RIPE NCC Tools

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Overview

- What's RIPE and the RIPE NCC
- RIPE Database
- RIPEstat
- RIPE Atlas
- RIPE Labs

What's the RIPE NCC?

RIPE NCC

- Not-for-profit, independent association
  - Neutral and impartial
  - Established in 1992 in Amsterdam
  - Provides open community platform
- 10,000+ members in 76 countries
  - Bottom-up, industry self regulation

The RIPE NCC's Main Tasks

- Secretariat for RIPE community
  - Organise meeting, maintain mailing lists, etc.
- One of Five Regional Internet Registries (RIRs)
  - Europe, Middle East, parts of Central Asia
  - Distributes IPv4, IPv6, AS Numbers
- RIPE Database (public registry)
- Many other activities
  - K-root, training, measuring infrastructure, ENUM, information dissemination, outreach…

RIPE Community

- Topical Working Groups
  - Address Policy, Anti-Abuse, Connect, Cooperation, Database, DNS, IPv6, Measurements, Analysis & Tools, Open-Source, Routing
- Public mailing lists
- Two RIPE Meetings per year
  - Next Meeting: 6 - 10 November, London, UK
- Open to everybody!

The RIPE Database

RIPE NCC

RIPE Registry Maintenance

- RIPE Database
  - IP resource registry
  - Routing registry
- Data maintenance is joint responsibility of RIPE NCC and resource holders
- Constant development of DB to respond to changing requirements

RIPE Database Objects

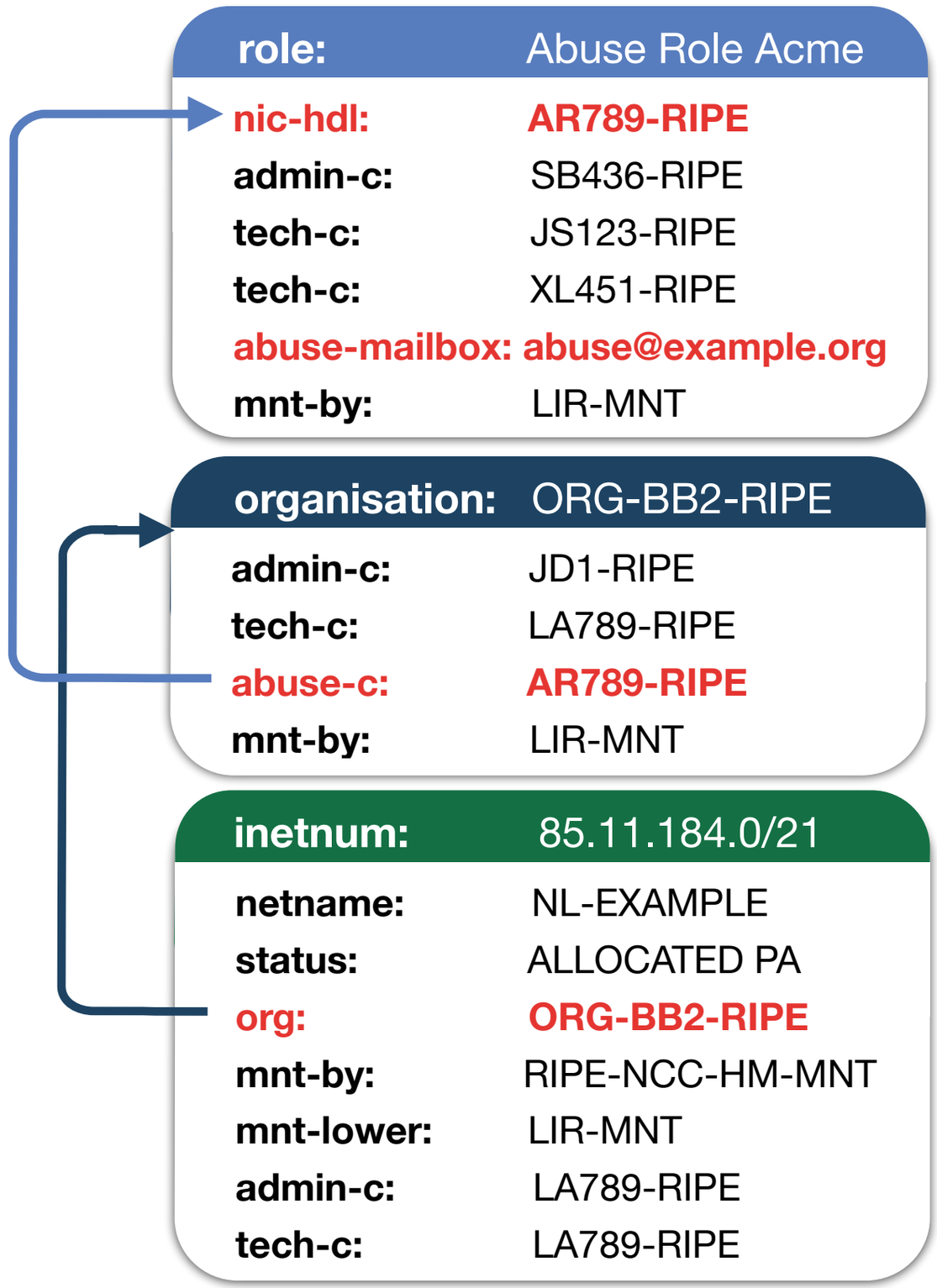
- **inetnum** = IPv4 address range
- **inet6num** = IPv6 adress range
- **aut-num** = single AS number
- **route, route6** = address range announced by an AS number
- **domain** = reverse domain range
- **organisation** = info on who holds the set of resources
- **person** = contact info for other objects
- **role** = group of persons
- **maintainer** = protects all other objects

Abuse Contact Information

The role object contains the contact email (abuse-mailbox)

The orgnisation object contains a pointer to the abuse contact (a role object)

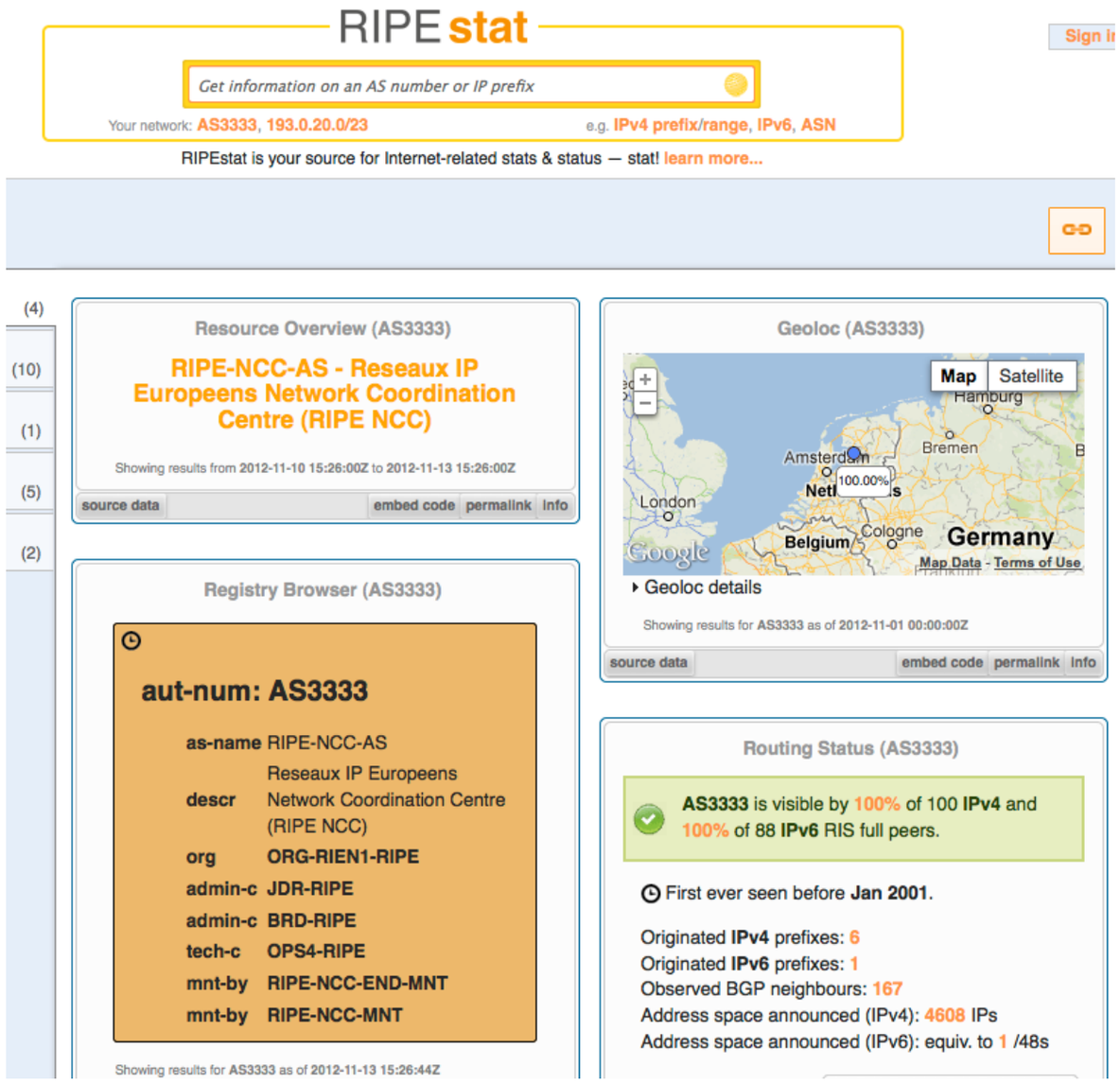
The IP addresses point to the organisation object



RIPEstat

RIPE NCC

RIPEstat



- Toolbox
  - All data in one place
  - Routing, IP, geoloc, BLs,
  - etc.
  - Graphical interface
  - Nearly 40 widgets and growing
- Updates on RIPE Labs
  - User feedback important!
- https://stat.ripe.net

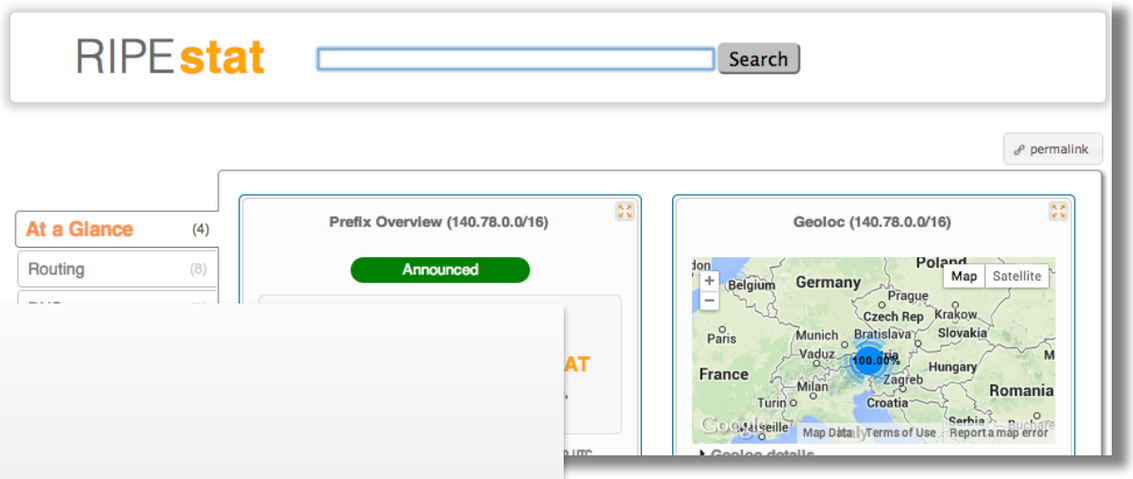
RIPE NCC

Data in RIPEstat

- Data
  - Routing data
    - Collected by RIS: http://ris.ripe.net
  - Registration data (whois)
    - RIPE Database and other RIR databases
    - RIR Stats (resource-holder-country mapping)
  - MaxMind’s geolocation data
  - Blacklist data
  - RIPE Atlas data
  - And much more: https://stat.ripe.net/data-sources

APIs to RIPEstat

- RIPEstat Web
  http://stat.ripe.net



- RIPEstat Wi

iOS mobile App

https://stat.ripe.net/mobile

- RIPEstat Da PI
  - https://stat.ripe.net/data/routing-status/data.json?resource=…

RIPE Atlas

RIPE Atlas - Active Measurements Network

- Next generation Internet measurements network
  - Thousands of measurement nodes
  - Probes run different measurements
    - Ping, traceroute, SSL, DNS
- Instead of building small, individual, private infrastructures, build a HUGE common infrastructure that serves both private and community goals
- https://atlas.ripe.net

RIPE Atlas Status

- 5,800 active probes and 8,000 users worldwide
  - Increasing number of requests
- 58 RIPE Atlas anchors
  - Collecting data as enhanced RIPE Atlas probes
  - Acting as targets for regional measurements
  - Vantage point for new DNSMON service

RIPE Atlas Use Cases (on RIPE Labs)

- Effects storm Sandy had on parts of Internet

- Selective Blackholing
  - DDoS damage control

Name server instance	Nr. of probes connecting to instance	Percentage
dns.th2.nic.fr	173	36%
dns.fra.nic.fr	173	36%
dns.lon.nic.fr	47	10%
dns.lyn2.nic.fr	29	6%
dns.lyn1.nic.fr	25	5%
dns.bru.nic.fr	19	4%
dns.ix1.nic.fr	18	4%

- Find most popular instances of DNS anycast servers

RIPE NCC

RIPE Labs

RIPE NCC

What is RIPE Labs?

- It's a website - but more importantly, it is a platform and a tool for the community
- You can:
  - Test and evaluate new tools and prototypes
  - Contribute new ideas and research results
  - Provide feedback and discuss with others

- https://labs.ripe.net

RIPE Labs Homepage

Statistics Dashboard

RIPE NCC Roadmap

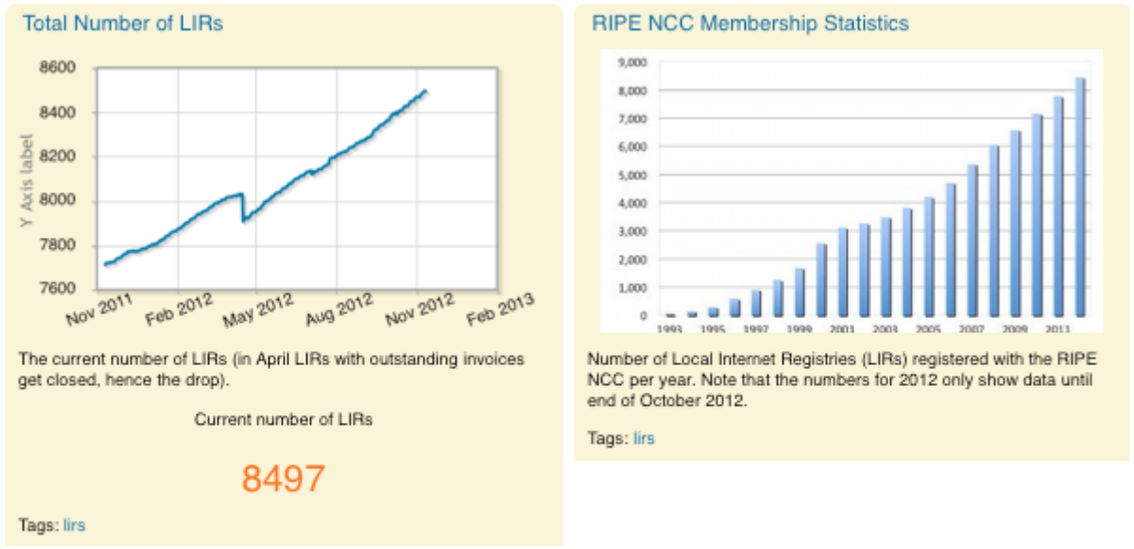
Tag Cloud

List of Articles

RIPE NCC

Statistics Dashboard

- All stats on one page
  - IPv4, IPv6, members, routing, countries, etc.
- Automatically updated
- Each graph is tagged
  - Easier to navigate
- http://labs.ripe.net/statistics



RIPE NCC

Contact DBs for Abuse Handling

- Draft BCP document
  - by Aaron Kaplan, Christian Teuschel, Mirjam Kühne, et.al.
- Describes various data sets relevant for CERTs
- Describes typical look-ups CERTs perform
- Next step: identify gaps and missing data sets
- Needs review and feedback
- https://github.com/certtools/contactdb

Further Information

- RIPEstat
  - https://stat.ripe.net
- RIPE Atlas
  - https.://atlas.ripe.net
- RIPE Labs
  - https://labs.ripe.net/ripestat
- RIPE NCC & RIPE Community
  - https://www.ripe.net

Questions?

RIPE NCC