



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

RIPE NCC::Educa Routing Security

Overview

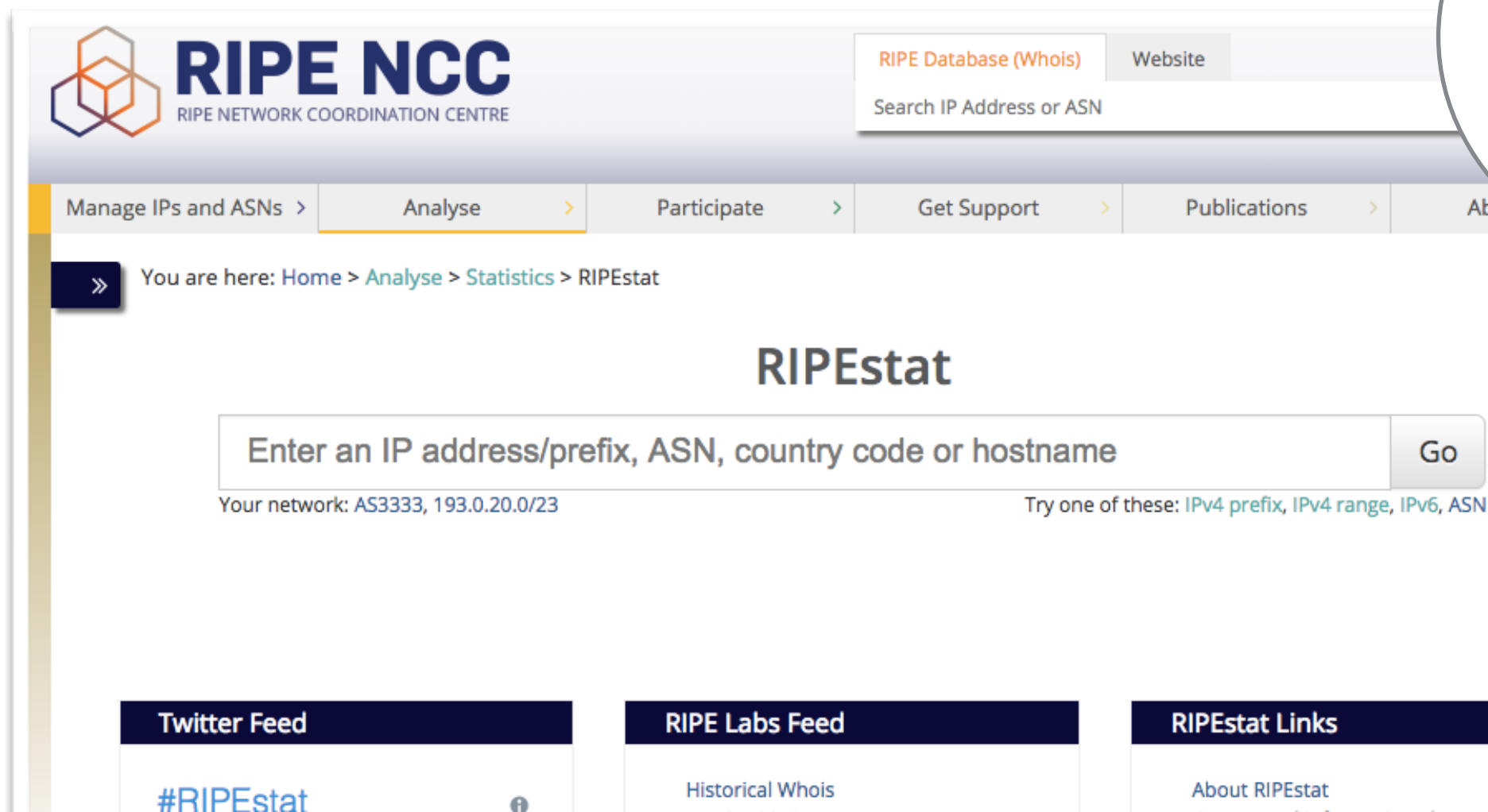


- RIPEstat
- RIS: Routing Information System
- Routing Insights Via RIPEstat
- Examples

RIPEstat



- What is RIPEstat?
 - “RIPEstat is a large-scale information service and the Open Data platform of the RIPE NCC.”
 - One-stop-shop to 20+ backends



The screenshot shows the RIPE NCC website header with the logo and navigation links. Below the header is a breadcrumb trail: Home > Analyse > Statistics > RIPEstat. The main heading is 'RIPEstat'. Below it is a search bar with the placeholder text 'Enter an IP address/prefix, ASN, country code or hostname' and a 'Go' button. Below the search bar, it says 'Your network: AS3333, 193.0.20.0/23' and 'Try one of these: IPv4 prefix, IPv4 range, IPv6, ASN'. At the bottom, there are three sections: 'Twitter Feed' with the hashtag #RIPEstat, 'RIPE Labs Feed' with the link 'Historical Whois', and 'RIPEstat Links' with the link 'About RIPEstat'.

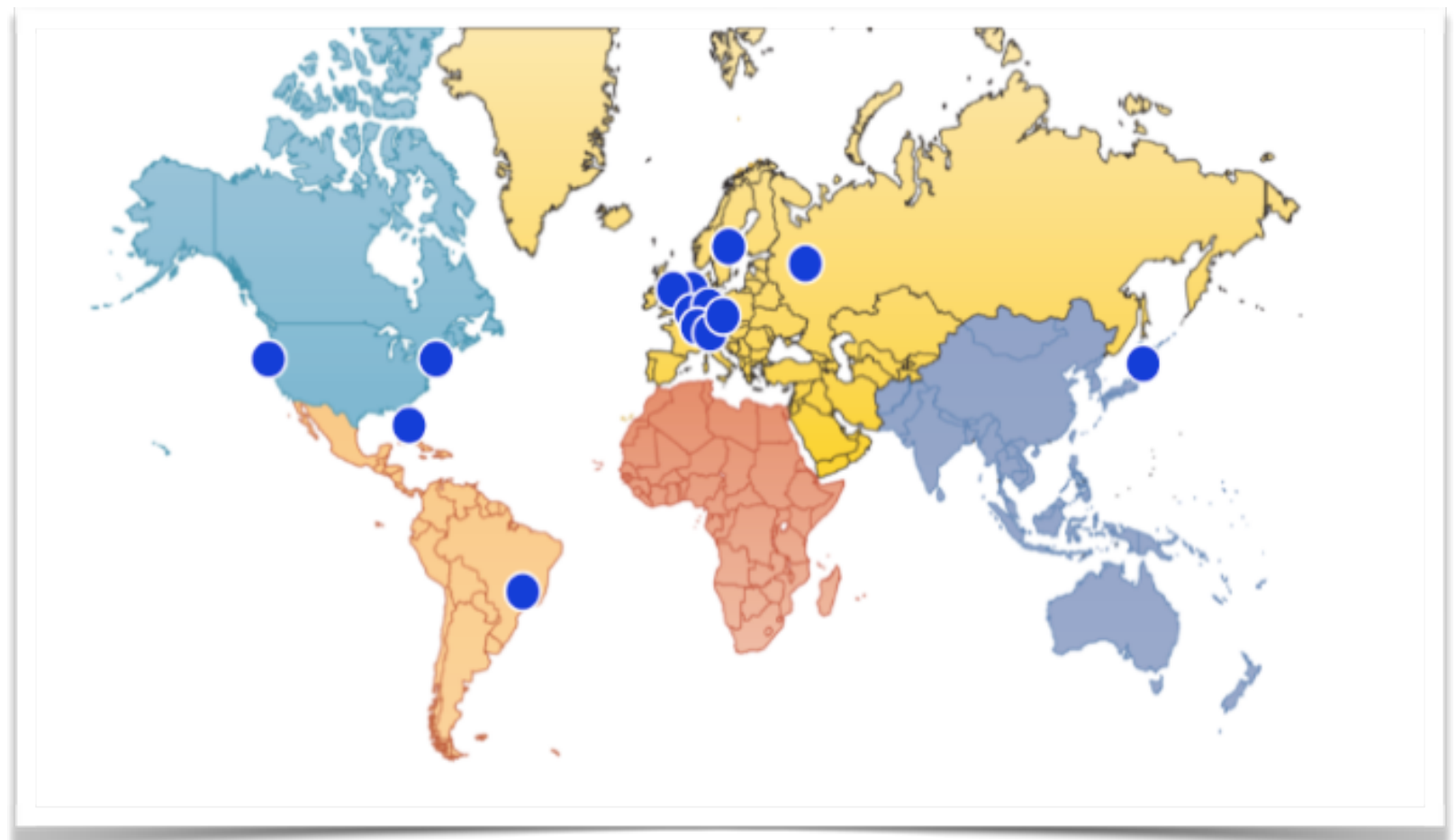
Follow examples on
<https://stat.ripe.net>

Routing Information System (RIS)



- RIS

- The RIPE NCC has been collecting BGP data since 1999
- 19 collectors and growing
- 160+ full-feed peers
- <http://ris.ripe.net>



Routing Insights Via RIPEstat



- Routing data on RIPEstat

The screenshot displays the RIPE NCC website interface. At the top, the RIPE NCC logo and name are visible, along with a search bar for IP addresses or ASNs. A navigation menu includes links for 'Manage IPs and ASNs', 'Analyse', 'Participate', 'Get Support', 'Publications', and 'About Us'. The 'Analyse' section is active, showing a breadcrumb trail: 'You are here: Home > Analyse > Statistics > RIPEstat > 193.0.20.0/23'. A search bar contains the IP address '193.0.20.0/23' and a 'Search' button. On the left, a sidebar lists various categories: 'At a Glance (4)', 'Routing (9)', 'DNS (2)', 'Anti Abuse (2)', 'Database (9)', 'Geographic (2)', 'Activity (4)', and 'Suggestions (1)'. The main content area is titled 'Routing Status (193.0.20.0/23)' and features a green status bar indicating that the IP was 100% visible by 166 of 166 RIS full peers at 2018-04-08 08:00:00 UTC. Below this, it notes that the route was first announced by AS3333 on 2008-03-27 00:00:00 UTC. A blue information box states that results exclude routes with very low visibility. At the bottom, there is a section for 'BGPlay (193.0.20.0/23)'.

Routing Insights Via RIPEstat



- 20+ widgets related to routing data

Announced Prefixes

Prefix Size Distribution

AS Path Length

Routing History

BGPlay

Routing Status

BGP Update Activity

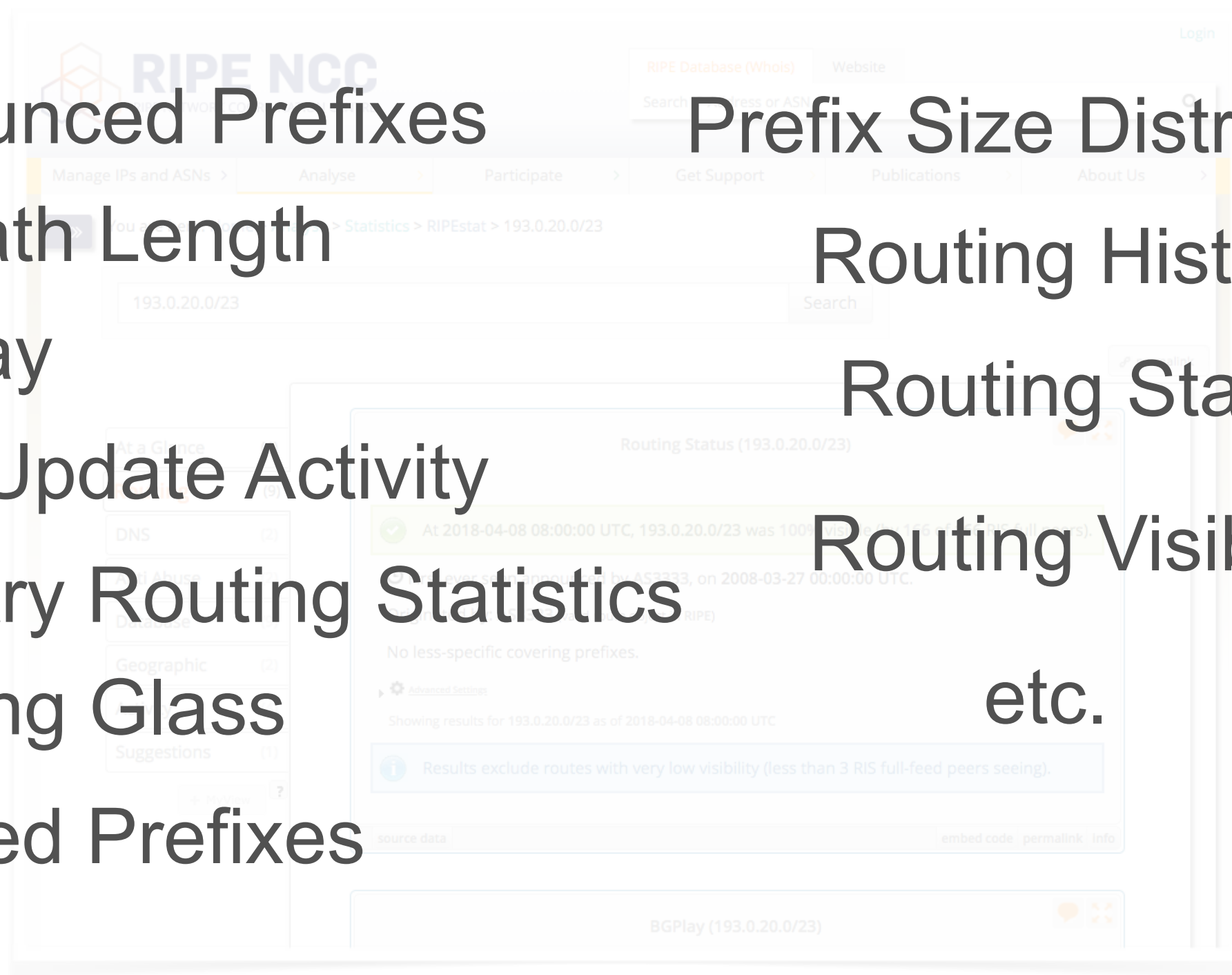
Routing Visibility

Country Routing Statistics

etc.

Looking Glass

Related Prefixes



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BGP Update Activity

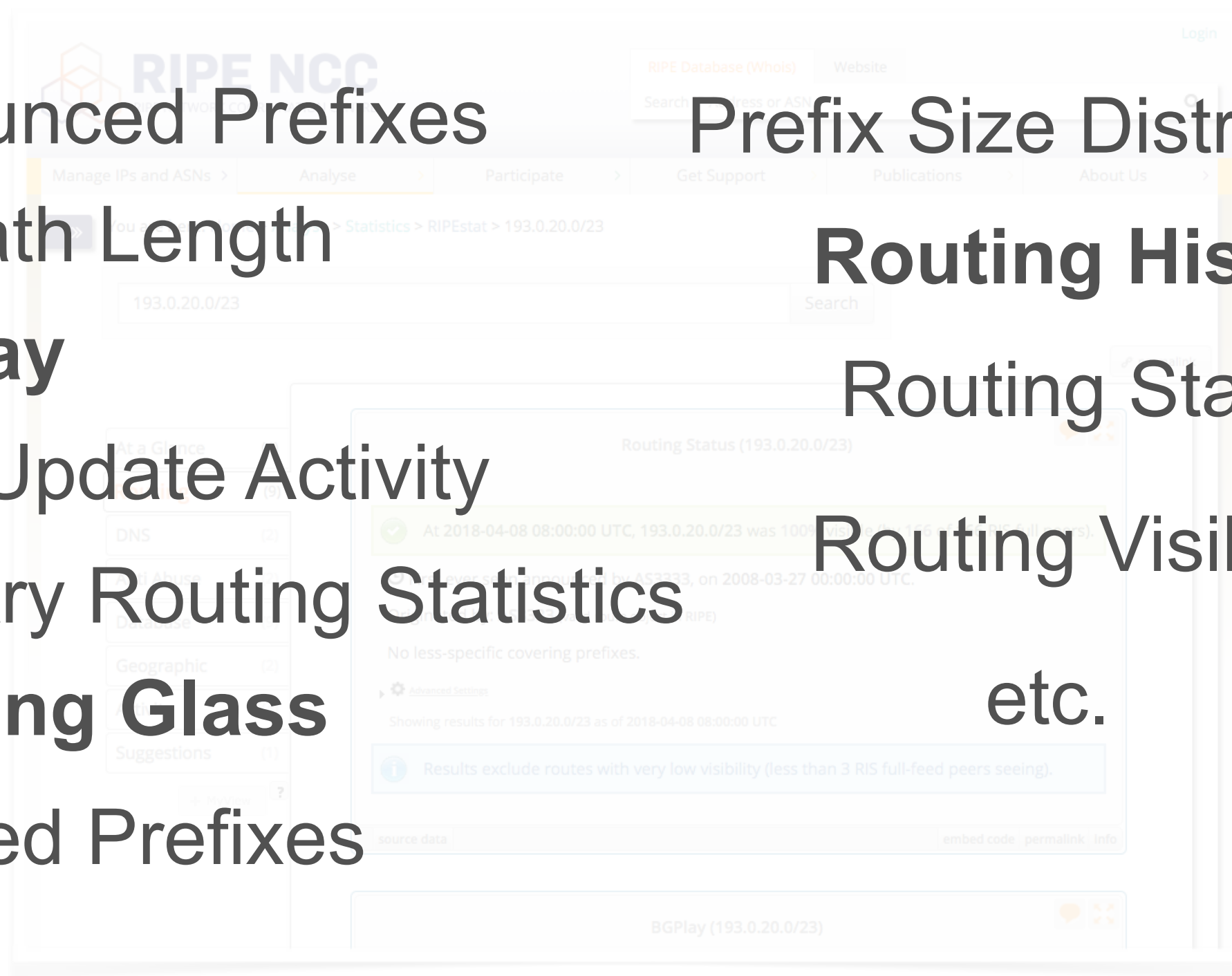
Routing Visibility

Country Routing Statistics

Looking Glass

etc.

Related Prefixes



Routing Insights Via RIPEstat



- Looking Glass
 - Based on view from RIS peers
 - Announcing AS
 - AS paths to peers
 - Close to real-time
- Example:
 - <https://stat.ripe.net/widget/looking-glass#w.resource=193.0.20.0%2F23>

Routing Insights Via RIPEstat



- Looking Glass

BGP Looking Glass (193.0.20.0/23)

Advanced Settings

10 BGP peers see 172 peers announcing 193.0.20.0/23 originated by AS3333. [EXPAND EVERYTHING]

- ▶ RRC11 in New York City, New York, US sees 1 ASN originating 193.0.20.0/23. (AS3333)
- ▼ RRC03 in Amsterdam, Netherlands sees 1 ASN originating 193.0.20.0/23. (AS3333)
 - ▼ AS3333 is seen as the origin by 10 peers.
 - ▼ 80.249.208.34 is announcing route AS1103 AS3333.

Origin: IGP
Next Hop: 80.249.208.68
Peer: 80.249.208.34
Community: 1103:101
AS Path: 1103 3333
Last Updated: 2018-04-03T05:30:18

- ▶ RRC10 in Milan, Italy sees 1 ASN originating 193.0.20.0/23. (AS3333)
- ▶ RRC23 in Singapore, Singapore sees 1 ASN originating 193.0.20.0/23. (AS3333)
- ▶ RRC20 in Zurich, Switzerland sees 1 ASN originating 193.0.20.0/23. (AS3333)
- ▶ RRC12 in Frankfurt, Germany sees 1 ASN originating 193.0.20.0/23. (AS3333)
- ▶ RRC21 in Paris, France sees 1 ASN originating 193.0.20.0/23. (AS3333)
- ▶ RRC15 in Sao Paulo, Brazil sees 1 ASN originating 193.0.20.0/23. (AS3333)
- ▶ RRC14 in Palo Alto, California, US sees 1 ASN originating 193.0.20.0/23. (AS3333)

Showing results for 193.0.20.0/23 as of 2018-04-09 05:14:00 UTC

source data embed code permalink info

Routing Insights Via RIPEstat



- Routing History
 - Announced prefix by AS
 - Visibility = number of peers seeing prefix/AS combination
 - Historical information
- Example:
 - <https://stat.ripe.net/widget/routing-history#w.resource=AS3333>

Routing Insights Via RIPEstat



- Routing History



Routing Insights Via RIPEstat

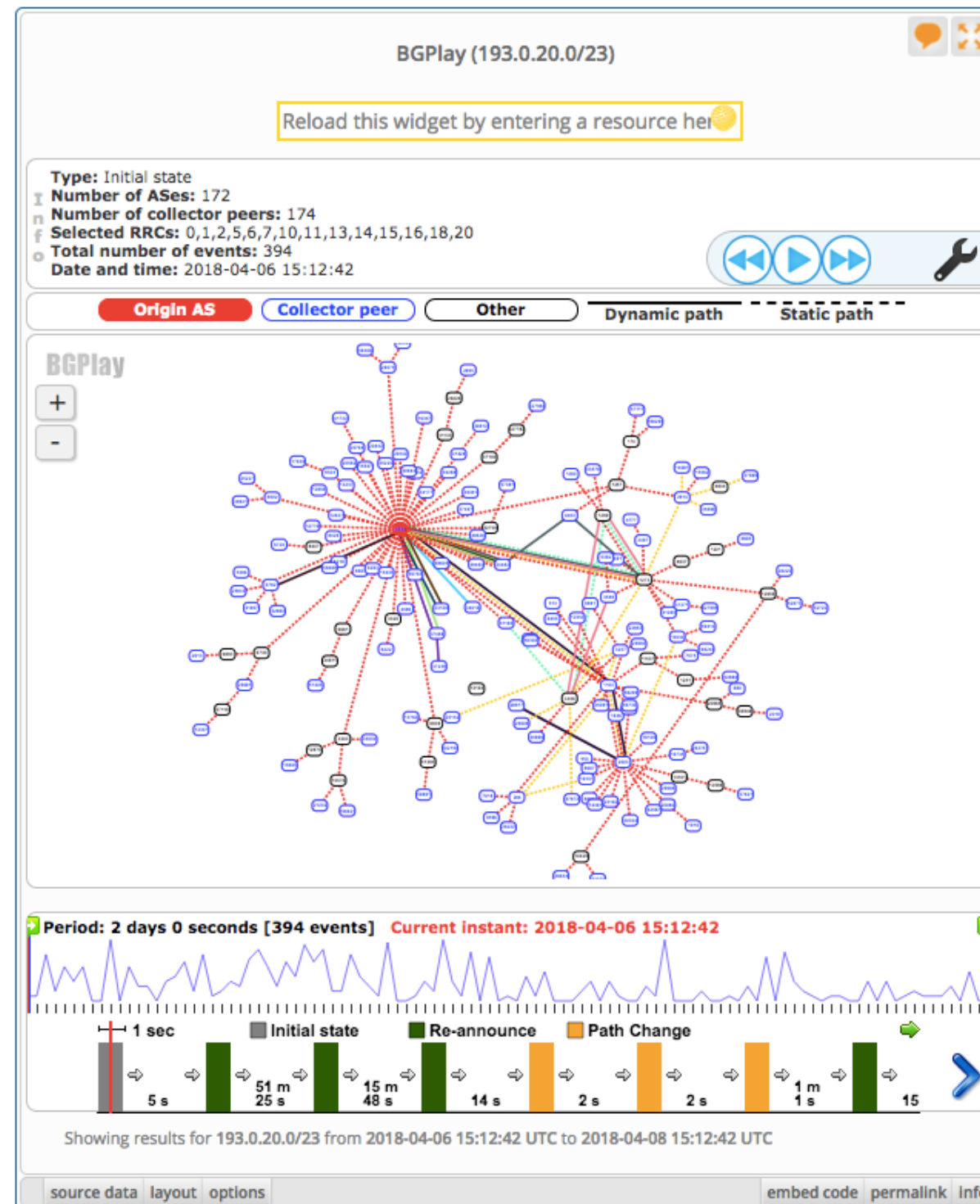


- BGPlay
 - Visual representation of routing status
 - Snapshot view of one point in time
 - Move back and forth in time
- Example
 - <https://stat.ripe.net/widget/bgplay#w.resource=193.0.20.0%2F23>

Routing Insights Via RIPEstat



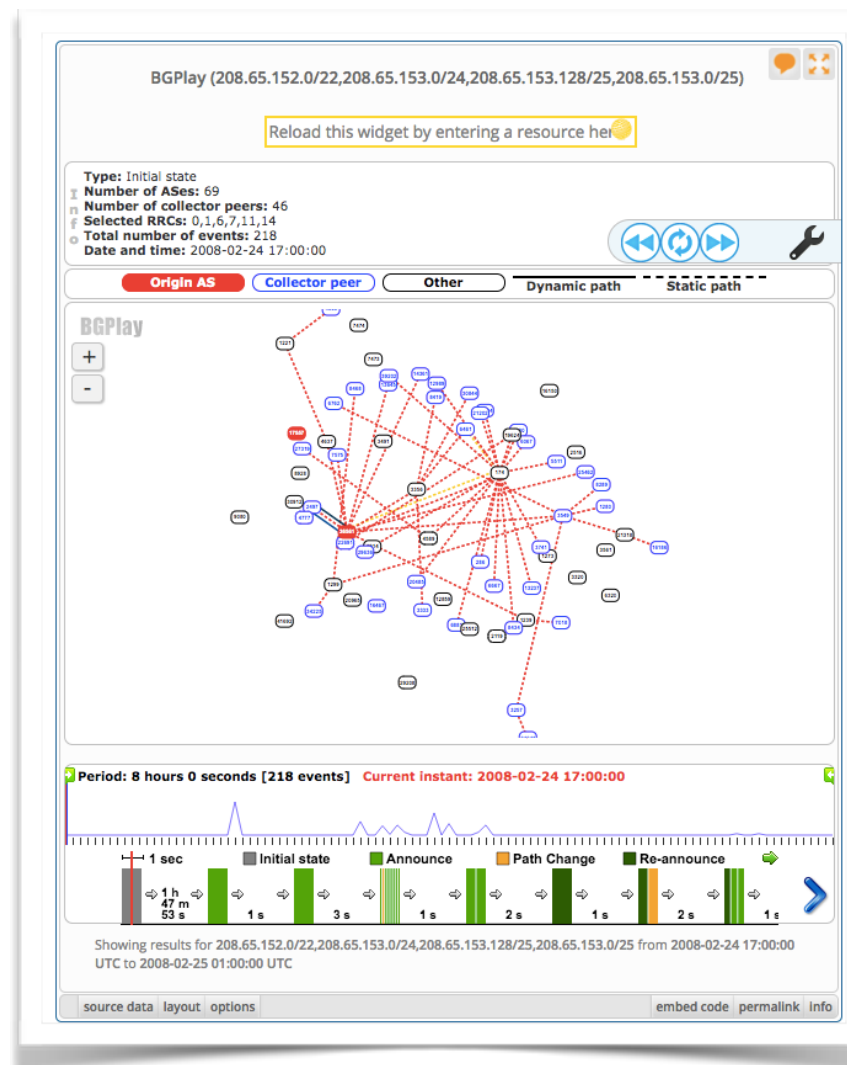
- BGPlay



Examples in RIPEstat



- Youtube Hijack in February 2008

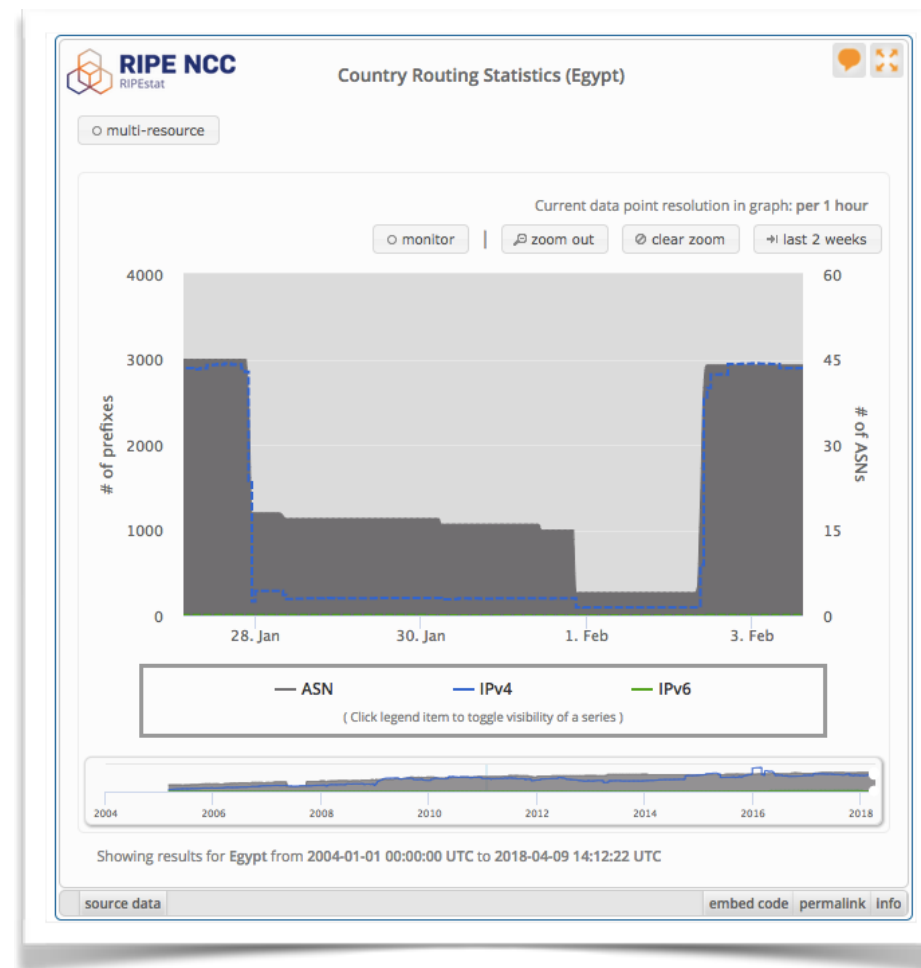


[Go to example on RIPEstat](#)

Example in RIPEstat



- Internet Outage 2012 in Egypt

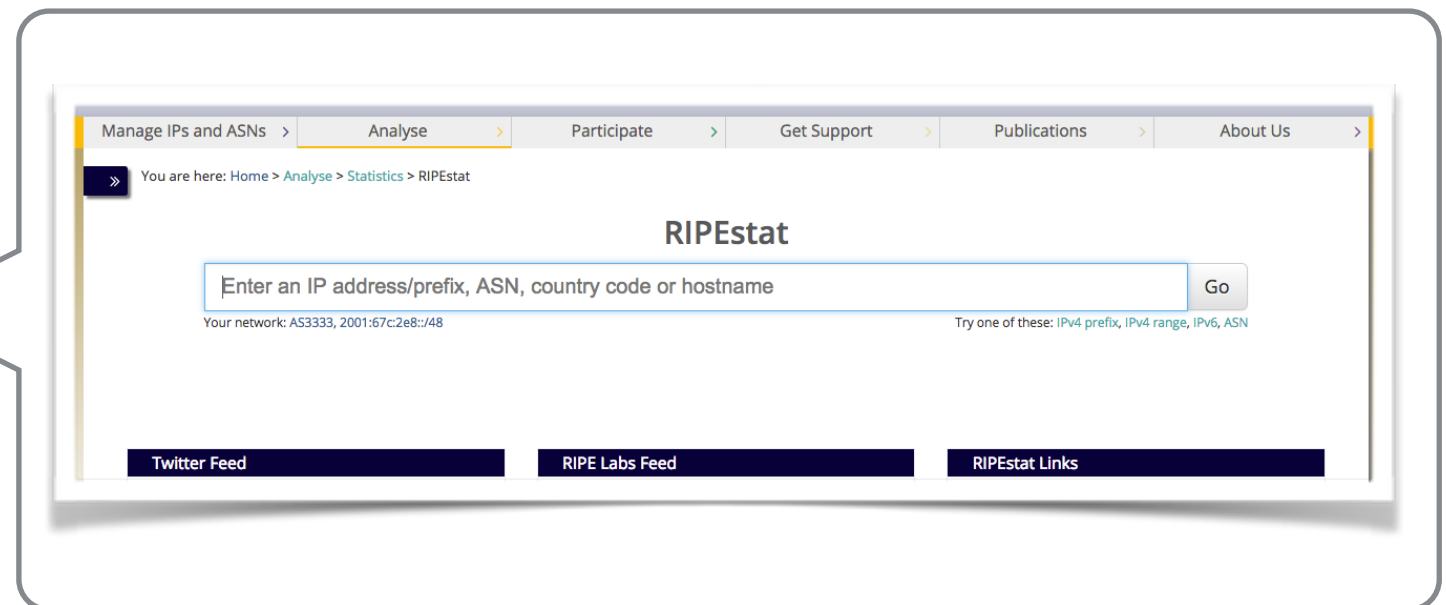


[Go to example on RIPEstat](#)

RIPEstat - Three Interfaces



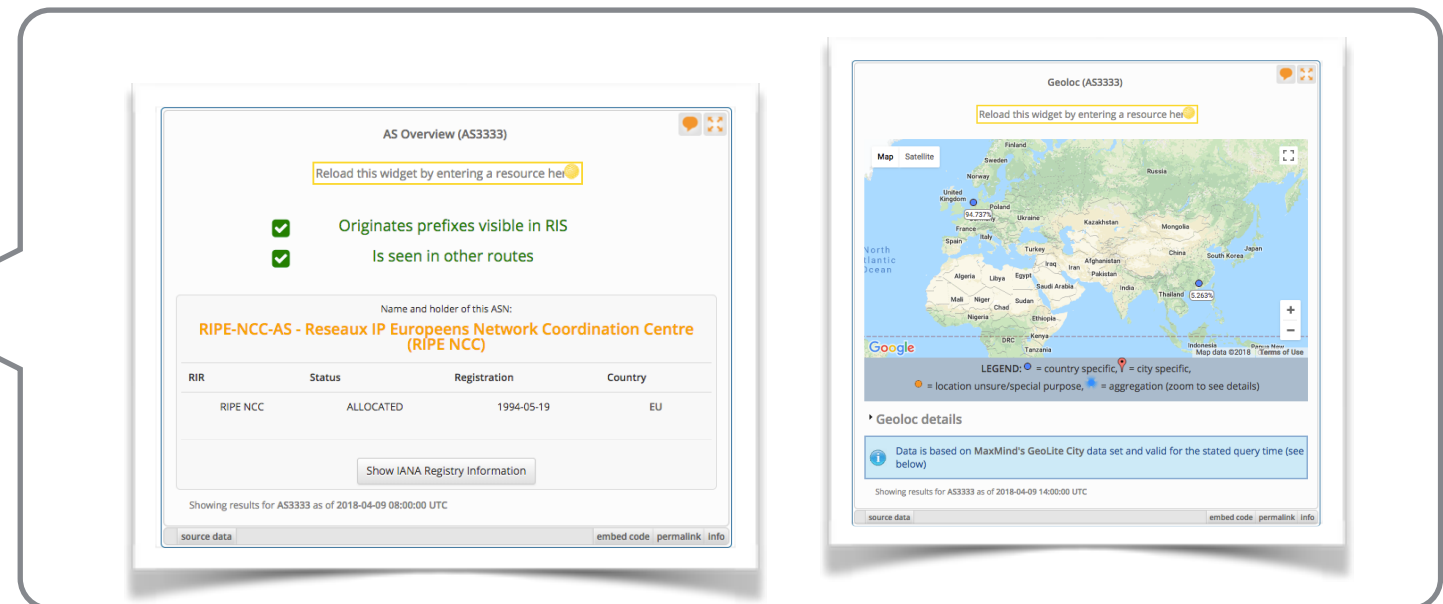
- APIs:
 - RIPEstat webpage
 - RIPEstat widget API
 - RIPEstat data API
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```
time: "2018-04-09T14:35:37.098959",
messages: [ ],
data_call_status: "supported - based on 2.1",
process_time: 4,
build_version: "2018.4.6.318",
query_id: "20180409143537-3be598bc-ed43-45cb-a643-894335f051ac",
data: {
  resource: "3333",
  holder: "RIPE-NCC-AS - Reseaux IP Europeens Network Coordination Centre (RIPE NCC)",
  query_starttime: "2018-04-09T08:00:00",
  announced: true,
  query_endtime: "2018-04-09T08:00:00"
```

RIPEstat



- <https://stat.ripe.net/index/about-ripestat>
- https://stat.ripe.net/docs/data_api
- https://stat.ripe.net/docs/widget_api
- For updates on RIPEstat follow @NCC_RIPEstat



Questions



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