



RIPE NCC

RIPE NETWORK COORDINATION CENTRE

#RIPEstat10

Looking back at 10 years of
RIPEstat

Christian Teuschel | May 2021 | RIPE 82

10 Years of RIPEstat



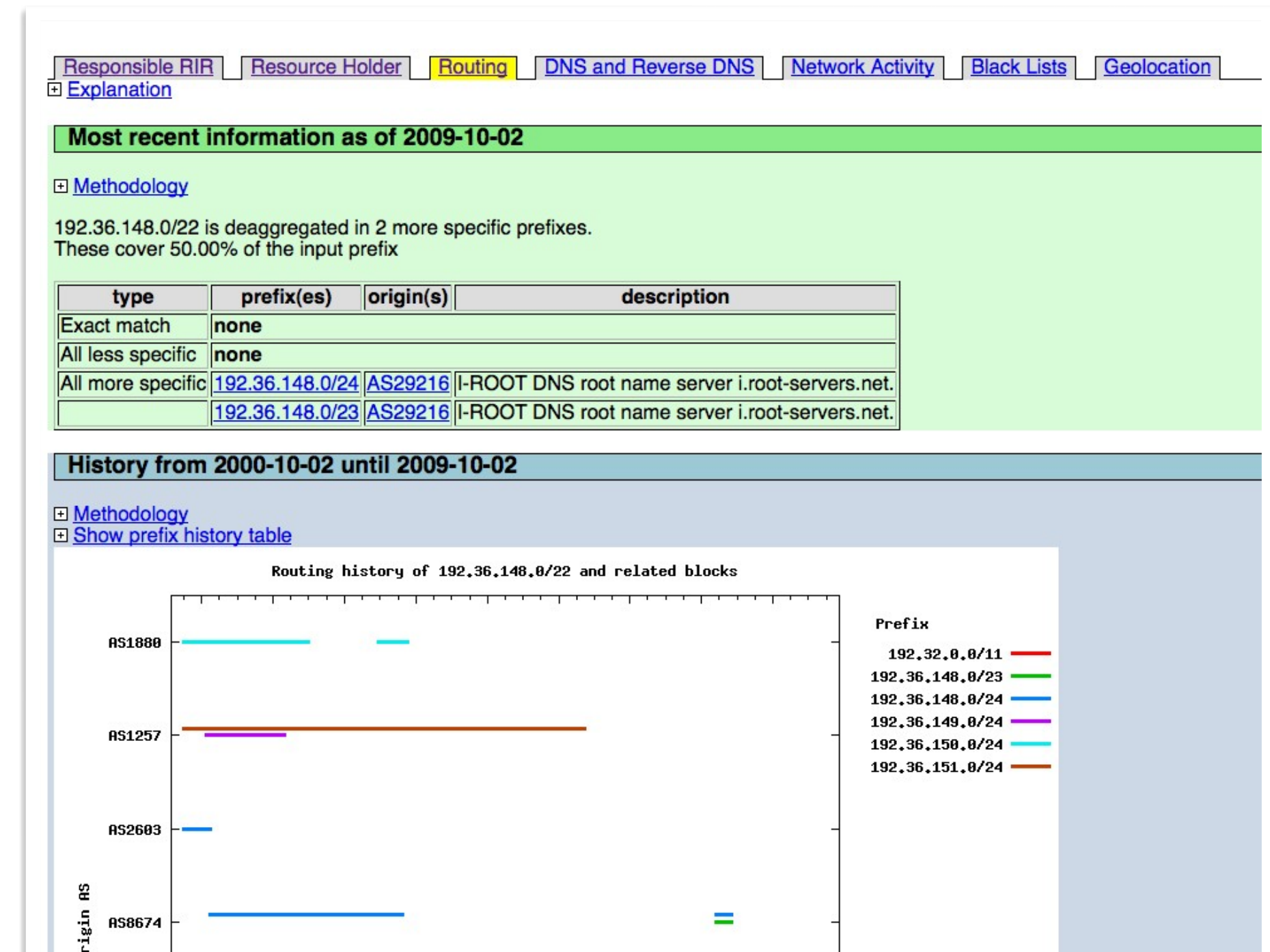
Pre-RIPEstat (~2009): REX



- REX = Resource Explainer
 - “...REX is a one-stop-shop for almost all the information you ever wanted to know about Internet number resources.”¹
 - Powered by INRDB = “...a non-conventional database...”²
 - Usage: 4400 requests in the first four weeks³



Image: Freepik.com



2010: Work on RIPEstat Started



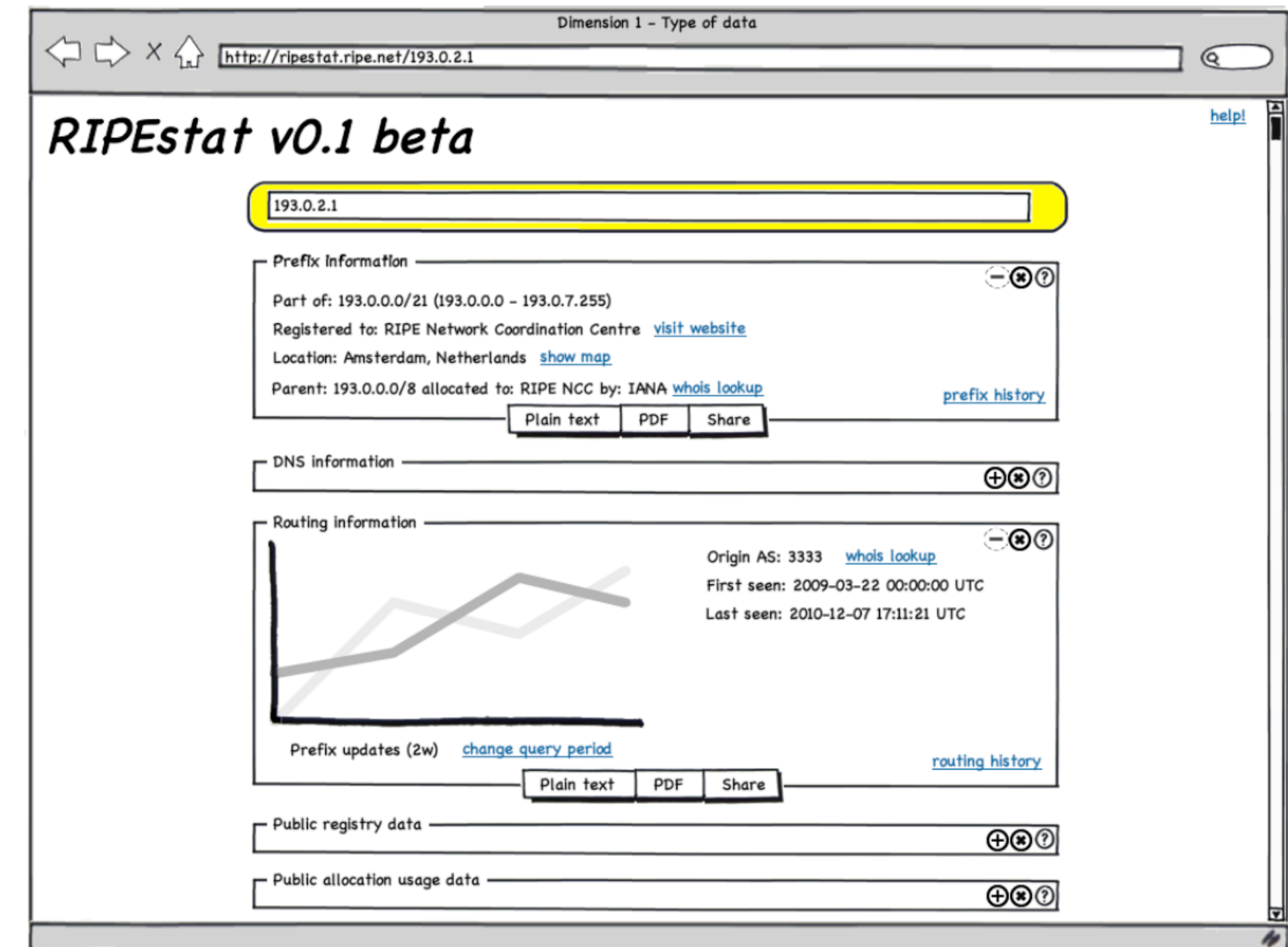
- Problem Statement
 - Many data sources for Internet number resources are scattered across different platforms and tools



2010: Work on RIPEstat Started



- Vision
 - “...basic idea is to combine all information services, as well as other public data sources, into one easy-to-use interface.”⁴
- Two main types of information
 - “various **STATistics** related to networking”⁴
 - “the **STATus** of various aspects in the network”⁴



25 Jan 2011: First Public Demo



RIPE
NCC
RIPE NETWORK COORDINATION CENTRE

Internet Coordination

Data & Tools

LIR Services

RIPE Community

Site Map | Contact | Help | RIPE Database Search

RIPEstat

Enter an AS number or prefix

Your network: AS3303, 0.0.0.0/1

Example: IPv4, IPv6, ASN

Sign in

Sign in to customise

Result Boxes for 140.78.0.0/16

Prefix-Overview

Whois

Object-Browser

Address-Space-Hierarchy

Routing-History

Address-Space-Usage

Geoloc

Geoloc-History

Looking-Glass

Reverse-Dns

Blacklist

Visibility

Bgp-Update-Activity

Related-Prefixes

Prefix-Routing-Consistency

Allocation-History

Prefix-Overview (140.78.0.0/16)

Download raw data: yaml

Show: link | specification | methodology

Whois (140.78.0.0/16)

Download raw data: yaml

Show: link | specification | methodology

Object-Browser (140.78.0.0/16)

Download raw data: yaml

Show: link | specification | methodology

Address-Space-Hierarchy (140.78.0.0/16)

Download raw data: yaml

Show: link | specification | methodology

The current top queries

140.78.0.0/16

127.0.0.0/16

Your latest queries

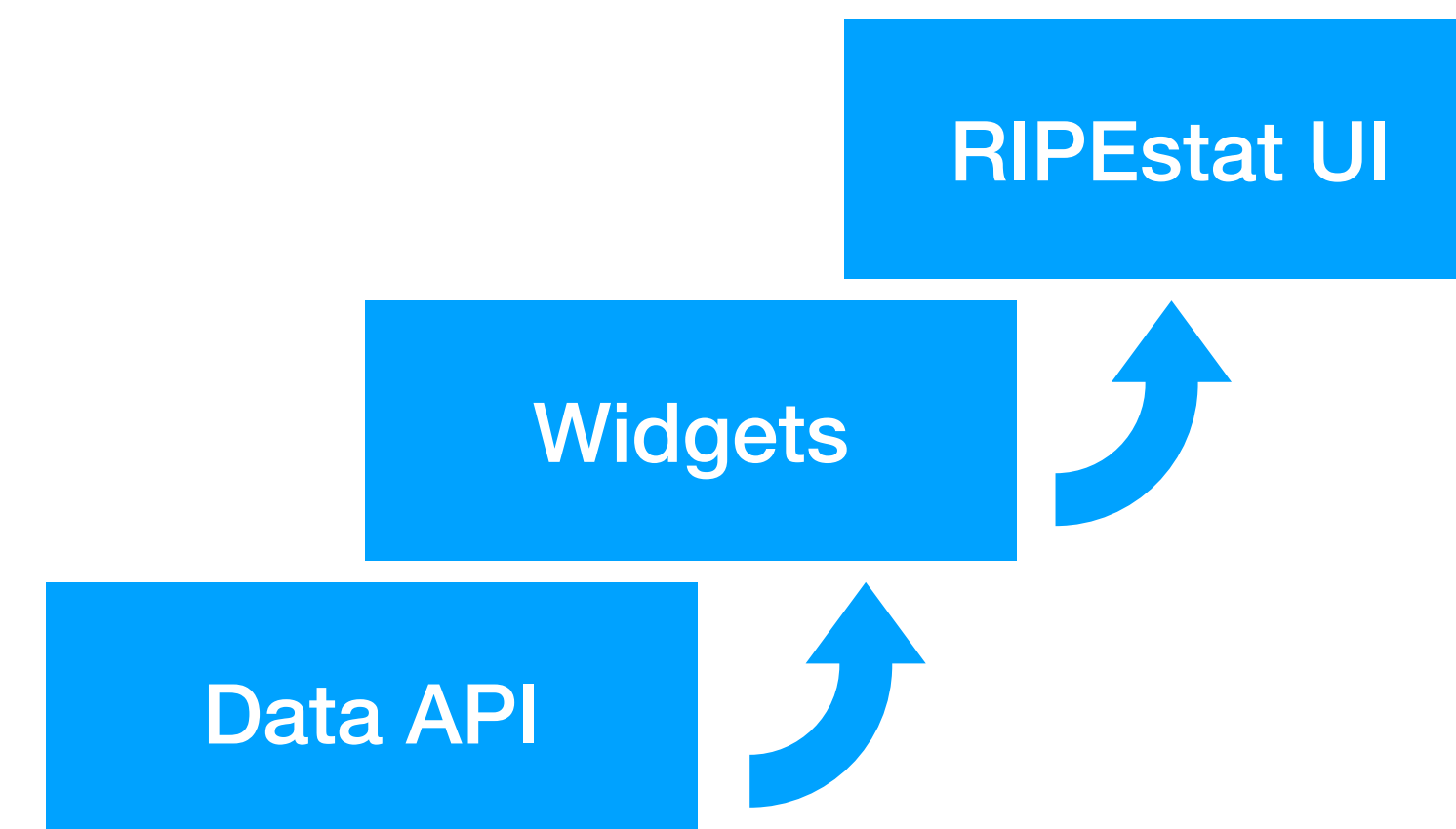
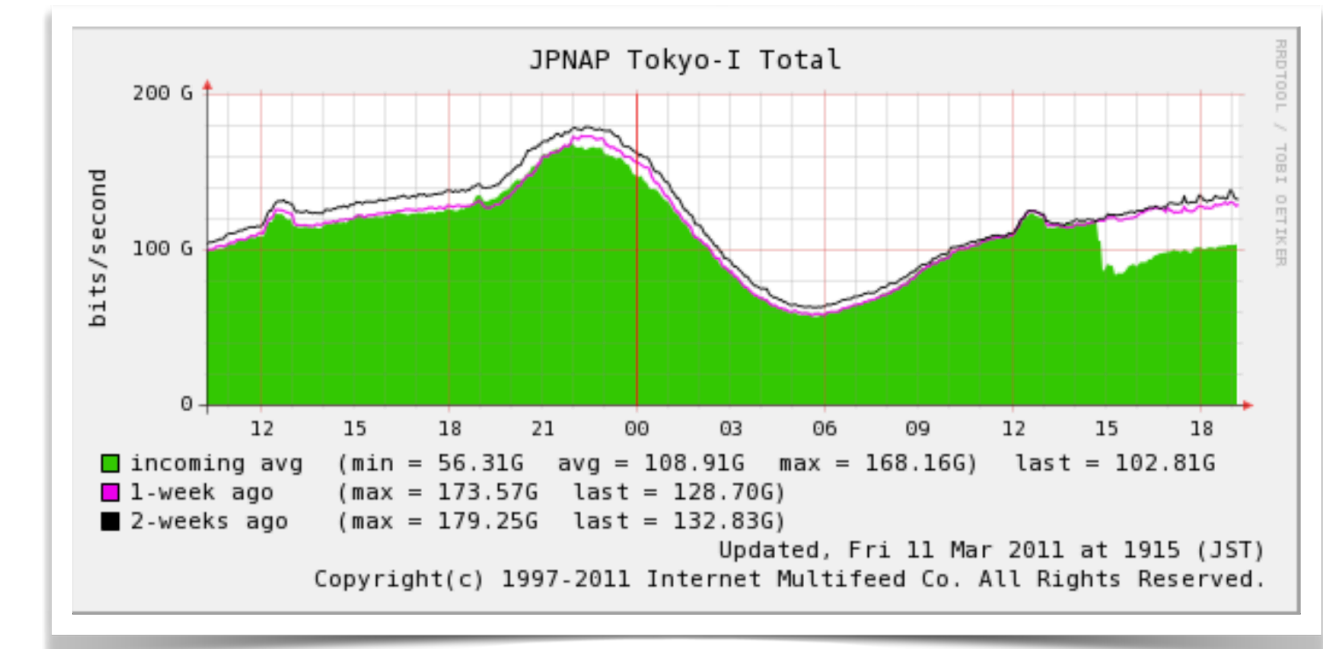
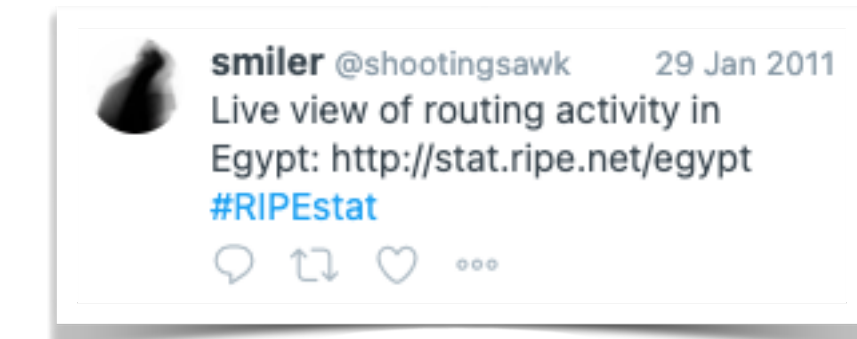
140.78.0.0/16

2011: Hitting the Ground Running



- 27 Jan: Egyptian Internet outage (40000 visits in four days)
 - <https://stat.ripe.net/events/egypt>
- 11 March: Earthquake in Japan
 - <https://stat.ripe.net/events/japan-earthquake>
- Oct: Single VM to cluster of four RM
- Sep: iOS mobile version
- Nov: Introduction of data API
- Dec: Introduction of widgets
- Usage: 10k requests/d

```
163.121.0.0/19
163.121.0.0/20
163.121.101.0/24
163.121.103.0/24
163.121.112.0/22
163.121.116.0/24
163.121.117.0/24
163.121.118.0/23
163.121.120.0/21
163.121.128.0/17
163.121.120.0/24
```



2012: Improvements

- 27 Nov: Syria went offline - monitored with a RIPEstat widget⁵
- Embeddable widgets
- First UI update
- Usage: 200k requests/d



RIPEstat Resource Overview (AS3333)

This Autonomous System Number appears to be currently held by

RIPE-NCC-AS - Reseaux IP Europeens Network Coordination Centre (RIPE NCC)

and is part of **AS1 - AS65535**, the 16-bit ASN Block. This block contains all 16-bit ASNs, which are allocated to the RIRs according to <http://www.iana.org/assignments/as-numbers/as-numbers.xml>. See [RFC 1930](#)

source data grab | permalink | info

RIPEstat

Get information on an AS number or IP prefix

Your network: **AS3333, 2001:67c:2e8::/48** e.g. IPv4 prefix/range, IPv6, ASN

RIPEstat is your source for Internet-related stats & status -- stat! learn more...

Permalink

New "At a Glance" view

At a Glance (4)

- Routing (7)
- DNS (1)
- Anti Abuse (1)
- Database (9)
- Geographic (2)

Resource Overview (2001:67c:2e8::/48)

This prefix is announced by

AS3333

RIPE-NCC-AS - Reseaux IP Europeens Network Coordination Centre (RIPE NCC)

Showing results for 2001:67c:2e8::/48 as of 2012-10-29 00:00:00Z

source data embed code permalink info

Object Browser (2001:67c:2e8::/48)

inet6num: 2001:67c:2e8::/48

netname	RIPE-NCC-NET
descr	Reseaux IP Europeens Network Coordination Centre (RIPE NCC)
org	ORG-RIEN1-RIPE
country	NL
admin-c	JDR-RIPE
admin-c	BRD-RIPE
tech-c	OPS4-RIPE
status	ASSIGNED PI
mnt-by	RIPE-NCC-END-MNT
mnt-lower	RIPE-NCC-END-MNT
mnt-by	RIPE-NCC-MNT
mnt-routes	RIPE-NCC-MNT
mnt-domains	RIPE-NCC-MNT

Showing results for 2001:67c:2e8::/48 as of 2012-10-30 13:33:36Z

source data embed code permalink info

Geoloc (2001:67c:2e8::/48)

Map Satellite

Amsterdam, London, Cologne, Belgium, Germany

Geoloc details

Showing results for 2001:67c:2e8::/48 as of 2012-10-29 00:00:00Z

source data embed code permalink info

Routing Status (2001:67c:2e8::/48)

2001:67c:2e8::/48 is 100% visible (by 83 of 83 RIS full peers).

First ever seen announced by **AS3333**, on 2010-09-28 16:00:00Z.

Originated by: **AS3333** (valid route object in RIPE)

No less-specific covering prefixes.

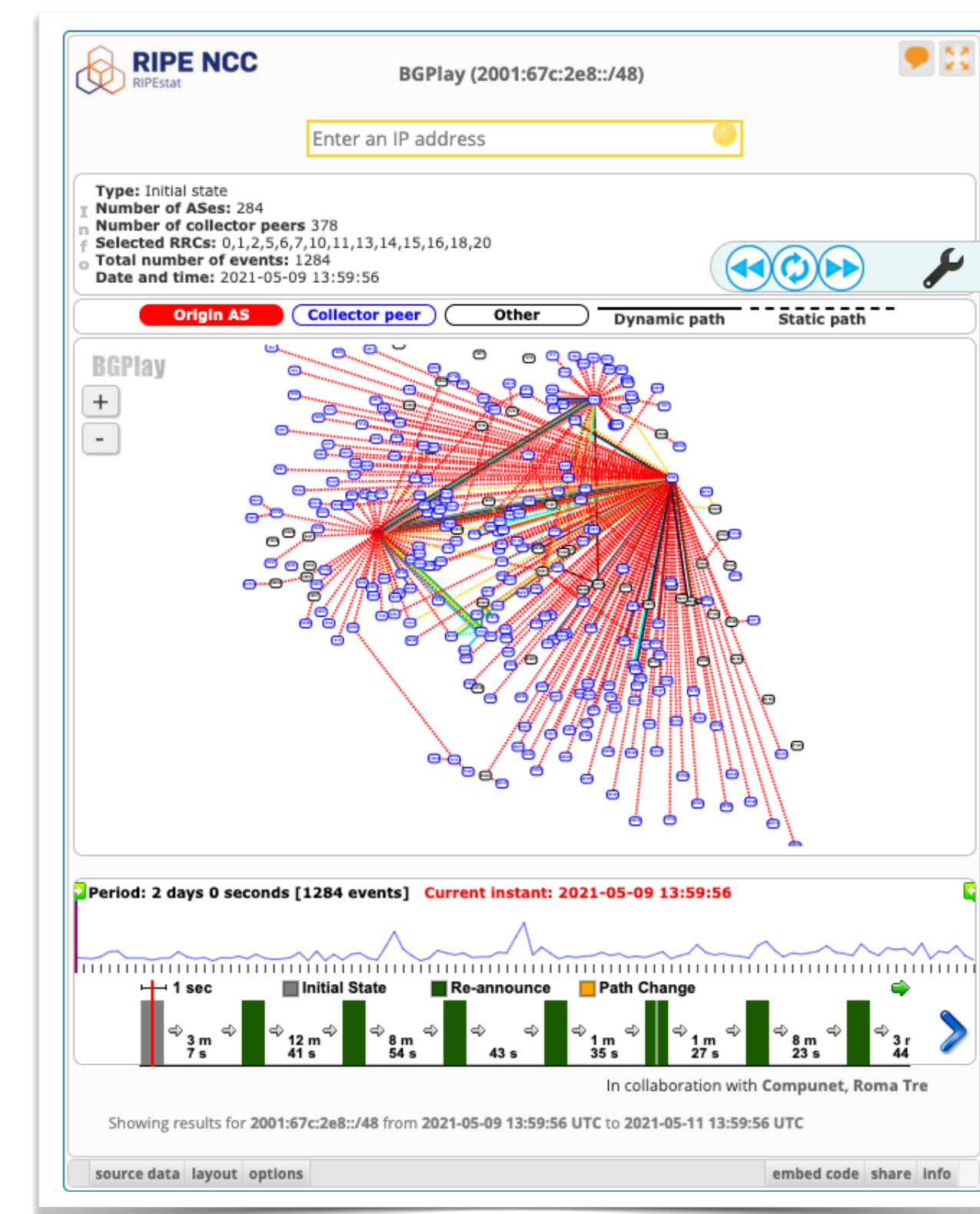
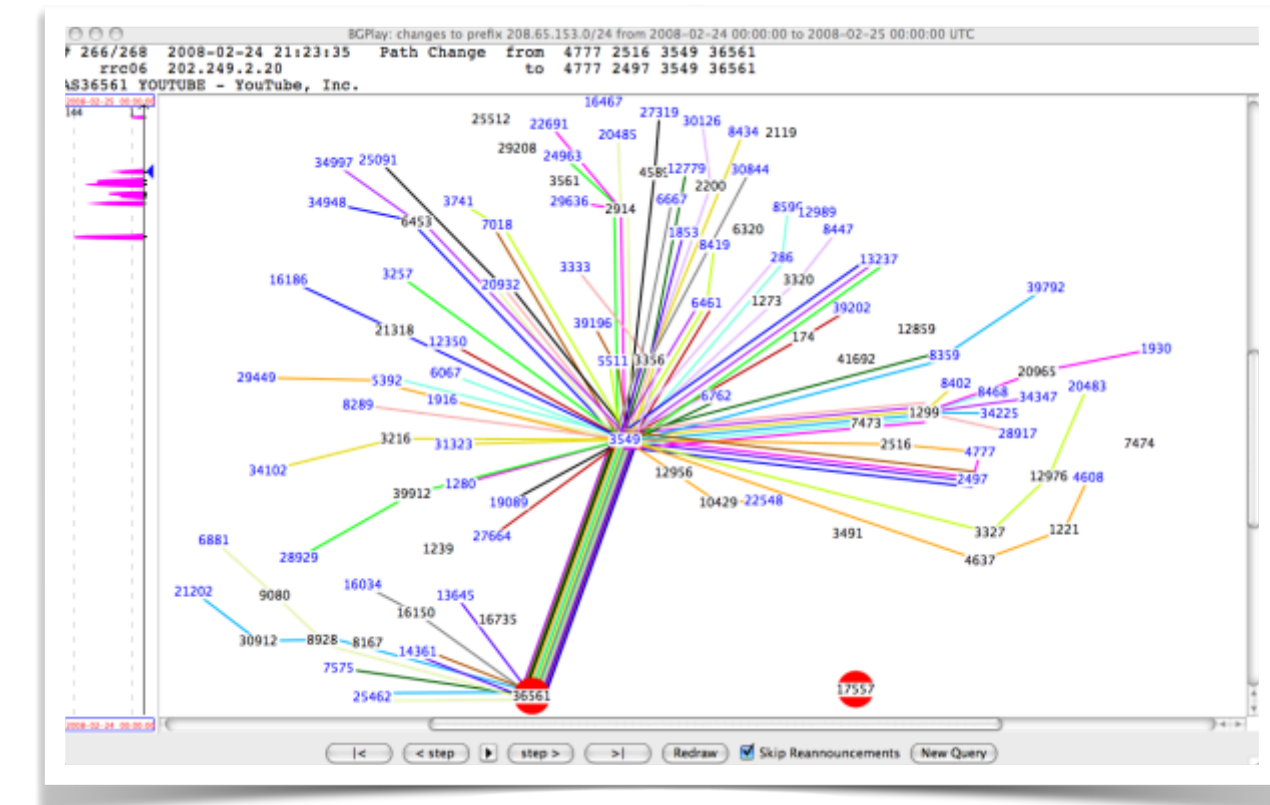
Showing results for 2001:67c:2e8::/48 as of 2012-10-29 00:00:00Z

source data embed code permalink info

2013: The Mighty BGPlay



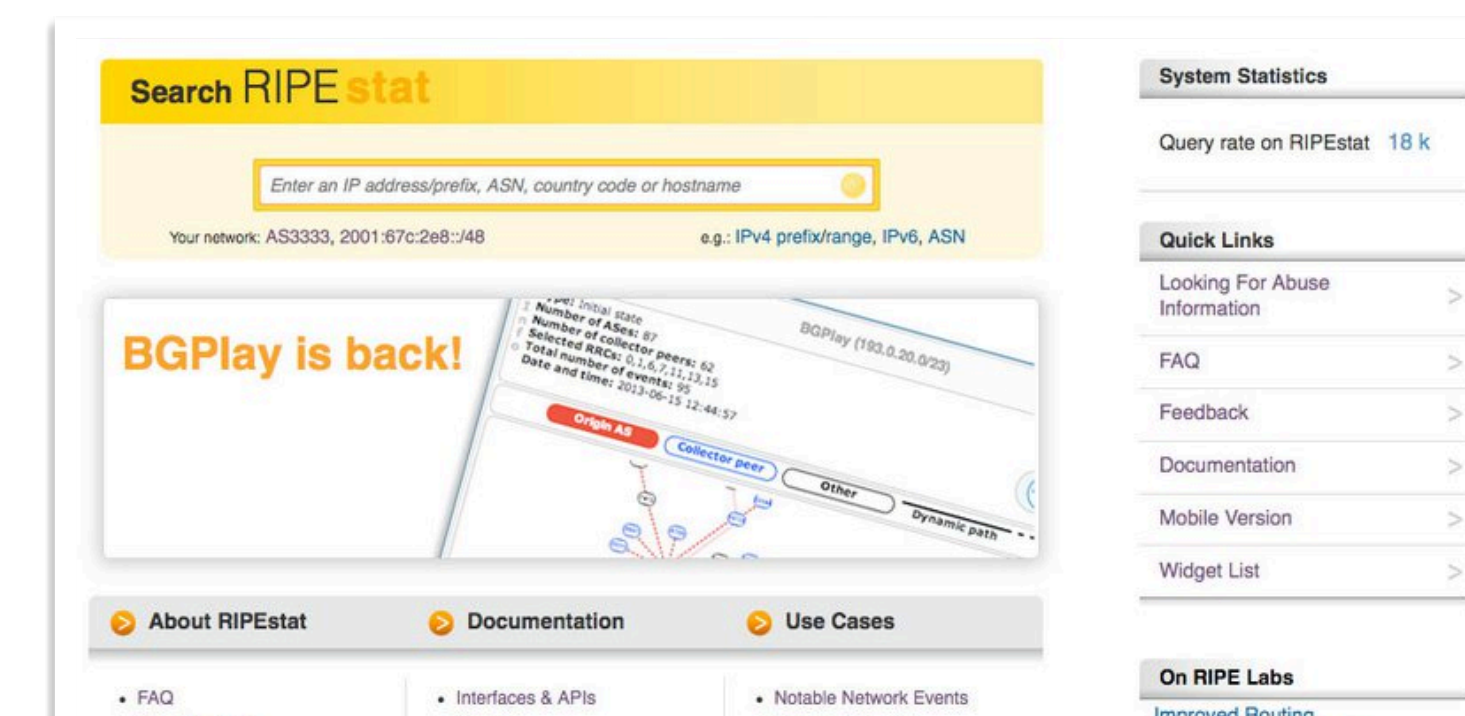
- First implementation as Java Applet by Roma Tre University (2004 - 2009)
- Reimplementation of BGPlay together with Compunet Research Lab (Roma Tre University) as RIPEstat widget



2013: There's More!



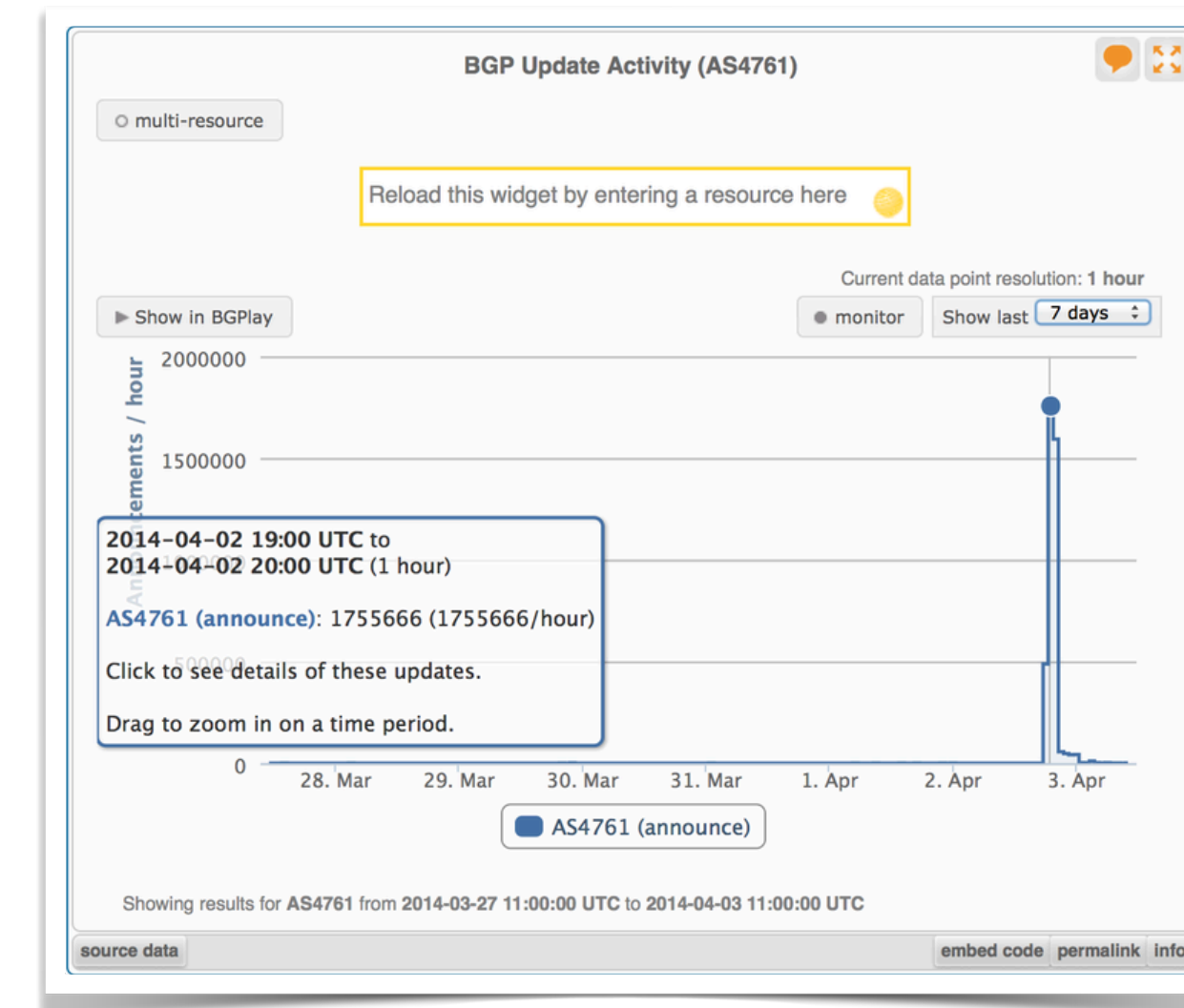
- Integration in RIPE Atlas Probe Traffic and all built-in measurement graphs
- Added support for countries and Country Routing Stats widget
- UI update (RIPE NCC style)
- Usage: first 1M requests/d



2014: Maintenance Hits



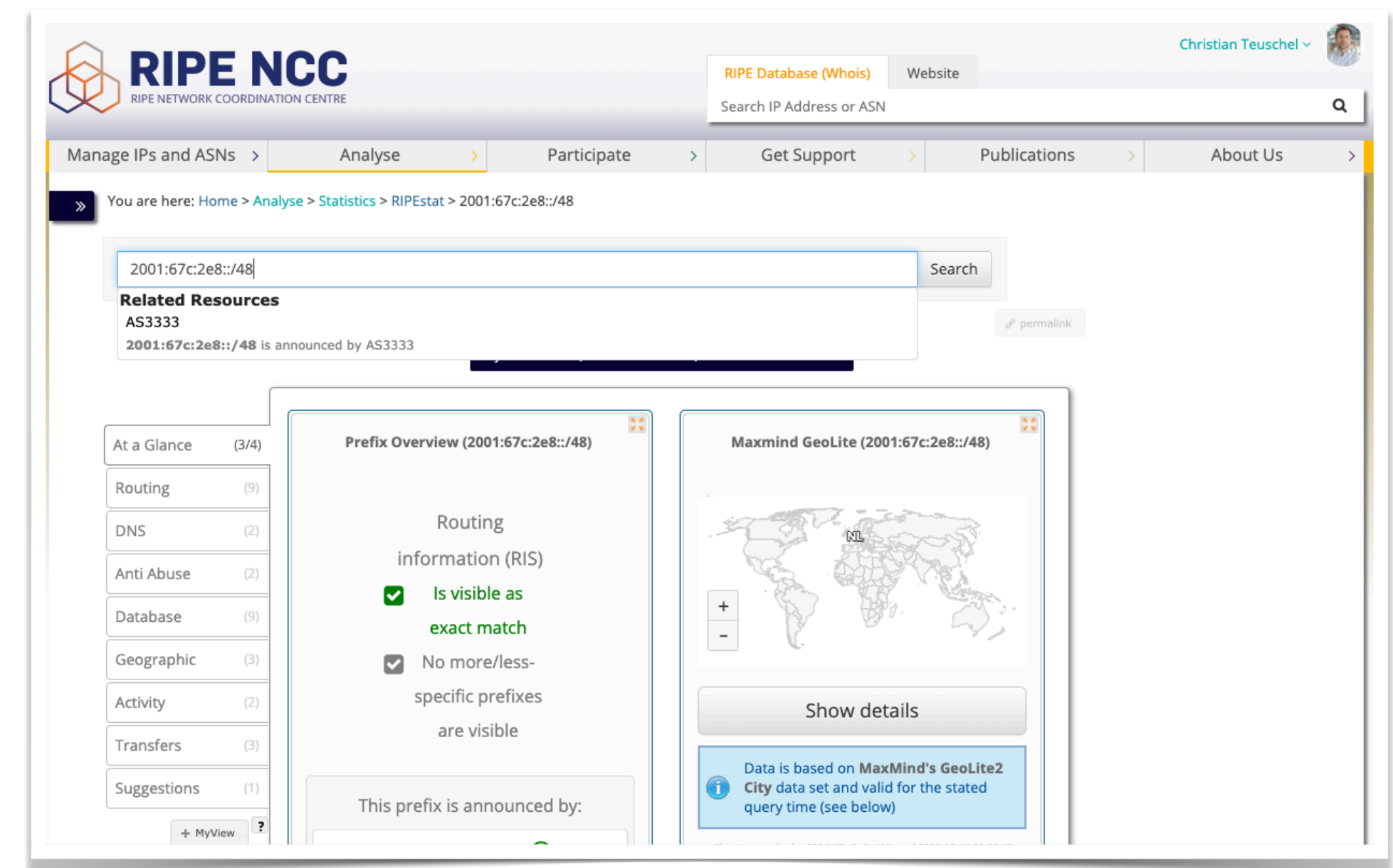
- 2 April: BGP leaks in Indonesia
- Backend c...
- Backend ch...
- Backend cha...
- Backend chan...
- Backend chang...
- Backend change...
- Backend changes
- Usage: 3M daily requests



2015: First 5 Years!



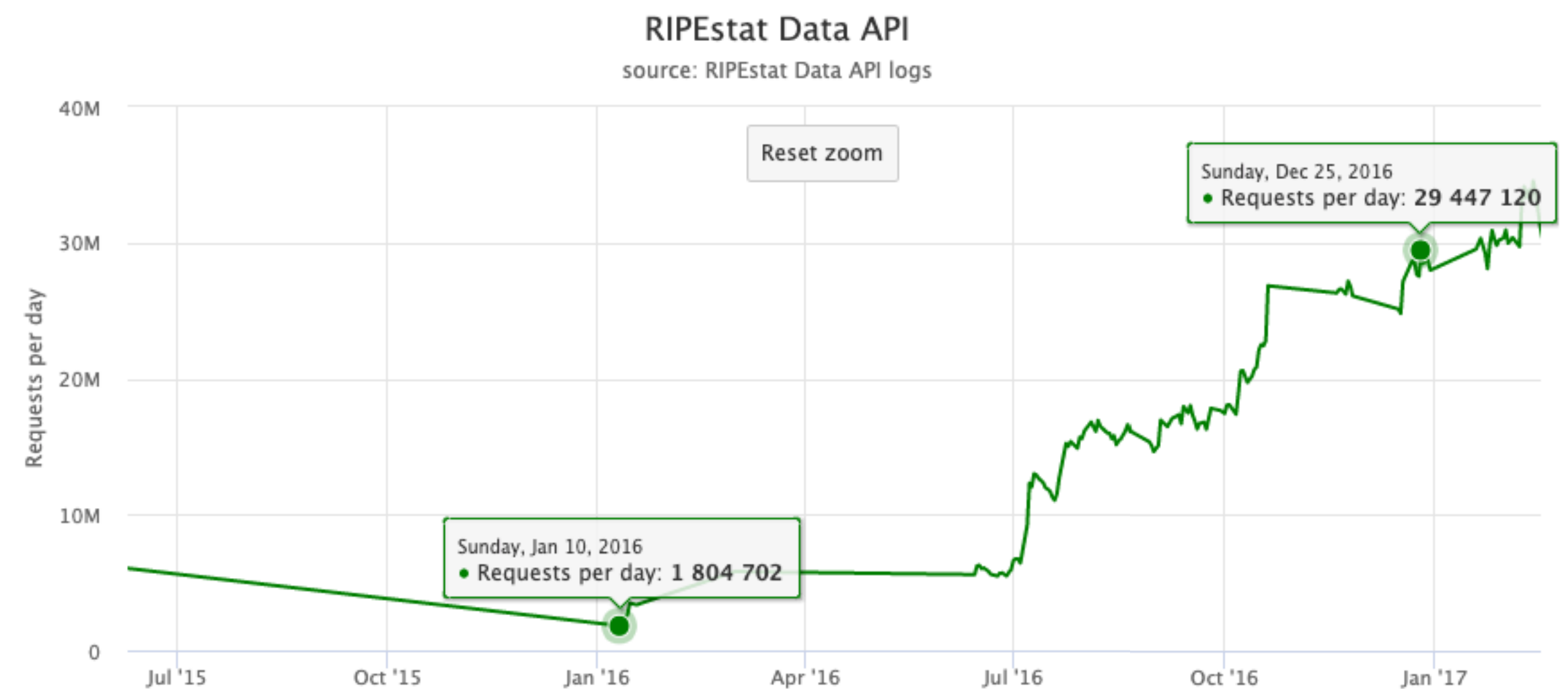
- RIPE NCC Webdesign changes⁶: RIPEstat UI update
- More backend changes⁸
- Team size = 1
- Stopped supporting IE8 for Windows XP
- Usage: 6M requests/d



2016: Usage Increases!



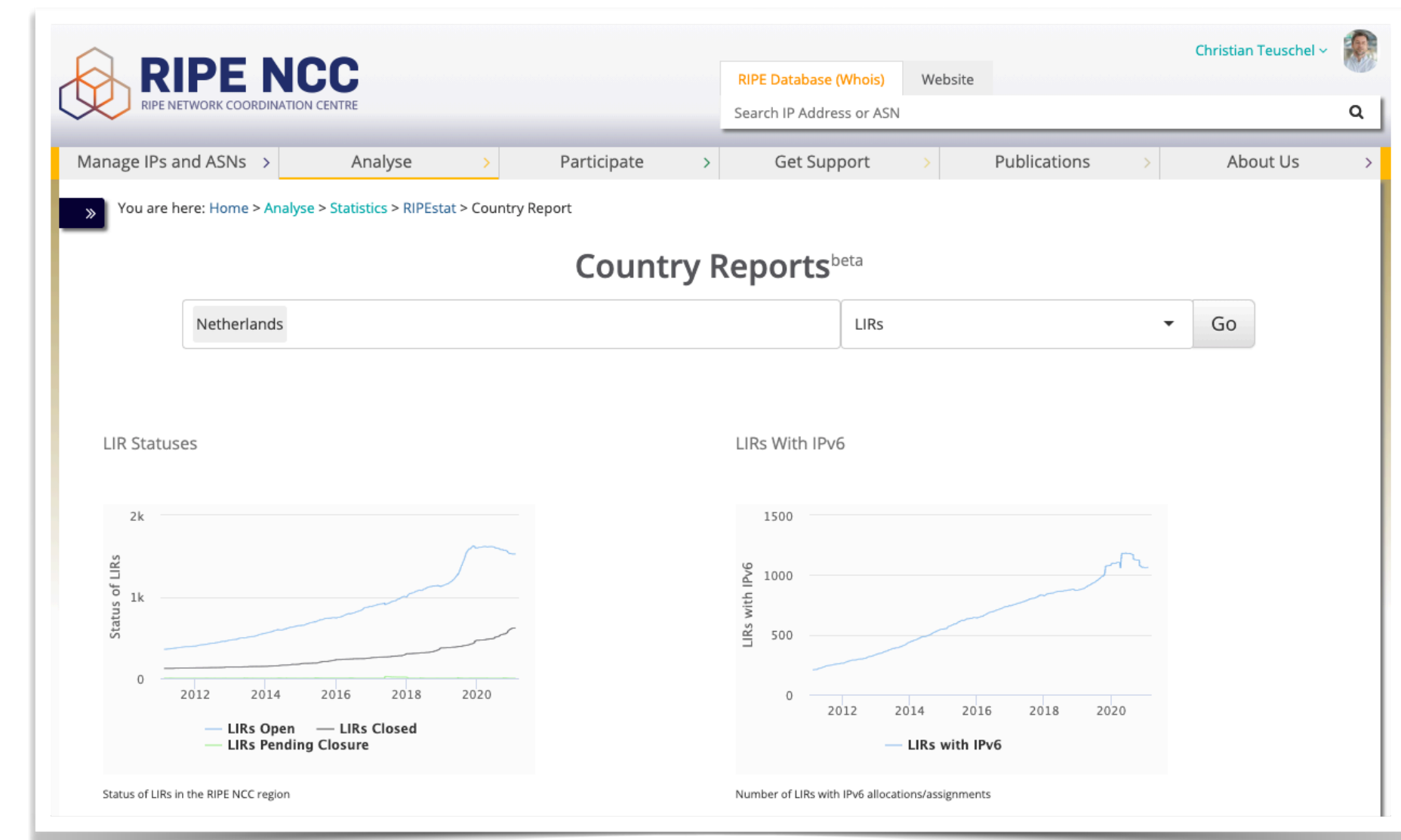
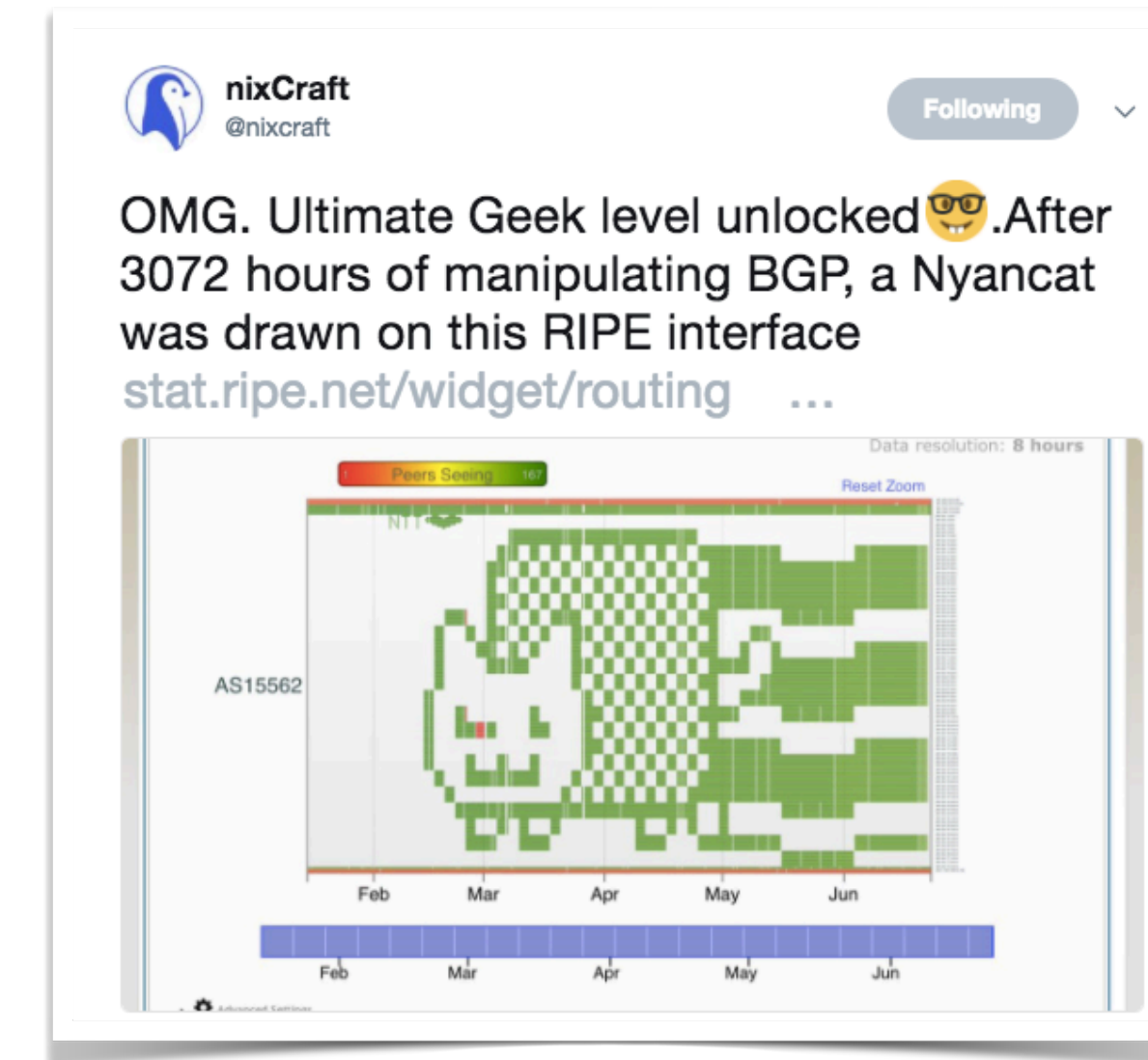
- Backend work continues
- Scalability
 - Start of 2016: ~2M daily requests
 - End of 2016: ~30M daily requests



2017



- June: two longest service interruptions (four and three hours)⁹
- BGP Meets Cat¹⁰
- Release of RIPEstat Country Stats (back then “Country Reports”)
- Changes to RIS⁷ with following backend changes for RIPEstat
- Usage: 50M requests/d



2018

- Added additional FTE
- Historical Whois widget¹¹
- RPKI features added
- Usage: BAU = 30-60M requests/d



Historical Whois (AS3333) RETR

Reload this widget by entering a resource here

2017-12-04 14:48:54 compare

aut-num show more
AS3333

descr: Reseaux IP Europeens
Network Coordination
Centre (RIPE NCC)

status: ASSIGNED

created: 2002-08-13 12:58:13
From 2017-12-04
14:48:54

validity:
To 2018-04-03 12:44:00

↑ ↓

route open

193.0.22.0/23|AS3333

route open

193.0.10.0/23|AS3333

route open

193.0.12.0/23|AS3333

route open

193.0.0.0/21|AS3333

Show all objects

6 x route, 1 x route6

mntner open

RIPE-NCC-END-MNT [mnt-by]

mntner open

RIPE-NCC-MNT [mnt-by]

person open

BRD-RIPE [admin-c]

role open

OPS4-RIPE [tech-c]

organisation open

ORG-RIEN1-RIPE [org]

source data embed code permalink info

In BGP (RIS)	RIPE IRR	Other IRRs	RPKI
yes	yes	no	😊
yes	yes	no	😊
yes	yes	no	😊
yes	yes	no	😊
yes	yes	no	😊
yes	yes	no	😊
yes	yes	no	😊

2019: Reaching New Heights



- Dedicated UI Engineer joined
- Works started for a new UI
- RIPEstat inter-RIR collaboration started:
 - May: NetOX (APNIC)
<https://netox.apnic.net>
 - August: InfoRedes (LACNIC)
<https://info redes.labs.lacnic.net/>



19 Sept 2019: 100M Daily Requests



100 000 000
requests in one day

= 2.8% of daily searches on Google (based on 3.5B searches in 2019)

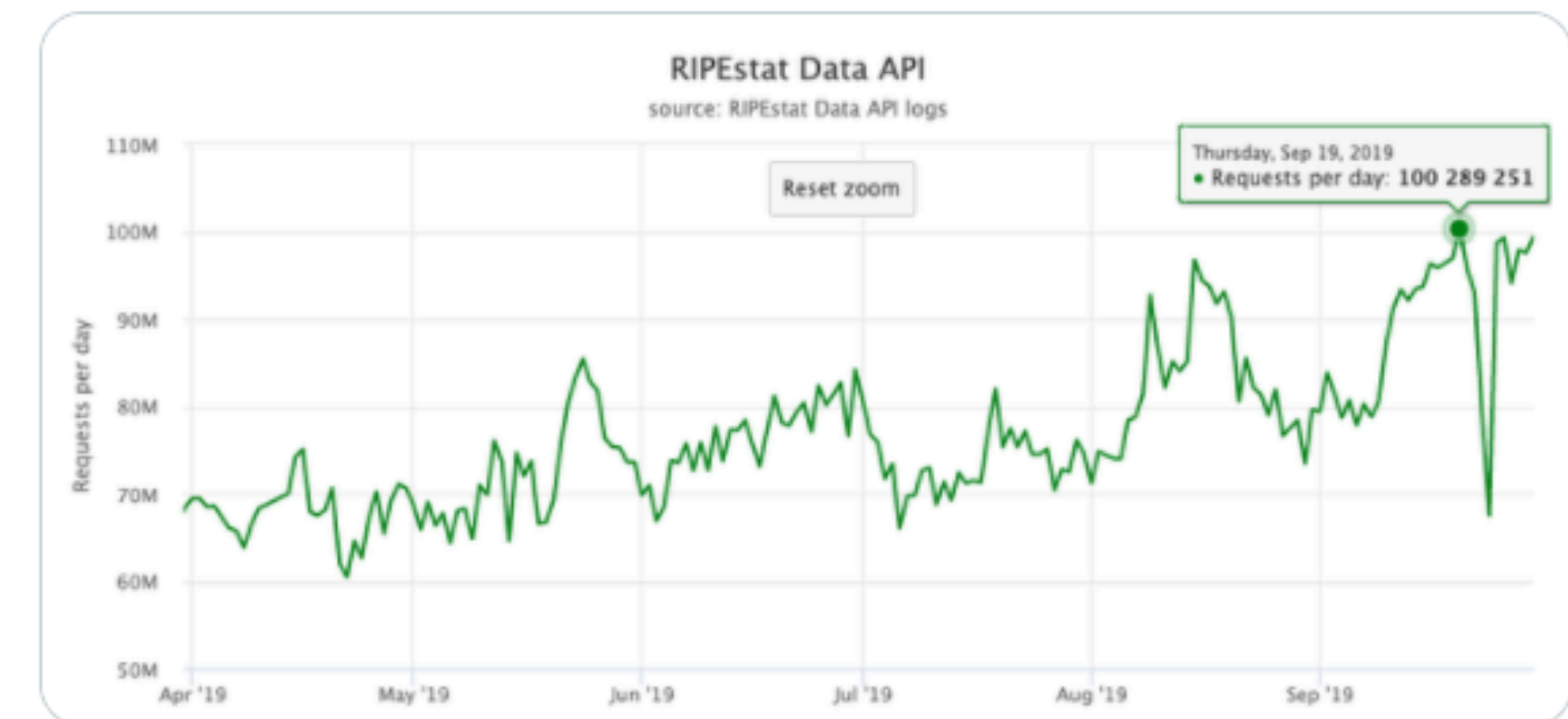


Christian Teuschel
@christian_toysh

100 000 000 requests/day mark was officially reached on 19 September 2019.

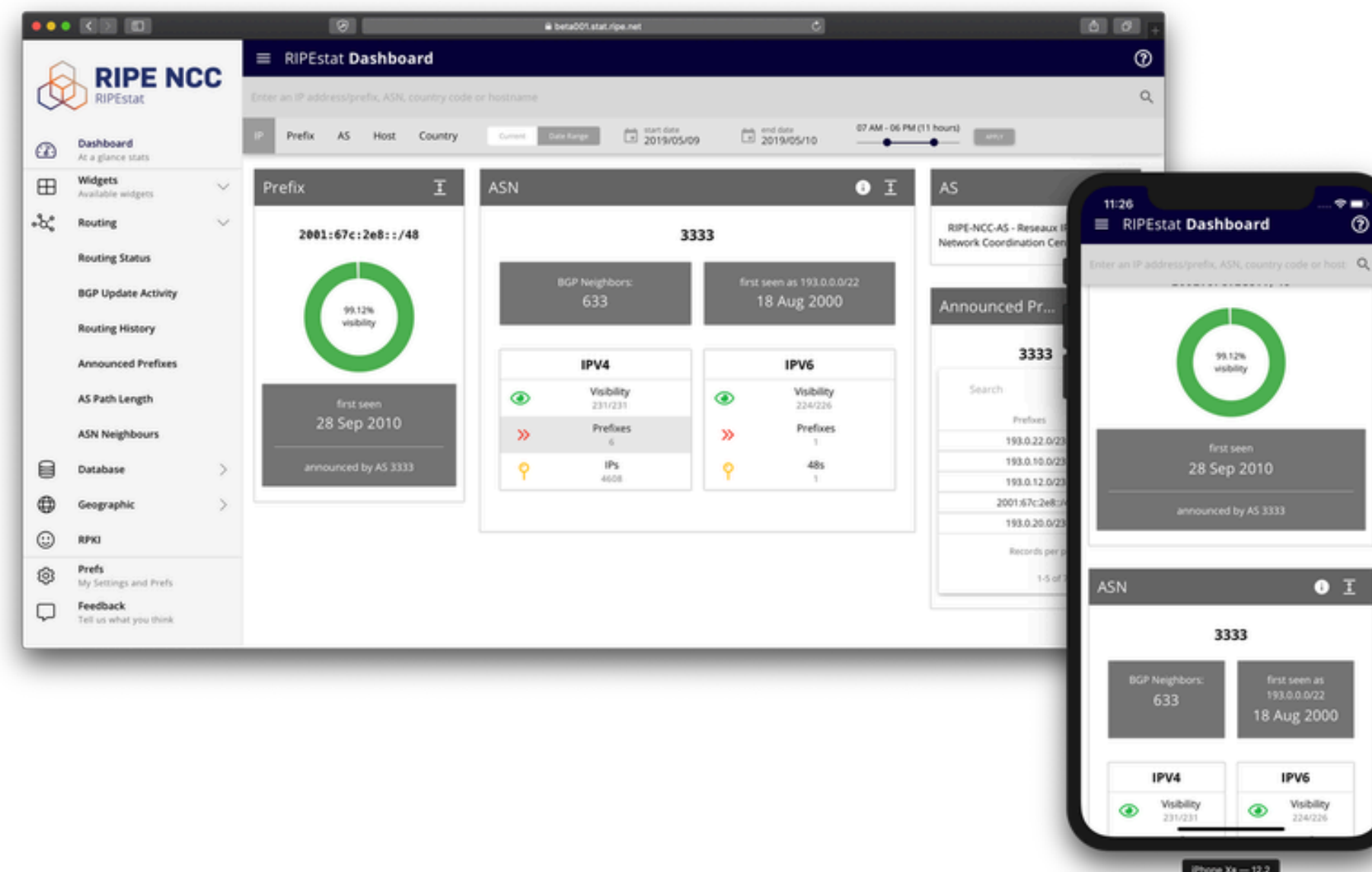
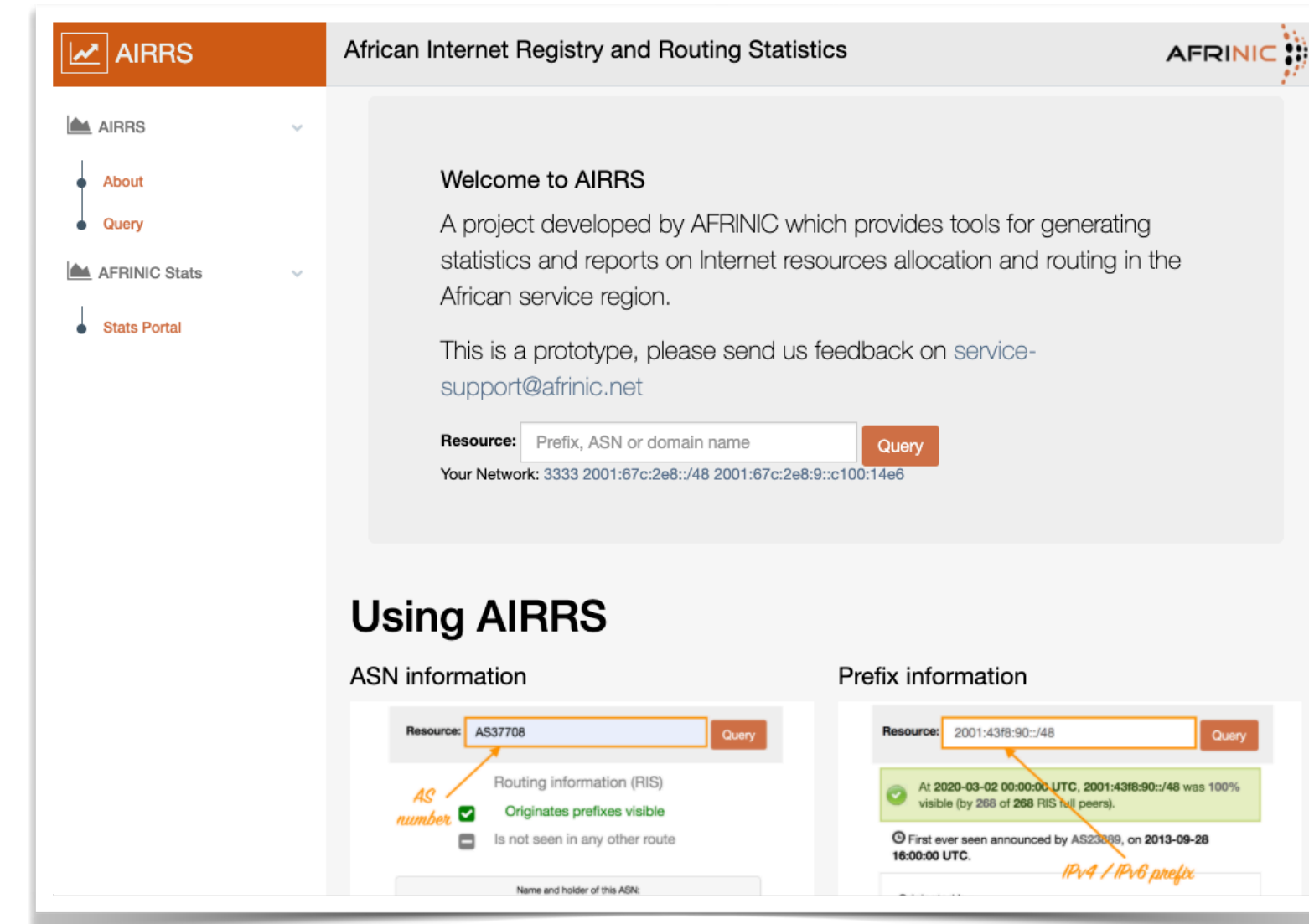
Here's the obligatory (virtual) piece of cake -> 🍰

stat.ripe.net/usage-statistics
#RIPEstat #internet #opendata



2020

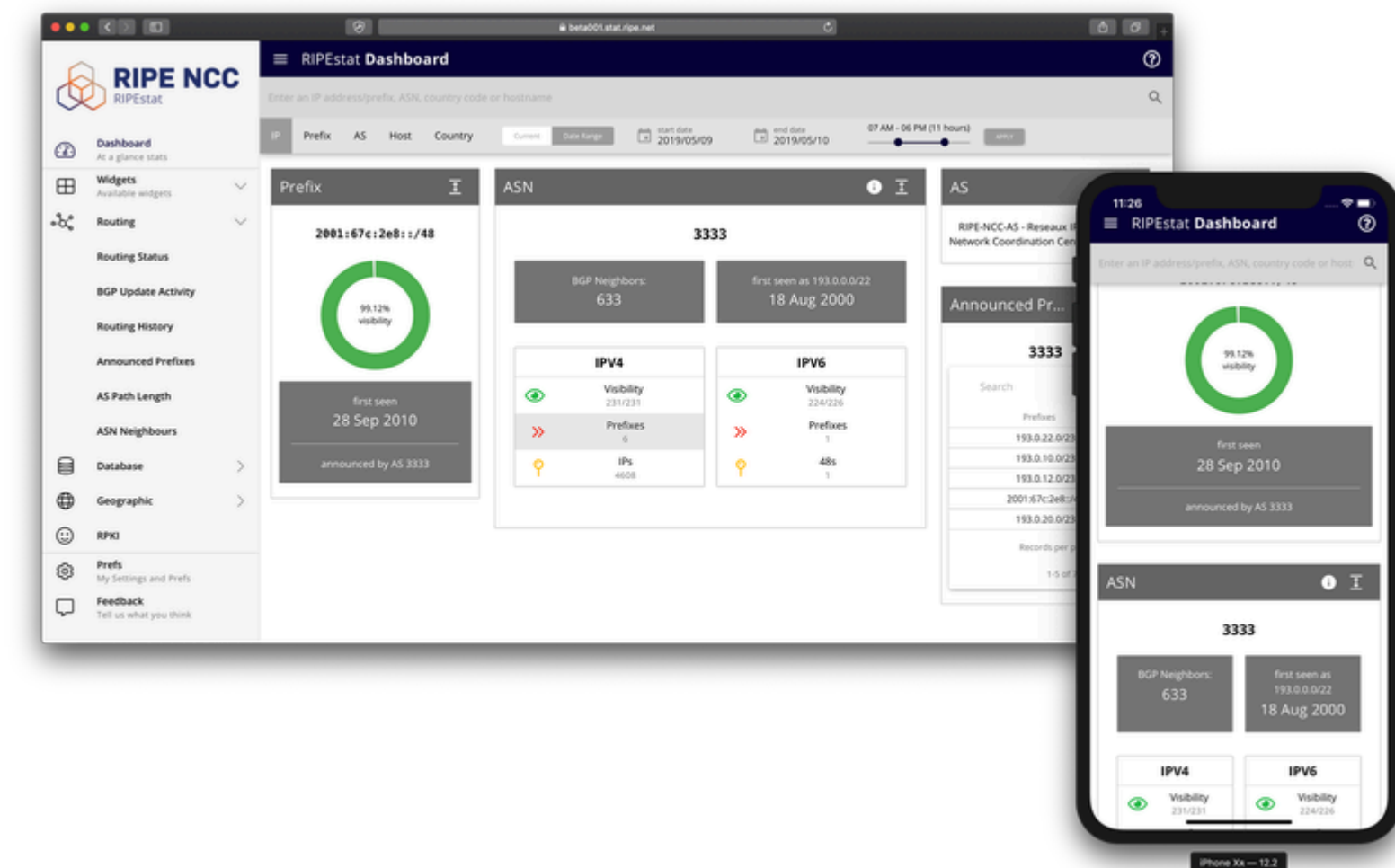
- March: Collaboration with AFRINIC on AIRRS
 - <https://airrs.afrinic.net/>
- New UI has been released as beta release at RIPE 81



2021



- 10 Year Anniversary of RIPEstat
- Widgets: shared code base with RIR partners
- Release of new UI during RIPE 82



Outlook: 2021, 2022,...



- Expanding to the cloud
- Data API focus
 - Harmonising of API parameters
 - Data quality and service reliability
 - Update of documentation
- Revamp of BGPlay
- Widget API goes open source
- ML support for more insights
- More collaborations



Spelling



- There is RIPE NCC, RIPE DB, RIPE Atlas, RIPE Labs, etc.
- BUT there is

RIPEstat

- No other RIPE NCC service had more variations on its spelling, please stick to the correct spelling!
- *“Look it up on stat, you know the tool from RIPE.”*
“Look it up on RIPEstat. The awesome tool from the RIPE NCC!”

Thank you users!



NPS
9

New Feedback RIPEStat

searchable index of everything Internet routing

NPS
10

New Feedback RIPEStat

The ease of use

NPS
10

New Feedback RIPEStat

list all CIDRs in containing CIDR range

NPS
10

New Feedback RIPEStat

Breadth and Depth of Information



NPS
10

New Feedback RIPEStat

global coverage, flexible search range, quick response

NPS
9

New Feedback RIPEStat

I love and adore it

NPS
10

New Feedback RIPEStat

quick identification of neighboring cidrs

NPS
10

New Feedback RIPEStat

It gives me the data I was seeking.



NPS
9

New Feedback RIPEStat

nice BGP tool!



NPS
10

New Feedback RIPEStat

global data without limits, amazing; I've already told two customers

NPS
9

New Feedback RIPEStat

searchable index of everything Internet routing

NPS
10

New Feedback RIPEStat

Awesome tools!!! Literally, the best out there. Please keep it free. Thanks.

NPS
10

New Feedback RIPEStat

total internet coverage, no limits (already recommended)

My heart **and my perpetual gratitude** go out to the entire Operation & Maintenance team of the RIPEstat Suite for providing us 'small players' with such a high-quality toolset that it gives us a survivable chance in today's extremely fluid Internet. I used The Suite on a regular basis to 'go-against-the-entropy' and to keep our network from falling apart.

Thank you team!



We are hiring!



References



- RIPE Labs

- 1: <https://labs.ripe.net/author/kistel/rex-the-resource-explainer/>
- 2: <https://labs.ripe.net/author/kistel/intro-to-inrdb-the-internet-number-resource-database/>
- 3: <https://labs.ripe.net/author/kistel/rex-usage-report/>
- 4: <https://labs.ripe.net/author/mirjam/ripestat-live-demo-1/>
- 5: https://labs.ripe.net/author/alun_davies/an-eventful-ten-years-in-ripestat/
- 6: <https://labs.ripe.net/author/mgrigore/redesigning-the-ripe-ncc-website/>
- 7: https://labs.ripe.net/author/romeo_zwart/ris-route-collector-changes/
- 8: https://labs.ripe.net/author/paul_de_weerd/processing-ripe-atlas-and-ripestat-data-with-hadoop/
- 9: <https://labs.ripe.net/author/cteusche/sand-in-the-gears/>
- 10: <https://labs.ripe.net/author/cteusche/bgp-meets-cat/>
- 11: <https://labs.ripe.net/author/cteusche/historical-whois/>



Questions



christian.teuschel@ripe.net
[@christian_toysh](#)