



RIPE
NCC

RIPE NCC Tools

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TF-CSIRT 42 | 30 May 2014

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



What's the 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



- 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...

- 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 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

- **inetnum** = IPv4 address range
- **inet6num** = IPv6 address 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

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

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

↑
The IP addresses point to the organisation object

role:	Abuse Role Acme
nic-hdl:	AR789-RIPE
admin-c:	SB436-RIPE
tech-c:	JS123-RIPE
tech-c:	XL451-RIPE
abuse-mailbox:	abuse@example.org
mnt-by:	LIR-MNT

organisation:	ORG-BB2-RIPE
admin-c:	JD1-RIPE
tech-c:	LA789-RIPE
abuse-c:	AR789-RIPE
mnt-by:	LIR-MNT

inetnum:	85.11.184.0/21
netname:	NL-EXAMPLE
status:	ALLOCATED PA
org:	ORG-BB2-RIPE
mnt-by:	RIPE-NCC-HM-MNT
mnt-lower:	LIR-MNT
admin-c:	LA789-RIPE
tech-c:	LA789-RIPE



RIPEstat

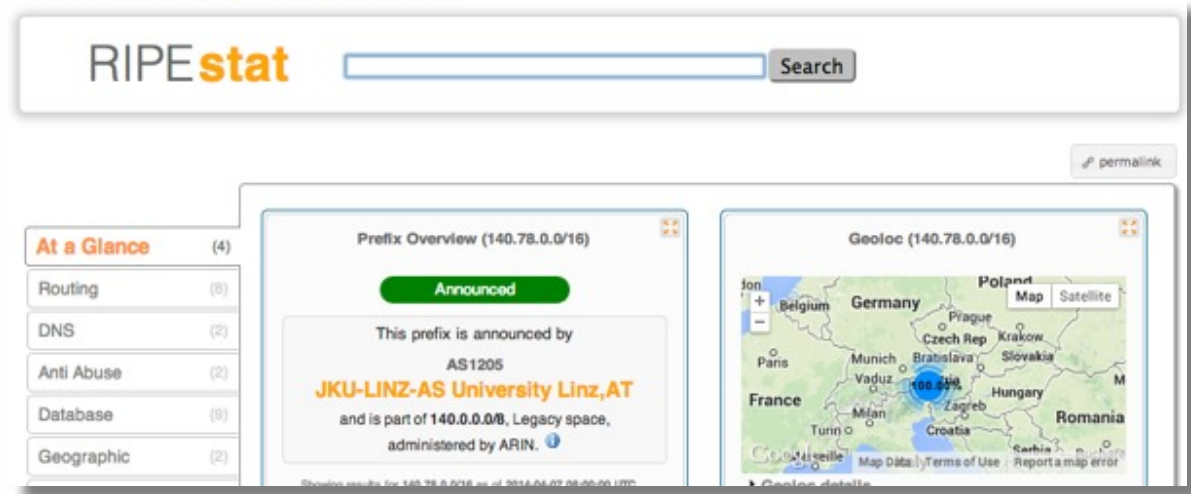
The screenshot displays the RIPEstat website interface. At the top, there's a search bar with the text "Get information on an AS number or IP prefix" and a "Sign in" button. Below the search bar, it shows "Your network: AS3333, 193.0.20.0/23" and "e.g. IPv4 prefix/range, IPv6, ASN". The main content area is divided into several widgets:

- Resource Overview (AS3333):** Displays "RIPE-NCC-AS - Reseaux IP Europeens Network Coordination Centre (RIPE NCC)" and shows results from 2012-11-10 15:26:00Z to 2012-11-13 15:26:00Z. It includes links for "source data", "embed code", "permalink", and "info".
- Registry Browser (AS3333):** Shows details for "aut-num: AS3333":
 - as-name: RIPE-NCC-AS
 - descr: Reseaux IP Europeens Network Coordination Centre (RIPE NCC)
 - org: ORG-RIEN1-RIPE
 - admin-c: JDR-RIPE
 - admin-c: BRD-RIPE
 - tech-c: OPS4-RIPE
 - mnt-by: RIPE-NCC-END-MNT
 - mnt-by: RIPE-NCC-MNT
- Geoloc (AS3333):** Displays a map of Europe with a location pin in Germany. It includes a "Map" button and "Geoloc details".
- Routing Status (AS3333):** Shows a green checkmark and states "AS3333 is visible by 100% of 100 IPv4 and 100% of 88 IPv6 RIS full peers." It also includes a clock icon and the text "First ever seen before Jan 2001." Below this, it lists:
 - Originated IPv4 prefixes: 6
 - Originated IPv6 prefixes: 1
 - Observed BGP neighbours: 167
 - Address space announced (IPv4): 4608 IPs
 - Address space announced (IPv6): equiv. to 1 /48s

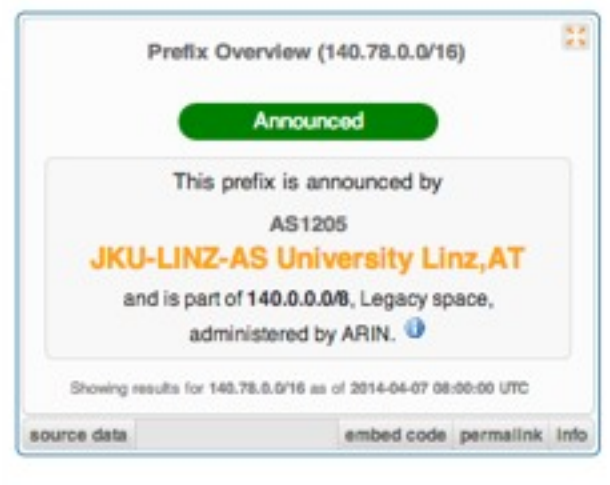
- Toolbox
 - All data in one place
 - Routing, IP, geoloc, BLs,
 - etc.
 - Graphical interface
 - Nearly 40 widgets and growing
- Updates on RIPE Labs
 - User feedback important!
- <https://stat.ripe.net>

- 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>

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

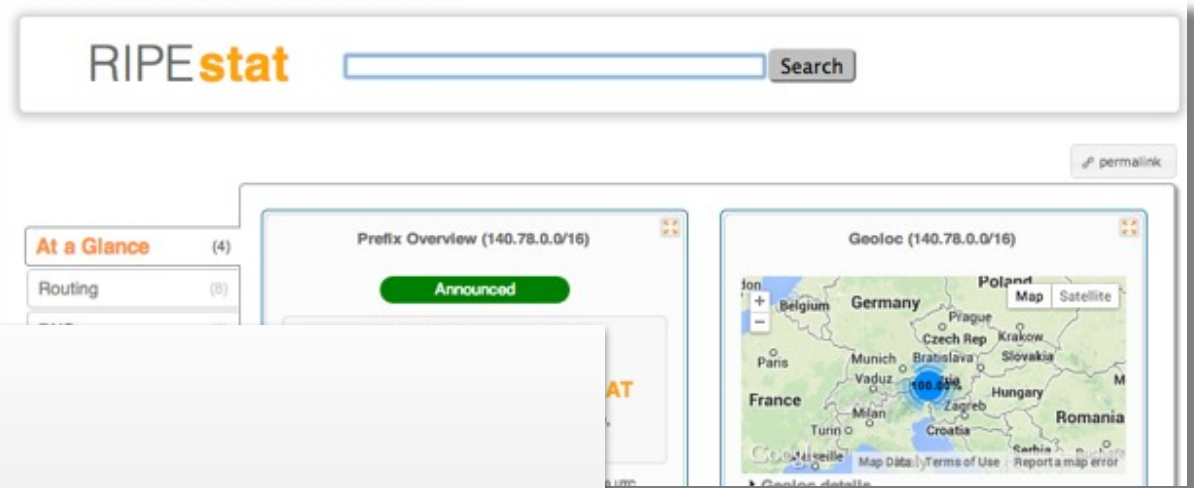


- RIPEstat Widget API

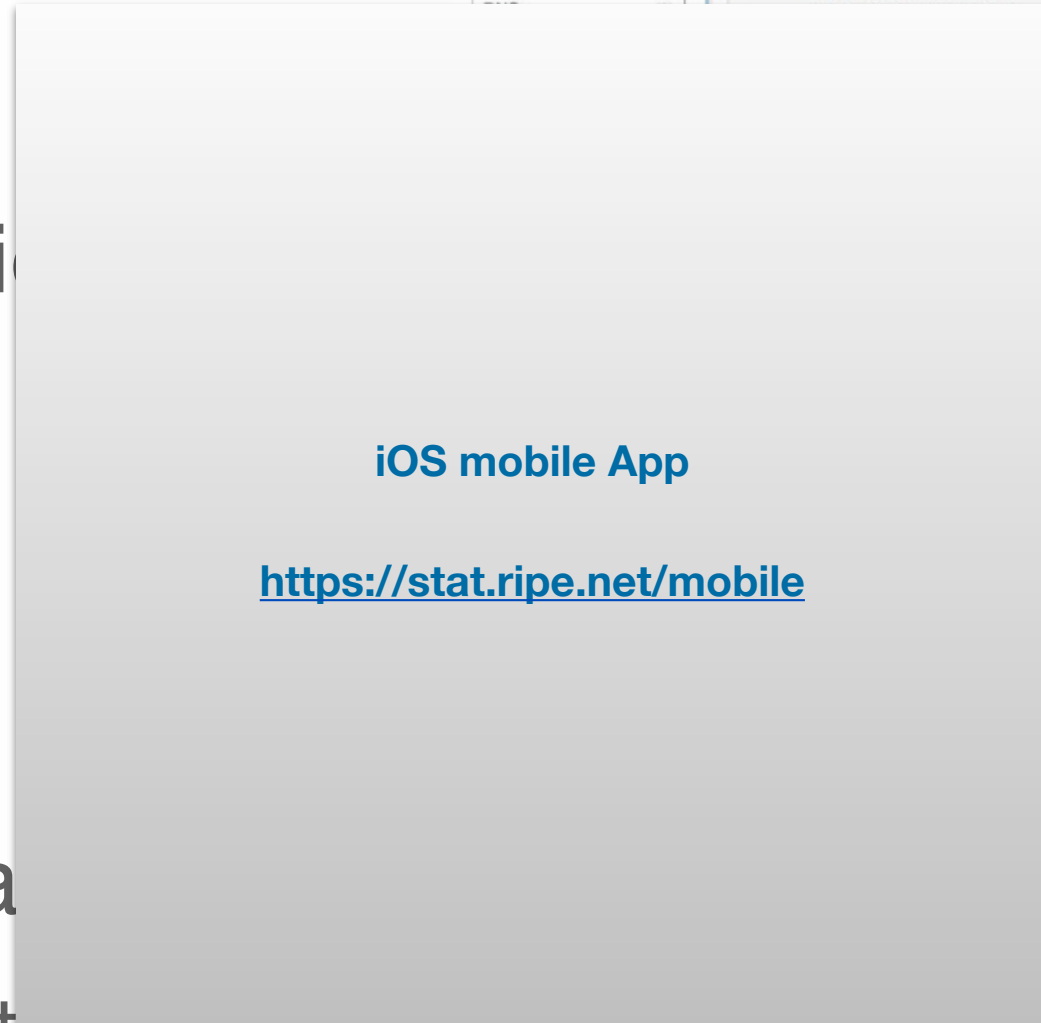


- RIPEstat Data API / RIPEstat Text API
 - <https://stat.ripe.net/data/routing-status/data.json?resource=...>

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



- RIPEstat Wi



- RIPEstat Data API
 - <https://stat.ripe.net/data/routing-status/data.json?resource=...>



RIPE Atlas



- 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>

- 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





- Effects storm Sandy had on parts of Internet



- Selective Blackholing
 - DDoS damage control
- Find most popular instances of DNS anycast servers

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%




RIPE Labs



RIPE
NCC

- 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>



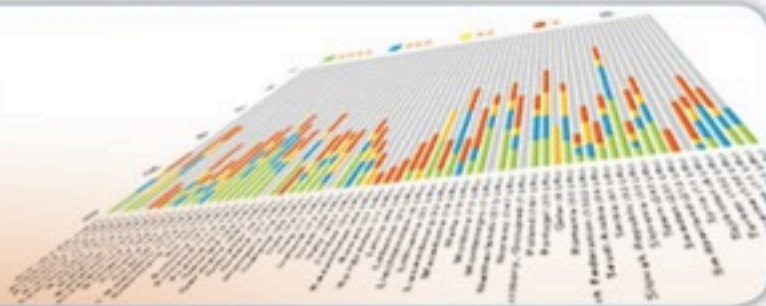


RIPE Labs

Innovative Internet tools & ideas

[Register!](#)

- ✓ Share experience
- ✓ Showcase tools
- ✓ Present research




New contributions

0 comments

Basic Evaluation of new IXP Peering Partners with RIPE Atlas and Zabbix

Daniel Gomez — May 26, 2014 11:20 AM



In this article we explain how we used RIPE Atlas to evaluate new synaix's peering partners within an Internet Exchange Point and how this helped to improve our customer services.


Tags: atlas, measurements, tools

[» Read more](#)

2 comments

Better Crypto - Applied Cryptography Hardening

Aaron Kaplan — May 22, 2014 11:35 AM



This project aims at creating a simple, copy & paste-able HOWTO for secure crypto settings of the most common services (web servers, mail, ssh, etc.). It was presented at the recent RIPE 68 Meeting in Warsaw. For those of you who couldn't attend the meeting, here is summary of the talk.

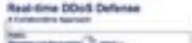
Tags: security, tools

[» Read more](#)

0 comments

Survey on Mitigation and Response of Network Attacks

Jessica Steinberger — May 21, 2014 11:40 AM



Network-based attacks pose a strong threat to the Internet landscape. In my PhD I am investigating

Statistics

10,326

Number of LIRs

18.12 Million

IPv4 Allocation Pool

7,214

LIRs with IPv6

[View more statistics](#)

RIPE NCC Roadmap

tagcloud

allocation api ases atlas
certification country cpe
database datarepository ddos

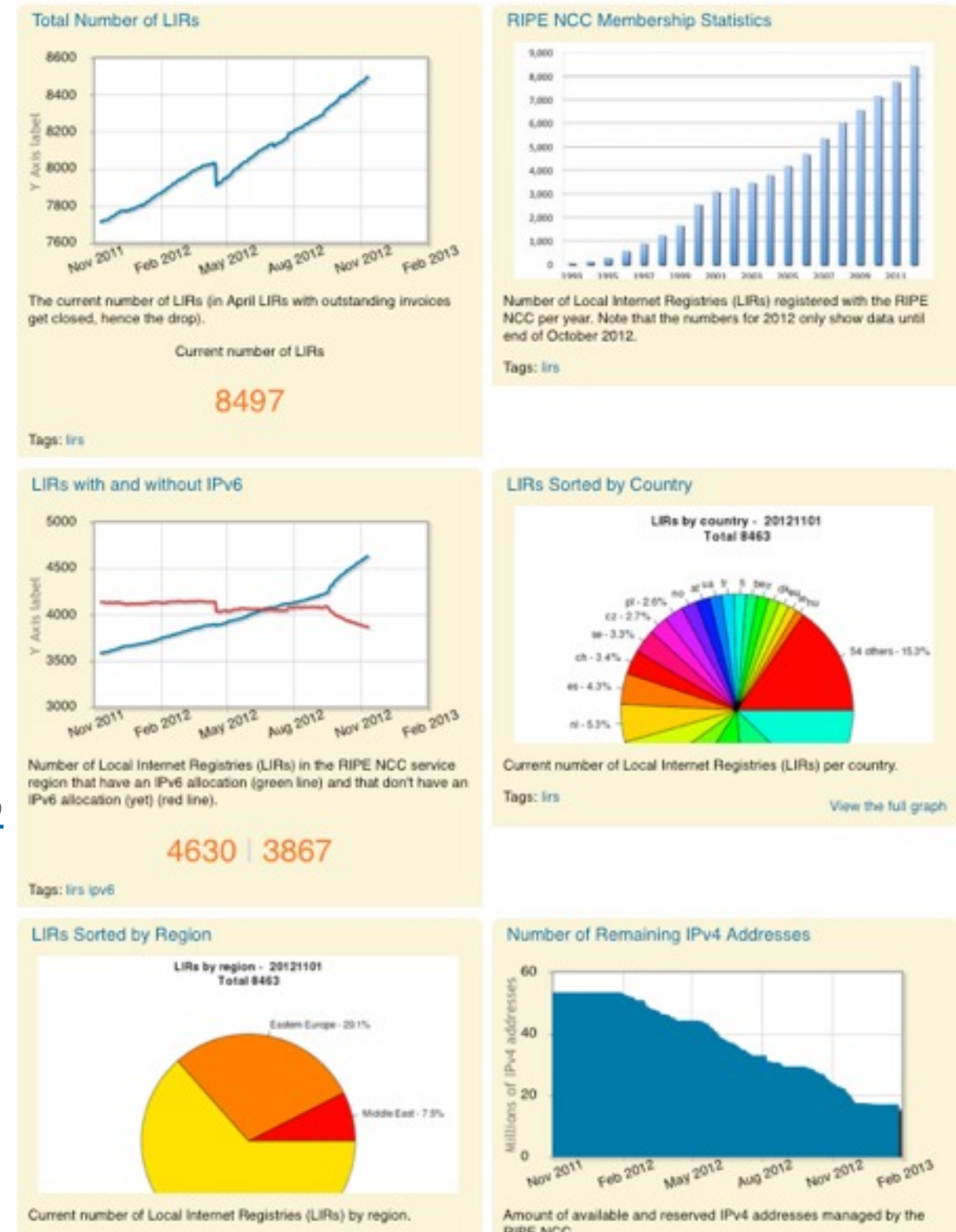
Statistics Dashboard

RIPE NCC Roadmap

Tag Cloud

List of Articles

- 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>



- 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>

- 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>

