



**RIPE
NCC**

RIPE NCC Research: Tools and Measurements

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Regional Meeting, November 2014, Tehran

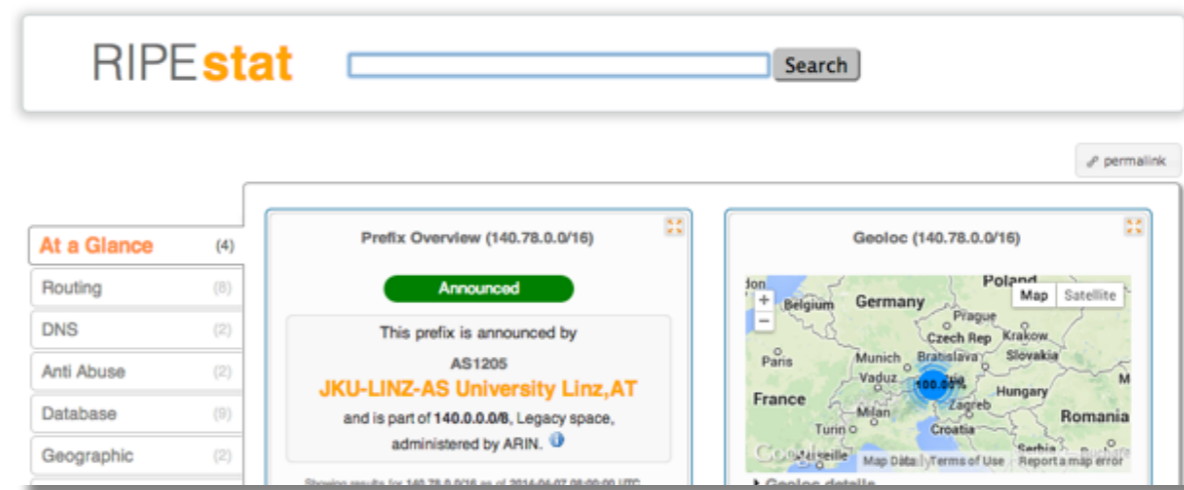


RIPEstat

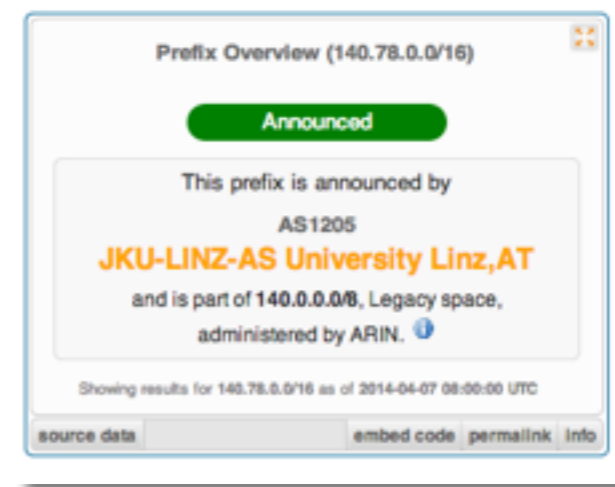


- Information system for Internet number resources
- Data
 - Routing data
 - Collected by RIS: <http://ris.ripe.net>
 - Registration data (whois)
 - RIPE Database & other RIR databases
 - MaxMind's geolocation data
 - Blacklist data
 - And many more: <https://stat.ripe.net/data-sources>

- RIPEstat Web



- RIPEstat Widget API



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

- The result page

The screenshot shows the RIPEstat interface for AS3333. At the top, there is a breadcrumb trail: "You are here: Home > Data & Tools > RIPEstat > AS3333". Below this is the RIPEstat logo and a search bar with a "Search" button. A callout bubble points to the search bar with the text "Search box".

On the left side, there is a sidebar with "At a Glance" (4) and several tabs: "Routing (9/10)", "DNS (1)", "Anti Abuse (1)", "Database (5)", "Geographic (2)", and "Topological (2)". A callout bubble points to these tabs with the text "Widgets grouped into thematic tabs".

The main content area is divided into several widgets:

- AS Overview (AS3333):** Displays "RIPE-NCC-AS - Reseaux IP Europeens Network Coordination Centre (RIPE NCC)". It shows results from 2013-08-30 00:00:00 UTC to 2013-08-30 08:00:00 UTC. It has buttons for "source data", "embed code", "permalink", and "info".
- Geoloc (AS3333):** Shows a map of Europe with markers for Amsterdam, Hamburg, Bremen, London, Cologne, and Belgium. It has buttons for "source data", "embed code", "permalink", and "info".
- Registry Browser (AS3333):** Shows details for "aut-num: AS3333". It lists: "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", and "mnt-by: RIPE-NCC-MNT". It has buttons for "source data", "embed code", "permalink", and "info".
- Routing Status (AS3333):** Shows "AS3333 is visible by 97% (99% of 102 IPv6 RIS)". It lists: "First ever seen before", "Originated IPv4 prefixes:", "Originated IPv6 prefixes: 1", "Observed BGP neighbours: 160", "Address space announced (IPv4): 4608", and "Address space announced (IPv6): equiv. to 1 /48s". It has a "Compare to" dropdown set to "1 week" and "earlier". It has buttons for "source data", "embed code", "permalink", and "info".

A callout bubble points to the Routing Status widget with the text "Widgets display different types of information".

- 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

The screenshot shows the RIPEstat Data API documentation page. The page has a blue header with the RIPE NCC logo and navigation links for Internet Coordination, Data & Tools, LIR Services, and RIPE Community. A search bar is visible in the top right. Below the header is a yellow navigation bar with links for RIPE Database, Statistics, RIPE Labs, DNS, RIPE Atlas, RIPEstat, and Developer Documentation. The main content area is white and features a breadcrumb trail: RIPEstat Home > About RIPEstat > Documentation > Use Cases > Login. The page title is "You are here: Home > Data & Tools > RIPEstat > Documentation > Interfaces & APIs > Data API". The main heading is "Overview" in orange. Below it, a paragraph states: "The RIPEstat Data API is the public data interface for RIPEstat. It is the only data source for the RIPEstat widgets." Under the heading "URL", it provides the basic URL for requesting data: `https://stat.ripe.net/data/<name>/data.json?param1=value1¶m2=value2&...` and the URL for getting metadata: `https://stat.ripe.net/data/<name>/meta`. A sidebar on the right contains a list of links for various data calls, including Overview, Abuse Contact Finder, Address Space Hier..., Address Space Usage, Allocation History, Announced Prefixes, AS Overview, AS Path Length, AS Routing Consisten..., ASN Neighbours, ASN Neighbours Histo..., BGPlay, BGP State, BGP Updates, BGP Update Activity, Blacklist, Country Resource Sta..., Country Resource Lis..., 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 nodes representing ASes and edges representing connections. A control panel at the top right includes navigation buttons and a settings icon. A timeline at the bottom shows event types like 'Initial state', 'Path Change', 'Withdrawal', and 'Announce' with their respective durations. Callouts highlight specific features: 'BGP event, ASN or ASN path details' points to the top left; 'Control panel: - Covered time period - RRC selection' points to the top right; 'Interactive graph visualisation' points to the central graph; and 'Control timeline' points to the bottom timeline.

BGP event, ASN or ASN path details

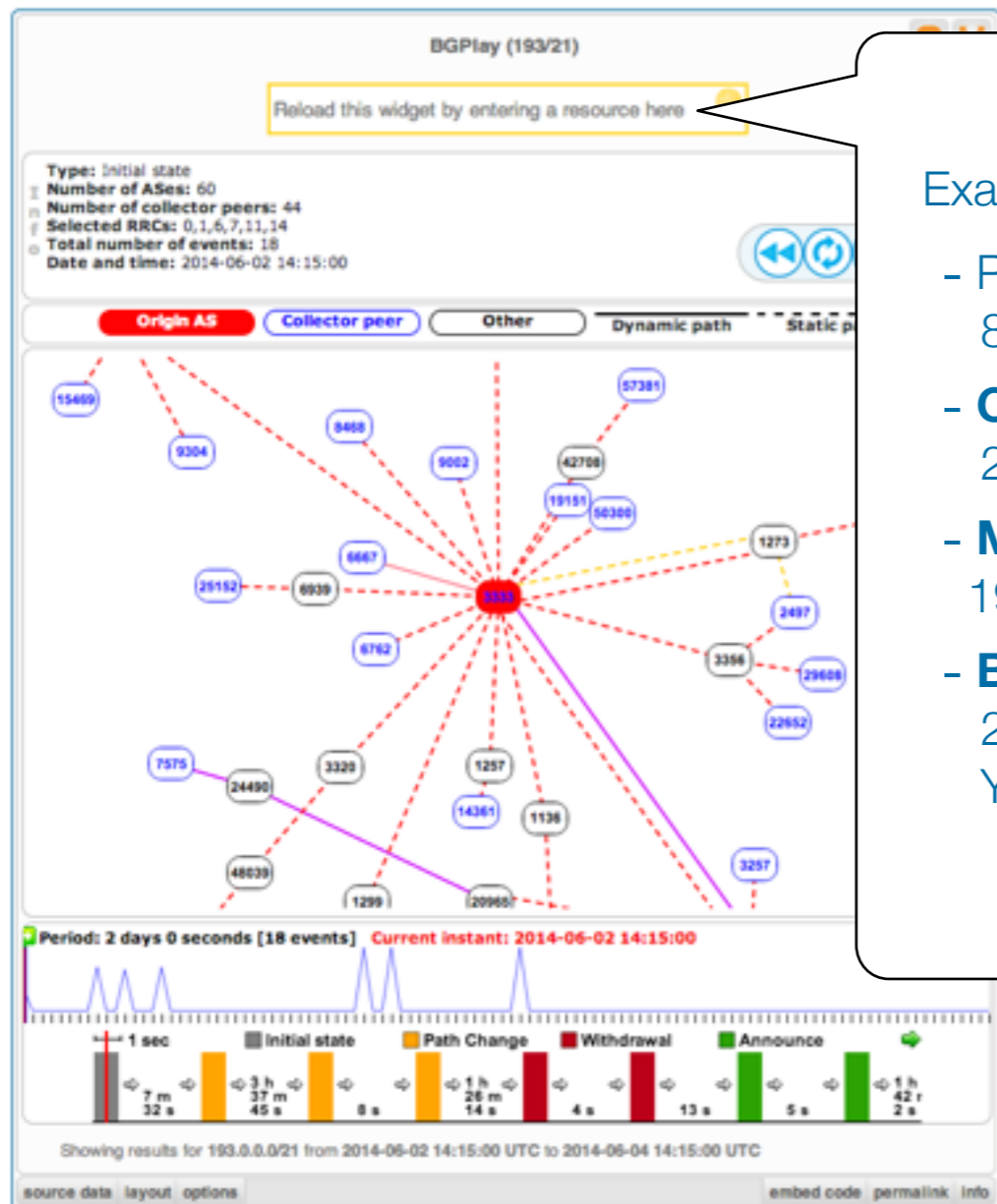
Control panel:
- Covered time period
- RRC selection

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

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

Internet Coordination | Data & Tools | LIR Services | RIPE Community | Site Map | Contact | Help | RIPE Database Search

RIPE NCC RIPE NETWORK COORDINATION CENTRE

Search Site Search

RIPE Database | Statistics | RIPE Labs | DNS | RIPE Atlas | RIPEstat | Developer Documentation

RIPEstat Home • About RIPEstat • Documentation • Use Cases • Login

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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RIPEstat Home · About RIPEstat · Documentation · Use Cases · Login

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

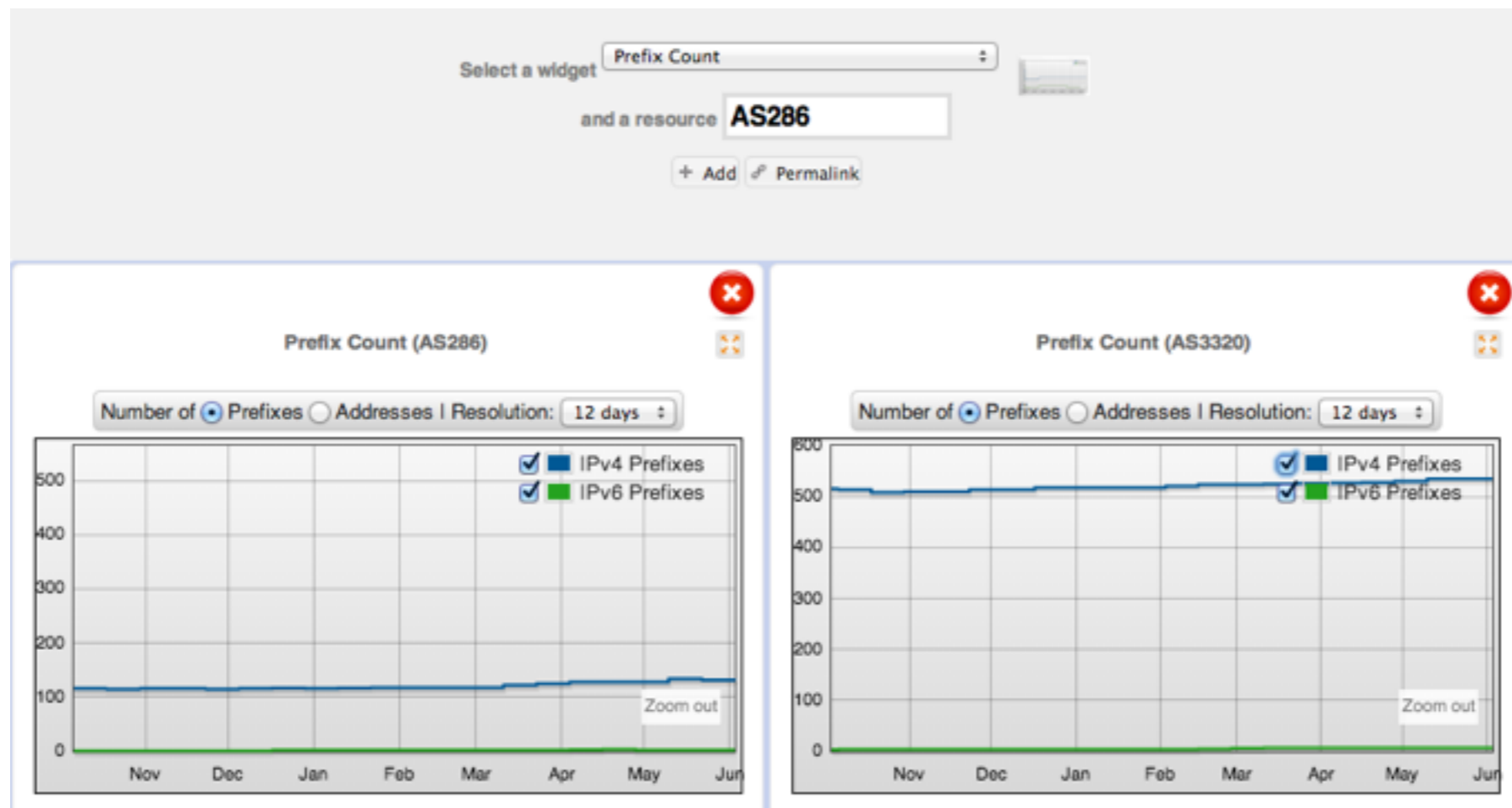
Compare Results

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>

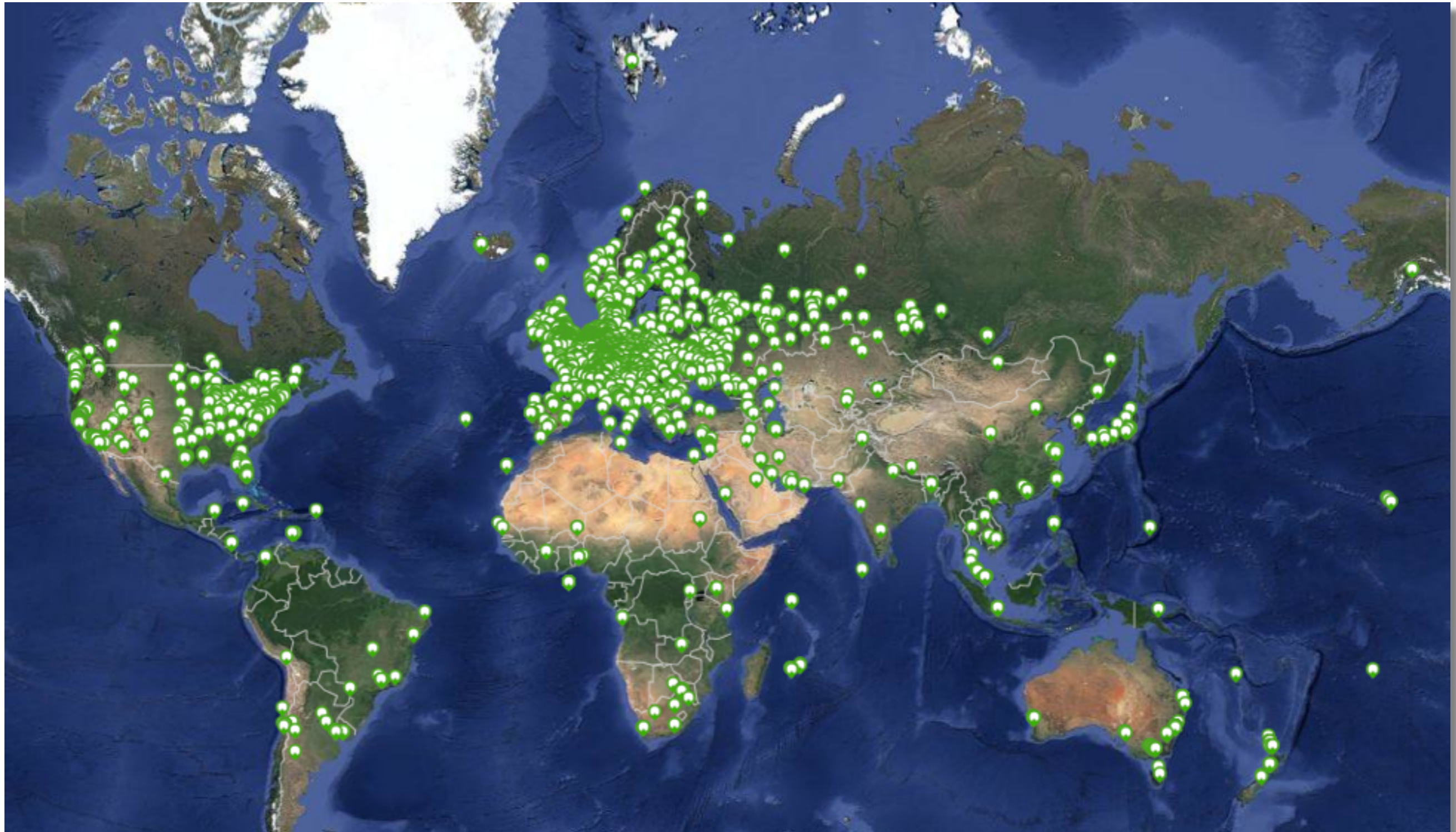




RIPE Atlas



RIPE
NCC



- 7,300+ probes connected
- 4,500+ 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	948
Germany	908
Russian Federation	773
France	721
United Kingdom	705
Netherlands	518
Ukraine	376
Belgium	214
Czech Republic	193
Italy	191

- 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>

- 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



- Anchors: well-known targets and powerful probes
- Anchoring measurements
 - Measurements between anchors
 - 200 probes targeting each anchor with measurements
 - Each probe measures 4-5 anchors
- Vantage points for new DNSMON service
- 80+ RIPE Atlas anchors
 - Goal for end of 2014: 100 anchors worldwide



- Become a Anchor host
 - <https://atlas.ripe.net/get-involved/become-an-anchor-host/>



- Network operators use tools for monitoring health of networks
 - Nagios, Icinga etc.
- Tools can receive input from RIPE Atlas, via API
- Benefits:
 - Doing pings from 500 out of 8,000+ 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. Make alerts available to Icinga, Nagios etc.
- https://labs.ripe.net/Members/suzanne_taylor_muzzin/introducing-ripe-atlas-status-checks

- Quick-Look Feature

The screenshot displays the RIPE Atlas Quick Look interface. On the left, a sidebar contains navigation links: Internet Coordination, Data & Tools, and LIR Services. Below these are buttons for RIPE Database, Statistics, RIPE Labs, and DNS. The main content area features the RIPE NCC logo and a navigation breadcrumb: RIPE Atlas Home > About RIPE Atlas > Get Involved > Results > My... The text explains that RIPE Atlas Quick Look measurements allow RIPE NCC to see how the RIPE Atlas network sees a target of their choice anywhere in the world. It includes a form to enter a destination and a 'Measure' button. On the right, a world map titled 'Quick Look' shows RTT data points for various countries, color-coded by RTT. A legend at the bottom of the map indicates the color scale for Minimum RTT (ms): <10 (green), <20 (light green), <30 (yellow-green), <40 (yellow), <50 (orange), <60 (dark orange), <70 (red-orange), <80 (red), <90 (dark red), 100+ (grey), and Unreachable (white). The footer of the page includes social media icons and a list of links: Home | About RIPE NCC | Service Announcements | Jobs | LIR Portal | Legal | Privacy Statement | Cookies | Copyright Statement.

- For RIPE NCC members only
- No credits required

- Investigating problems of slow servers:
 - <http://engineering.freeagent.com/2014/01/24/atlas-probes/>
- 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-l-root-name-server
- Evaluation of new IXP peering partners:
 - https://labs.ripe.net/Members/daniel_gomez/basic-evaluation-of-new-ixp-peering-partners-with-ripe-atlas-and-zabbix

- 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
 - <https://stat.ripe.net>
- RIPE Atlas
 - atlas@ripe.net
 - <https://atlas.ripe.net>
- On RIPE Labs (<https://labs.ripe.net>)
- <http://roadmap.ripe.net>

- Measurement Tools Tutorial
 - Covering RIPEstat and RIPE Atlas
 - Wednesday starting at 09:00
 - Meeting Room: Negin

Questions?

