RIPE NCC Tools & Measurements

Peering Day, Prague, CZ, 23 May 2013

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Overview

- Recent developments on RIPE Labs
  - Statistics Dashboard
  - RIPE NCC Roadmap
  - IPv6 Statistics

- New developments in RIPEstat

- New developments in RIPE Atlas

RIPE Labs

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

http://labs.ripe.net/

RIPE Labs Homepage

Statistics Dashboard

RIPE NCC Roadmap

Tag Cloud

List of Articles

RIPE Labs Content

tagcloud

allocation api ases **atlas**
certification country **cpe**
database
datarepository **dns**
dnssec geolocation
ipv4 ipv6 ipv6day
ipv6launch ixp k-root **lirs**
measurements
membership pi **policy**
reputation **rex ripe db** ripe
meetings ripe ncc **ripestat**
root-servers **routing**
rpsl **security statistics**
syria **tools**

- Statistics and measurements
  - Routing, DNS, IPv4, IPv6, ...
- RIPE Database API and tools
- RIPE Atlas
- Tools (RIPEstat, Abuse Finder)
- And a lot more...
- Also external contributions

Statistics Dashboard

- All stats on one page
- Automatically updated
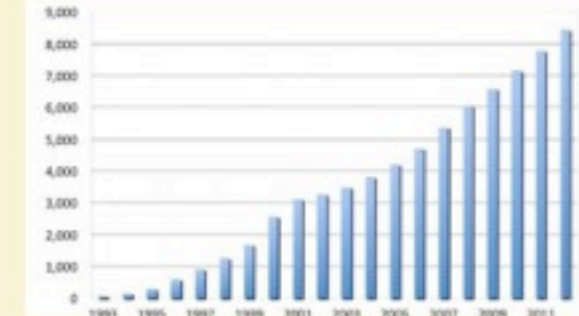- Each graph is tagged
  - Easier to navigate
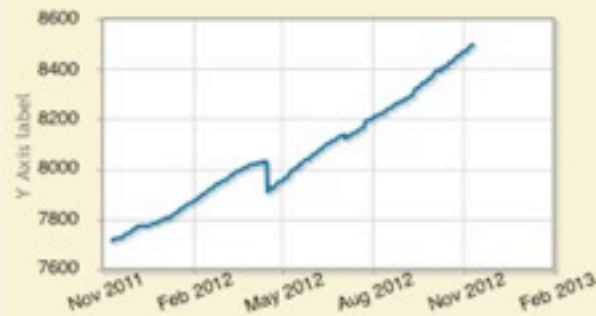
http://labs.ripe.net/statistics
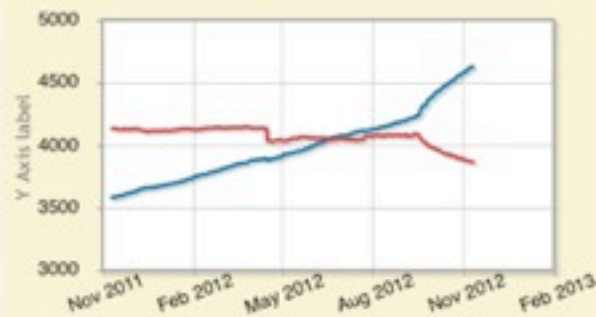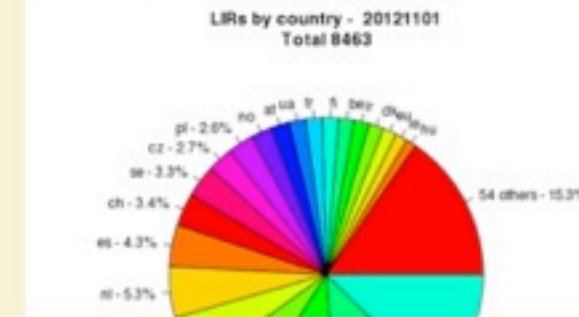
IPv6 RIPEness (9,196 LIRs)

1 star   2 stars   3 stars   4 stars   No IPv6

4 stars
20%

3 stars
13%

2 stars
7%
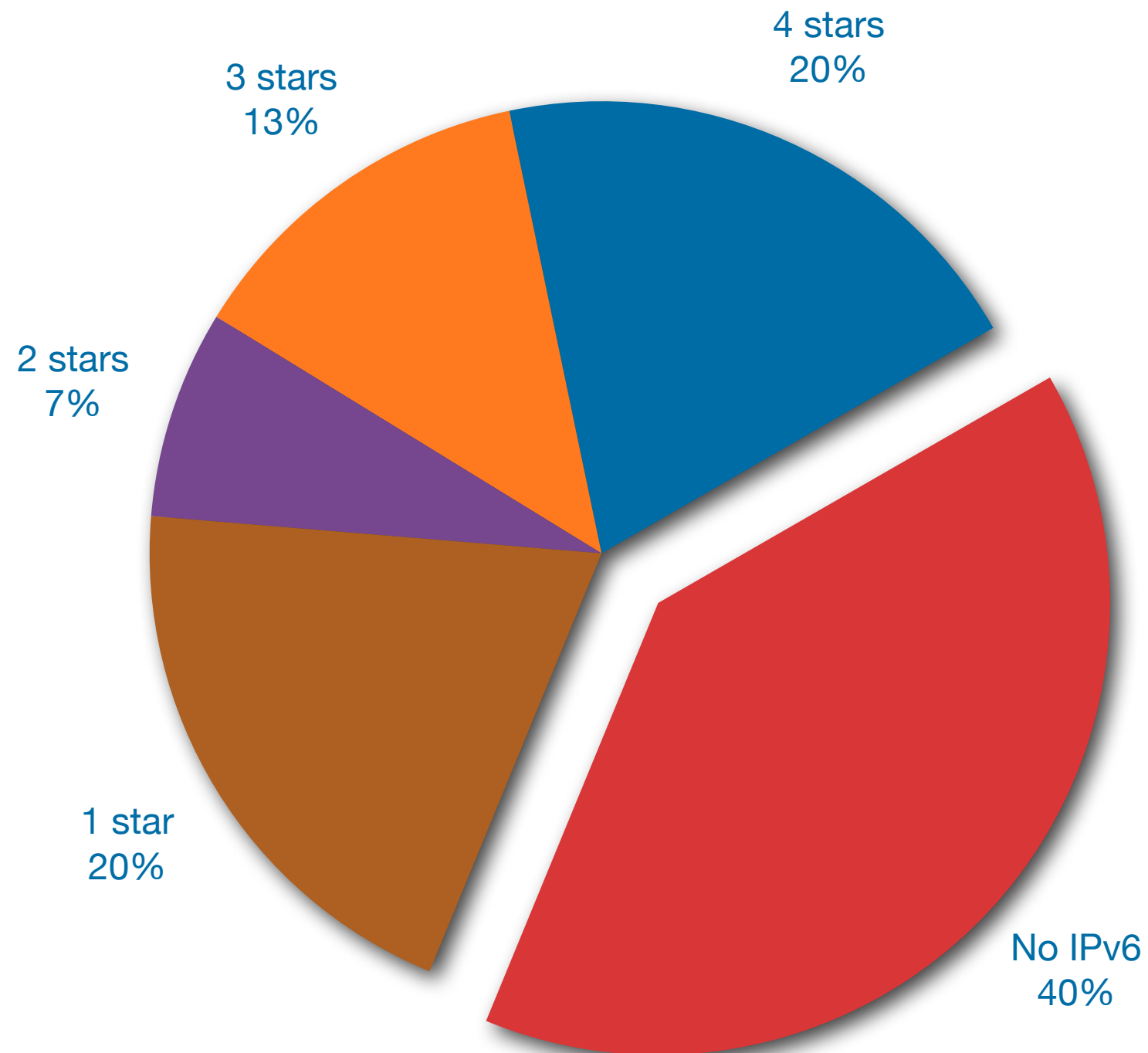
1 star
20%

No IPv6
40%

IPv6 RIPEness in CZ (235 LIRs)

● 1 star　　● 2 stars　　● 3 stars　　● 4 stars　　● No IPv6

4 stars
36%

3 stars
19%

2 stars
9%
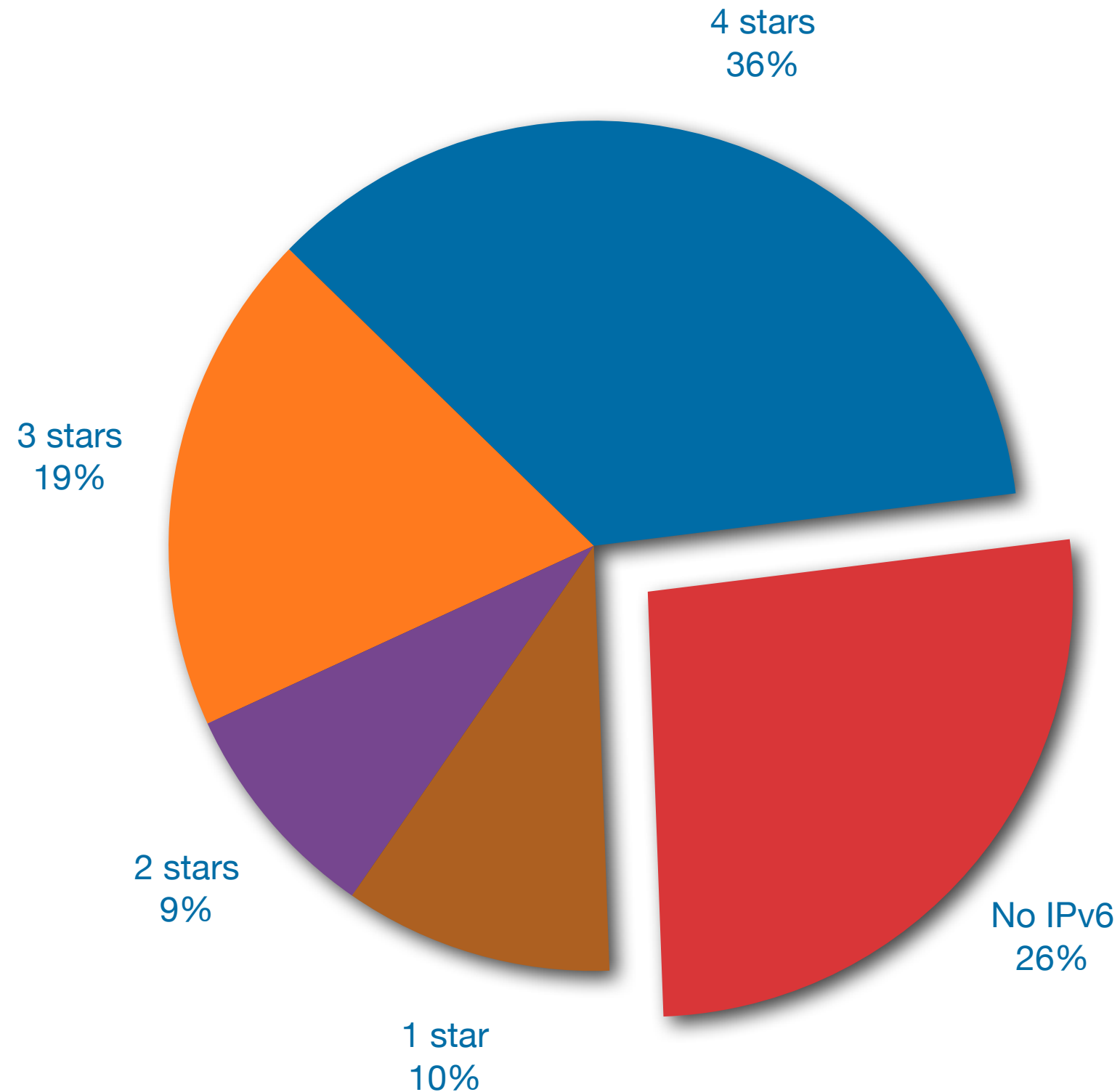
No IPv6
26%

1 star
10%

IPv6 RIPEness in Austria (173 LIRs)

Pie chart legend:
- 1 star
- 2 stars
- 3 stars
- 4 stars
- No IPv6

4 stars 34%
3 stars 14%
2 stars 10%
1 star 14%
No IPv6 28%
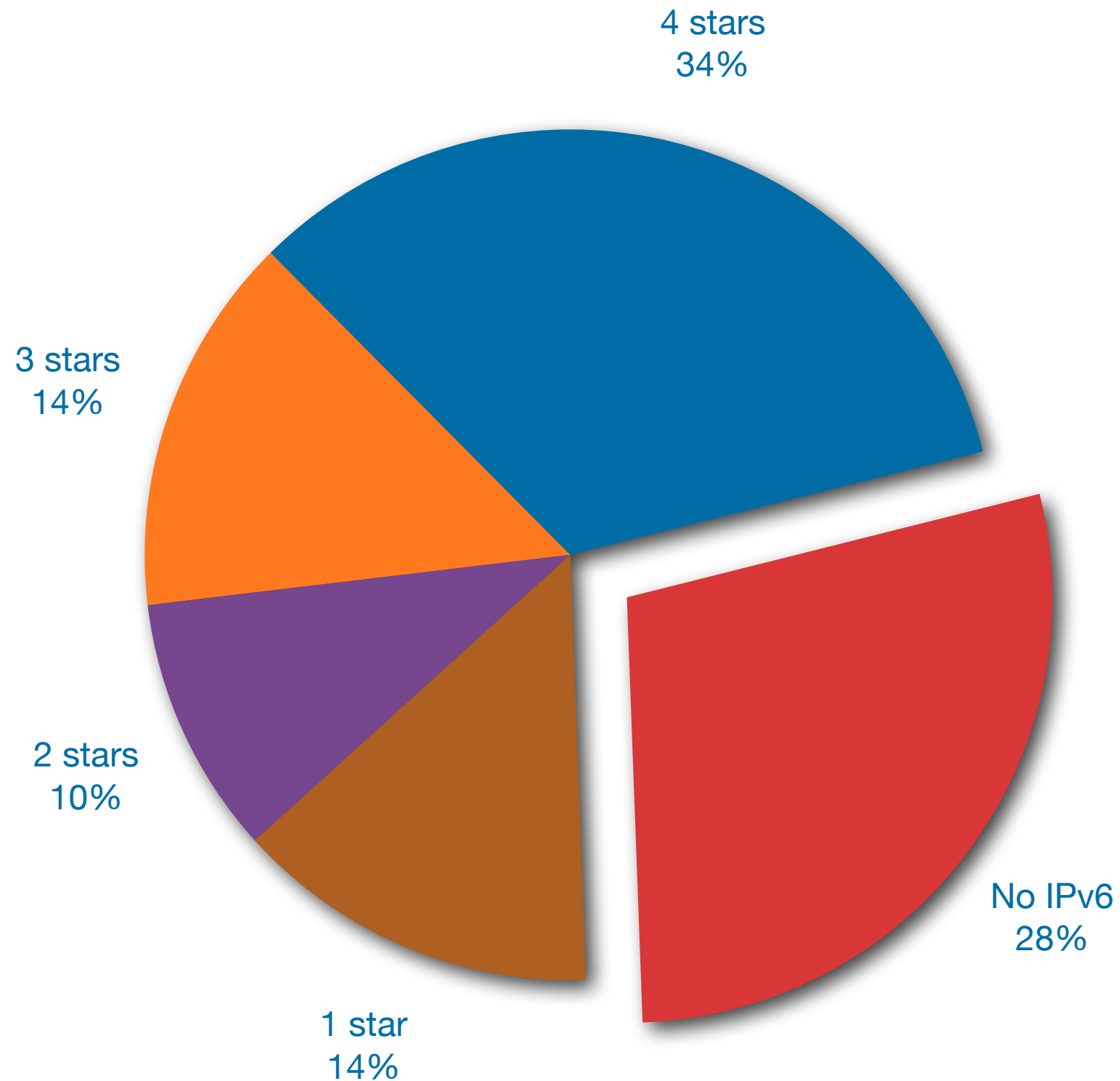
IPv6 RIPEness Deployment - Fifth Star

- **LIRs providing content over IPv6**
   - Based on Alexa 1M list

- **LIRs providing IPv6 access to end users**

All LIRs offering services in Austria

Access (last 6 months)	Access (last month)	Content	LIR
17.7 %	17.9 %	16.5 %	ACONET
37.5 %	100.0 %		APA - Austria Presse Agentur reg. Gen.m.b.H.
7.2 %		5.1 %	ASCUS Telecom GmbH
28.6 %	33.3 %		Citycom Telekommunikation GmbH
25.0 %			Elektrizitatswerk Wels AG
2.9 %			Infotech EDV-Systeme GmbH
100.0 %			Nessus GmbH
100.0 %			SelfNet Internet Ges.m.b.H.
15.1 %		4.0 %	Tele2 Telecommunication GmbH

ASNs Announcing IPv6 Prefixes

Thursday, May 16, 13
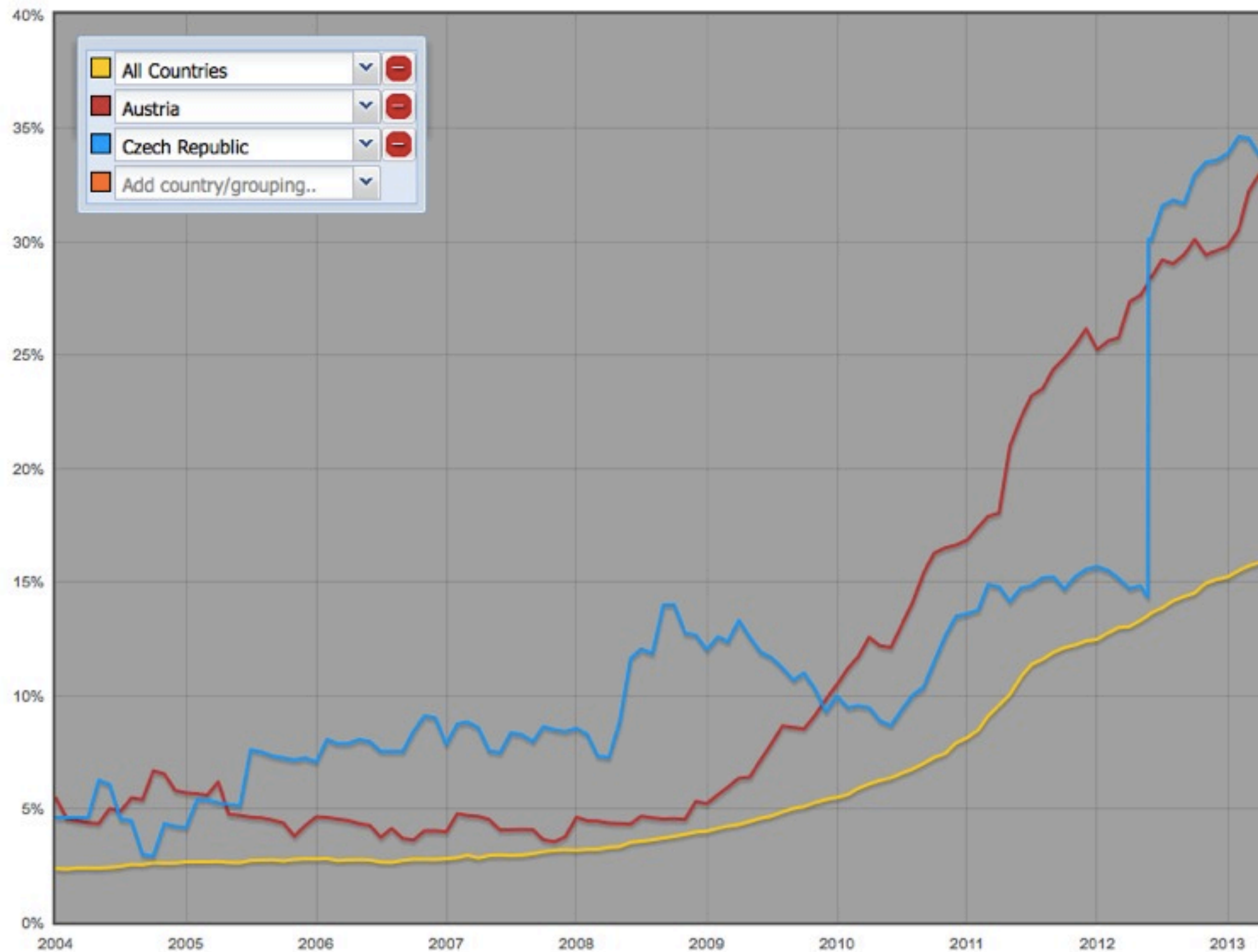
RIPE NCC Roadmap

- Latest developments and future plans of various RIPE NCC activities
  - DNSMON, RIPE Atlas, RIPE Database, RIPE Labs, RIPEstat, RPKI
- Is this useful? Please give us your feedback!

Requested	Planned	In Progress	Delivered
▸ Adding new users	▸ Pilot during Q3 2013	▸ Presentation of DNSMON Roadmap at RIPE66	▸ Migrated DNSMON to members-only service
▸ Automatic alarms	▾ Production service planned for Q4 2013		▾ Developed working DNSMON prototype using new measurement system
▾ Add DNSSEC-specific measurements			
DNSSEC measurements may be an interesting feature to add.	Remaining users will be migrated to the new DNSMON, based on the RIPE Atlas infrastructure, during Q4 2013.		The RIPE NCC has developed a prototype DNSMON that transitions its measurement systems from the old TTM test boxes to RIPE Atlas anchors.

RIPE NCC

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

http://labs.ripe.net/atlas

RIPE Atlas Update

- 3,000 active probes and 6,700 users worldwide
  - Increasing number of requests
  - Working on next version of probes

- RIPE Atlas anchors pilot started (15 volunteers)
  - Collecting data as enhanced RIPE Atlas probes
  - Acting as targets for regional measurements

- New generation probes
  - TP-LINK TL-MR 3020

    (no WiFi capabilities for privacy reasons)

RIPE
NCC

Currently Under Development

- REST APIs to interact with the system
  - Probe API: info about vantage points
  - Measurement API: info about measurements
  - API for starting measurements

- One-off measurements & Quick Look (members)
  - Allow for immediate, one-time measurements
  - In addition to user-defined measurements

- Code released
  - Measurement source code
  - Analysis and statistics code

RIPE Atlas Use Cases

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%

- Effects storm Sandy had on parts of Internet
  - https://labs.ripe.net/Members/mirjam/sandy-2012

- Find most popular instances of DNS anycast servers

RIPEstat

RIPEstat   https://stat.ripe.net

- Toolbox
  - All data in one place
  - Routing, IP, geoloc, BLs, etc.
  - Graphical interface
  - Nearly 40 widgets & growing

- Updates on RIPE Labs
  - User feedback important!

What's New in RIPEstat

- Command-line interface

  - Text Service on port 43

- BGPlay now integrated in RIPEstat

- Country Routing Statistics widget

- Abuse Contact Finder widget

- New interface & My Views

Please give us feedback

New RIPEstat Interface

Permalink

New 'At a Glance' view

Tabbed layout

New BGPlay Integrated in RIPEstat
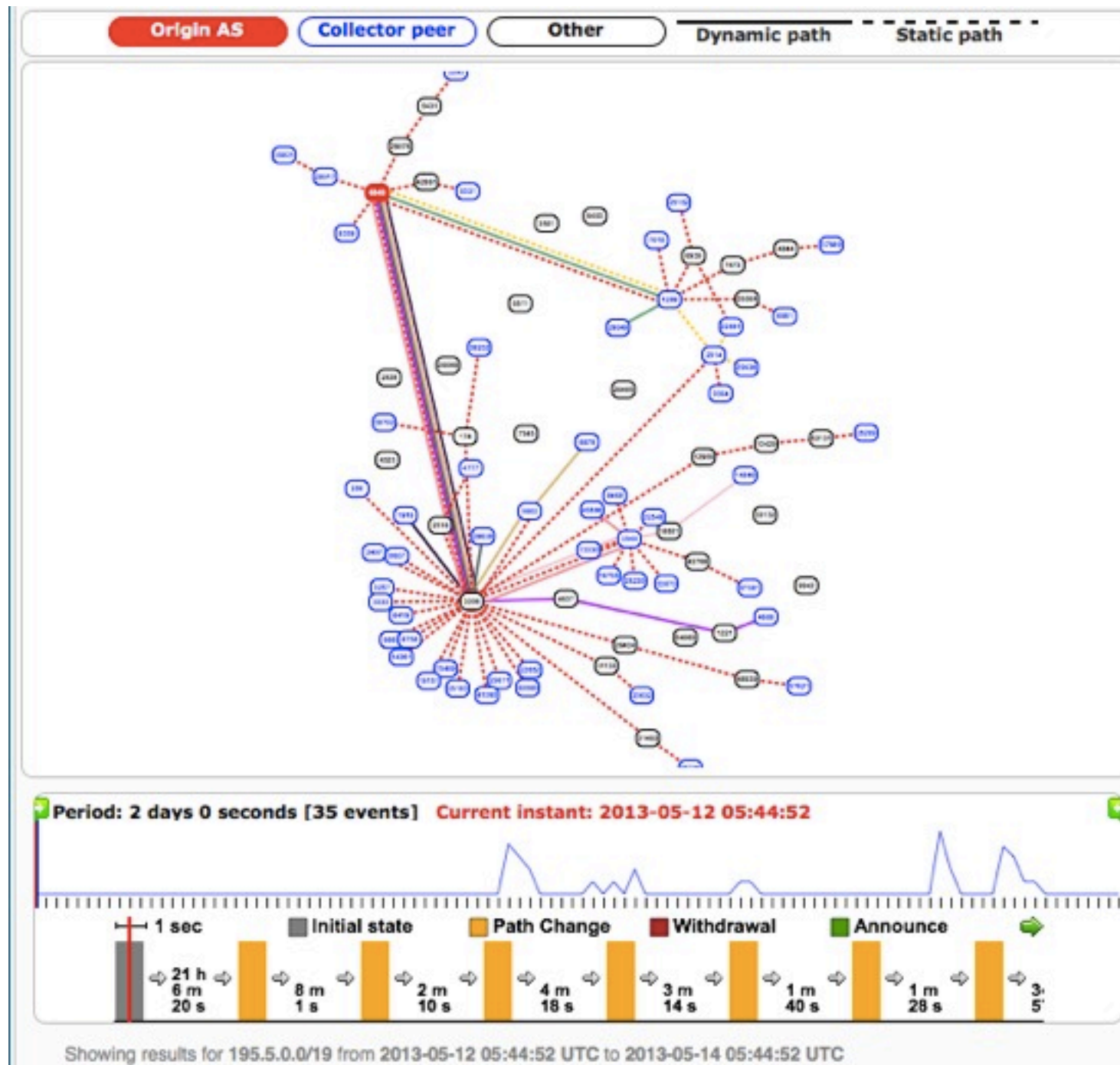
- Popular demand
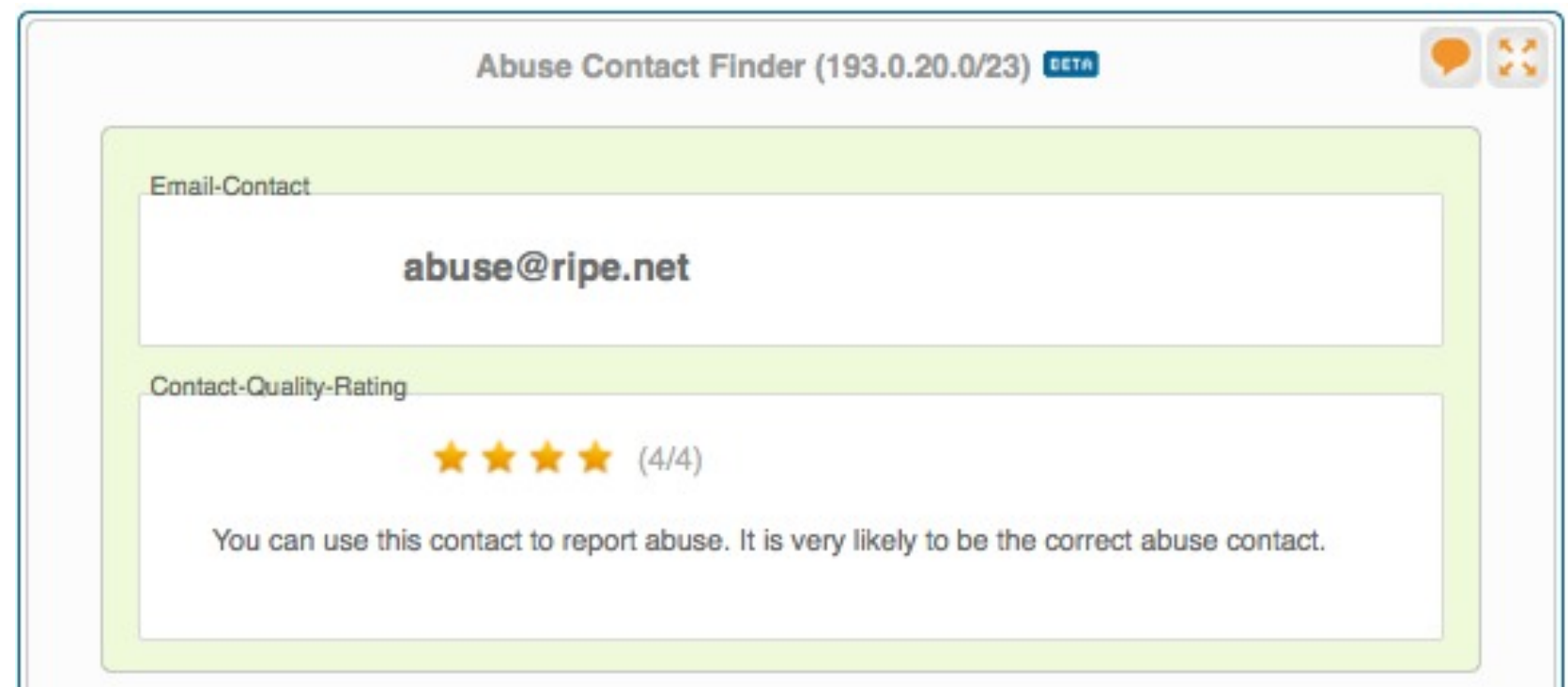- Improved visualisation
- Collaboration with Roma Tre University

Country Routing Statistics

- IPv4, IPv6, ASNs per country over time

  - https://stat.ripe.net/widget/country-routing-stats

- Compare with another country

  - https://stat.ripe.net/special/country-comparison

Abuse Contact Finder

- Finds potential contacts to report abuse cases

    - https://stat.ripe.net/special/abuse

- Rates the quality of the information found

- New policy requires "abuse-c:" attribute in RIPE

    Database

Thursday, May 16, 13

Questions?