BGP Tutorial (bgp.tools) Ben Cartwright-Cox - RIPE 90 (2025)



93b3674ab5c9edea17d8d961d1fbcb4f

Quick overview of bgp.tools

😁 bgp.tools

Login

Browse the Internet ecosystem

Search by ASN (AS13335), Prefix (8.8.8.0/24), DNS (bgp.tools), or MAC Address (3c:ec:ef:6f:8d:75)

Start here...

Jump to Looking Glass

You are connecting fromExample Pages

- IPv6: <u>2a0b:f4c2:3::85</u>
- Stiftung Erneuerbare Freiheit (AS60729)
- 2a0b:f4c2::/40
- IPv4: <u>185.220.101.85</u>
- Stiftung Erneuerbare Freiheit (AS60729)
- 185.220.101.0/24
- DNS: 217.197.80.4
- DNS: 2001:67c:1400:1010::4

Latency to bgp.tools

- IPv4 End To End: 191.8ms
- IPv4 TCP Stack: 20.9ms [+/-13.7ms]
- IPv4 <u>TCP MSS</u>: 1460b
- IPv6 End To End: 176ms
- IPv6 TCP Stack: 21.6ms [+/-
- 0.1ms]

- <u>Cloudflare (AS13335)</u>
 - LINX LON1
 Google DNS Prefix

Recent Updates

- March 2025 Changelog
- February 2025 Changelog
- December 2024 Changelog
- October 2024 Changelog
- September 2024 Changelog

- Why use BGP.Tools?
- Near Realtime BGP Data
- User Friendly interfaces
- Frequently updated external data

->

We offer for paid users:

- BGP Network Monitoring
- IRR Database Monitoring



- #3 for <u>AS Cone in Portugal</u>
 #1 for Estimated Evenals in Portugal
- #1 for Estimated Eyeballs in Portugal
 #11 for Unique Domains in Portugal
- #6 for Known Peers in Portugal
- #2 for <u>Originated IPv4 Space in Portugal</u>
- #2 for <u>Originated IPv6 Space in Portugal</u>

Tags:



Global Looking Glass

| | Terminal | Query all public BGP sessions |
|---|---------------------------------------|--|
| File Edit View Search Terminal Help | | bgp.tools |
| <pre>[13:55:39] ben@metropolis:~\$ ssh bgp.tools</pre> | | septeore |
| Welcome | This session is supported by: | Lookup by CIDR, only applies to sessions that have been marked to be exp |
| 25 Inc. | a taala | 185.230.223.0/24 |
| | 0.000151 | Search Filters: |
| | | Must Contain ASN: 65000 |
| | | - |
| | | Query Overview: |
| | | 322 Sessions Responded |
| | | 451 Matching Paths Displayed |
| <pre>bgp.tools> show route 2620:121::/44 match</pre> | 206924 | |
| 2620:121::/44 unicast [{AS206924 - Type: BGP | Ben Cartwright-C} Mythic CBG 000 | |
| BGP.as_path: 206924 44684 6461 55219 | | 185.230.223.0/24 unicast [AS35487 - edge-ng-los01 0000-00-00] * (?/-) [AS2069 Type: BGP |
| BGP.community: (65532,400) [AS206924: Lea | | BGP.as_path: 35487 8849 5511 206924 |
| BGP.large_community: (44684, 0, 700) [AS4 | 44684: Route learned from peer] (446) | BGP.community: (56630,3000) (56630,3057) (57695,13000) |
| | 50V] (44684, 2, 6461) [AS44684: Route | unicast [AS1003 - TORv4 0000-00-00] * (?/-) [AS206924] |
| | | Type: BGP BGP.as path: 1003 835 174 5511 206924 |
| | Ben Cartwright-C} Mythic CBG 000 | BGP.community: [AS174: Route is learned from EU (Europe) non-customer.] [AS174: |
| Type: BGP | | Cogent Transit] (1003,1200) (1003,1201) (62513,10000) |
| BGP.as path: 206924 44684 6461 55219 | | BGP.large_community: (206924, 666, 0) (206924, 5511, 0) |
| BGP.community: (65532,400) [AS206924: Lea | | unicast [AS34979 - 39D-TEL-02 0000-00-00] * (?/-) [AS206924] Type: BGP |
| | | |

y all public BGP sessions connected to bgp.tools

>

ly applies to sessions that have been marked to be exported publicly

Web UI

Terminal UI

| 185.230.223.0/24 | |
|--|--|
| Search Filters: | |
| Must Contain ASN: 65000 | |
| Query Overview: | Supported by: |
| 322 Sessions Responded | |
| 451 Matching Paths Displayed | 🖆 bgp.tools |
| | [2] |
| 185.230.223.0/24 unicast [AS35487 - edge-ng-los01 0000-00-00] Type: BGP |] * (?/-) [AS206924] |
| BGP.as_path: 35487 8849 5511 206924 | |
| BGP.community: (56630,3000) (56630,3057) (57695,13000) | [46206024] |
| unicast [AS1003 - TORv4 0000-00-00] * (?/-) Type: BGP | [AS206924] |
| BGP.as path: 1003 835 174 5511 206924 | |
| BGP.community: [AS174: Route is learned from EU (Europe) non-cus | stomer.] [AS174: United Kingdom] [AS835: Source: |

\$ ssh anyuser@bgp.tools

https://bgp.tools/super-lg

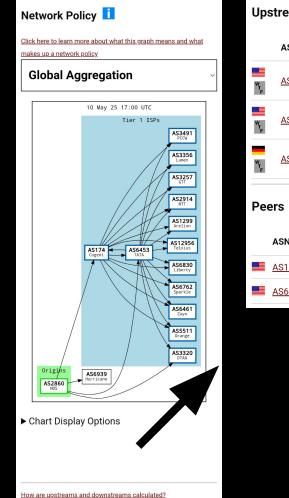
ASN Info



NOS COMUNICACOES, S.A.

AS Number **2860** Website <u>http://www.nos.pt</u>

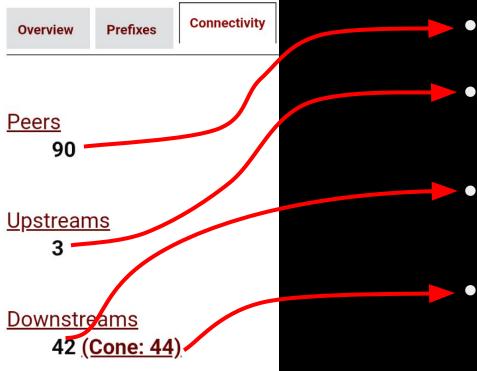




| Upstreams 🗲 | | | | | | |
|-------------|---------------|--------------------------------------|--------|--------|---|---------------|
| | ASN | Description | IPv4 | IPv6 | | |
| W T F | <u>AS174</u> | Cogent Communications | ~ | ~ | | |
| W T F | <u>AS6453</u> | TATA Communications (America) Inc | ~ | ~ | | |
| W T F | <u>AS3320</u> | Deutsche Telekom AG | ~ | ~ | | |
| Pe | ers 🗲 | | | | | |
| ASN | | Description | IPv4 | IPv6 | _ | A/1* |
| | AGN | Decemption | | | Dov | |
| | <u>AS174</u> | Cogent Communications | ~ | ~ | Dov | ~ |
| | | • | v v | י י | Dov | A |
| | <u>AS174</u> | Cogent Communications | | | Dov ^W T _F | |
| | <u>AS174</u> | Cogent Communications | | | ۲ | A |
| | <u>AS174</u> | Cogent Communications | | | (®) 14 15 15 15 15 15 15 15 15 15 15 15 15 15 | A |
| | <u>AS174</u> | Cogent Communications | | | ♥ | А А |

| Do | Downstreams F ASN Description IPv4 IPv6 | | | | | | |
|-----------------------|---|--|-------------|-------------|--|--|--|
| WT F | <u>AS59787</u> | WebSP - Comercio e Prestacao de Servicos Informaticos, Lda | ~ | ~ | | | |
| | | | | | | | |
| () W T F | <u>AS15457</u> | NOS Madeira Comunicacoes, S.A. | ~ | ۲ | | | |
| VT F | AS15457 AS25060 | | v v | ۲ ۲ | | | |
| ۵ ۳ ۳ ۳ ۴ | | Comunicacoes, S.A. Instituto Nacional de | ר ר ר | ~ × × | | | |

ASN Info



- How many unique AS'es have been seen "next" to the ASN in question
- How many unique AS'es appear to be providing wider internet connectivity to this ASN
- How many unique AS'es appear to be getting connectivity directly *from* this ASN
- How many unique AS'es appear to be getting connectivity directly *via* this ASN

How does that even work???

- bgp.tools at its core is a very large collector of BGP data
- bgp.tools sees 2500~ views of the internet (2.5 Billion routes~)
- Using parts of logic we can turn BGP paths like this into educated guesses:

```
165.204.156.0/23 unicast [AS37721 - ACC1-4 0000-00-00]
Type: BGP
 BGP.as path: 37721 13335 33619
                    unicast [AS26073 - r2-ewr01 0000-00-00]
 Type: BGP
 BGP.as path: 26073 174 13335 33619
                    unicast [AS206236 - r01 0000-00-00]
 Type: BGP
 BGP.as path: 206236 9136 13335 33619
```

• What can we learn from these routes?

- Every ASN interaction is a peer
 - **37721<->13335**
 - 0 13335<->33619
 - 26073<->174
 - **174<->13335**
 - 0 206236<->9136
 - **9136<->13335**

• Paths that go via a ""tier 1"" network are likely upstream relationships

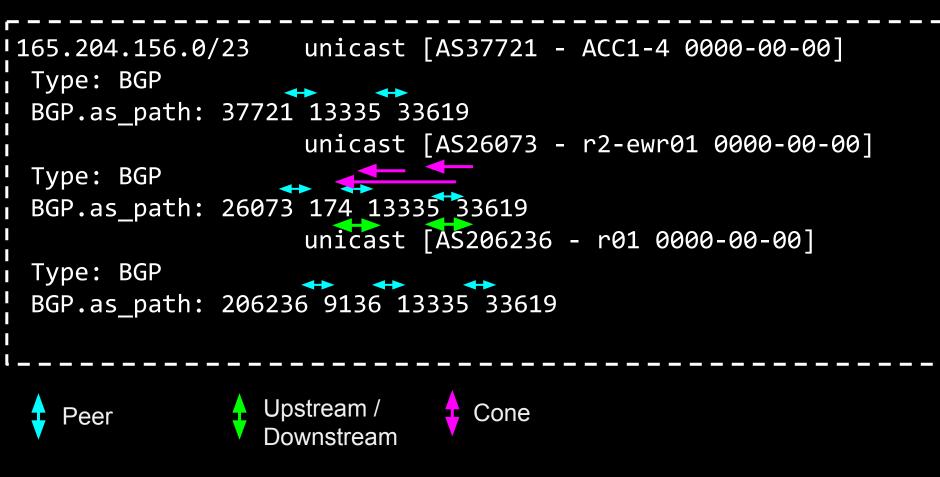
- **174 <- 13335**
- 174 is Cogent, a Tier 1
- 13335 is Cloudflare
- \circ Cloudflare is likely paying Cogent to carry traffic for them
- 174 <- 13335 <- 33619
- 33619 is AMD, AMD is likely paying cloudflare to carry traffic, because cloudflare is giving AMD routes via them, to cogent

- Inverse upstream logic happens for downstream
 - 174 <- 13335 <- 33619
 - 33619 is AMD, AMD is likely paying cloudflare to carry traffic, because cloudflare is giving AMD routes via them, to cogent
 - \circ So 33619 is a downstream of 13335

```
165.204.156.0/23 unicast [AS37721 - ACC1-4 0000-00-00]
Type: BGP
 BGP.as_path: 37721 13335 33619
                    unicast [AS26073 - r2-ewr01 0000-00-00]
 Type: BGP
 BGP.as_path: 26073 174 13335 33619
                    unicast [AS206236 - r01 0000-00-00]
 Type: BGP
 BGP.as_path: 206236 9136 13335 33619
```



```
165.204.156.0/23 unicast [AS37721 - ACC1-4 0000-00-00]
Type: BGP
 BGP.as_path: 37721 13335 33619
                    unicast [AS26073 - r2-ewr01 0000-00-00]
 Type: BGP
 BGP.as path: 26073 174 13335 33619
                    unicast [AS206236 - r01 0000-00-00]
 Type: BGP
 BGP.as path: 206236 9136 13335 33619
                 Upstream /
   Peer
                  Downstream
```





NOS COMUNICACOES, S.A.

AS Number **2860** Website <u>http://www.nos.pt</u>





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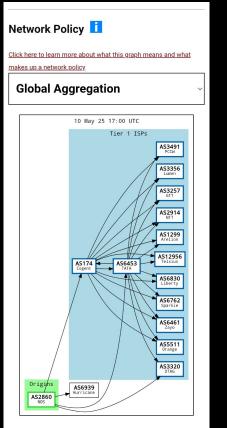
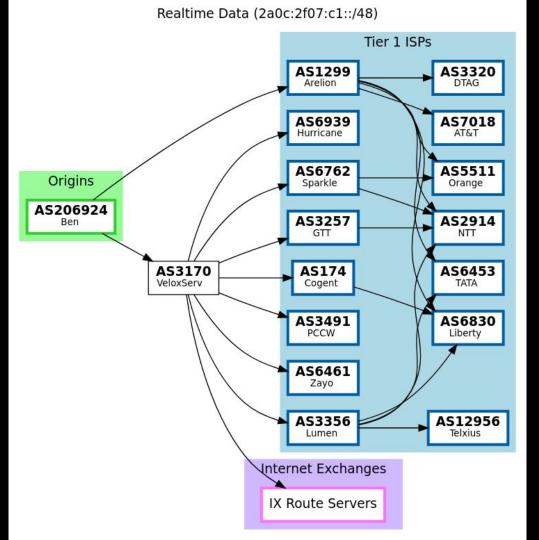


Chart Display Options

How are upstreams and downstreams calculated?



Traffic flows this way (To the AS)

BGP Routes flow this way

Why is this data processing useful?

- bgp.tools calculates Upstream/Downstreams continuously (and in near real time), This is useful for
 - Validating your config changes
 - For example, After disabling a customer/provider link, when should you shut the link?
 - Detecting unintended routing
 - For example, Someone upstreams you without your consent (Route Leaks/Hijacks)
 - Keeping an eye on what your customers or competitors are doing
 - Have they added new customers?
 - Are your customers adding new upstreams?
- While you can see *your* own view of the internet on your own network, bgp.tools can show you how the internet *sees your network*

Example Situation: Route Leak

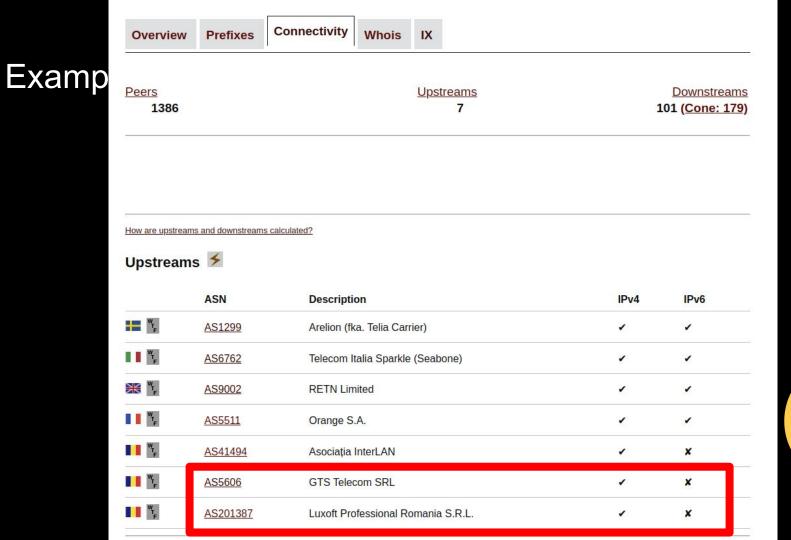
AS Number 8708 Website <u>https://www.digi.ro</u>



| Overview | Prefixes | Connectivity | Whois | IX | |
|----------|----------|--------------|-------|----|--|
|----------|----------|--------------|-------|----|--|

Prefixes Originated Addresses Originated 132 IPv4, 6 IPv6 7491 /24's of IPv4 **Show Low Visibility Prefixes** 1114112 /48's of IPv6 Prefix Description A 2.17.116.0/22 Akamai International B.V. 5.2.128.0/17 DIGI ROMANIA S.A. 5.12.0.0/14 **DIGI ROMANIA S.A.** 45.67.37.0/24 INSX CLOUD SRL **A** 46.102.175.0/24 IPv4 Management SRL **A** 62.231.64.0/18 DIGI ROMANIA S.A.

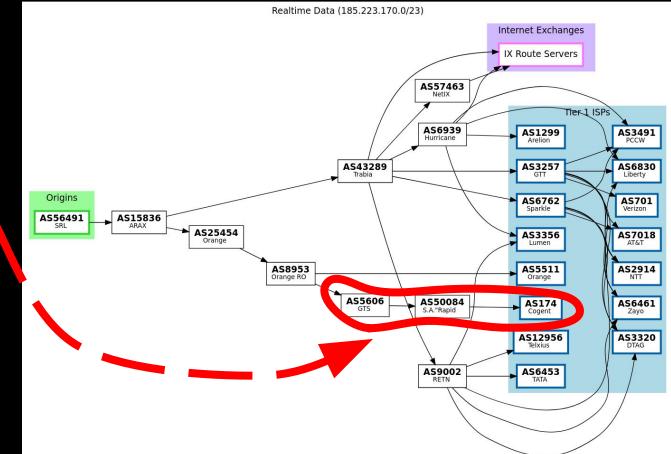
| Overview | Prefixes C | onnectivity Whois IX | | |
|-------------------|----------------------------|---|------|--------------------------------------|
| Peers 1386 | | <u>Upstreams</u> 7 | 10 | <u>Downstreams</u> D1 (Cone: 179) |
| How are upstreams | s and downstreams cald | culated? | | |
| opstreams | ASN | Description | IPv4 | IPv6 |
| Tr WF | AS1299 | Arelion (fka. Telia Carrier) | | |
| F F | | | 1 | 1 |
| | AS6762 | Telecom Italia Sparkle (Seabone) | - | • |
| | | | | |
| | <u>AS6762</u> | Telecom Italia Sparkle (Seabone) | 1 | • |
| | AS6762 AS9002 | Telecom Italia Sparkle (Seabone) RETN Limited | 1 | , , |
| | AS6762 AS9002 AS5511 | Telecom Italia Sparkle (Seabone) RETN Limited Orange S.A. | | × × × |





Example Situation: Route Leak

- Looks like a route leak!
- This looks (to me) unintentional



View

This page shows *some* of the BGP AS paths (and their prefix) that bgp.tools uses to learn that AS5606 (GTS Telecom SRL) is a upstream of AS8953 (Orange Romania S.A.).

This list is not exhaustive, and some paths might have been hidden due to the data feeds being non-exportable.



Route Leaks in this context are

- A peer learning your route from somewhere (or directly from you peering session) and exporting that as if you are a customer of them (aka, they send it to all or some of their upstreams/peers)
- While this sounds good (woo! Free Bandwidth!!) there are a few issues
 - The data path may not actually work
 - The upstreams/peers they may be leaking you to maybe be in very suboptimal places
 - The leak is attracting so much traffic it is making your customers performance very bad
- You typically do not want to ignore route leaks, even if it might mean "free" bandwidth

- A common (but dangerous) way to configure your export BGP filters is:
 - "Well I know all of my customer prefixes"
 - "So If I see one of those prefixes, we will export them to transit/peers"

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- No! Bad!!!
- What if?
 - You don't update this list (or your automation breaks to update this list)

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 - You learn your (now) ex-customer prefix from your competitor via peering

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 - "Well I know all of my customer prefixes"
 - \circ "So If I see one of those prefixes, we will export them to transit/peers"
- No! Bad!!!
- What if?
 - You don't update this list (or your automation breaks to update this list)
 - Your customer leaves you
 - You learn your (now) ex-customer prefix from your competitor via peering
 - You are going to give your competitor free transit via peering
 - Also you are likely going to upset both your competitor and ex-customer even more

Non ASN level tooling

Prefix Data (+DNS)

Whois

DNS Validation

Show Forward DNS

| А | DNS |
|----------------|---|
| 198.148.78.23 | avapdproxy-01prd.vrt.sourcefire.com |
| 198.148.78.82 | confluence.vrt.sourcefire.com |
| 198.148.78.217 | avavpn02.vrt.sourcefire.com, avavpn.vrt.sourcefire.com (<u>3 total</u>) |
| 198.148.79.54 | clamav.net |
| 198.148.79.55 | updates.vrt.sourcefire.com |
| 198.148.79.58 | intelligence.sourcefire.com |
| 198.148.79.63 | jira.talos.cisco.com, jira.vrt.sourcefire.com |
| 198.148.79.67 | snapshot.clamav.net, www.snapshot.clamav.net |

| | | | | bgp.tools Start here |
|---------------------------------------|------------------------------------|-------------|-----------------------|--|
| | | | | Logged in as AS206924 |
| | | | | View Super LG |
| 2620:1 | 21::/44 | | | 5 × 60 |
| Originated by AS Name: Ci s | <u>AS55219</u> sco Systems, Inc | | | |
| Overview | Connectivity | Whois | DNS | |
| Validation | | | | 198.148.78.0/23 |
| ΑΑΑΑ | | DNS | | Originated by <u>AS55219</u> AS Name: Cisco Systems, Inc. |
| 2620:121: | 0:23::77 | regsvc.s | co.cisco.com | Overview Connectivity Whois DNS |
| 2620:121: | 0:500::217 | scavpn.v | vrt.sourcefire.com, v | Validation |
| vm 2620:121: | 1:59:250:56ff:fe96:bb | 7a stage.re | gsvc.sco.cisco.com | |
| 2620:121: | 1:500::225 | cilvpn.vr | t.sourcefire.com | Registered on 9 May 2013 (10 |
| 2620:121: | 4:500::217 | dtxvpn.v | rt.sourcefire.com | years old) |
| Last Update: 2023-0 | 08-31T08:25:15Z UTC | | | Registered to ARIN-CS-985 (ARIN) |

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Prefix Data (+DNS)

Whois

| Overview Con | nectivity |
|--------------|-----------|
|--------------|-----------|

DNS Validation

Show Forward DNS

| Α | DNS |
|----------------|--|
| 198.148.78.23 | avapdproxy-01prd.vrt.sourcefire.com |
| 198.148.78.82 | confluence.vrt.sourcefire.com |
| 198.148.78.217 | avavpn02.vrt.sourcefire.com, avavpn.vrt.sourcefire.com.(3 total) |
| 198.148.79.54 | clamav.net |
| 198.148.79.55 | updates.vrt.sourcefire.com |
| 198.148.79.58 | intelligence.sourcefire.com |
| 198.148.79.63 | jira.talos.cisco.com, jira.vrt.sourcefire.com |
| 198.148.79.67 | snapshot.clamav.net, www.snapshot.clamav.net |

Useful for:

- Figuring out what a IP address might contain
- Investigating/Due-Diligence potential customers

| | | | | 32 | bgp.tool | S Start | here |
|-------------------------------------|---------------------------------------|----------|-----------------------|------------|------------------------------------|---------|------|
| | | | | Logged in | as AS206924 | | |
| | | | | View Su | iper LG | | |
| 2620:1 | 21::/44 | | | | | | |
| Originated by AS Name: Ci | / <u>AS55219</u> sco Systems, Inc. | | | | | | |
| Overview | Connectivity W | Vhois | DNS | | Sec. | | |
| Validation | | | | 198. | 148.78 | 3.0/2 | 23 |
| AAAA | | DNS | | | ed by <u>AS552</u> e: Cisco Sys | | Inc. |
| 2620:121: | :0:23::77 | regsvc.s | sco.cisco.com | Overview | Connectivity | Whois | DNS |
| 2620:121: | :0:500::217 | scavpn. | vrt.sourcefire.com, v | Validation | | | |
| vm 2620:121: | :1:59:250:56ff:fe96:bb7a | stage.re | gsvc.sco.cisco.com | | | | |
| 2620:121: | 1:500::225 | cilvpn.v | rt.sourcefire.com | | ay 2013 (10 | | |
| 2620:121: | 4:500::217 | dtxvpn.v | vrt.sourcefire.com | year | rs old) | | |
| | | | | | | | |

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ARIN-CS-985 (ARIN)

Network Ranking

| bgp.tools Start here | → | | AS2069 | Rankings |
|--|----------|-----------------|--------|--|
| Mexico Network Rankings | | | | • #2 for AS Cone in Mexico |
| Sort by: AS Cone | | | | #15 for Estimated Eyeballs in Mexico |
| Sort by: Adjacencies | | | | #5 for <u>Unique Domains in Mexico</u> |
| Sort by: AS Cone | | | | #3 for Known Peers in Mexico |
| Sort by: Estimated Eyeball | | | | • #4 for Originated IPv4 Space in Mexico |
| Sort by: Uniq Domains Hosted | | | | #3 for Originated IPv6 Space in Mexico |
| Sort by: IPv4 Space Originated | | | | • #3 for <u>Originated if vo Space in Mexico</u> |
| Sort by: IPv6 Space Originated | | | | |
| AS8151 UNINET | #3 (85) | # 3 (85) | #1 | # |
| AS19332 Marcatel Com, S.A. de C.V. | #7 (42) | # 4 (65) | #43 | # |
| AS13999 Mega Cable, S.A. de C.V. | #6 (50) | #5 (49) | #3 | # |
| AS17072 TOTAL PLAY TELECOMUNICACIONES SA DE CV | #5 (78) | #6 (44) | #2 | # |
| AS7438 Pegaso PCS, S.A. de C.V. | #10 (23) | # 7 (25) | #16 | # |

Network Ranking

| 😁 bg | o.tools Start here → | | | | | | | | |
|----------|--|--|----------|-----------------|-----|---|--|--|--|
| Mexic | o Network Rankings | | | | | | | | |
| Sort by: | AS Cone | | | | | ~ | | | |
| Sort by: | Adjacencies | | | | | | | | |
| Sort by: | AS Cone | | | | | | | | |
| Sort by: | Estimated Eyeball | | | | | | | | |
| Sort by: | Uniq Domains Hosted | | | | | | | | |
| Sort by: | IPv4 Space Originated | | | | | | | | |
| Sort by: | IPv6 Space Originated | | | | | | | | |
| AS8151 | UNINET | | #3 (85) | #3 (85) | #1 | # | | | |
| AS19332 | Marcatel Com, S.A. de C.V. | | #7 (42) | #4 (65) | #43 | # | | | |
| AS13999 | Mega Cable, S.A. de C.V. | | #6 (50) | #5 (49) | #3 | # | | | |
| AS17072 | TOTAL PLAY TELECOMUNICACIONES SA DE CV | | #5 (78) | #6 (44) | #2 | # | | | |
| AS7438 | Pegaso PCS, S.A. de C.V. | | #10 (23) | # 7 (25) | #16 | # | | | |

https://bgp.tools/rankings/MX?sort=cone

Can be ranked by Global or ASN Country using:

- Peer Count (*)
- AS Cone
- Eyeball Population
- Domain Records
- IPv4/IPv6 space originated

* is improved by feeding bgp.tools BGP data

IXP Info Pages

NYIIX New York

Go to PeeringDB page

Go to IXP-DB page

Data Feeds Available:

RS Feed, Ping, MAC Address

Do you run this IX and want to help with feeds? Contact Us!

List of members (236 routers over 211 ASNs):

| | ASN | Description | IPv4 | IPv6 |
|----------|----------|---|----------------|------------------|
| ж. | AS45437 | Real World - The Core | 198.32.161.115 | 2001:504:1::a504 |
| • | AS52772 | SJNET TELECOMUNICACOES - EIRELI | 198.32.161.89 | 2001:504:1::a526 |
| (| AS53180 | INFORTEL COMUNICACOES LTDA | 198.32.161.51 | 2001:504:1::a505 |
| | AS41327 | Fiber Telecom S.p.A. | 198.32.161.50 | 2001:504:1::a504 |
| | AS53667 | FranTech Solutions | 198.32.161.45 | 2001:504:1::a505 |
| | AS1031 | Peer 1 Internet Service LLC | 198.32.161.44 | 2001:504:1::a500 |
| | AS271253 | LINK BRASIL TELECOMUNICACOES LTDA | 198.32.161.43 | 2001:504:1::a527 |
| | AS2734 | CoreSite | 198.32.161.41 | 2001:504:1::a500 |

| PI | T-I) | < | | | | | | |
|------------------|--------------------|--------------|------------------------------|--------------------|-----------------|-----------|--|--|
| • • | Go to P | eeringDB p | age | C _{Go to} | IXP-DB page | | | |
| Rout | te Serv | ver ASN: AS | 30365 | | | | | |
| Da | ta Fo | eeds Av | vailable: | | | | | |
| F | RS Fee | d, 🗹 Ping, | MAC Address | | | | | |
| Το | p Ve | ndors | | | | | | |
| | Vendo | r | | | % | | | |
| alula Lisco | Cisco Systems, Inc | | | 28% | | | | |
| Suniper Networks | | | | 15% | | | | |
| A | Arista N | letworks | | | 12% | | | |
| | Edgeco | re Networks | Corporation | | 5% | | | |
| 0 | Other | | | | 15% | | | |
| List o | of men | nbers (39 ro | outers over 31 ASNs): | | | | | |
| | | ASN | Description | IPv4 | IPv6 | Speed | | |
| | A RS | AS400798 | Pittsburgh Internet Exchange | 206.71.141.6 | 2001:504:77::6 | 100 gbps | | |
| | ヘ ☑ | AS400798 | Pittsburgh Internet Exchange | 206.71.141.7 | 2001:504:77::7 | .100.gbps | | |
| * | | AS212232 | bgp.tools Route Collector | 206.71.141.9 | 2001:504:77::9 | 10.gbps | | |
| | RS | AS20326 | TeraSwitch Networks Inc. | 206.71.141.10 | 2001:504:77::10 | 100 gbps | | |
| | | AS13335 | Cloudflaro, Inc. | 206 71 141 11 | 2001-504-77-11 | 10 abos | | |

IXP Info Pages

NYIIX New York

Go to PeeringDB page

Go to IXP-DB page

Data Feeds Available:

RS Feed, Ping, MAC Address

Do you run this IX and want to help with feeds? Contact Us!

List of members (236 routers over 211 ASNs):

| | ASN | Description | IPv4 · | IPv6 |
|----------|-----------------|---|----------------|------------------|
| *. | AS45437 | Real World - The Core | 198.32.161.115 | 2001:504:1::a504 |
| ۲ | AS52772 | SJNET TELECOMUNICACOES - EIRELI | 198.32.161.89 | 2001:504:1::a526 |
| (| AS53180 | INFORTEL COMUNICACOES LTDA | 198.32.161.51 | 2001:504:1::a505 |
| | AS41327 | Fiber Telecom S.p.A. | 198.32.161.50 | 2001:504:1::a504 |
| | AS53667 | FranTech Solutions | 198.32.161.45 | 2001:504:1::a505 |
| | AS1031 | Peer 1 Internet Service LLC | 198.32.161.44 | 2001:504:1::a500 |
| | <u>AS271253</u> | LINK BRASIL TELECOMUNICACOES LTDA | 198.32.161.43 | 2001:504:1::a527 |
| | AS2734 | CoreSite | 198.32.161.41 | 2001:504:1::a500 |



Go to PeeringDB page

Route Server ASN: AS30365

Data Feeds Available:

Go to IXP-DB page

View

Showing routes on "PIT-IX" route servers that point to the next hop of 206.71.141.6, 2001:504:77::6.

| RS Fee | d, 🗹 Ping, | MAC Address | Session | Prefix | E | 3GP Path | |
|-------------------------------|--------------|-----------------------|------------------------------|-----------------|-----------------|-----------------|-----------------|
| Top Ve | ndors | | PIT-IX-RS1-4 | 23.143.152.0/24 | | AS30365 | AS400798 |
| Vendor | - | | PIT-IX-RS1-6 | 2602:faaa::/36 | | AS30365 | AS400798 |
| tisco S | Systems, Inc | | PIT-IX-RS2-4 | 23.143.152.0/24 | | AS30365 | AS400798 |
| 🔹 Juniper | Networks | | PIT-IX-RS2-6 | 2602:faaa::/36 | | AS30365 | <u>AS400798</u> |
| A Arista N | letworks | | <u>Click here to go back</u> | | | | |
| Edgecore Networks Corporation | | | | | 5% | | |
| Other | | | | | 15% | | |
| List of mem | nbers (39 | outers over 31 ASN | s): | | | | |
| | A | Description | | IPv4 | IPv6 | Speed | |
| | AS400798 | Pittsburgh Internet E | xchange | 206.71.141.6 | 2001:504:77::6 | 100.gbps | |
| | AS400798 | Pittsburgh Internet E | xchange | 206.71.141.7 | 2001:504:77::7 | 100.gbps | |
| ж и | AS212232 | bgp.tools Route Colle | ector | 206.71.141.9 | 2001:504:77::9 | 10.gbps | |
| RS 🕷 | AS20326 | TeraSwitch Networks | s Inc. | 206.71.141.10 | 2001:504:77::10 | <u>100 gbps</u> | |
| | AS13335 | Cloudflare Inc. | | 206 71 141 11 | 2001-504-77-11 | 10 abos | |

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AS Number 3320

| here are 392 <u>RIPE Atlas Probes</u> on this ASN. | R | eques | t Traceroute | | |
|--|------|---------------------------|--|----------------------|--------------------|
| Select up to 10 probes at random | | - Atlas Li | nk: <u>https://atlas.ripe.net/measur</u> | ements/1 | 102650027/#genera |
| raceroute to: | Star | | 5-10T20:01:31Z (Probe: <u>53254</u>) | Loss% | Last |
| 185.230.223.150 | 2. | AS??? AS3320 AS3320 | 192.168.200.1 p3e9bf765.dip0.t-ipconnect.de. 62.154.4.230 | 0.0% 0.0% 0.0% | 3.3 2.4 10.3 |
| | | AS3320 AS6762 | 62.157.250.38 195.22.209.198 | 0.0% 0.0% | 9.9 22.6 |
| Portugat Traggroute | | AS6762 AS3170 | <pre>seabone-core1-thn.lon.as3170.n et-0-0-2.core1-thn.lon.as3170.</pre> | 0.0% 0.0% | 25.8 25.8 |
| Request Traceroute | | AS3170 AS??? | et-0-0-1.core2-ixn.lon.as3170. ??? | 0.0% 100% | 25.4 0 |
| asurement running, waiting for results | | | 2com8.b621.net. bgp.tools. | 0.0% | 24.4 |

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AS Number 3320

Edit

Available on most ASNs with Atlas Probes of BGP sessions

BGP RIPE Atlas

There are 392 RIPE Atlas Probes on this ASN.

Select up to 10 probes at random

Traceroute to:

185.230.223.150

Request Traceroute

Measurement running, waiting for results...



Request Traceroute

| | nk: <u>https://atlas.ripe.net/measur</u> | ements/ | <u>102650027/#general</u> |
|---------------|---|---------|---------------------------|
| Start: 2025-0 | 5-10T20:01:31Z (Probe: <u>53254</u>) | | |
| HOST: 93.234. | 20.167 | Loss% | Last |
| 1. AS??? | 192.168.200.1 | 0.0% | 3.3 |
| 2. AS3320 | p3e9bf765.dip0.t-ipconnect.de. | 0.0% | 2.4 |
| 3. AS3320 | 62.154.4.230 | 0.0% | 10.3 |
| 4. AS3320 | 62.157.250.38 | 0.0% | 9.9 |
| 5. AS6762 | 195.22.209.198 | 0.0% | 22.6 |
| 6. AS6762 | <pre>seabone-core1-thn.lon.as3170.n</pre> | 0.0% | 25.8 |
| 7. AS3170 | et-0-0-2.core1-thn.lon.as3170. | 0.0% | 25.8 |
| 8. AS3170 | et-0-0-1.core2-ixn.lon.as3170. | 0.0% | 25.4 |
| 9. AS??? | ??? | 100% | Θ |
| 10. AS206924 | 2com8.b621.net. | 0.0% | 24.4 |
| 11. AS206924 | bgp.tools. | 0.0% | 25.4 |

Ctent 2025 OF 10720 01 227 (Backs 24520)

AS-SET Views

 Including size estimation in prefixes and ASNs

 Just search for the AS-SET name, or find their PeeringDB one on the "IX" tab

AS13335:AS-CLOUDFLARE

Database ARIN Full Name AS13335:AS-CLOUDFLARE

| Overview | Reverse | Raw |
|---------------------------------|------------|-----|
| Total Size | | |
| 1310 AS 74584 v4 46467 v6 | 4 Prefixes | |

Members:

| Member | Iember ASN Count/Whois Name | | v6 Count | |
|----------------------|--|---|---|--|
| AS13335:AS-CUSTOMERS | 1305 | 71085 | 16271 | |
| <u>AS13335</u> | Cloudflare, Inc. | 3115 | 30145 | |
| AS132892 | Cloudflare, Inc. | 34 | 20 | |
| AS133877 | Cloudflare, Inc. | 0 | 0 | |
| AS202623 | Cloudflare Inc | 9 | 10 | |
| AS209242 | Cloudflare BYOIP Customers | 483 | 38 | |
| AS394536 | Cloudflare, Inc. | 1 | 2 | |
| | AS13335:AS-CUSTOMERS AS13335 AS132892 AS133877 AS202623 AS209242 | AS13335:AS-CUSTOMERS1305AS13335Cloudflare, Inc.AS132892Cloudflare, Inc.AS133877Cloudflare, Inc.AS202623Cloudflare IncAS209242Cloudflare BYOIP Customers | AS13335:AS-CUSTOMERS 1305 71085 AS13335 Cloudflare, Inc. 3115 AS132892 Cloudflare, Inc. 34 AS133877 Cloudflare, Inc. 0 AS202623 Cloudflare Inc. 9 AS209242 Cloudflare BYOIP Customers 483 | |

You may now know how to

- Quickly check what providers are in use (for inbound traffic) for yours and other networks
- Spot route leaks and understand why they sometimes happen
- Browse around for Internet Exchanges and who is on them, what they are advertising to route servers
- Find out what DNS entries are behind a BGP prefix
- What "Upstreams" / "Downstreams" mean in the context of things like bgp.tools, and how they are calculated

Thank you, Questions?

If you are shy, Don't worry!

I will be here until Friday morning, just find me walking around and I am happy to explain things! You can also email me on

admin@bgp.tools