



**RIPE NCC**  
RIPE NETWORK COORDINATION CENTRE

# RIS and RIPEstat

---

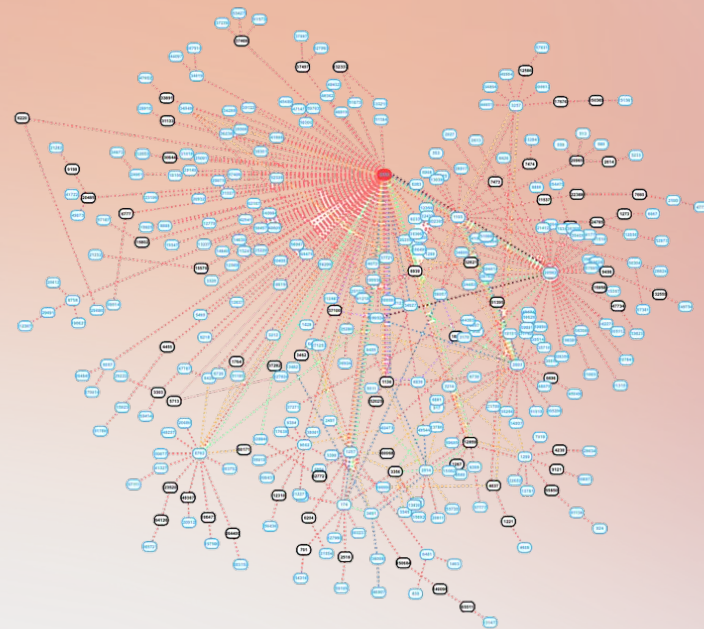
Analysing Operators' Routing with  
RIPEstat and RIS

# What is RIPEstat?



## Information service for Internet-related data and analytics

- **RIPEstat offers:**
  - Information on IP address space and Autonomous System Numbers (ASNs)
  - Statistics on specific hostnames and countries
  - Visualisations of Internet routing
- **All in a centralised place**



# How RIPEstat Works



RIPEstat pulls data from a variety of sources, including:

- The RIPE Database (for ownership and contact information)
- Routing registries (e.g., RIPE IRR)
- DNS and reverse DNS systems
- Live and historical BGP data (RIPE RIS)
- Regional Internet Registries and IANA

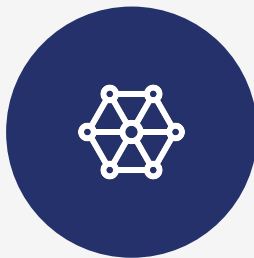
More details at:

<https://stat.ripe.net/data-sources>

# What Can RIPEstat Do For You?



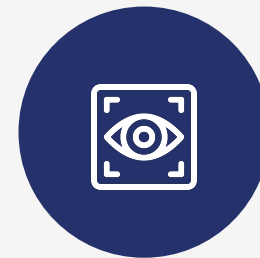
**Analyse routing**  
and network health



**Check routing security**  
and RPKI validation



**Analyse network outages**  
and anomalies

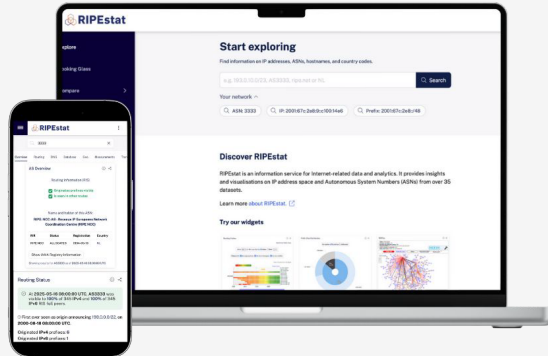


**Have a real-time**  
Looking Glass

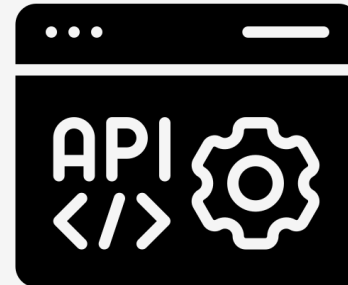
# How to Access RIPEstat



## User Interface (UI)



## API





# Get started with RIPEstat

---



- Search by IP address/prefix (IPv4, IPv6), ASN, country code or fully qualified domain name (FQDN)
- Suggestions are pulled from your network or randomly

The screenshot shows the RIPEstat website interface. On the left is a dark blue sidebar with navigation options: Explore, Looking Glass, Compare, Data API, Documentation, Feedback, and Legal. The main content area has a white background with a search bar and a 'Search' button. Below the search bar, there are three input fields for 'Your network' with pre-filled examples: 'ASN: 3333', 'IP: 2001:67c:2e8:9:c100:14e6', and 'Prefix: 2001:67c:2e8::/48'. The 'Start exploring' section includes a search bar with the placeholder text 'e.g. 193.0.10.0/23, AS3333, ripe.net or NL'. The 'Discover RIPEstat' section provides a brief description of the service and a link to learn more. The 'Try our widgets' section displays three small preview images of data visualizations: a bar chart, a pie chart, and a network graph.



## Information grouped on the top through tabs

- Find information on:
  - Routing
  - DNS
  - Database
  - Geolocation
  - Measurements
  - Transfers

3333

Overview Routing DNS Database Geo Measurements Transfers

AS Overview

Routing information (RIS)

- ✓ Originates prefixes visible
- ✓ Is seen in other routes

Name and holder of this ASN:  
**RIPE-NCC-AS - Reseaux IP Europeens Network Coordination Centre (RIPE NCC)**

RIR	Status	Registration	Country
RIPE NCC	ALLOCATED	1994-05-19	NL

Show IANA Registry Information

Showing results for AS3333 as of 2025-05-11 08:00:00 UTC

Routing Status

Abuse Contact

abuse@ripe.net

Showing results for AS3333

Please note that a report sent to the above email address might not reach the correct contact. If an abuse contact appears to be invalid or missing, please report it to the relevant RIR of this resource (RIPE NCC).

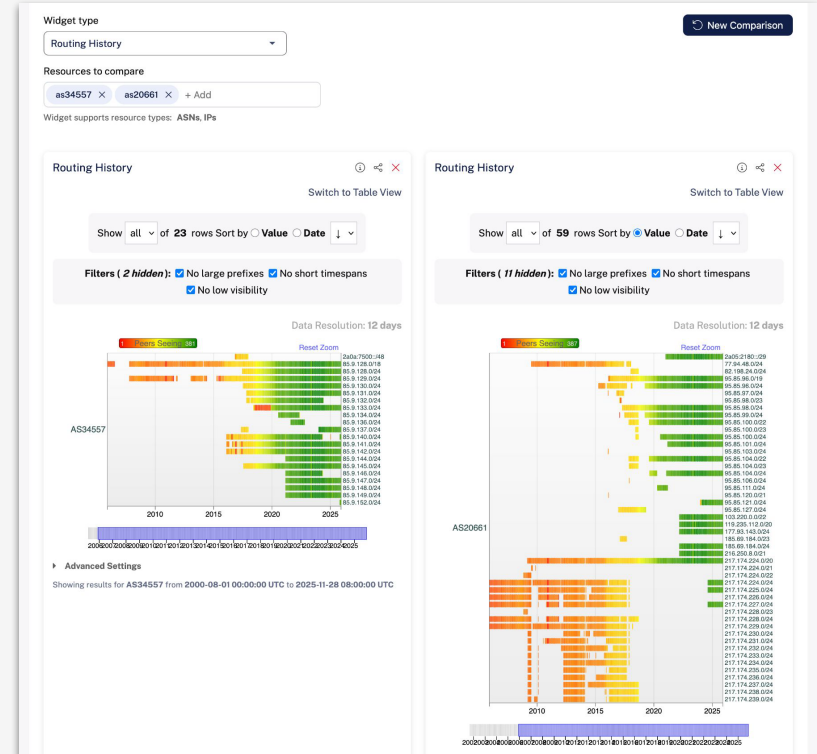
Maxmind GeoLite

# Use Cases: Resource Comparison



## Analyse and compare statistics

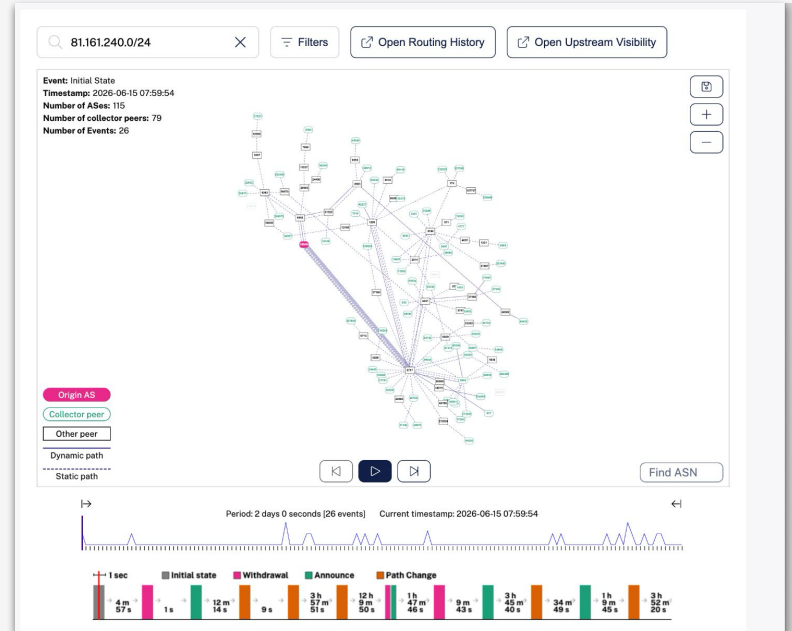
View the same variable (dataset) for multiple resources at the same time



# Use Cases: BGPlay



- BGPlay shows the routing history related to a specific set of resources (prefixes, Autonomous Systems, IPs)
- BGPlay visualises changes in BGP announcements for a specific destination over time
- As seen by RIS



# Use Cases: Routing Consistency



- Routing Consistency compares:
  - objects in Routing Registries with observed real-world routing (seen by RIS)
  - RPKI validation status where applicable



AS Routing Consistency

Prefixes Imports Exports

Show 25 entries Search:

prefix	In BGP (RIS)	RIPE IRR	Other IRRs	RPKI	VRP
193.0.0.0/21	yes	yes	no	😊	/21
193.0.10.0/23	yes	yes	no	😊	/23
193.0.12.0/23	yes	yes	no	😊	/23
193.0.18.0/23	yes	yes	no	😊	/23
193.0.20.0/23	yes	yes	no	😊	/23
193.0.22.0/23	yes	yes	no	😊	/23
193.230.194.0/24	no	no	no	😊	/24
2001:610:240::/42	no	no	no	😊	/42
2001:67c:2e8::/48	yes	yes	no	😊	/48
2a13:27c0:10::/44	no	no	no	😊	/44
2a13:27c0::/29	no	no	no	😊	/48

Showing 1 to 11 of 11 entries

# Use Cases: Consistency Comparison



Compare the consistency of reverse DNS and routing data for a given resource



### Consistency Comparison

Compare the consistency of reverse DNS and routing data for a given resource.

ASN or prefix to compare  
as3333

#### AS Routing Consistency

Prefixes Imports Exports

Show 25 entries Search:

prefix	In BGP (RIS)	RIPE IRR	Other IRRs	RPKI	VRP
193.0.0.0/21	yes	yes	no	🟡	/21
193.0.10.0/23	yes	yes	no	🟢	/23
193.0.12.0/23	yes	yes	no	🟡	/23
193.0.18.0/23	yes	yes	no	🟡	/23
193.0.20.0/23	yes	yes	no	🟡	/23
193.0.22.0/23	yes	yes	no	🟡	/23
193.230.194.0/24	no	no	no	🟡	/24
2001.610.240::/42	no	no	no	🟢	/42
2001:67c:2e8::/48	yes	yes	no	🟡	/48
2a13:27c0:10::/44	no	no	no	🟡	/44
2a13:27c0::/29	no	no	no	🟡	/48

Showing 1 to 11 of 11 entries

Showing results for AS3333 as of 2025-05-17 00:00:00 UTC

#### Reverse DNS Consistency

IPv4 IPv6

Show 25 entries Search:

Prefix	Reverse DNS domain	In RIPE Registry	DNS Check	Checked
193.0.0.0/21	0.0.193.in-addr.arpa	Yes	WARNING	2025-05-17T03:00:35Z
193.0.0.0/21	1.0.193.in-addr.arpa	Yes	WARNING	2025-05-17T03:00:34Z
193.0.0.0/21	2.0.193.in-addr.arpa	Yes	WARNING	2025-05-17T03:00:34Z
193.0.0.0/21	3.0.193.in-addr.arpa	Yes	WARNING	2025-05-17T03:00:34Z
193.0.0.0/21	4.0.193.in-addr.arpa	Yes	WARNING	2025-05-17T03:00:35Z
193.0.0.0/21	5.0.193.in-addr.arpa	Yes	WARNING	2025-05-17T03:00:35Z
193.0.0.0/21	6.0.193.in-addr.arpa	Yes	WARNING	2025-05-17T03:00:34Z
193.0.0.0/21	7.0.193.in-addr.arpa	Yes	WARNING	2025-05-17T03:00:35Z
193.0.10.0/23	10.0.193.in-addr.arpa	Yes	WARNING	2025-05-17T03:00:34Z

# Looking Glass



- Real-time data as seen by RIS
- Filter anywhere in AS Path
- Include/exclude filters
- See communities

<https://stat.ripe.net/lg>



### Looking Glass

🔍 81.161.240.0/24 ✕

Filter anywhere in AS Path ⓘ

🟢 Include 1299 ✕ + Add

🔴 Exclude + Add

**35 filtered peers (of 360) announcing 81.161.240.0/24 originated by 28949 and seen by 15 RRCs**

AS Path	1299   8717   28949
Communities	-
Large Communities	-
Extended Communities	-
Origin	IGP
Next Hop	195.66.227.163
Peer	195.66.227.163 at RRC01 (LINX / LONAP in London, United Kingdom)
Last Updated	2026-05-29T02:10:19Z

AS Path	1299   8717   28949
Communities	-
Large Communities	-
Extended Communities	-
Origin	IGP
Next Hop	62.115.129.90
Peer	62.115.129.90 at RRC25 (RIPE-NCC Multihop in Amsterdam, Netherlands)
Last Updated	2026-05-12T12:14:35Z

AS Path	3320   1299   8717   28949
Communities	3320:1528 3320:2010 3320:9020
Large Communities	route received in country 528 (ISO 3166)
Extended Communities	-
Origin	IGP
Next Hop	80.249.209.211
Peer	80.249.209.211 at RRC03 (AMS-IX / NL-IX in Amsterdam, Netherlands)
Last Updated	2026-05-12T10:47:32Z

AS Path	5394   1299   8717   28949
Communities	-
Large Communities	-
Extended Communities	-



## RIPEstat pulls data from a variety of sources, including:

- The RIPE Database (for ownership and contact information)
- Routing registries (e.g., RIPE IRR)
- DNS and reverse DNS systems
- Live and historical BGP data (RIPE RIS)
- Regional Internet Registries and IANA

More details at:

[stat.ripe.net/data-sources](https://stat.ripe.net/data-sources)



## RIPEstat pulls data from a variety of sources, including:

- The RIPE Database (for ownership and contact information)
- Routing registries (e.g., RIPE IRR)
- DNS and reverse DNS systems
- **Live and historical BGP data (RIPE RIS)**
- Regional Internet Registries and IANA

More details at:

[stat.ripe.net/data-sources](https://stat.ripe.net/data-sources)



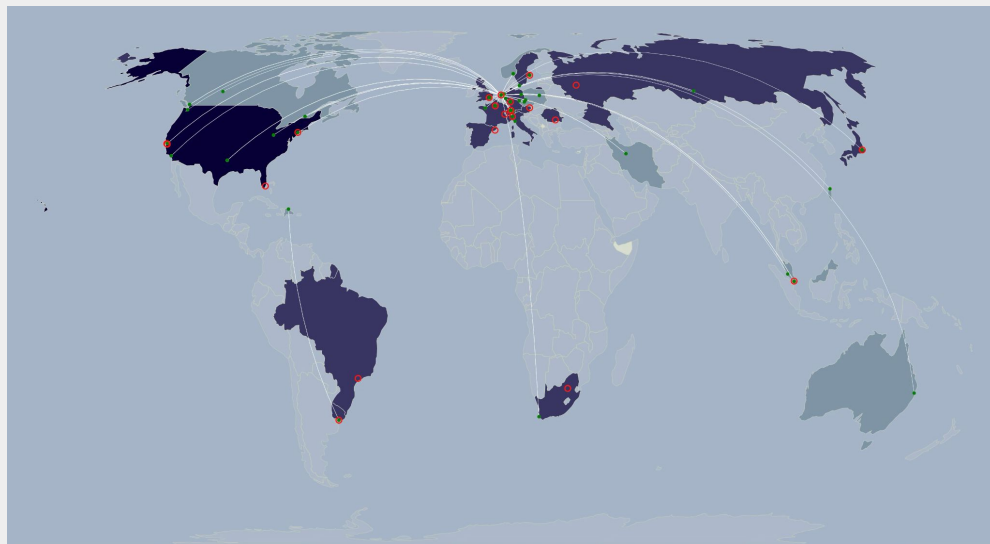
**RIPE RIS**

---



## What is RIS?

- RIS is a route data collection platform
- Collecting BGP data since 1999
- Collaborative with community





## What is RIS?

- RIS is a route data collection platform
- Collecting BGP data since 1999
  - We *permanently* store the data (BGP tables + BGP updates)
  - Long-term archive is *publicly and freely available*
- Collaborative with community`
- Used by many tools and researchers
  - RIPE NCC: RIPEstat, riswhois (IP to origin AS + prefix), ris-live, ...
  - Others: Academic research, open source tools, commercial tools, ...

# What is RIPE RIS?



## System overview

- A world-wide network of route collectors
- *Many* BGP peers that have BGP sessions with those collectors
- Standard components
  - Linux servers
  - ExaBGP
  - Kafka message broker
- + Custom data processing and plumbing

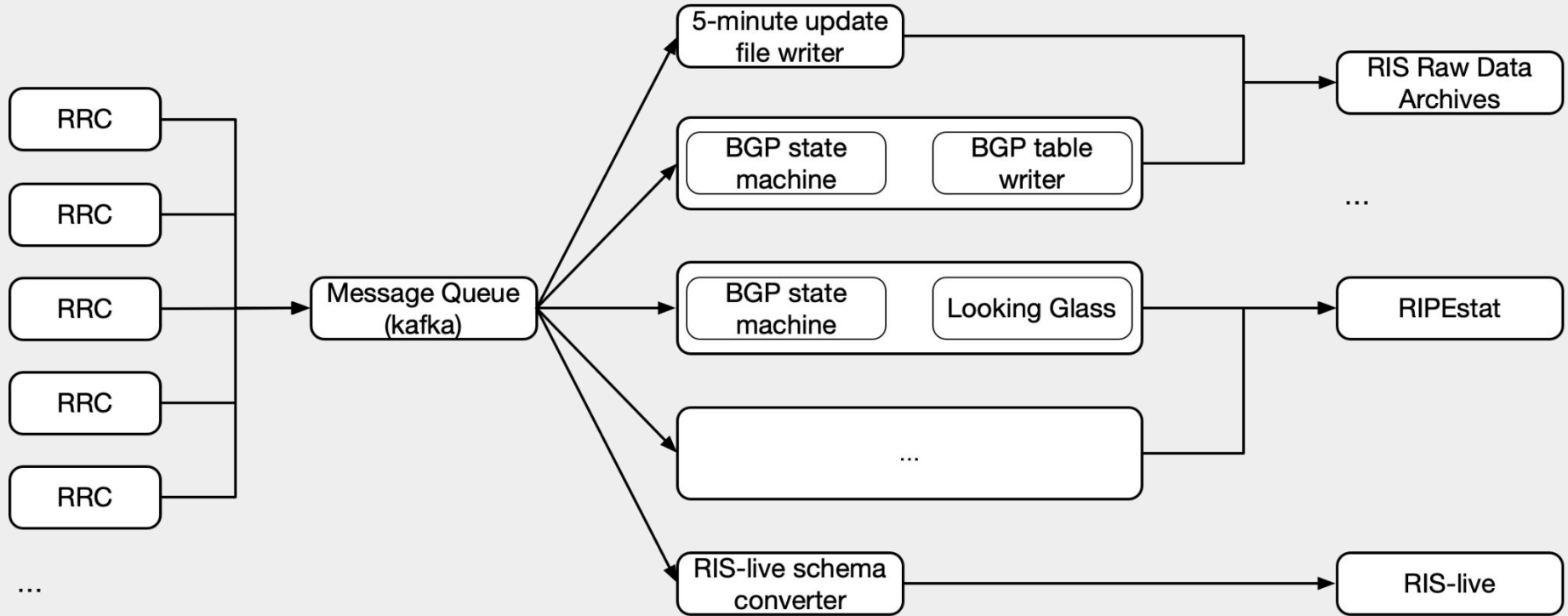
# What is RIPE RIS?



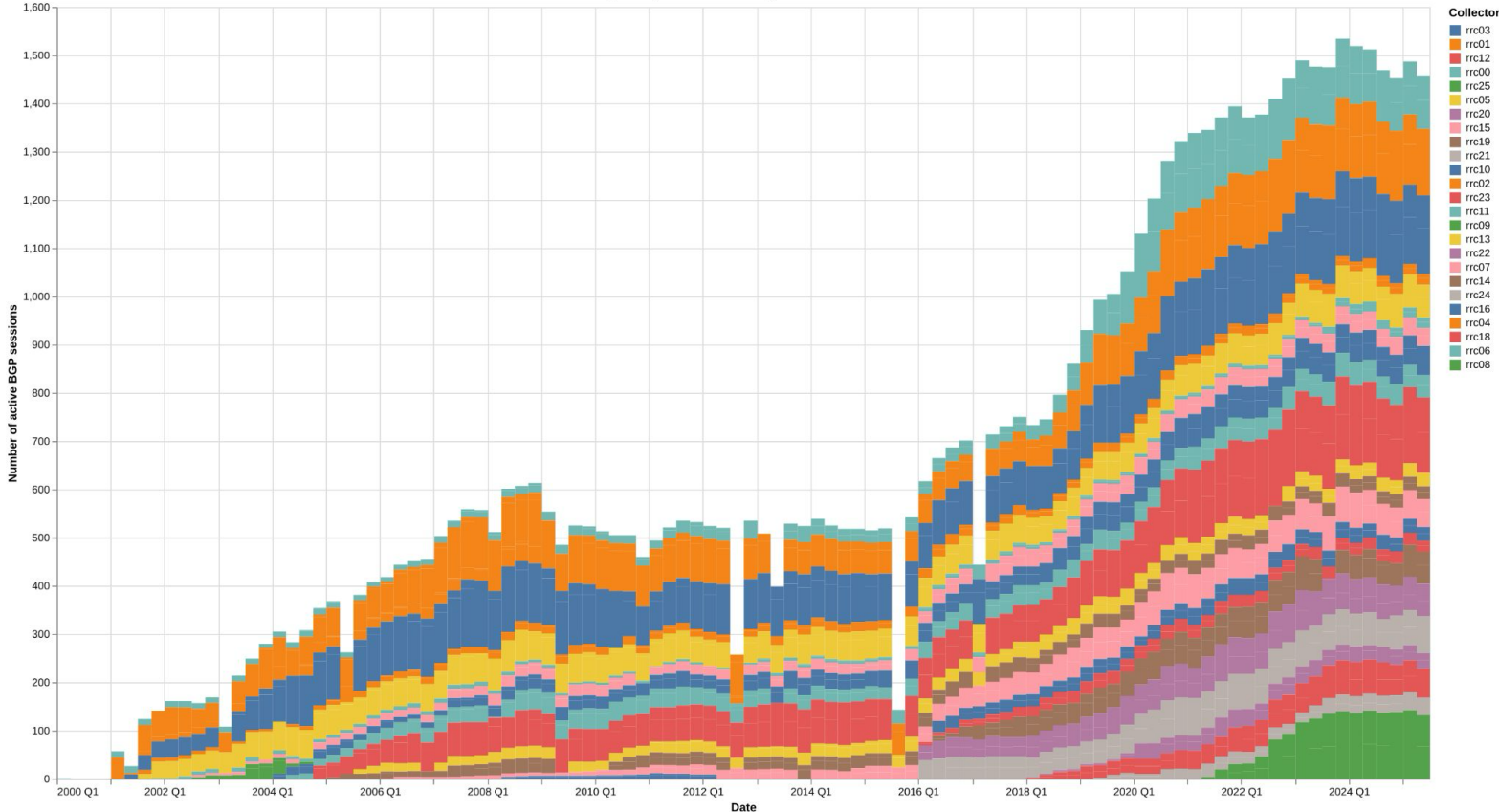
## System overview

- A world-wide network of route collectors
- *Many* BGP peers that have BGP sessions with those collectors
- Standard components
  - Linux servers
  - ExaBGP
  - Kafka message broker
- + Custom data processing and plumbing
  
- *Many* BGP peers: A lot of routes and updates.
- 21 May 2026:
  - ~366M IPv4 routes, ~84M IPv6 routes
  - 17.5K bgp announcements/withdraws per second on average,
  - 46k A/W per second peak one-minute average (across five days)

# RIS Architecture



# RIS Over Time: Number of Active BGP Sessions





## Remember: We store all data permanently

- Data size continuously increases
- Selecting relevant data is hard
  - For researchers: data volume is too big
  - For us as well: peering is selecting data for long-term observation



## Remember: We store all data permanently

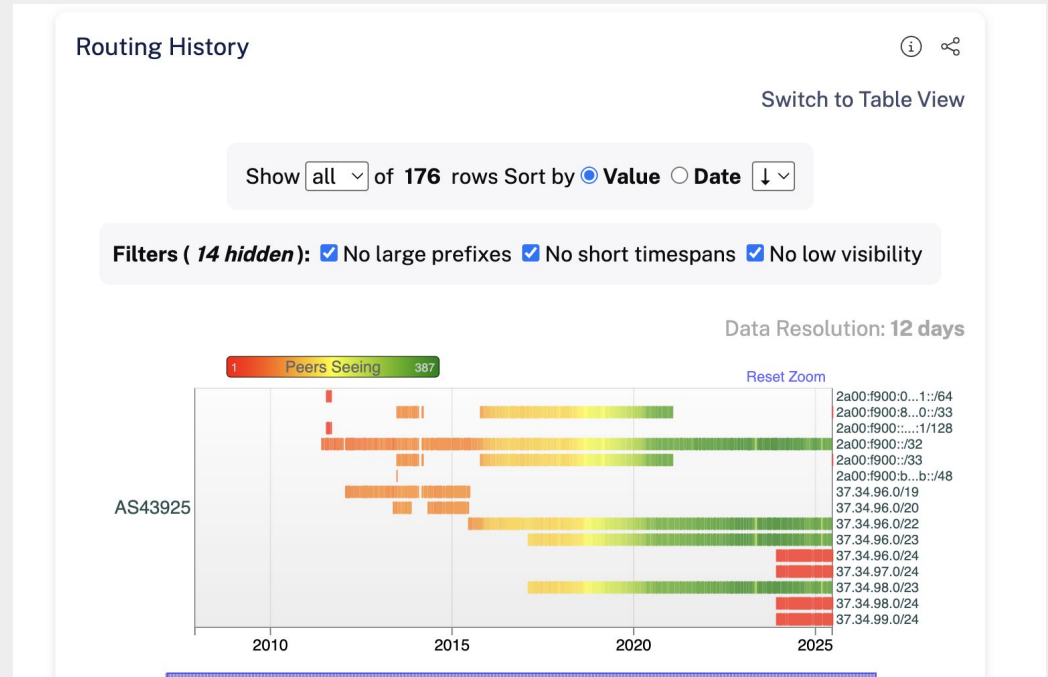
- Data size continuously increases
- Selecting relevant data is hard
  - For researchers: data volume is too big
  - For us as well: peering is selecting data for long-term observation
- We now have a selective [peering policy](#)
  - We will update it soon
  - Part data driven
  - Important part: validation
- We *really* want to learn about the most relevant interconnection in a region. Please talk to us!

# How is RIS Data Used?



## By us:

- In our tools
- In our internet analysis



# Web Application Example: RIPEstat - Upstream Visibility



## Upstream Visibility

- Shows the distribution of the upstream ASNs transiting a prefix, as seen by RIS.
- *Very useful* when visibility changes.
- Example: prefix became RPKI invalid (AS 0 ROA)



### Upstream Visibility

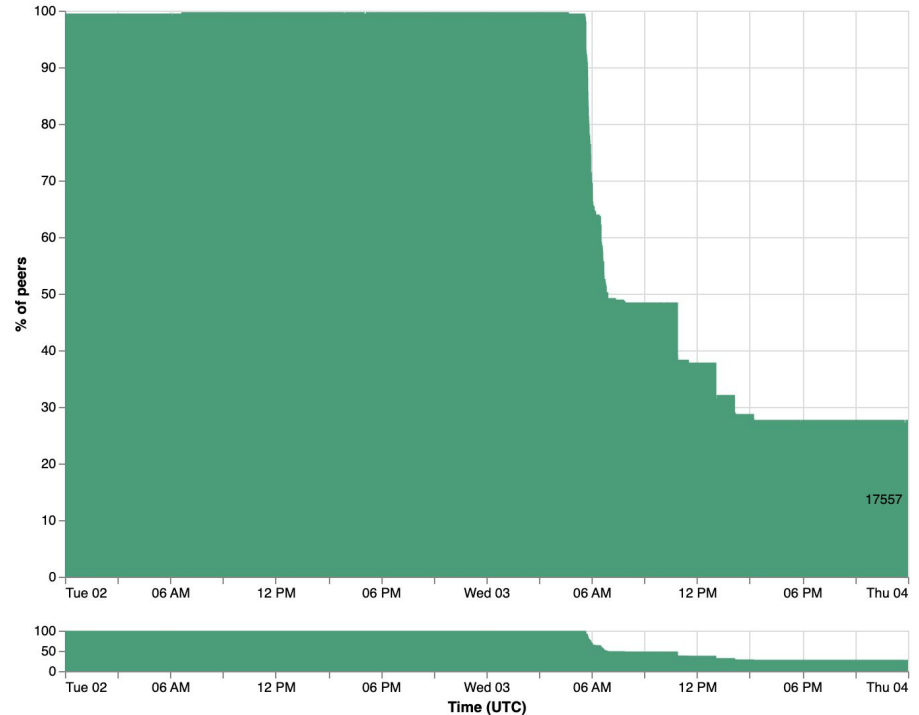


Distance from origin 1



✓ By ASN

By CP



Showing results for 115.186.103.0/24 from 2025-09-02 00:00:00 to 2025-09-04 00:00:59

# Web Application Example: RIPEstat - Upstream Visibility



## Upstream Visibility

- Shows the distribution over upstreams ASNs.
- *Very useful* when visibility changes.
- Example: prefix became RPKI invalid (AS 0 ROA).
- Most upstreams of AS 17557 filtered, some stayed.



### Upstream Visibility

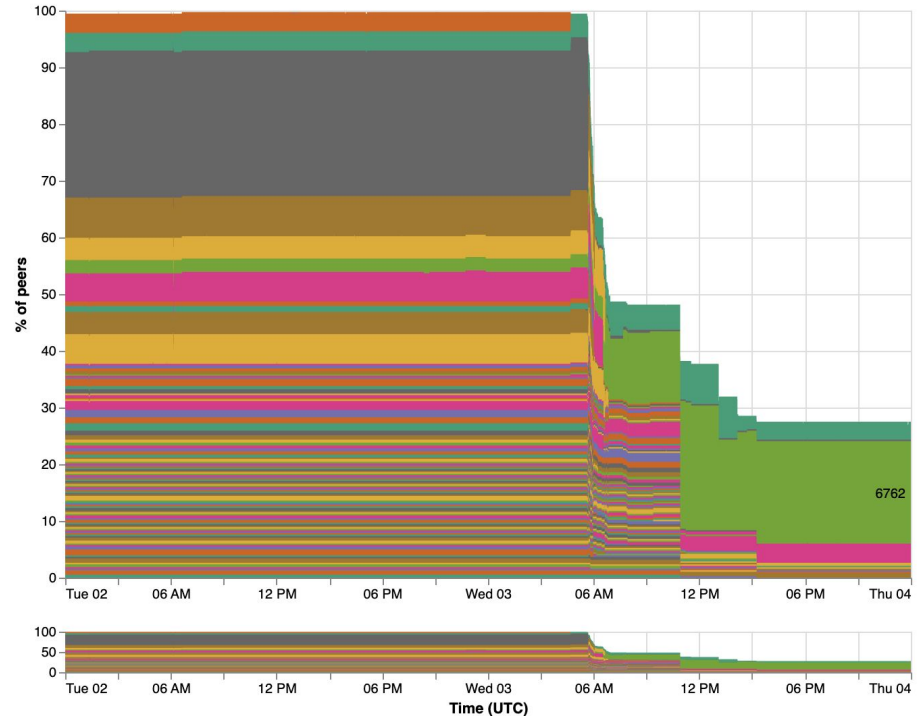


Distance from origin 2



By ASN

By CP



Showing results for 115.186.103.0/24 from 2025-09-02 00:00:00 to 2025-09-04 00:00:59

# How is RIS Data Used?



## By us:

- In our tools
- In our internet analysis

```
) whois -h riswhois.ripe.net 37.34.96.0/24
% This is RIPE NCC's Routing Information Service
% whois gateway to collected BGP Routing Tables, version2.0
% IPv4 or IPv6 address to origin prefix match
%
% For more information visit http://www.ripe.net/ris/riswhois.html
%
% Connected to backend ris-whois16.ripe.net

route:      37.34.96.0/22
origin:     AS43925
descr:     MOLDCELL_AS MOLDCELL S.A., MD
lastupd-frst: 2025-06-03 10:25Z 5.57.80.210@rrc01
lastupd-last: 2025-06-18 23:58Z 103.87.125.0@rrc25
seen-at:    rrc00,rrc01,rrc03,rrc04,rrc05,rrc06,rrc07,rrc10,rrc11,rrc12,rrc13,rrc14,rrc15,rrc16,rrc18,rrc19
            ,rrc20,rrc21,rrc22,rrc23,rrc24,rrc25,rrc26
num-rispeers: 373
source:     RISWHOIS

route:      37.34.96.0/23
origin:     AS43925
descr:     MOLDCELL_AS MOLDCELL S.A., MD
lastupd-frst: 2025-06-03 10:25Z 5.57.80.210@rrc01
lastupd-last: 2025-06-18 23:58Z 103.87.125.0@rrc25
seen-at:    rrc00,rrc01,rrc03,rrc04,rrc05,rrc06,rrc07,rrc10,rrc11,rrc12,rrc13,rrc14,rrc15,rrc16,rrc18,rrc19
            ,rrc20,rrc21,rrc22,rrc23,rrc24,rrc25,rrc26
num-rispeers: 373
source:     RISWHOIS

route:      37.34.96.0/24
origin:     AS43925
descr:     MOLDCELL_AS MOLDCELL S.A., MD
```

# How is RIS Data Used?

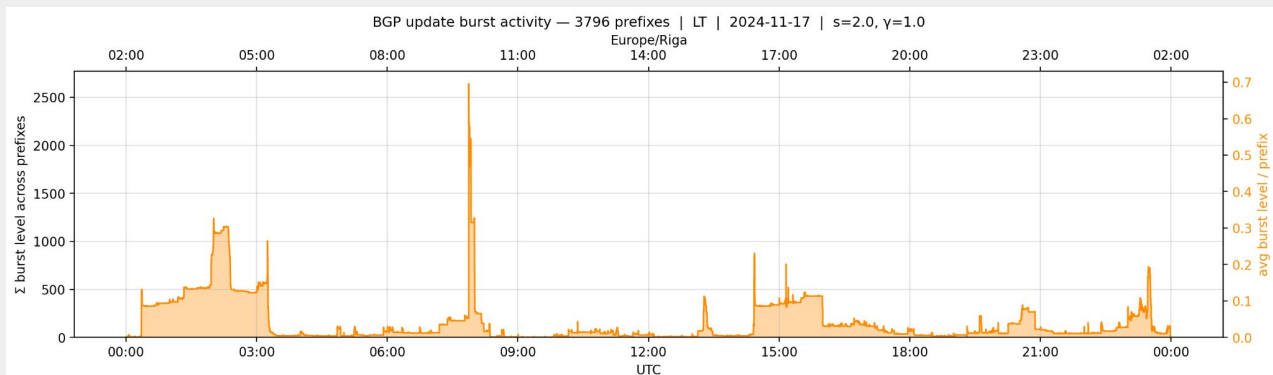
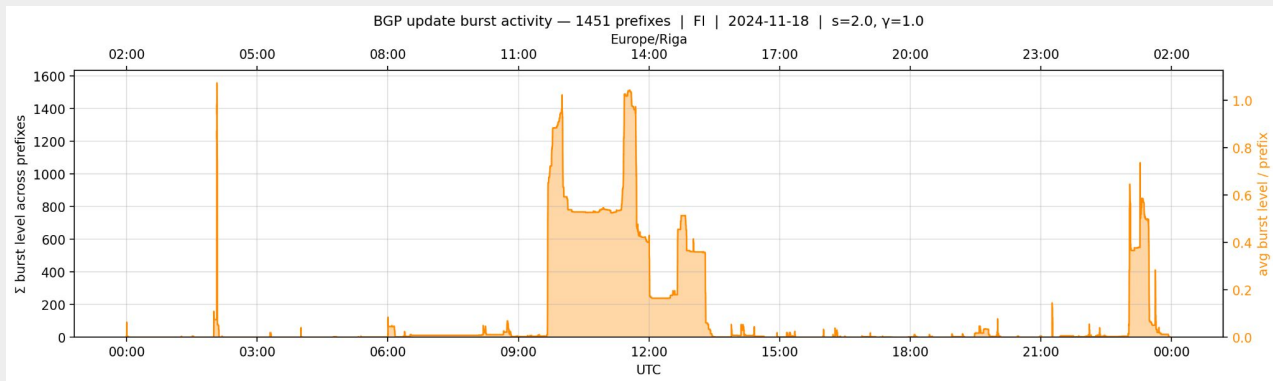


## By us: routing analysis

- In our tools
- In our internet analysis

This example:

- Cable damage caused a spike in BGP updates for affected prefix
- Hard to find the needle in the haystack!

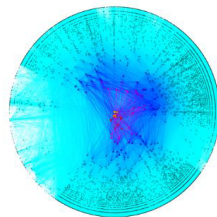


# How is RIS Data Used?



## By others:

- Often used in research
  - Example: [CAIDA ASRank](#)
- In open source software
- In other products



**ASRank** is CAIDA's ranking of [Autonomous Systems \(AS\)](#) (which approximately map to Internet Service Providers) and organizations (Orgs) (which are a collection of one or more ASes). This ranking is derived from topological data collected by CAIDA's [Archipelago Measurement Infrastructure](#) and [Border Gateway Protocol \(BGP\)](#) routing data collected by the [Route Views Project](#) and [RIPE NCC](#).



ASes and Orgs are ranked by their [customer cone size](#), which is the number of their direct and indirect customers. Note: We do *not* have data to rank ASes (ISPs) by traffic, revenue, users, or any other non-topological metric.

1 2 3 4 .. 1987

ASes are sorted by their relationship, which is inferred from observed BGP paths. Note: we do not have data to infer financial arrangements between ASes.

AS Rank ▲	AS Number ▼	Organization		cone size (ASes) ▼
1	3356	Level 3 Parent, LLC		54887
2	1299	Arelion Sweden AB		42167
3	3257	GTT Communications Inc.		41285
4	174	Cogent Communications, LLC		41127
5	2914	NTT America, Inc.		25338
6	6939	Hurricane Electric LLC		22380
7	6453	TATA COMMUNICATIONS (AMERI...		21929
8	6461	Zayo Bandwidth		20242
9	6762	Telecom Italia S.p.A.		19766



## By others: Routing Analysis

- Cloudflare blog: [Enforcing the First AS in BGP AS PATHs](#)
- Blog shows multiple ways to query RIS data
- `monocle` - search for event
- MRT explorer - view raw data

```
→ ~ monocle search --start-ts 2026-04-13T00:20:00Z --end-ts 2026-04-13T00:23:59Z --prefix 90.98.0.0/15 --collector rrc26 --json
{
  "aggr_asn": null,
  "aggr_ip": null,
  "as_path": "48237 1299 199524 270118 17072 41128",
  "atomic": false,
  "collector": "rrc26",
  "communities": null,
  "local_pref": 0,
  "med": 0,
  "next_hop": "185.1.8.3",
  "origin": "IGP",
  "peer_asn": 48237,
  "peer_ip": "185.1.8.3",
  "prefix": "90.98.0.0/15",
  "timestamp": 1776039612.0,
  "type": "ANNOUNCE"
}
```

# How is RIS Data Used?



## By others: Routing Analysis

- Cloudflare blog: [Enforcing the First AS in BGP AS\\_PATHs](#)
- Blog shows multiple ways to query RIS data
- `monocle` - search for event
- MRT explorer - view raw data

### MRT Explorer

<https://data.ris.ripe.net/rrc11/2026.04/updates.20260411.1245.gz>

Parse new file

TOTAL BGP MESSAGES  
**63,391**

ANNOUNCEMENTS  
**61,441**

WITHDRAWALS  
**1,950**

UNIQUE PREFIXES  
**26,895**

47.1.0.0/16

All

Announcement

Withdrawal

OTC ?

10 results

Time (UTC)	Type	Prefix	AS Path	
04/11/2026, 12:45:23	Announcement	47.1.0.0/16	AS19151 AS199524 AS270118 AS17072 AS6939 AS36429	—
04/11/2026, 12:45:30	Announcement	47.1.0.0/16	AS2497 AS174 AS199524 AS270118 AS17072 AS6939 AS36429	—
04/11/2026, 12:47:35	Announcement	47.1.0.0/16	AS21700 AS174 AS199524 AS270118 AS17072 AS6939 AS36429	5
04/11/2026, 12:47:36	Announcement	47.1.0.0/16	AS199524 AS3257 AS199524 AS270118 AS17072 AS13335 AS36429	—
04/11/2026, 12:47:36	Announcement	47.1.0.0/16	AS199524 AS1299 AS199524 AS270118 AS17072 AS13335 AS36429	—
04/11/2026, 12:47:36	Announcement	47.1.0.0/16	AS9002 AS3257 AS199524 AS270118 AS17072 AS13335 AS36429	—
04/11/2026, 12:48:06	Announcement	47.1.0.0/16	AS24482 AS199524 AS270118 AS17072 AS13335 AS36429	6
04/11/2026, 12:48:19	Announcement	47.1.0.0/16	AS21700 AS3257 AS199524 AS270118 AS17072 AS13335 AS36429	10
04/11/2026, 12:48:23	Announcement	47.1.0.0/16	AS19151 AS199524 AS270118 AS17072 AS13335 AS36429	—
04/11/2026, 12:49:00	Announcement	47.1.0.0/16	AS2497 AS174 AS199524 AS270118 AS17072 AS13335 AS36429	—



## Example: RIPEstat Looking Glass API

- Use it like any REST API
- Many ways to process this data

```
> curl -s "https://stat.ripe.net/data/looking-glass/data.json?resource=193.0.14.0/24"
| jq '.data.rrcs[]'
{
  "rrc": "RRC00",
  "location": "Amsterdam, Netherlands",
  "peers": [
    {
      "asn_origin": "25152",
      "as_path": "34854 6939 25152",
      "community": "34854:1000",
      "largeCommunity": "",
      "extendedCommunity": "",
      "last_updated": "2025-06-18T10:55:20",
      "prefix": "193.0.14.0/24",
      "peer": "2.56.11.1",
      "origin": "IGP",
      "next_hop": "2.56.11.1",
      "latest_time": "2025-06-18T21:44:55"
    },
    {
      "asn_origin": "25152",
      "as_path": "59919 25152",
      "community": "25152:1028 59919:65001 64512:11 64512:21 64512:31",
      "largeCommunity": "25152:1028:61968",
      "extendedCommunity": "64512:11",

```

# How to use RIS Data Yourself?



## Example: RIS-live

- <https://ris-live.ripe.net/>
- A websocket with BGP update messages in JSON format
- Most suitable for getting a *filtered stream* of BGP updates.

“Easy” to use from your own code.

Also used in open source projects and commercial projects.

### Demo

Subscriptions to the stream are sent as a JSON object containing various filter parameters. You can adjust the parameters below and see the messages that are streamed on the right.

```
{
  "prefix": null,
  "path": 3333,
  "type": null,
  "require": null,
  "moreSpecific": true,
  "lessSpecific": false,
  "host": null (all),
  "peer": null,
  "socketOptions": {
    "includeRaw": false,
    "acknowledge": true
  }
}
```

### Code examples

Below are simple examples of using the RIS Live WebSocket interface. For a full guide, see the [RIS Live manual](#).

JavaScript Python

```
/*
Subscribe to a RIS Live stream and output
every message to the javascript console.

The exact same code will work in Node.js
after running 'npm install ws' and including
the following line:

const WebSocket = require('ws');
*/
var ws = new WebSocket("wss://ris-live.ripe.net/v1/ws/?client=js-example-1");
var params = {
  moreSpecific: true,
  host: "rrc21",
}
```

### Live RIS BGP messages

Connected 96 matching messages ~124 kbit/s

```
// Received at 18:48:41 (4.05 second delay)
{
  "timestamp": 1750261717.52,
  "peer": "193.0.0.56",
  "peer_asn": "3333",
  "id": "193.0.0.56-019783ba5a100000",
  "host": "rrc00.ripe.net",
  "type": "UPDATE",
  "path": [3333, 6830, 6424, 203020],
  "community": [[6830, 13000], [6830, 15485], [6830, 19010], [6830, 19020], [6830, 19030], [6830, 19030], [6830, 19110], [6830, 19120], [6830, 19310], [6830, 19360], [6830, 19440], [6830, 19750], [6830, 23001], [6830, 33104]],
  "origin": "IGP",
  "announcements": [
    {
      "next_hop": "193.0.0.56",
      "prefixes": [
        "2a06:3040:10::/48"
      ]
    }
  ],
  "withdrawals": []
}
```

```
// Received at 18:48:41 (4.05 second delay)
{
  "timestamp": 1750261717.52,
  "peer": "193.0.0.56",
  "peer_asn": "3333",
  "id": "193.0.0.56-019783ba5a100000",
  "host": "rrc00.ripe.net",
  "type": "UPDATE",
  "path": [3333, 9002, 45147, 150242, 214028, 214028],
  "community": [],
  "origin": "IGP",
  "announcements": [
    {
      "next_hop": "193.0.0.56",
      "prefixes": [

```



## You *are* probably using RIS data

- RIS is one of the key tools for capturing the development of the Internet
- You *are* probably using RIS data indirectly
- You *can* use this data yourself
  - This can be complicated - in depth bonus?



# Questions & Comments



[tdecock@ripe.net](mailto:tdecock@ripe.net),

[ris@ripe.net](mailto:ris@ripe.net), [ris-peering@ripe.net](mailto:ris-peering@ripe.net)



**Workflow: parse mrt to CSV, import into database, query.**

```
SELECT
  prefix,
  splitByChar(' ', as_path)[-2] AS first_upstream,
  count(*) AS cnt
FROM rib
WHERE prefix = '193.0.14.0/24'
GROUP BY ALL
ORDER BY cnt DESC
LIMIT 5
```

Query id: 02917ea2-4239-45cb-b21a-df41a04f9410

	prefix	first_upstream	cnt
1.	193.0.14.0/24	6939	70
2.	193.0.14.0/24	513	20
3.	193.0.14.0/24	20612	20
4.	193.0.14.0/24	28186	15
5.	193.0.14.0/24	1103	13

5 rows in set. Elapsed: 0.019 sec. Processed 4.64 million rows, 157.65 MB (250.59 million rows/s., 8.52 GB/s.)  
Peak memory usage: 249.23 KiB.



~/tmp

```

) wget https://data.ris.ripe.net/rrc00/2025.09/bview.20250905.0800.gz
--2025-09-05 12:07:50-- https://data.ris.ripe.net/rrc00/2025.09/bview.20250905.0800.gz
Resolving data.ris.ripe.net (data.ris.ripe.net)... 2001:67c:2e8:25::c100:b18, 193.0.11.24
Connecting to data.ris.ripe.net (data.ris.ripe.net)|2001:67c:2e8:25::c100:b18|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 406560243 (388M) [application/octet-stream]
Saving to: 'bview.20250905.0800.gz'

```

```

bview.20250905.0800.gz          100%[=====>] 387.73M  3.65MB/s   in 54s

```

```

2025-09-05 12:08:44 (7.18 MB/s) - 'bview.20250905.0800.gz' saved [406560243/406560243]

```

~/tmp 54s

```

) bgpreader -m -d singlefile -o rib-file=bview.20250905.0800.gz | grep '193.0.14.0/24' | head -n 100 | fold -w 120 -s
WARN: No time window specified, defaulting to all available data
TABLE_DUMP2|1757059200|B|80.77.16.114|34549|193.0.14.0/24|34549 25152|IGP|80.77.16.114|0|0|34549:200 34549:10000|NAG||
TABLE_DUMP2|1757059200|B|165.16.221.66|37721|193.0.14.0/24|37721 25152|IGP|165.16.221.66|0|0|37721:2000 37721:6002
37721:6003 37721:6004 37721:11000 37721:11100 37721:11101|NAG||
TABLE_DUMP2|1757059200|B|185.210.224.254|49432|193.0.14.0/24|49432 25152|IGP|185.210.224.254|0|0|1000||NAG||
TABLE_DUMP2|1757059200|B|193.33.94.251|58057|193.0.14.0/24|58057 1836 25152|IGP|193.33.94.251|0|0|1836:20000 1836:110
1836:3000 1836:3020 58057:65010 25152:1016|NAG||
TABLE_DUMP2|1757059200|B|202.150.221.37|38001|193.0.14.0/24|38001 136168 137955 25152|IGP|202.150.221.37|0|0||NAG||
TABLE_DUMP2|1757059200|B|5.255.90.109|202365|193.0.14.0/24|202365 43727 9198 25152|IGP|5.255.90.109|0|0|43727:0
43727:500|NAG||
TABLE_DUMP2|1757059200|B|45.61.0.85|22652|193.0.14.0/24|22652 6939 25152|IGP|45.61.0.85|0|0||NAG||
TABLE_DUMP2|1757059200|B|49.12.70.222|44393|193.0.14.0/24|44393 394256 25152|IGP|49.12.70.222|0|0|25152:1148|NAG||
TABLE_DUMP2|1757059200|B|89.234.186.6|204092|193.0.14.0/24|204092 6939 25152|IGP|89.234.186.6|0|0|150|64496:100
64496:2150|NAG||
TABLE_DUMP2|1757059200|B|165.254.255.2|15562|193.0.14.0/24|15562 2914 12859 25152|IGP|165.254.255.2|0|0|2914:410
2914:1206 2914:2203 2914:3200 12859:4000 25152:1|NAG||
TABLE_DUMP2|1757059200|B|193.163.86.231|34800|193.0.14.0/24|34800 58057 1103 25152|IGP|193.163.86.231|0|0|2603:665
2603:667 11537:40 11537:888 20965:3000 20965:5000 25152:1|NAG||
TABLE_DUMP2|1757059200|B|45.12.55.0|208972|193.0.14.0/24|208972 6939 25152|IGP|45.12.55.0|0|0||NAG||
TABLE_DUMP2|1757059200|B|102.217.156.3|328977|193.0.14.0/24|328977 25152|IGP|102.217.156.3|0|0|25152:1356|NAG||

```

```

1 import bgpkit
2 from collections import Counter
3
4 views = bgpkit.Broker().query(ts_start="2025-09-05T08:00:00", ts_end="2025-09-05T08:00:00", data_type="rib", project=
  "riperis")
5
6 upstreams = Counter()
7 for file_metadata in views:          # b.gtld-servers.net has address 192.33.14.30
8     parser = bgpkit.Parser(url=file_metadata.url, filters={"prefix": "192.33.14.0/24"})
9     for route in parser:
10         as_path = (route.as_path or "").split()
11         if len(as_path) > 1:
12             upstreams[as_path[-2]] += 1
13
14 print(f"[{elapsed()}] Results:")
15 for upstream, cnt in upstreams.most_common(10):
16     print(f"  AS{upstream:<8} {cnt:>4}")
17
18
19
20
21

```

```

> uv run python main.py
[ 0.4s] Reading 23 dump files...

```

```

[2133.8s] Results:

```

```

AS7342      77
AS396746    60
AS396761    46
AS396707    29
AS396688    17
AS396652    17
AS396675    14
AS396748    13
AS396686    12
AS396658    12

```