



**RIPE  
NCC**

## **Using RIPE Atlas and RIPEstat for Network Analysis**

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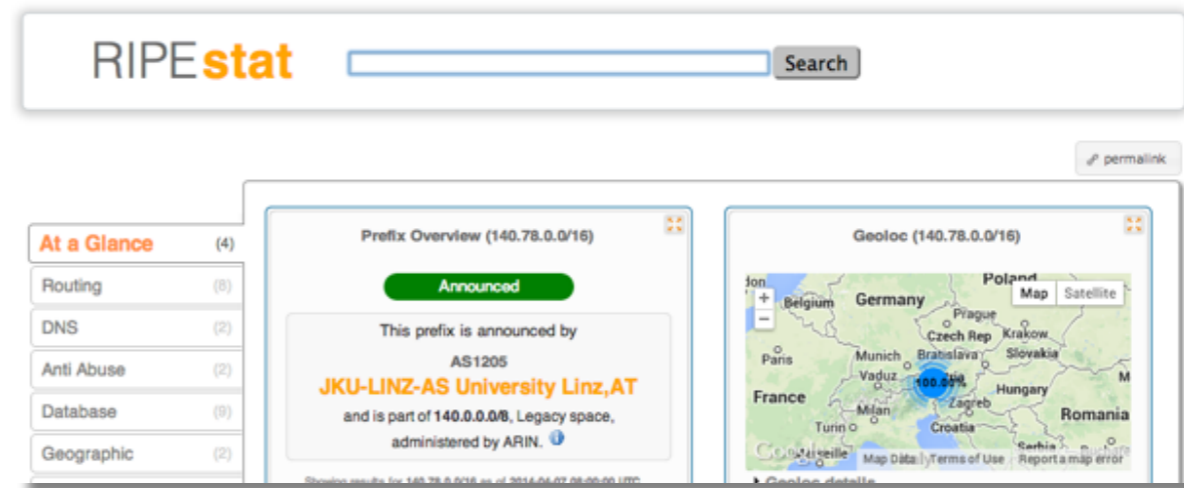
# RIPEstat

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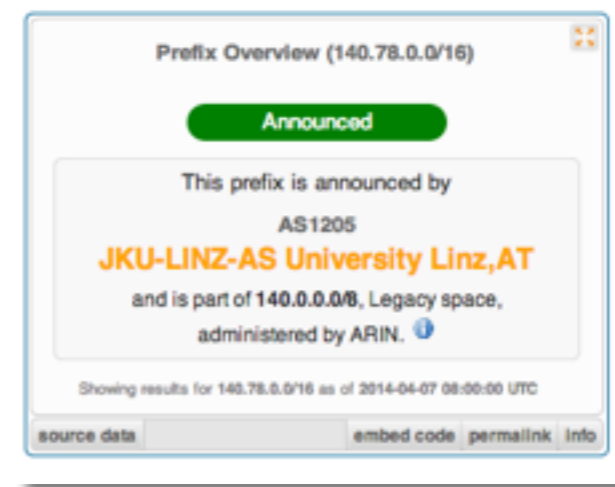


- Information system for Internet number resources
- Data
  - Routing data
    - Collected by RIS: <http://ris.ripe.net>
  - Registration data (whois)
    - RIPE Database & other RIR databases
  - MaxMind's geolocation data
  - Blacklist data
  - And many more: <https://stat.ripe.net/data-sources>

- RIPEstat Web



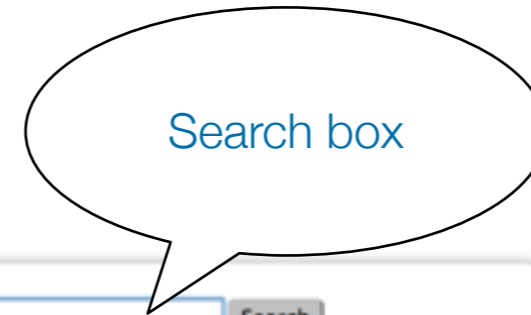
- RIPEstat Widget API



- RIPEstat Data API / RIPEstat Text API

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

- The result page



You are here: Home > Data & Tools > RIPEstat > AS3333

**RIPEstat**

permalink

**At a Glance** (4)

- Routing (9/10)
- DNS (1)
- Anti Abuse (1)
- Database (5)
- Geographic (2)

**AS Overview (AS3333)**

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

Showing results from 2013-08-30 00:00:00 UTC to 2013-08-30 00:00:00 UTC

source data embed code permalink info

**Geoloc (AS3333)**

Map Satellite Hamburg Bremen London Amsterdam Net 100.000% Belgium Cologne Germany

Map Data Terms of Use Report a map error

Geoloc details

Showing results for AS3333 as of 2013-08-01 00:00:00 UTC

source data embed code permalink info

**Registry Browser (AS3333)**

Last updated on 2012-04-17 at 10:12:15 UTC.

**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

Showing results for AS3333 as of 2013-08-30 14:44:20 UTC

source data embed code permalink info

**Routing Status (AS3333)**

AS3333 is visible by 97%  
99% of 102 IPv6 RIS

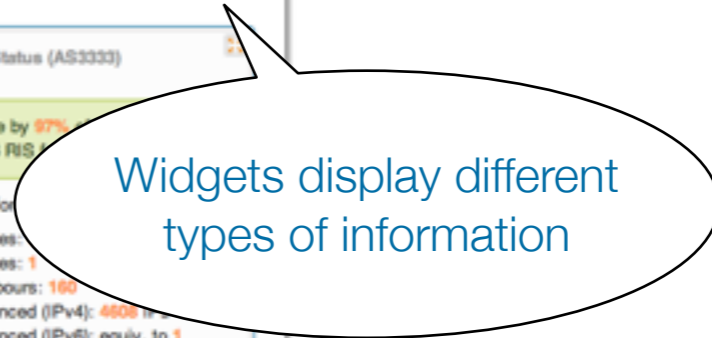
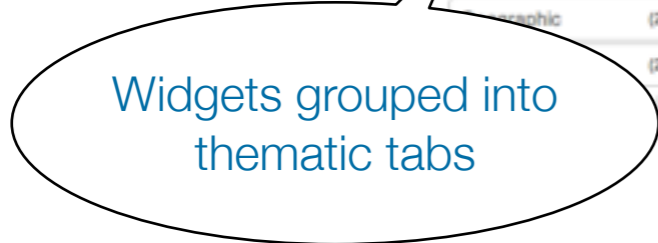
First ever seen before

Originated IPv4 prefixes: 1  
Originated IPv6 prefixes: 1  
Observed BGP neighbours: 160  
Address space announced (IPv4): 4608 /24s  
Address space announced (IPv6): equiv. to 1 /48s

Compare to 1 week earlier

Showing results for AS3333 as of 2013-08-29 00:00:00 UTC

source data embed code permalink info

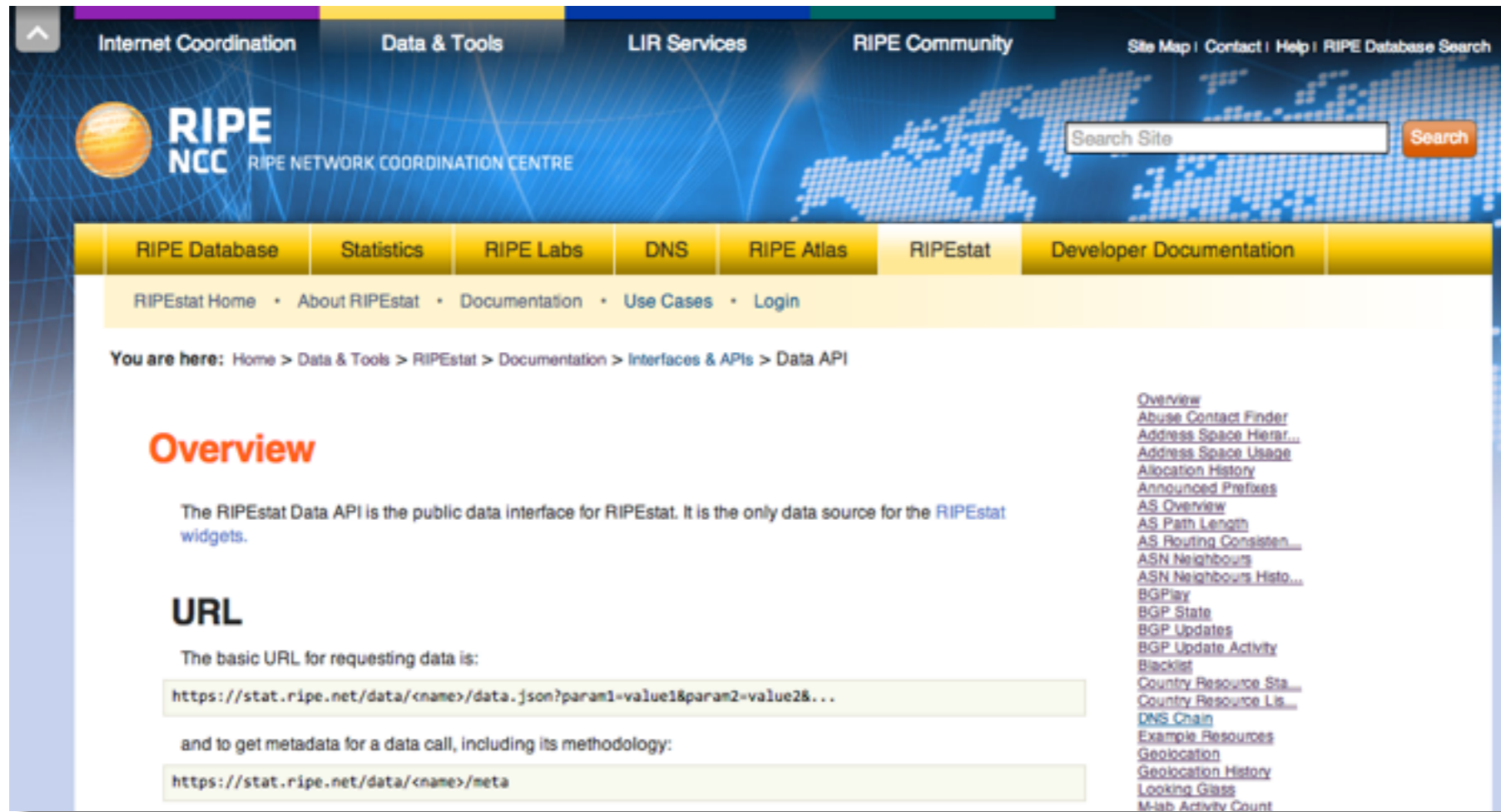


- Is my network announced?
  - <https://stat.ripe.net/data/prefix-overview/data.json?resource=193/23>

```
"cached": true,  
"data": {  
  "actual_num_related": 0,  
  "announced": true,  
  "asns": [  
    {  
      "asn": 3333,  
      "holder": "RIPE-NCC-AS Reseaux IP Europeens Network Coordination Centre (RIPE NCC),NL"  
    }  
  ],  
}
```

- Feed it to your monitoring system (e.g. Icinga, Nagios...)
- Build a custom application

- Explore the RIPEstat Data API
  - With 40+ data calls
  - [https://stat.ripe.net/docs/data\\_api](https://stat.ripe.net/docs/data_api)



The screenshot shows the RIPEstat Data API documentation page. The page has a blue header with the RIPE NCC logo and navigation links. The main content area is white with a yellow navigation bar. The page title is "Data API" and the breadcrumb trail is "Home > Data & Tools > RIPEstat > Documentation > Interfaces & APIs > Data API". The main heading is "Overview" in orange. The text below the heading states: "The RIPEstat Data API is the public data interface for RIPEstat. It is the only data source for the RIPEstat widgets." The "URL" section provides the basic URL for requesting data: `https://stat.ripe.net/data/<name>/data.json?param1=value1&param2=value2&...` and the URL for getting metadata: `https://stat.ripe.net/data/<name>/meta`. A sidebar on the right lists various data calls available through the API, including Overview, Abuse Contact Finder, Address Space Hierarchy, Address Space Usage, Allocation History, Announced Prefixes, AS Overview, AS Path Length, AS Routing Consistency, ASN Neighbours, ASN Neighbours History, BGPlay, BGP State, BGP Updates, BGP Update Activity, Blacklist, Country Resource Statistics, Country Resource Lists, DNS Chain, Example Resources, Geolocation, Geolocation History, Looking Glass, and M-lab Activity Count.

- Analyse the routing status for your network!
  - <https://stat.ripe.net/bgplay>

The screenshot shows the BGPlay widget interface for IP 193.0.0.21. It features a central network graph with various ASes connected to a central hub. Below the graph is a timeline showing routing events like 'Initial state', 'Path Change', 'Withdrawal', and 'Announce'. The interface includes a control panel with navigation buttons and a selection timeline for filtering events.

**BGP event, ASN or ASN path details**

**Control panel:**

- Covered time period
- RRC selection

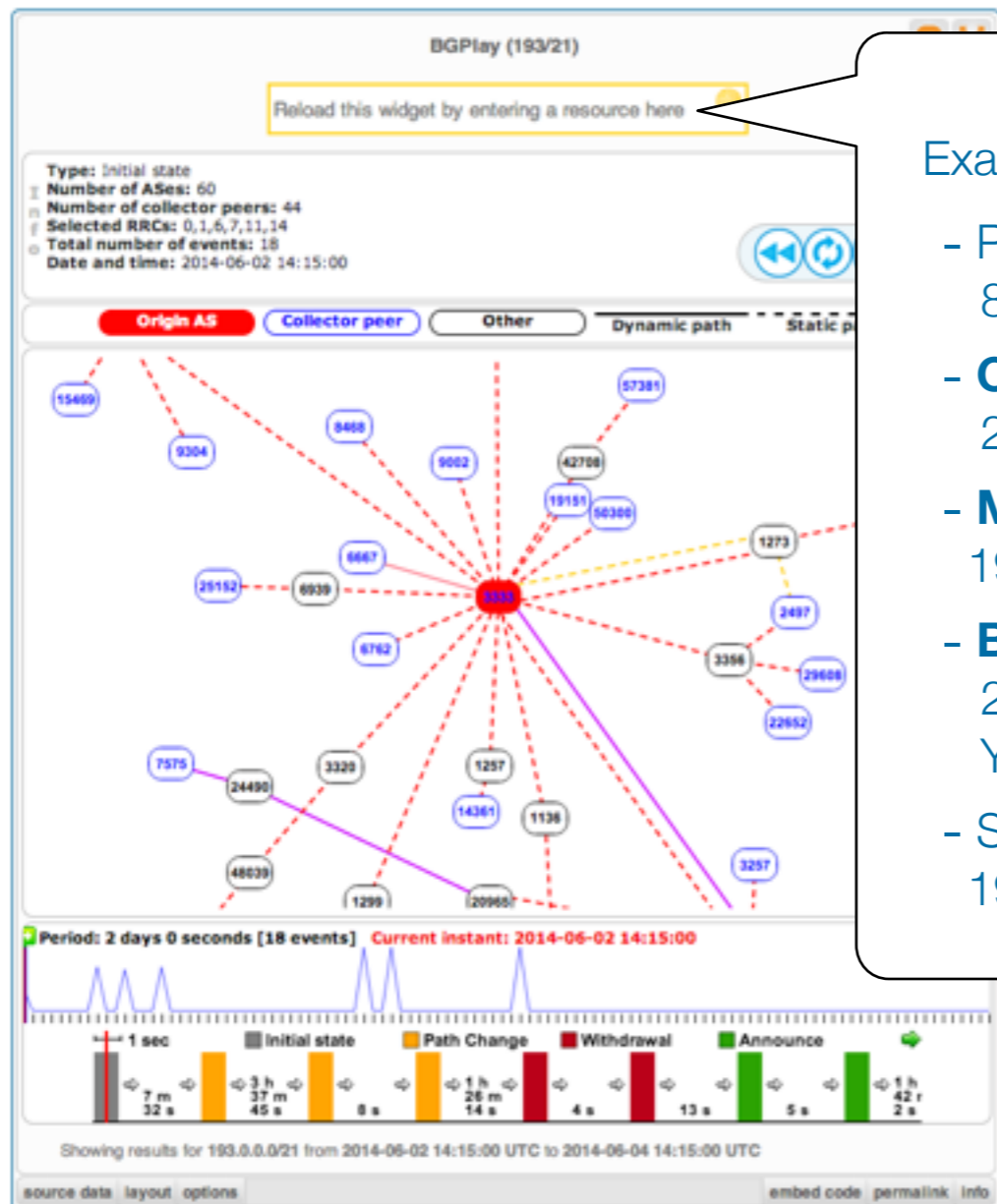
**Interactive graph visualisation**

**Control timeline**

**Selection timeline**



- Analyse the routing status for your network!
  - <https://stat.ripe.net/bgplay>



## Examples:

- Prefix with **announcements & withdrawals**:  
84.205.64.0/24
- **Check IPv6 connectivity**:  
2001:67c:2e8::/48
- **Multi-homed** prefix:  
199.7.80.0/24
- **BGP-Hijacking**  
2008-02-28: 208.65.153.0/24  
Youtube traffic by Pakistan Telecom AS17557
- Selective BGP **Blackholing**  
193.33.96.64

- Explore the RIPEstat Widget API
  - With 46 widgets
  - <https://stat.ripe.net/widget/list>

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You are here: Home > Data & Tools > RIPEstat > About RIPEstat > Widget List

### RIPEstat Widgets

This is a complete list of all of the widgets that RIPEstat offers. Each of these widgets can be accessed using the links below.

When you view a widget you can also get code for **embedding** it in your own pages. The full procedure for embedding and configuring widgets is described in the Widget API Documentation.

Show  entries Search:

Title (show slug)	Example	Prefix	IP address	ASN	Hostname	Country code
Abuse Contact Finder		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Address Space Hierarchy		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Quick Links

- Looking For Abuse Information >
- FAQ >
- Feedback >
- Documentation >
- Mobile Version >
- Widget List >

- Compare the number of routed prefixes of two ASNs?
  - <https://stat.ripe.net/special/compare-results>

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You are here: Home > Data & Tools > RIPEstat > Use Cases > Data Comparator

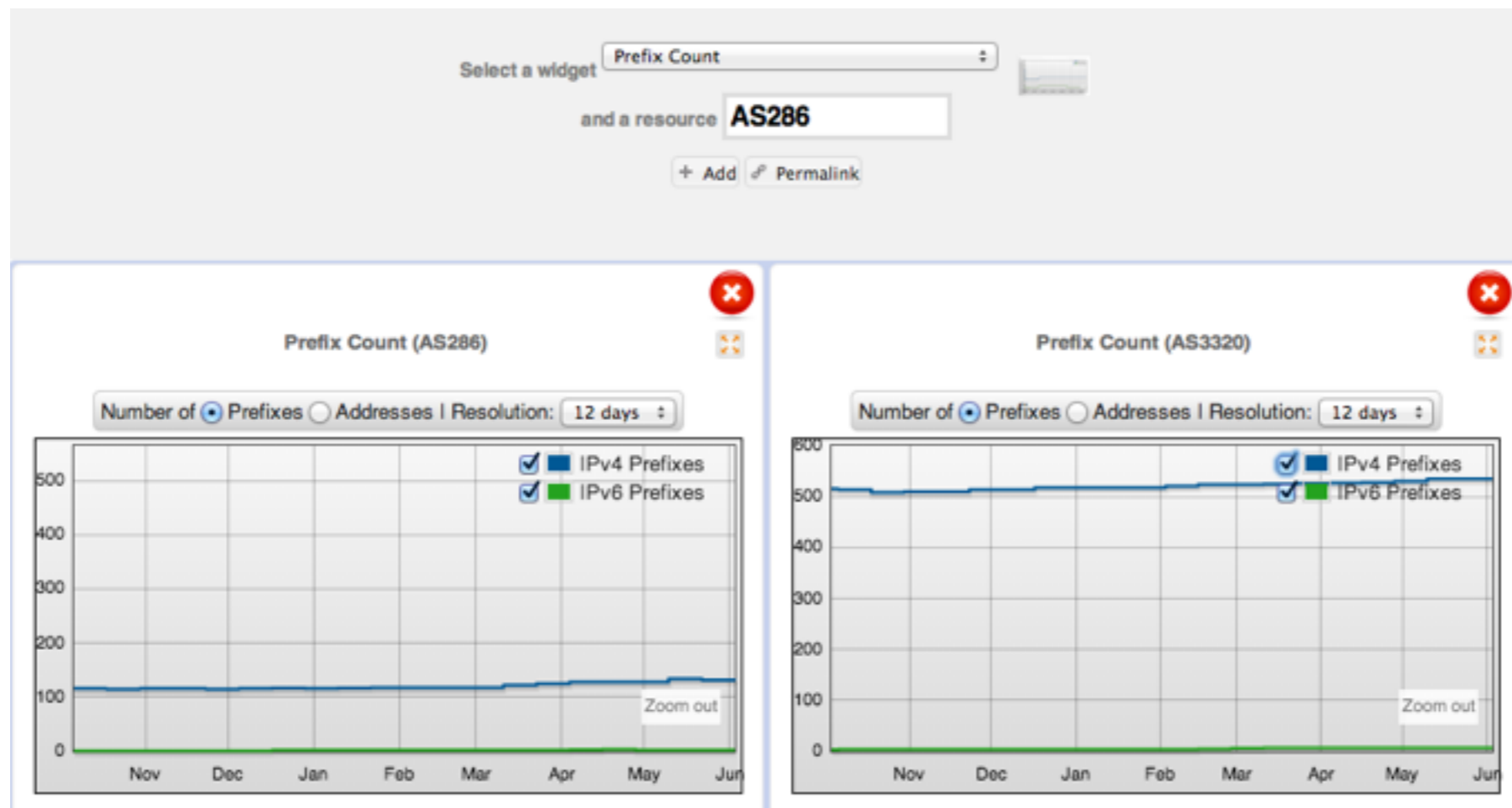
## Compare Results

Select up to six different widgets from the list to compare at one time. Different resources can be queried for each widget.

Select a widget

and a resource

- Compare the number of routed prefixes of two ASNs?
  - <https://stat.ripe.net/special/compare-results>



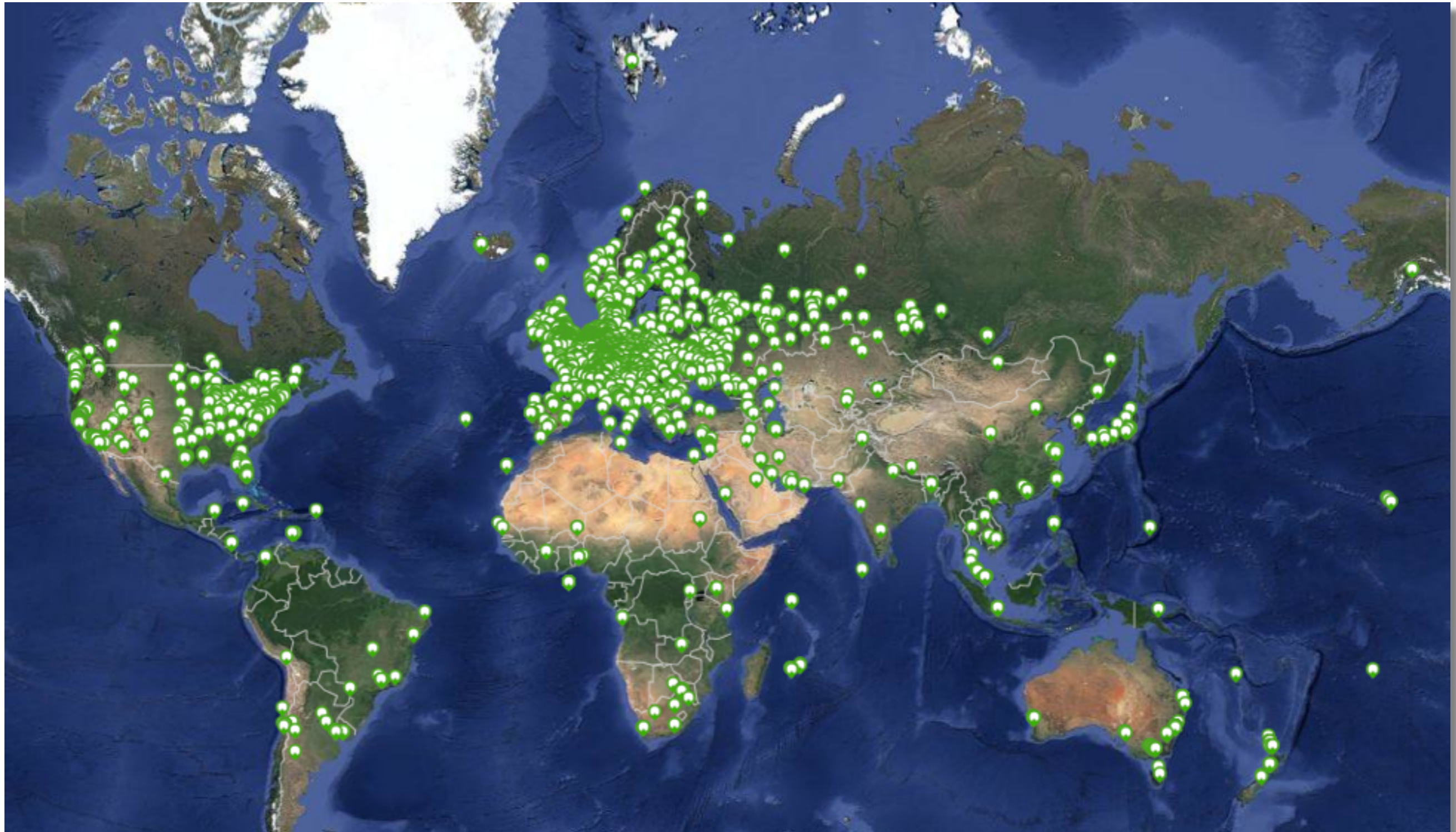


# RIPE Atlas

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**RIPE**  
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- By hosting a probe, you earn credits
- To perform measurements, you spend credits
  - pings costs 10 credits, traceroutes costs 20, etc.
- Credit system introduced to ensure fairness and protect system from overload
- Extra credits can be earned by:
  - Being a RIPE NCC member
  - Hosting a RIPE Atlas anchor
  - Sponsoring multiple probes
- More details: <https://atlas.ripe.net/doc/credits>

- 6,200+ probes connected
- 8,000+ active users this year
- Doing:
  - Built-in measurements
  - User-defined measurements
  - Four types of user-defined measurements available to probe hosts and RIPE NCC members: ping, traceroute, DNS, SSL
- Goal by end of 2014:
  - 10,000 connected probes

Country	Probes
United States	876
Germany	846
Russian Federation	726
United Kingdom	600
Netherlands	475
France	418
Ukraine	369
Belgium	194
Italy	179
Czech Republic	169



- v1 & v2: Lantronix XPort Pro
- v3: TP-Link TL-MR3020 powered from USB port
  - Does not work as a wireless router
  - Same functionality as the old probe
- RIPE Atlas anchor: Soekris net6501-70



- Distribution model changed!
  - [https://labs.ripe.net/Members/fatemah\\_mafi/changes-to-the-distribution-model-for-ripe-atlas-probes](https://labs.ripe.net/Members/fatemah_mafi/changes-to-the-distribution-model-for-ripe-atlas-probes)



- Anchors: well-known targets and powerful probes
  - Regional baseline & “future history”
- Anchoring measurements
  - Measurements between anchors
  - 200 probes targeting each anchor with measurements
  - Each probe measures 4-5 anchors
- Vantage points for new DNSMON service
- 60 RIPE Atlas anchors
  - Goal for end of 2014: 100 anchors worldwide



- Network operators use tools for monitoring health of networks
  - Nagios & Icinga
- Tools can receive input from RIPE Atlas, via API
- Benefits:
  - Doing pings from 1,000 out of 6,000+ probes around the world
  - Looking at your network from the outside
  - Plug into your existing practices

- Three easy steps:

1. Create a RIPE Atlas ping measurement

2. Go to “Status Checks” URL

3. Add your alerts in Icinga or Nagios



- [https://labs.ripe.net/Members/suzanne\\_taylor\\_muzzin/introducing-ripe-atlas-status-checks](https://labs.ripe.net/Members/suzanne_taylor_muzzin/introducing-ripe-atlas-status-checks)

- Quick-Look Measurement
  - For RIPE NCC members only

- Investigating problems of slow servers:
  - <http://engineering.freeagent.com/2014/01/24/atlas-probes/>
- Measuring packet loss to determine congested networks
- Selective blackholing (examples based on RIPE Atlas)
  - [https://ripe68.ripe.net/presentations/176-RIPE68\\_JSnijders\\_DDoS\\_Damage\\_Control.pdf](https://ripe68.ripe.net/presentations/176-RIPE68_JSnijders_DDoS_Damage_Control.pdf)
- Anycast analysis:
  - [https://labs.ripe.net/Members/stephane\\_bortzmeyer/the-many-instances-of-the-I-root-name-server](https://labs.ripe.net/Members/stephane_bortzmeyer/the-many-instances-of-the-I-root-name-server)

- Probe code & data analysis:
  - <https://github.com/RIPE-Atlas-Community/>
- Code to make your analysing life easier:
  - Parser for measurement data
  - <https://github.com/RIPE-NCC>



- RIPEstat
  - [stat@ripe.net](mailto:stat@ripe.net)
  - <https://stat.ripe.net>
- RIPE Atlas
  - [atlas@ripe.net](mailto:atlas@ripe.net)
  - <https://atlas.ripe.net>
- On Twitter
  - @RIPE\_Atlas, #RIPEAtlas & #RIPEstat
- On RIPE Labs (<https://labs.ripe.net>)
- <http://roadmap.ripe.net>

# Questions?

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