

Fantastic network tools and where to find them

Ben Cartwright-Cox (bgp.tools) @ EPF 2023

Who/What/Where?

- There is a lot of data out there to help you figure out
 - Who networks are
 - Where they may be physically present for interconnection
 - What they are hosting
 - Who they are already peering with
 - Getting traceroutes
 - Real time looking glasses
- However these resources are poorly documented

Quick intro/Full disclosure

- I run bgp.tools
 - The bgp.tools guy will at some point tell you to use bgp.tools
 - I am also more than happy to mention what might be considered competitors
 - Most of these non-bgp.tools utilities I still use anyway to cross check my own data, or just fill in gaps in my own product

- Still, the bgp.tools guy will tell you to use bgp.tools, there is a minor conflict of interest here.

Core data sources

- PeeringDB might be the most fundamental data sources around BGP networking, providing easy access to
 - Name (That may be better than the AS Name)
 - Max Prefixes number / AS-SET
 - IXPs that **they list** as being members of
 - Listing of physical locations to interconnect
 - Contact data for peering/NOC departments
- Lots of sites use PeeringDB data in their own operations
 - Easy to obtain API keys can be used for automation or local copies of the database:
 - <https://www.peeringdb.com/apidocs/>

The screenshot shows the PeeringDB website interface. The top navigation bar includes the PeeringDB logo, a search bar, and links for 'Registeror' and 'Login'. The main content area is divided into two sections: 'Orange' and 'Public Peering Exchange...'. The 'Orange' section is a table with various attributes, and the 'Public Peering Exchange...' section is a table listing different exchanges with their IP addresses, ASNs, and speeds.

Orange

Organization	Orange S.A.
Also Known As	Opentransit - IP Transit 5511
Long Name	Orange International Carriers
Company Website	https://internationalcarriers.orange.com/en/offers/ip-transit.html
ASN	5511
IRR as-set/route-set	AS-OPENTRANSIT
Route Server URL	telnet://route-server.opentransit.net
Looking Glass URL	https://looking-glass.opentransit.net/
Network Type	NSP
IPv4 Prefixes	250000
IPv6 Prefixes	50000
Traffic Levels	50-100Tbps
Traffic Ratios	Balanced
Geographic Scope	Global
Protocols Supported	Unicast IPv4, Multicast IPv6 Never via route servers
Last Updated	2023-02-14T10:26:57Z
Public Peering Info Updated	2022-04-27T20:49:27
Peering Facility Info Updated	2023-06-28T10:20:21
Contact Info Updated	2022-03-11T09:41:23
Notes	
RIR Status	ok

Public Peering Exchange...

Exchange IPv4	ASN IPv6	Speed	RS...
DE-CIX Frankfurt 80.81.192.248	5511 2001:7f8::1587:0:1	10G	○
DE-CIX Madrid 185.1.192.115	5511 2001:7f8:a0::282a:0:1	10G	○
DE-CIX Marseille 185.1.47.60	5511 2001:7f8:36::282a:0:1	10G	○
Equinix Singapore 27.111.228.5	5511 2001:de8:4::5511:1	10G	○
LINX LON1 195.66.224.83	5511 2001:7f8:4::1587:1	10G	○

Interconnection Facilities

Facility ASN	Country City
Africa Data Centres, Nairobi NBO1 5511	Kenya Nairobi
ATMAN Data Center Warsaw-2 (WAW-2, Konstruktorska 5) 5511	Poland Warsaw
Basefarm OSL3 5511	Norway Oslo
Basefarm OSL5 5511	Norway Oslo

Core data sources

- RIPE NCC has run for a very long time a set of route collectors on mostly IXPs to collect BGP data. As part of the "Routing Information Service" (RIS)
- This data can be very useful to look back historically, But there are **no point and click tools** to decode MRT files
- RIS also provides a real time "RIS Live" offering, that provides streaming JSON data of BGP updates
- RIS also comes with a JSON API that will return current machine routes for a prefix
- RIS forms the backbone is stat.ripe.net

Live RIS BGP messages



Connected

560 matching messages ~429 kbit/s ⓘ

```
// Received at 14:07:11 (3.49 second delay)
{
  "timestamp": 1692018427.81,
  "peer": "193.203.0.45",
  "peer_asn": "8218",
  "id": "193.203.0.45-0189f42847a20000",
  "host": "rrc05.ripe.net",
  "type": "UPDATE",
  "path": [8218, 6461, 3356, 29049, 49666, 12880, 42337, 209836],
  "community": [[8218, 103], [8218, 20000], [8218, 20210], [8218, 20320]],
  "origin": "IGP",
  "med": 0,
  "announcements": [
    {
      "next_hop": "193.203.0.45",
      "prefixes": [
        "77.237.73.0/24"
      ]
    }
  ],
  "withdrawals": []
}
```

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```
{
  "messages": [],
  "see_also": [],
  "version": "2.1",
  "data_call_name": "looking-glass",
  "data_call_status": "supported",
  "cached": false,
  "data": {
    "rrcs": [
      {
        "rrc": "RRC00",
        "location": "Amsterdam, Netherlands",
        "peers": [
          {
            "asn_origin": "13335",
            "as_path": "34854 1299 13335",
            "community": "1299:30000 34854:3001",
            "last_updated": "2023-08-01T01:55:29",
            "prefix": "1.1.1.0/24",
            "peer": "2.56.11.1",
            "origin": "IGP",
            "next_hop": "2.56.11.1",
            "latest_time": "2023-08-14T13:11:39"
          }
        ]
      }
    ]
  }
}
```

Core data sources

- Route Views is a similar project to RIS run by the University of Oregon
- Exporting similar data to MRT files
 - Their archives go back to early 2000's
- Bonus of Route Views is that they have telnet servers that still (*mostly*) work as looking glasses

- RIS and Routeviews combined make up the majority of the data backing up academic literature on BGP

```
$ telnet route-views.chicago.routeviews.org
Trying 64.136.227.34...
Connected to route-views.chicago.routeviews.org.
Escape character is '^['.
```

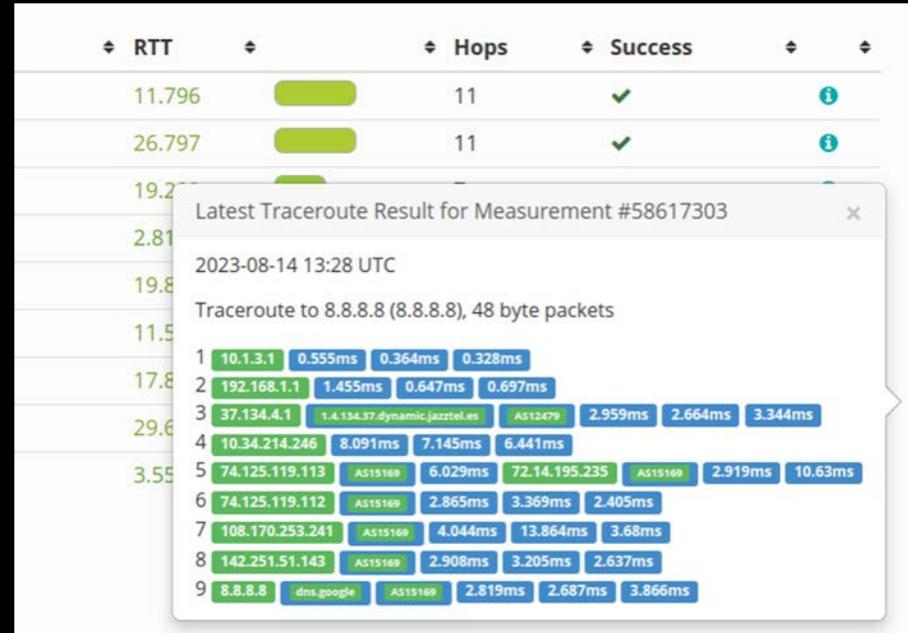
```
Hello, this is FRRouting (version 8.4.1).
Copyright 1996-2005 Kunihiro Ishiguro, et al.
```

```
route-views.chicago.routeviews.org> show ip bgp 1.1.1.0/24
BGP routing table entry for 1.1.1.0/24, version 217828253
Paths: (17 available, best #7, table default)
  Not advertised to any peer
 32709 19754 13335, (aggregated by 13335 141.101.74.12)
    208.115.136.134 from 208.115.136.134 (63.134.128.248)
      Origin IGP, valid, external, rpki validation-state: valid
      Community: 19754:200
      Last update: Tue Jul 11 18:33:03 2023
 53828 13335, (aggregated by 13335 141.101.73.17)
    208.115.136.180 from 208.115.136.220 (207.200.192.81)
      Origin IGP, valid, external, rpki validation-state: valid
      Community: 13335:10014 13335:19000 13335:20050 13335:20500
      13335:20530 53828:11 53828:1001
      Last update: Fri Jun 30 05:58:44 2023
 199524 13335, (aggregated by 13335 141.101.73.17)
    208.115.136.42 from 208.115.136.42 (10.255.18.65)
      Origin IGP, valid, external, rpki validation-state: valid
      Last update: Thu Jun 29 14:29:17 2023
 13335, (aggregated by 13335 141.101.73.17)
```

Traceroute debugging

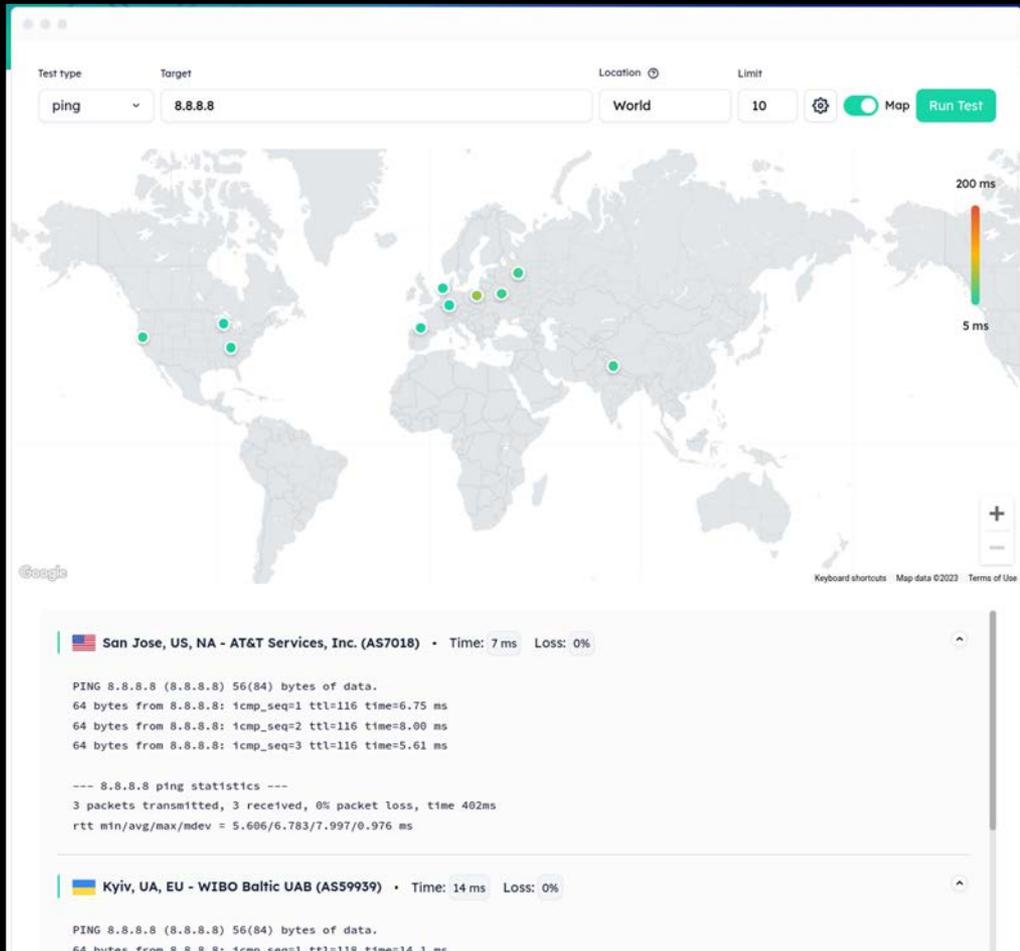


- Likely in the past when debugging problems you might have wished for a traceroute from the problematic network
- Getting traceroutes from normal people is hard (or sometimes even their NOC)
- There are tools out there with small to large networks that can do these traceroutes for you
- RIPE Atlas is by far the biggest, has a huge % of "eyeball" networks, and works on credits gained by either being a RIPE LIR or running at Atlas probe yourself.
- (You can also ask someone who has credits to give you some)



Traceroute debugging

- GlobalPing is like RIPE Atlas, but with fewer "probes" (500~ vs 12,000+)
 - Most probes are on content networks in my experience
- However has a much more functional front end!
- Functional API available too, with (currently) free API keys, unclear future
- Very useful tool for a 2nd opinion or if RIPE Atlas is down/you have no Atlas credits.
- You can join their probe network by pulling a docker container



Traceroute debugging

- <https://mtr.tools>
 - Not affiliated with me, despite the similar name
- Hobbyist run, 150 nodes, all testing points are content providers
- Website offers traceroutes, pings, BGP route lookups, and DNS lookups
- Site is responsive and has worked every time I tried.

MTR.tools Discord Sponsor a node

8.8.8.8 Run Test Select All

Search (Country, City, AS Number, Provider)

BGP Route Table Dump MTR Traceroute Ping DNS +trace

Europe

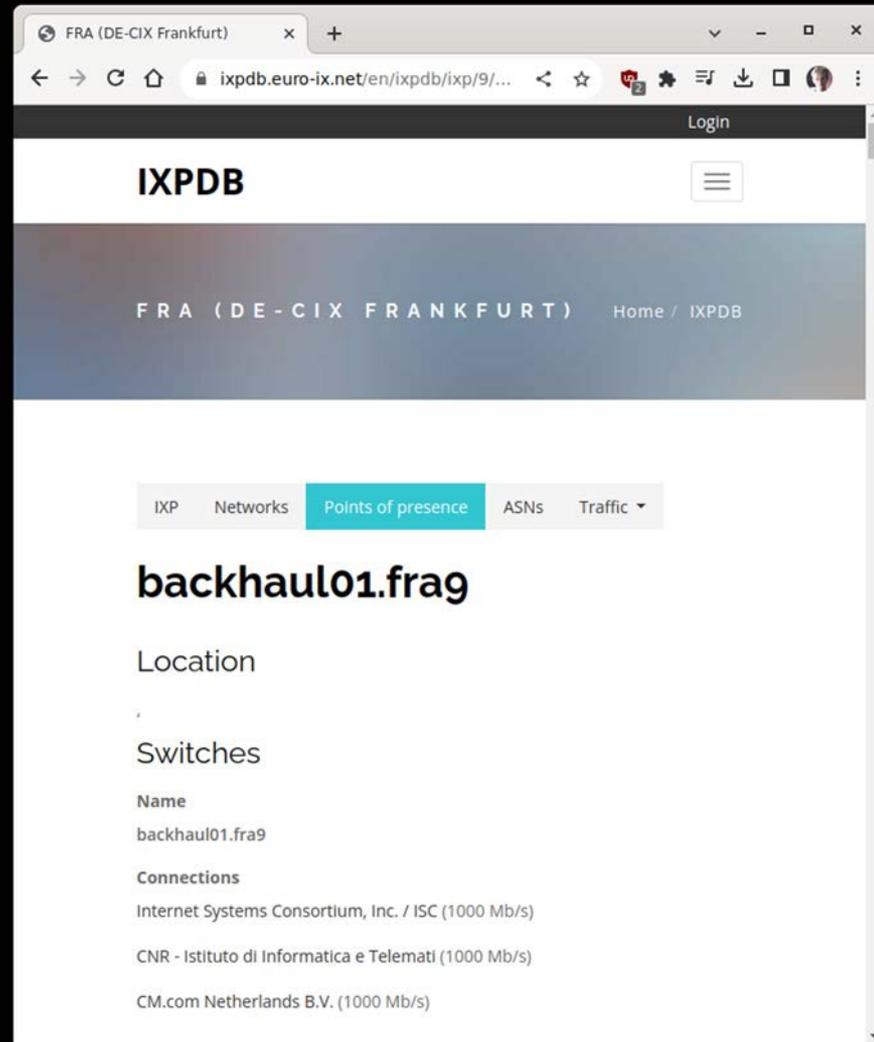
<input type="checkbox"/>	Cambridge, United Kingdom	Mythic Beasts AS44684	<input type="checkbox"/>	Coventry, United Kingdom	SpeedyPage AS142594
<input type="checkbox"/>	Leeds, United Kingdom	Glaucia Digital AS202359	<input type="checkbox"/>	London, United Kingdom	BerryByte AS90841
<input type="checkbox"/>	London, United Kingdom	Smishcraft Hosting AS210667	<input type="checkbox"/>	London, United Kingdom	Scaleblade AS52041
<input type="checkbox"/>	London, United Kingdom	Mythic Beasts AS44684	<input type="checkbox"/>	London, United Kingdom	SpeedyPage AS142594
<input type="checkbox"/>	London, United Kingdom	HostHatch AS63473	<input type="checkbox"/>	London, United Kingdom	xTom AS3214
<input type="checkbox"/>	London, United Kingdom	DSM Group AS48070	<input type="checkbox"/>	Manchester, United Kingdom	GetServers AS48605

MTR 8.8.8.8 - Karabro AB AS30893 in Malmö, Sweden

		Loss%	Drop	Rcv	Snt	Last	Best	Avg	Wrst	StDev	Gmean	Jttr	Javg	Jmax	Jint
1.	AS30893 r1.no-ack.net (185.231.100.3)	0.0%	0	10	10	0.4	0.3	0.3	0.4	0.0	0.3	0.0	0.1	0.1	0.4
2.	AS42788 be-12-804.cr2.stoz.se.portlane.net (88.67.1.1)	0.0%	0	10	10	1.0	0.9	1.0	1.1	0.1	1.0	0.1	0.1	0.2	0.5
3.	AS15189 72.14.216.110	0.0%	0	10	10	1.7	1.7	1.8	1.9	0.1	1.8	0.1	0.1	0.2	0.6
4.	AS15189 142.251.246.107	0.0%	0	10	10	2.1	1.8	2.5	5.6	1.2	2.4	0.1	1.1	3.7	7.6
5.	AS15189 172.253.72.119	0.0%	0	10	10	3.6	1.9	2.4	3.6	0.6	2.3	1.4	0.5	1.4	4.5
6.	AS15189 dns.google (8.8.8.8)	0.0%	0	10	10	1.2	1.1	1.2	1.3	0.1	1.2	0.1	0.1	0.2	0.7

IXP Data debugging

- IXPDB by Euro IX
 - <https://ixpdb.euro-ix.net>
- A useful site within a niche, All data is from IX-F feeds provided by IXPs
- Not a PeeringDB competitor, but useful if you want to easily see IXP switch info, or for networks who don't list themselves on PeeringDB
- If you are IXP, Please add your IX-F feed to IXPDB so other tools can pick it up too!



The screenshot shows a web browser window with the URL [ixpdb.euro-ix.net/en/ixpdb/ixp/9/...](https://ixpdb.euro-ix.net/en/ixpdb/ixp/9/). The page is titled "IXPDB" and is for the "FRA (DE-CIX FRANKFURT)" location. The main navigation menu includes "IXP", "Networks", "Points of presence" (which is highlighted), "ASNs", and "Traffic". The specific page is for "backhaul01.frag". Below the title, there is a "Location" section with a comma separator. The "Switches" section lists the following connections:

Name
backhaul01.fra9
Connections
Internet Systems Consortium, Inc. / ISC (1000 Mb/s)
CNR - Istituto di Informatica e Telemati (1000 Mb/s)
CM.com Netherlands B.V. (1000 Mb/s)

Useful carrier tools

- AS6939 routing.he.net provides very useful (non realtime) debugging info for peering matters with HE.
- You can lookup any ASN
- You can see what prefixes they are seeing, what sessions there are configured, and what filters they have generated for you.
- You can also see why they have rejected some prefixes from their filters

The screenshot shows the routing.he.net website interface. The top part displays search results for the pattern 'as206924'. Below this, there is a section titled 'SESSIONS' with a note that the session status is non-realtime and data is updated every 6 hours. The sessions table lists various IP addresses, their associated routers, and their connection status (ESTAB), along with statistics on accepted and filtered traffic, and the last received update time.

IP	ROUTER	STATUS	ACCEPTED	FILTERED	RECEIVED	RCVD STATUS	RCVD UPDATED	RCVD ACCEPTED
193.189.82.233	core3.fra2.he.net	ESTAB	1	0	DISPLAY	good	June 02 2023 12:12:29	1
2001:504:1b:1::29	core2.mci3.he.net	ESTAB	3	0	DISPLAY	good	July 14 2023 12:17:42	3
2001:7f8:33::a120:6924:1	core3.fra2.he.net	ESTAB	4	0	DISPLAY	good	June 10 2023 12:16:25	4
206.51.7.29	core2.mci3.he.net	ESTAB	2	0	DISPLAY	good	June 06 2023 12:03:13	2

Useful aggregator tools

- AS6939 bgp.he.net provides very useful (non realtime) internet information
- Lots of features including:
 - Peering status (based on RIS/RV/HE data)
 - Prefix + Whois info
 - ccTLD + gTLD name server data
 - The "Exchange report" on the top N IXP participants
 - Far too many smaller features to list, the site has a huge depth to it
- Data is refreshed every ~24 hours

AS206924 Ben Cartwright-Cox

← → C 🏠 📄 bgp.he.net/AS206924

HE HURRICANE ELECTRIC INTERNET SERVICES

AS206924 Ben Cartwright-Cox

Quick Links: [BGP Toolkit Home](#), [BGP Prefix Report](#), [BGP Peer Report](#), [Exchange Report](#), [Bogon Routes](#), [World Report](#), [Multi Origin Routes](#), [DNS Report](#), [Top Host Report](#), [Internet Statistics](#), [Looking Glass](#), [Network Tools App](#), [Free IPv6 Tunnel](#), [IPv6 Certification](#), [IPv6 Progress](#), [Going Native](#), [Contact Us](#)

AS Info | Graph v4 | Graph v6 | Prefixes v4 | Prefixes v6 | Peers v4 | Peers v6 | Whois | IRR | IX

Company Website: <https://blog.benojojo.co.uk>

Country of Origin: **United Kingdom** 🇬🇧

Internet Exchanges: 3

Prefixes Originated (all): 9
Prefixes Originated (v4): 2
Prefixes Originated (v6): 7

Prefixes Announced (all): 9
Prefixes Announced (v4): 2
Prefixes Announced (v6): 7

RPKI Originated Valid (all): 9
RPKI Originated Valid (v4): 2
RPKI Originated Valid (v6): 7

RPKI Originated Invalid (all): 0
RPKI Originated Invalid (v4): 0
RPKI Originated Invalid (v6): 0

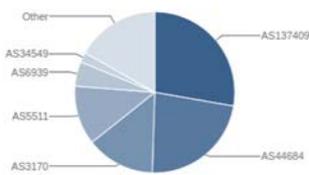
BGP Peers Observed (all): 132
BGP Peers Observed (v4): 86
BGP Peers Observed (v6): 107

IPs Originated (v4): 512
AS Paths Observed (v4): 663
AS Paths Observed (v6): 1,237

Average AS Path Length (all): 3.738
Average AS Path Length (v4): 3.632
Average AS Path Length (v6): 3.795



AS206924 IPv4 Peers



ASN	Name
AS137409	GSL Networks Pty LTD
AS44684	Mythic Beasts Ltd
AS3170	VeloxServ Communications Ltd
AS5511	Orange S.A
AS6939	Hurricane Electric LLC
AS34549	meerfarbig GmbH & Co. KG

AS206924 IPv6 Peers



ASN	Name
AS20473	The Constant Company LLC
AS6939	Hurricane Electric LLC

Useful aggregator tools

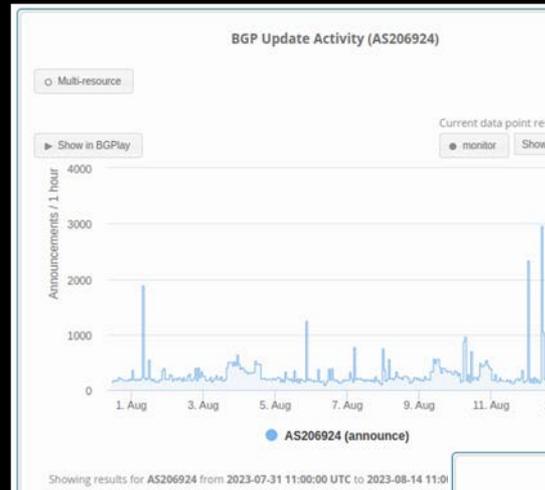
- <https://radar.qrator.net>
- Run by Qrator (A DDoS mitigation/BGP Monitoring company)
- Realtime-ish(?) data
- Strong focus on "Security Issues"
 - Listing endpoints in your network that are exploitable to amplification attacks
 - Listing suspected route leaks
- Global rankings for connectivity

The screenshot shows the radar.qrator.net interface for AS206924. The page is titled "AS206924 Ben Cartwright-Cox" and is located in London. It features a navigation bar with "RADAR by Qrator" and a search bar. The main content area is divided into several sections:

- Overview:** Shows the AS name, location, and global rankings. For example, "2001st place in IPv4 score rating" and "846th place in IPv6 score rating".
- IPv4 Connectivity:** A row of six circular gauges showing: Rate (7.9), Providers (4), Customers (0), Peering (50), Unspecified (0), and Prefixes (2).
- IPv6 Connectivity:** A row of six circular gauges showing: Rate (7.81), Providers (5), Customers (1), Peering (48), Unspecified (0), and Prefixes (7).
- Addresses:** Two circular gauges showing 512 addresses for IPv4 and > 1T addresses for IPv6.
- BGP Neighbors:** A table listing neighbors with metrics for Providers, Customers, Peering, Unspecified, and Prefixes.
- Exchange Points:** A section for listing exchange points.
- Security issues:** A section for listing security issues, currently showing a row of empty green gauges.

Useful aggregator tools

- <https://stat.ripe.net/ui2013/>
- Run by RIPE NCC
- The entire kitchen sink (some useful, some weird) of data tools
- I find the new UI unusable, but the old UI is still available
- Lots of information, some is realtime-ish, some are dubious
- Standout features:
 - Geolocation debugging
 - BGPPlay
 - RIS activity graphs
 - IP Space transfer history



Announced Prefixes (AS206924)

Show 10 entries Search:

Prefix	Last Seen ?	Status
91.198.241.0/24	2023-08-14 00:00:00 UTC	current
2a0c:2f07:f::/48	2023-08-14 00:00:00 UTC	current
2a0c:2f07:d::/48	2023-08-14 00:00:00 UTC	current
2a0c:2f07:ac1::/48	2023-08-14 00:00:00 UTC	current
2a0c:2f07:9459::/48	2023-08-14 00:00:00 UTC	current
2a0c:2f07:4896::/48	2023-08-14 00:00:00 UTC	current
2a0c:2f07:4663::/48	2023-08-14 00:00:00 UTC	current
2a0c:2f07:29::/48	2023-08-14 00:00:00 UTC	current
185.230.223.0/24	2023-08-14 00:00:00 UTC	current

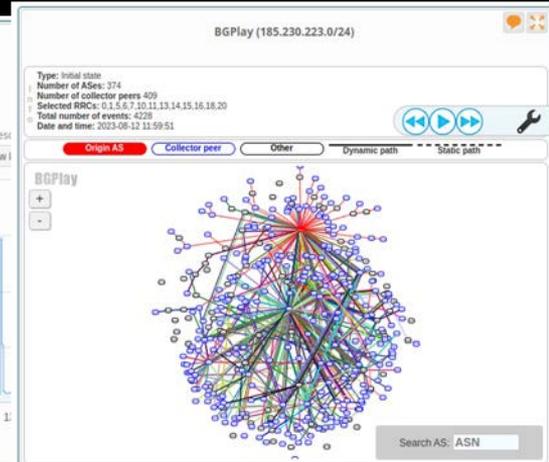
Showing 1 to 9 of 9 entries

Load Full History

Exclude low visibility prefixes

Showing results for AS206924 from 2023-07-31 00:00:00 UTC to 2023-08-14 00:00:00 UTC

Results exclude routes with very low visibility (less than 10 RIS full-feed peers seeing).



Prefixes

Show 10

Period: 2 days 0 seconds [4228 events] Current instance: 2023-08-12 11:59:51

1 sec

Initial State Re-announce Path Change Withdrawal

In collaboration with Compunet, Roma Tre

Showing results for 185.230.223.0/24 from 2023-08-12 11:59:51 UTC to 2023-08-14 11:59:51 UTC

source data	layout	options	embed code	share	info
185.230.223.0/24	yes	yes	no	😊	/24
2a0c:2f07:29::/48	yes	yes	no	😊	/48
2a0c:2f07:384::/48	no	yes	no	😊	/48
2a0c:2f07:4225::/48	no	yes	no	🚫	-
2a0c:2f07:4663::/48	yes	yes	no	😊	/48
2a0c:2f07:4896::/48	yes	yes	no	😊	/48
2a0c:2f07:666::/48	no	yes	no	🚫	-
2a0c:2f07:72::/48	no	yes	no	😞	-
2a0c:2f07:9459::/48	yes	yes	no	😊	/48
2a0c:2f07::/32	no	yes	no	🚫	-

Showing 1 to 10 of 19 entries

Showing results for AS206924 as of 2023-08-14 00:00:00 UTC

Aggregator tools honorable mentions

- <https://radar.cloudflare.com/>
 - Has some RIPE Stat like BGP data, but the interesting/unique data is derived from Cloudflare's own traffic data (You can use this to see countrywide internet blackouts)
- <https://bgpview.io/>
 - Seemingly unmaintained now, was a very useful tool from around 2015-2019 but parts of the site is now broken, was a good bgp.he.net style site
- <https://asrank.caida.org/>
 - Ranks website based on a ranking algorithm, quite popular with the sales people of the higher ranking networks on the site! Developed by the University of San Diego (CAIDA)

Bgp.tools (The speakers aggregator tool)

- Setup in 2018 due to frustrations with the existing aggregator sites
- Performs many of the same functions as the rest of the offerings with a focus on:
 - Fast page response times
 - Realtime as much as possible data
 - Creative data extraction from things
- The site now sustains its own operating costs by selling BGP/IRR monitoring/Managed Looking Glass (and other products still in the works)
- The site uses its own BGP collector as it's bgp data source

The screenshot shows the homepage of bgp.tools. At the top left is the logo and name 'bgp.tools'. At the top right, the current ASN 'AS206924' is displayed. The main heading is 'Browse the Internet ecosystem'. Below this is a search bar with the placeholder text 'Search by ASN (AS13335), or Prefix (8.8.8.0/24), or DNS (bgp.tools)'. The search bar contains the text 'Start here...' and a red arrow button. Below the search bar is a grey button labeled 'Jump to Looking Glass'. The page is divided into three columns. The left column is titled 'You are connecting from' and lists several IP addresses and DNS records, some of which are redacted with black boxes. The middle column is titled 'Example Pages' and lists links to 'Cloudflare (AS13335)', 'LINX LON1', and 'Google DNS Prefix'. The right column is titled 'Recent Updates' and lists links to 'August 2023 Changelog', 'July 2023 Changelog', 'June 2023 Changelog', 'May 2023 Changelog', and 'April 2023 Changelog'. At the bottom left, there is a section titled 'Latency to bgp.tools' which shows 'End To End: 6.8ms' and 'TCP Stack: 4.8ms [+/- 5.8ms]'. At the bottom right, there is a section titled 'Why use BGP.Tools?' which lists 'We offer for free:' (Near Realtime BGP Data, User Friendly interfaces, Frequently updated external data) and 'We offer for paid users:' (BGP Network Monitoring, IRR Database Monitoring).

bgp.tools AS206924

Browse the Internet ecosystem

Search by ASN (AS13335), or Prefix (8.8.8.0/24), or DNS (bgp.tools)

Start here... →

Jump to Looking Glass

You are connecting from

- IPv6: 2a0c:2f07:4663::/48
- Ben Cartwright-Cox (AS206924)
- 2a0c:2f07:4663::/48
- DNS: [Redacted]
- DNS: [Redacted]
- DNS: [Redacted]

Example Pages

- [Cloudflare \(AS13335\)](#)
- [LINX LON1](#)
- [Google DNS Prefix](#)

Recent Updates

- [August 2023 Changelog](#)
- [July 2023 Changelog](#)
- [June 2023 Changelog](#)
- [May 2023 Changelog](#)
- [April 2023 Changelog](#)

Latency to bgp.tools

- End To End: 6.8ms
- TCP Stack: 4.8ms [+/- 5.8ms]

Why use BGP.Tools?

We offer for free:

- Near Realtime BGP Data
- User Friendly interfaces
- [Frequently updated external data](#)

We offer for paid users:

- [BGP Network Monitoring](#)
- [IRR Database Monitoring](#)

Bgp.tools (The speakers aggregator tool) [IXP Data]

bgp.tools [AS206924](#)

LINX LON1

[Go to PeeringDB page](#) [Go to IXP-DB page](#)

Route Server ASN: [AS8714](#)

Data Feeds Available:

RS Feed, Ping, MAC Address

Top Vendors

Vendor	%
Juniper Networks	39%
Cisco Systems, Inc	31%
Arista Networks	5%
HUAWEI TECHNOLOGIES CO.,LTD	3%
Other	12%

List of members (973 members over 845 ASNs):

ASN	Description	IPv4	IPv6	Speed
AS51823	Microtalk Europe Ltd	195.66.224.2	2001:7f8:4::ca6f:1	10_gbps
AS50245	Server1 Inc.	195.66.224.3	2001:7f8:4::c445:1	10_gbps
AS44356	Epsilon Telecommunications Ltd	195.66.224.4	2001:7f8:4::ad44:2	10_gbps
AS49158	WIFINITY NETWORKS LIMITED	195.66.224.5	2001:7f8:4::c006:2	100_gbps

[View](#)

Showing routes on "LINX LON1" route servers that point to the next hop of 195.66.224.2, 2001:7f8:4::ca6f:1.

Session	Prefix	BGP Path
LINX-LON1-RS	91.220.132.0/24	AS8714 AS51823
LINX-LON1-RS	193.3.172.0/24	AS8714 AS51823

[Click here to go back](#)

Where bgp.tools has BGP collectors, you can see who is sending what to the route servers!

For many IXPs you can also see the vendor (based on mac address) a peer is using!

Bgp.tools (The speakers aggregator tool) [AS Info]

View Prefixes / Peers/Upstreams/ Downstreams / IXP Ports etc

Submit Corrections

Query their BGP sessions with bgp.tools, or use their RIPE Atlas probes from the site

See a listing of their known BGP Communities



Look at their downstream networks

Bgp.tools (The speakers aggregator tool) [Prefix Info]

2a0c:2f07:9459::/48

Originated by **AS206924**
AS Name: **Ben Cartwright-Cox**

Overview Connectivity Whois DNS Validation

Realtime Data

Tier 1 ISPs

```
graph LR; AS206924[AS206924] --> AS44684[AS44684]; AS44684 --> AS3170[AS3170]; AS44684 --> AS5511[AS5511]; AS44684 --> AS6461[AS6461]; AS3170 --> AS3257[AS3257]; AS3170 --> AS3356[AS3356]; AS3170 --> AS1299[AS1299]; AS3257 --> AS7018[AS7018]; AS3356 --> AS3491[AS3491]; AS1299 --> AS6762[AS6762]; AS2914 --> AS6453[AS6453]; AS2914 --> AS3320[AS3320]; AS5511 --> AS701[AS701]; AS5511 --> AS174[AS174]; AS6461 --> AS6939[AS6939]; AS6461 --> AS12956[AS12956]; AS6461 --> AS6830[AS6830];
```

General prefix registration info

Peers/Upstreams for the prefix

Reverse DNS + DNS records that point to IPs inside the prefix

IRR debug data, "Raw" RPKI Certificate debugging information

Auto updating "map" of how the prefix propagates

Bgp.tools (The speakers aggregator tool) [AS-SET]

as-mythic

Database RIPE
Full Name as-mythic

Overview Reverse Raw

Total Size
479 ASNs

Members:

-	Member	ASN Count/Whois Name
RIPE	AS-MYTHIC-MANUAL	328
RIPE	AS-MYTHIC-CUSTOMERS	25
RIPE	AS-BONSAI	144
	AS44684	Mythic Beasts Ltd
	AS136620	VMHaus Limited

See who includes this AS-SET in their AS-SET!

Handles AS-SET naming conflicts

Member AS-SET's are recursively resolved to calculate true size

Bgp.tools (The speakers aggregator tool) [Looking Glass]

Ability to look for a ASN of interest in the path

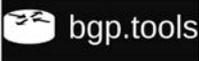
Query all public BGP sessions connected to bgp.tools

Lookup by CIDR, only applies to sessions that have been marked to be exported publicly

Search Filters:

Must Contain ASN:

Query Overview: **396 Sessions Responded**
564 Matching Paths Displayed

Supported by:  [?]

```
185.230.223.0/24 unicast [AS396998 - EQX-FRA07 0000-00-00] * (?/-) [AS206924]
Type: BGP
BGP.as_path: 396998 1299 3170 206924
BGP.community: [AS1299: EU Customers]
BGP.large_community: (206924, 666, 0)
unicast [AS396998 - EQX-FRA07 0000-00-00] * (?/-) [AS206924]
Type: BGP
BGP.as_path: 396998 3257 3170 206924
BGP.community: [AS3257: GTT customer route] (3257,8034) (3257,8043) [AS3257: route originated in Europe]
[AS3257: route originated in central Europe] [AS3257: route originated in UK] [AS3257: route originated in LON]
unicast [AS396998 - EQX-FRA07 0000-00-00] * (?/-) [AS206924]
Type: BGP
BGP.as_path: 396998 2914 44684 206924 206924 206924
BGP.community: [AS2914: NTT and customer routes] [AS2914: EU MSA origins] [AS2914: European country origins]
[AS2914: world regional origins]
```

BGP Communities are automatically decoded into readable sentences

You can hover over ASN numbers for their names to appear

Bgp.tool

Ben Cartwright-Cox

AS Number 206924

BGP

Ping/Traceroute

RIPE Atlas

Select BGP Session to query:

All Sessions

Input Prefix:

2600::

Query

```

2600::/48          unicast [Velox LCY 0000-00-00] * (?/-) [AS1239]
Type: BGP
BGP.as_path: 206924 60945 3257 1239
BGP.community: (3257,8048) (3257,30176) [AS3257: route originated in Europe] [AS3257:
route originated in UK] [AS3257: route originated in LON] (60945,0) (60945,3257)
[AS206924: Learned from Transit]
unicast [Mythic CBG 0000-00-00] * (?/-) [AS1239]
Type: BGP
BGP.as_path: 206924 44684 1299 1239
BGP.community: [AS1299: North American Peers] [AS206924: Learned from Transit]
BGP.large_community: [AS44684: Route learned from transit] [AS44684: Route learned at

```

Ability to look for
of interest in the

BGP Community
automatically de
into readable se

ss]

over over ASN
for their names

bgp.tools RIPE Atlas Front End

- If you are logged in, and pair a RIPE Atlas API key with your account, you can use bgp.tools as a front end for RIPE Atlas!
- Providing you single click "MTR" style traceroutes from any ASN with probes on it
- It also automatically updates, handles RIPE Atlas unreliability, and provides faster results (to the user, since you don't have to keep reloading for results) than using the RIPE atlas interface itself

There are 253 [RIPE Atlas Probes](#) on this ASN.

Select up to 10 probes at random

Traceroute to:

2600::

Request Traceroute

```
Still waiting on results from RIPE Atlas...
RIPE Atlas Link: https://atlas.ripe.net/measurements/58620301/#general
Still waiting on results from RIPE Atlas...
Start: 2023-08-14T15:44:49Z (Probe: 61163)
HOST: 2a01:cb19:853b:1f01:da58:d7ff:fe03:166 Loss% Last
 1. AS3215 2a01:cb19:853b:1f01::1 0.0% 3.1
 2. AS3215 2a01:cb08a004021901930253007401 0.0% 1.6
 3. AS0 2a01:cfc0:200:8000:193:252:102:8 0.0% 11.9
 4. AS0 2a01:cfc0:200:8000:193:252:102:7 0.0% 10.4
 5. AS0 ??? 100.0 0.0
 6. AS5511 2001:688:0:3:9::ce 0.0% 15.4
 7. AS0 ??? 100.0 0.0
 8. AS0 ??? 100.0 0.0
 9. AS1239 sl-crsl-dc-bel7.sprintlink.net 0.0% 102.2
10. AS1239 sl-crsl-ffx-be8.sprintlink.net 0.0% 129.7
11. AS1239 sl-crsl-ork-bel12.sprintlink.net 0.0% 138.7
12. AS1239 sl-mpe70-ork-be100.sprintlink.net 0.0% 133.9
13. AS0 ??? 100.0 0.0
14. AS1239 www.sprint.net. 0.0% 135.6
```

</promo>

(Sorry)

How you (yes, you) can help the internet

- A lot of the BGP route collectors are still underserved in many regions.
- You can help by feeding them wherever possible.
- Here are the links to setup sessions:

Service	Instant Signup	URL
RIPE	No (IXP+Multihop)	https://www.ris.ripe.net/cgi-bin/peerreg.cgi
RouteViews	No (IXP+Multihop)	https://www.routeviews.org/routeviews/index.php/peering-request-form/
bgp.tools	Yes (IXP+Multihop)	https://bgp.tools/kb/setup-sessions
Radar	Yes (Multihop)	https://radar.qrator.net/ (Login to account, in settings)

IXP Route Collection

IXP	RIS	RouteViews	bgp.tools
DE-CIX	JNB	FRA	All
LINX LON1 / LONAP	Yes	Yes	Yes
AMS-IX	Yes	Yes	No
France-IX	Yes	Yes	No
Equinix	Singapore/Miami/ Palo Alto	Singapore, US, Sydney	No
MIX-IT	Yes	Yes	No
IX.BR	Yes	Yes	Soon?
ASN:	12654	6447	212232

Questions?

Obvious things that I left out?

Email for out of band comments: epf@benjojo.co.uk