to be changed, but need your authorisation to complete the change.
This update must be completed within one week.

Please submit the following objects *exactly as shown* and add your authorisation.

---
CREATE REQUESTED FOR:

route: 192.1.0.0/22
origin: AS130
mnt-by: CM30-MNT
created: 2016-05-22T15:18:54Z
last-modified: 2016-05-22T15:18:54Z
source: TEST

The RIPE Database is subject to Terms and Conditions:
http://www.ripe.net/db/support/db-terms-conditions.pdf

For assistance or clarification please contact:
RIPE Database Administration <ripe-db@ripe.net>

Generated by RIPE WHOIS Update version 1.86 on DB-TEST-1
Handled rest api (TEST, 2016-05-22 17:18:54)
Syncupdates

- The other maintainers create the exact same object in synch updates and authorise it

Create a new route6 object

The mandatory attributes in a template are shown in upper case for convenience. The final submission to the database is case insensitive. Any optional attributes not required must be removed. Blank values (except for remarks) will cause errors.

ROUTE6: 2001:db8::/32
DESCR: My route6 object
ORIGIN: AS2
notify: test@ripe.net
MNT-BY: ENO-MNT
SOURCE: RIPE
password: apfelstrudel

By submitting this form you explicitly express your agreement with the RIPE Database Terms and Conditions
Questions
The End!