

# Do we still need the IRR ?

An analysis and comparison of IRR data across databases

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# Introduction

- There are about 30 IRRs
  - With various degrees of trust
- The most known ones are RIR-run
- Then we have RADB, ALTDB, NTTCOM



# Building prefix lists

- Operators use the IRRs as data source
  - Tools leverage it as well (bgpq4, irrtools)
- These are used to build prefix-lists and to filter appropriately on peerings or transits
- But...



# Can we trust the IRRs and their data ?



IRRs sometimes apply very light checks...



This is how you end up with this

```
route6:      2a0e:5040::/29
origin:      AS58280
mnt-by:      STUCCHI-MNT
created:     2019-08-16T08:04:09Z
last-modified: 2019-08-16T08:04:09Z
source:      RIPE
```

```
route6:      2a0e:5040::/32
descr:      Vultr Customer Route
origin:      AS58280
notify:     network@choopa.com
mnt-by:     MAINT-AS20473
changed:    network@choopa.com 20210817 #12:37:45Z
source:     RADB
```



## Let's compare

- What is in RADB, ALTDB with what is in the RIRs
  - We talk about route and route6 objects
- And see if they match, or if they differ in the “origin”
  - And then check what's in BGP to define who is right and who is wrong

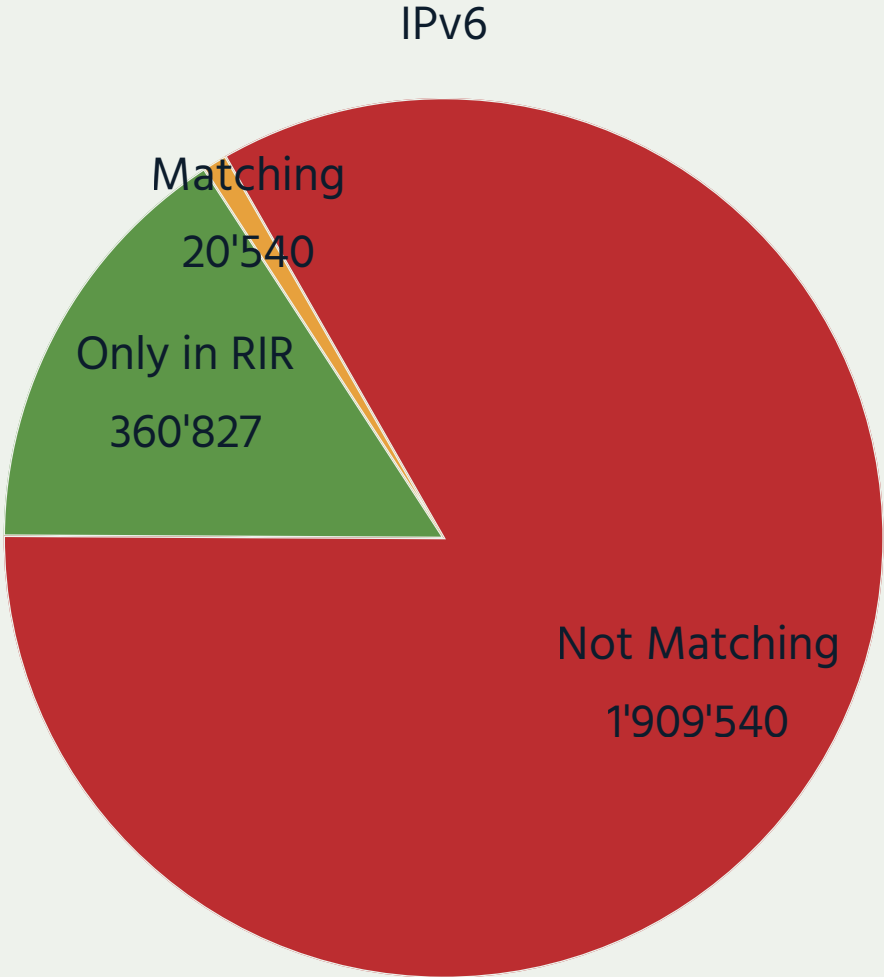
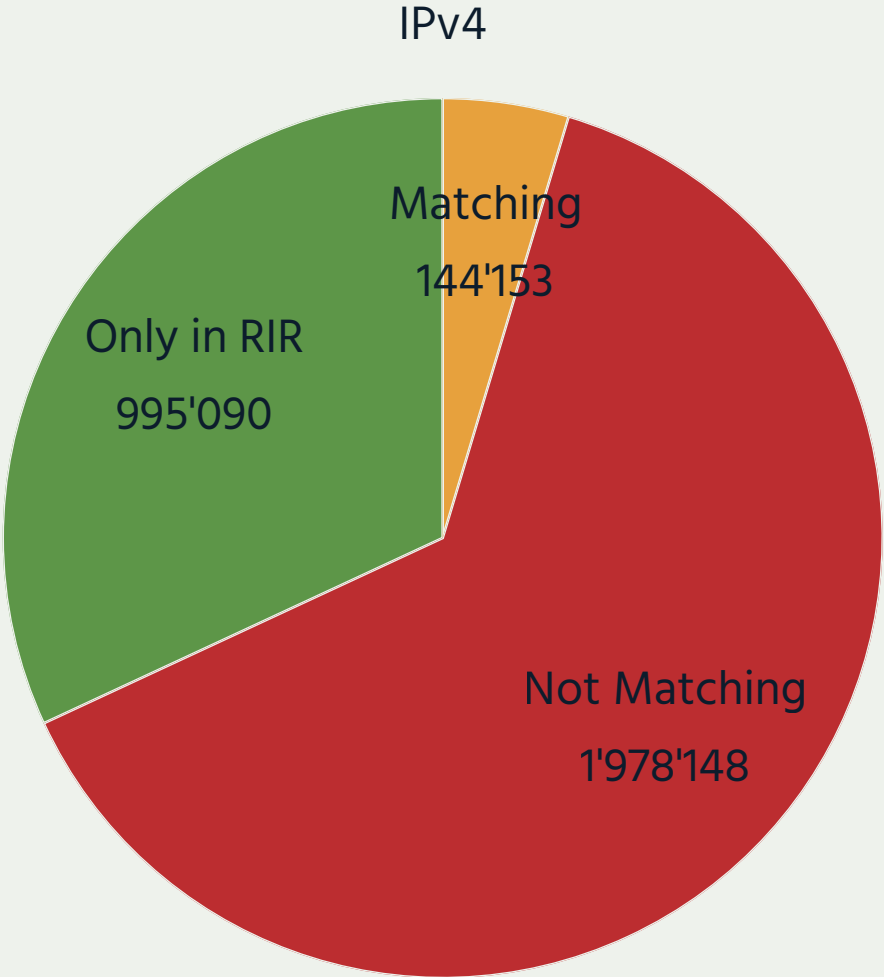


# Preliminary data

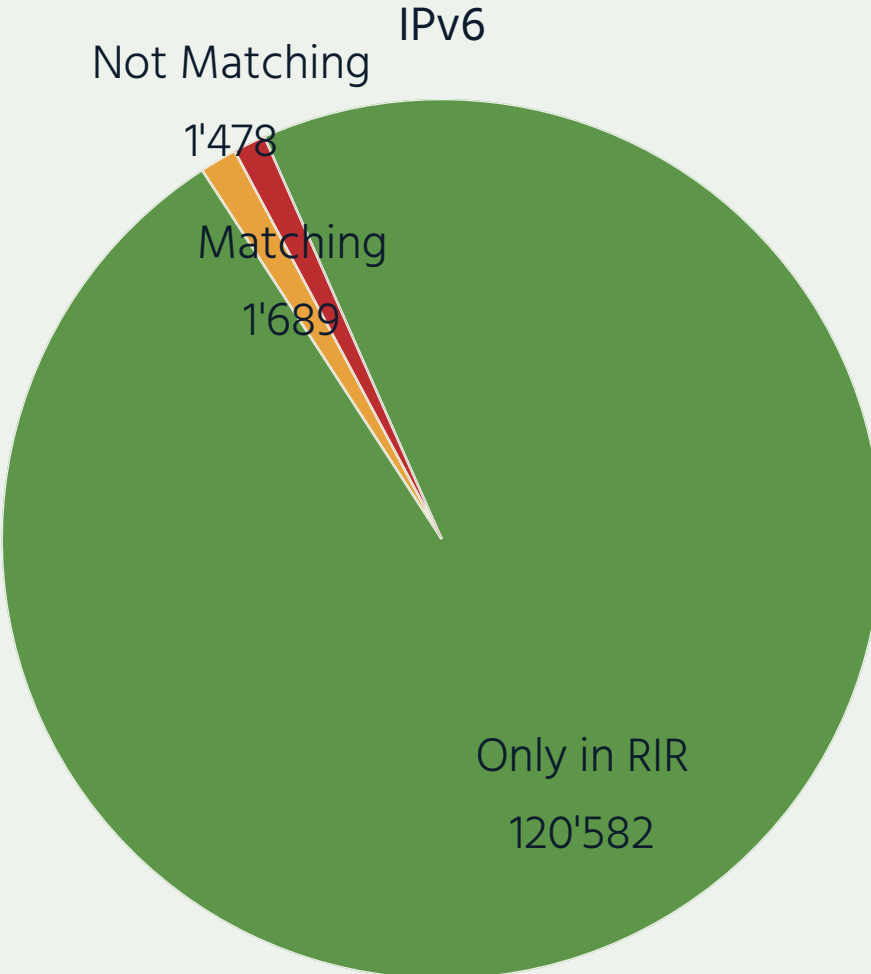
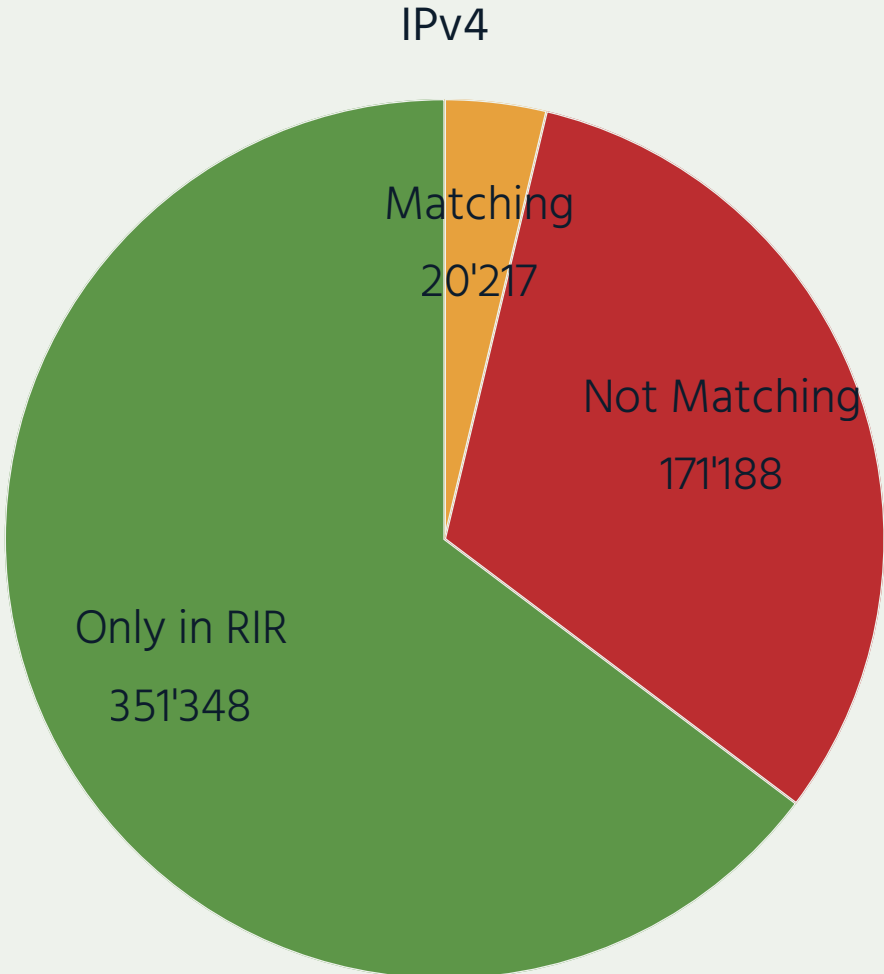




# RIRs compared to RADB - Global stats

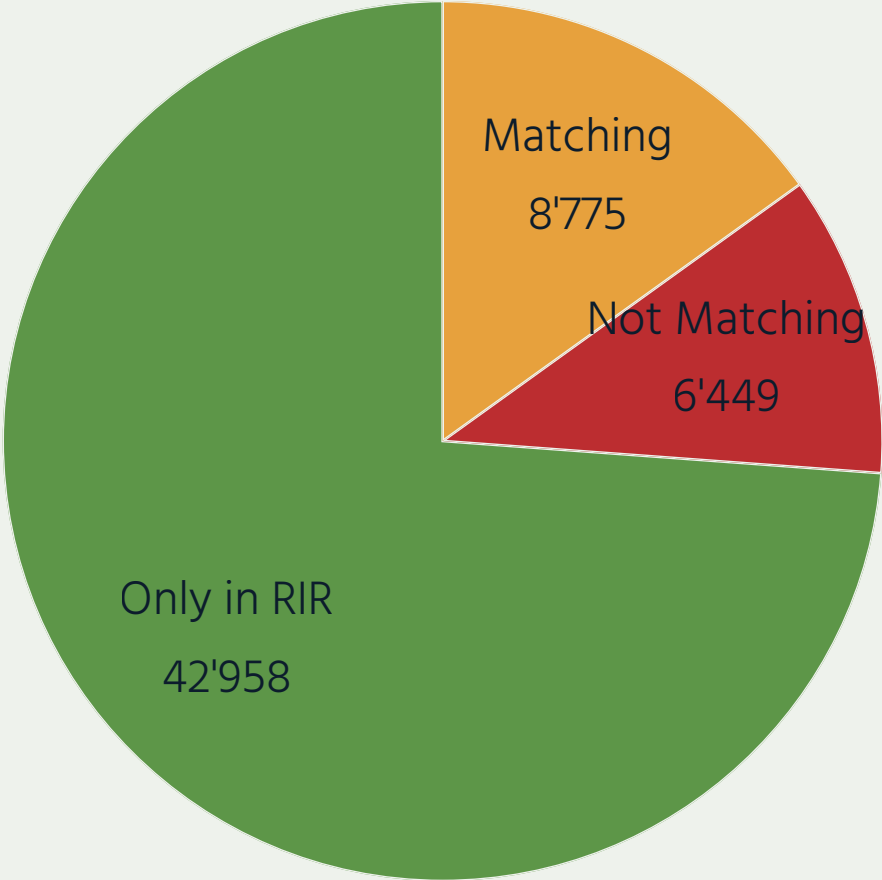


# RIRs compared to RADB - RIPE Region only

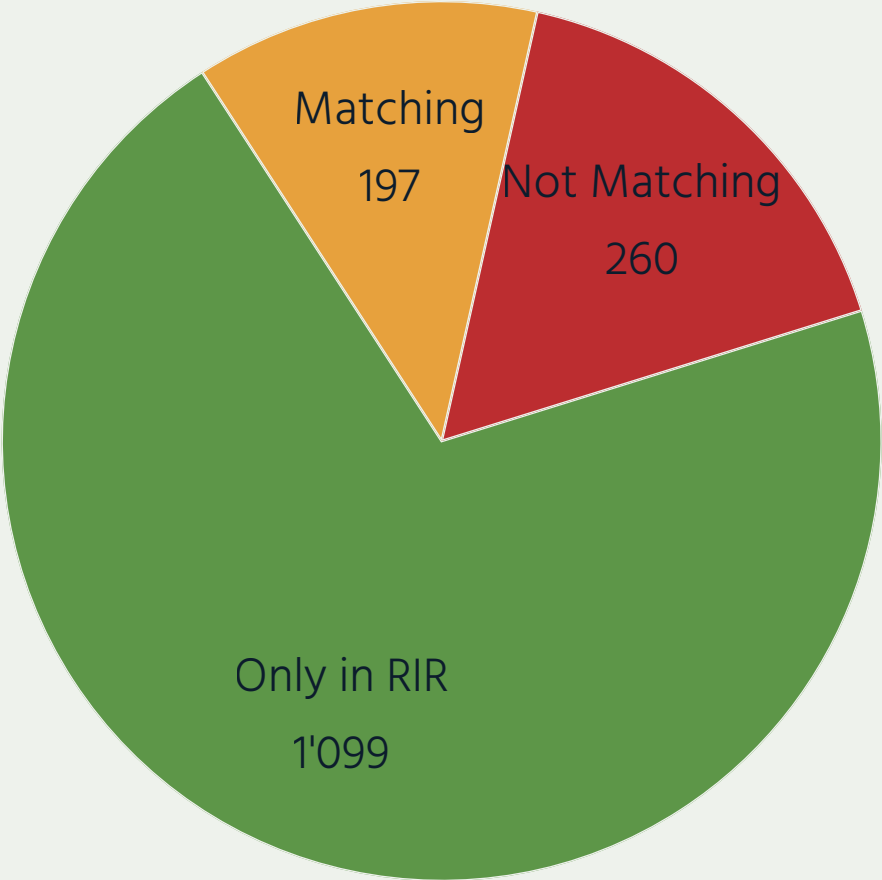


# RIRs compared to RADB - RIPE-NONAUTH only

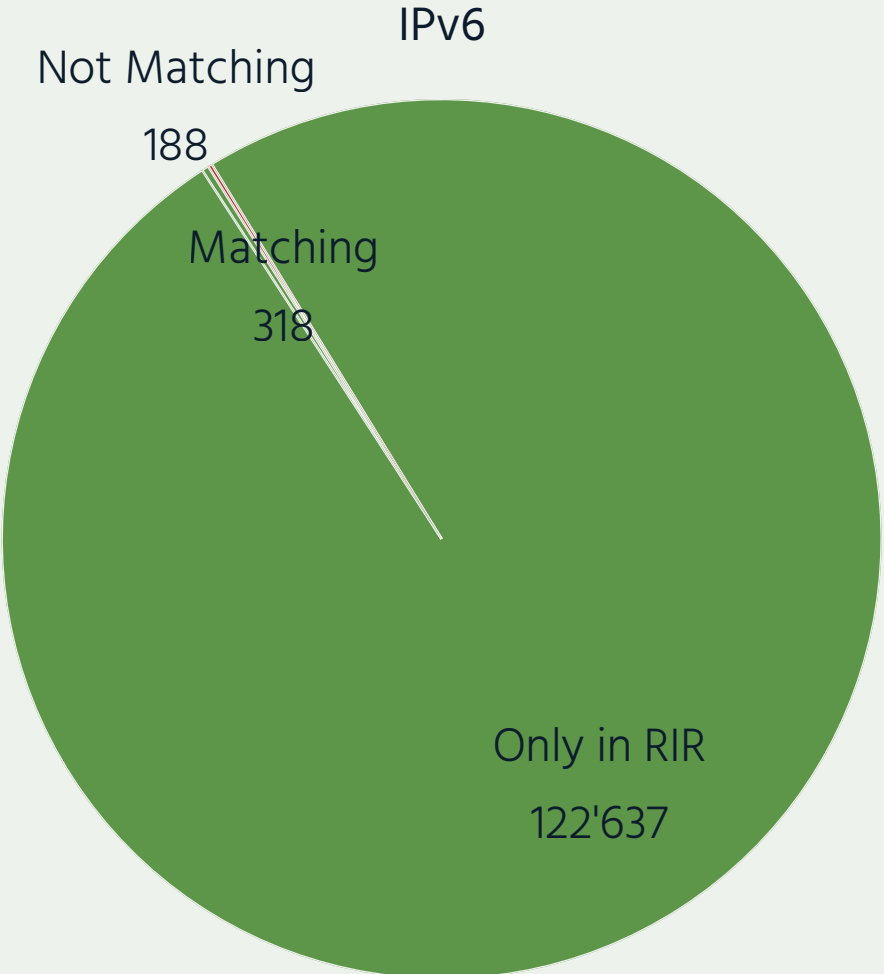
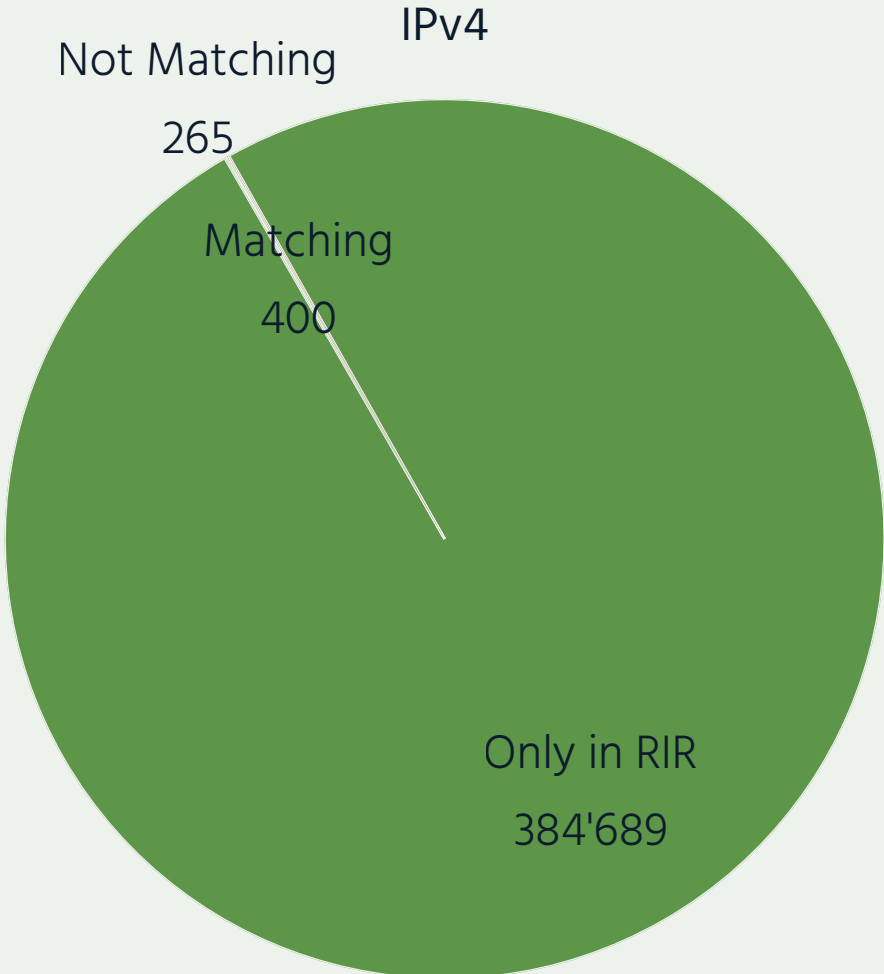
IPv4



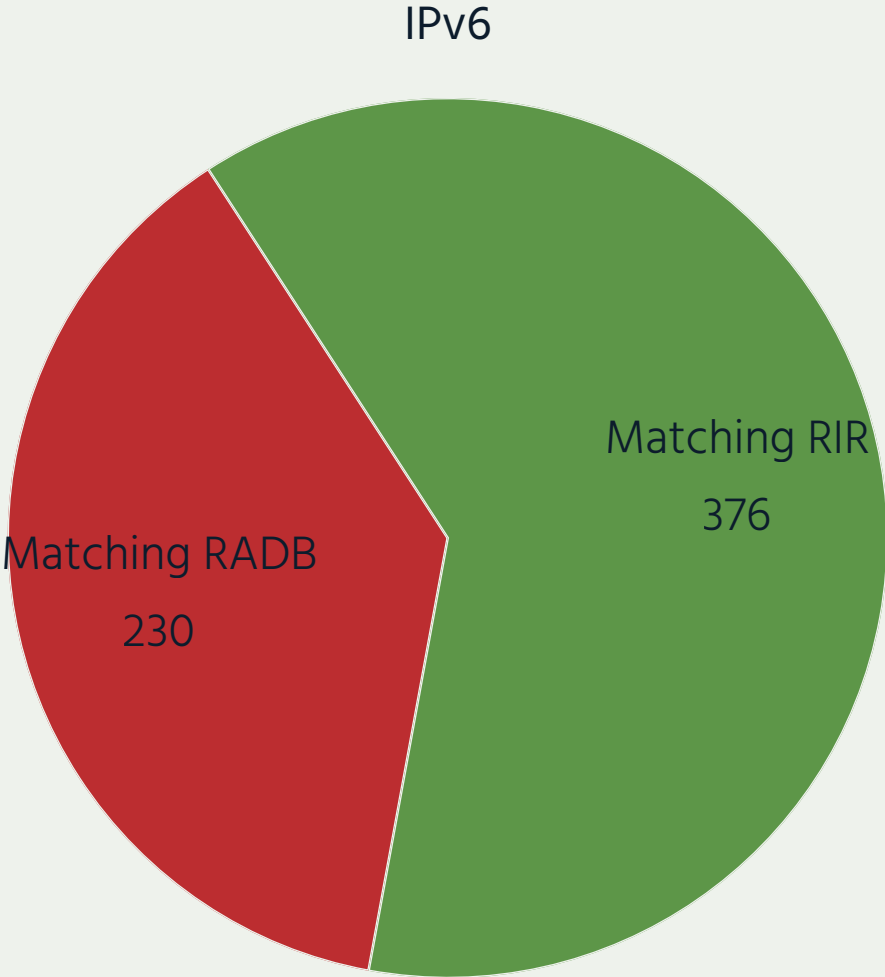
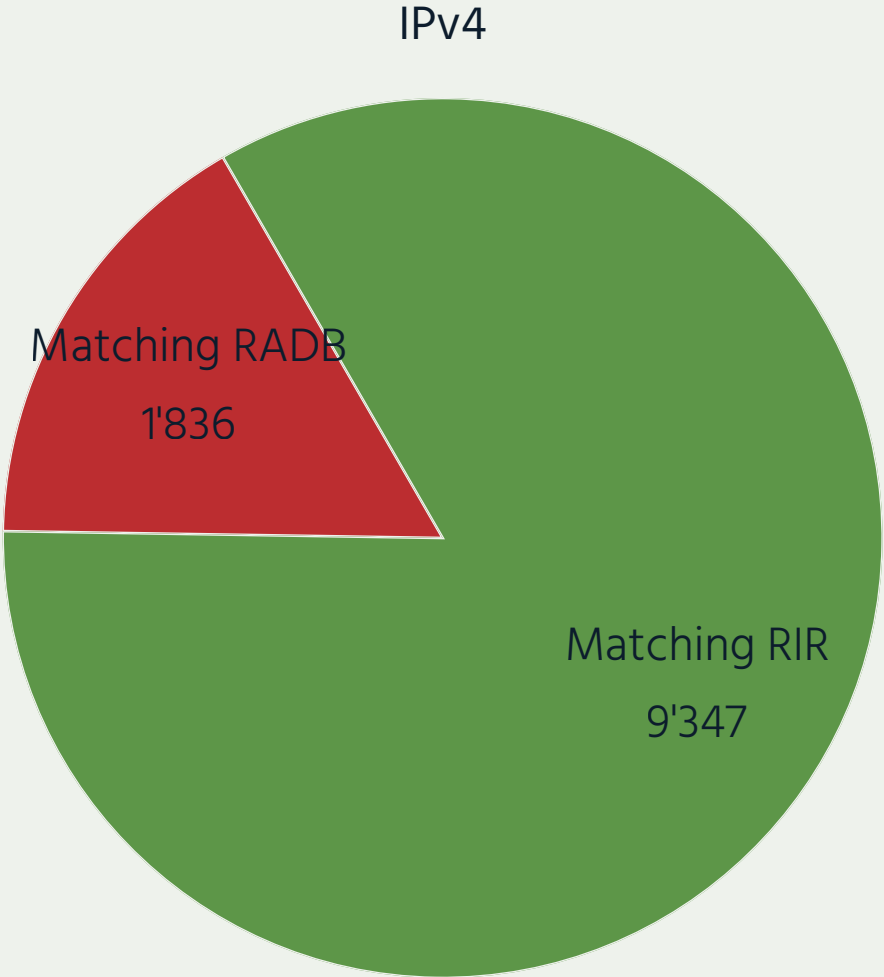
IPv6



# RIRs compared to ALTDB - RIPE Region only



# Comparison with Routing Table - RIPE



This is done comparing the “not matching” entries with an entry in BGP

## Next Steps

- Further analyse the data we have available
  - Per-ASN, per-country, etc...
- Compare with RPKI
- (Maybe) Analyse AS-Sets



# Recommendations

- It's better to rely on RIR data
- Encourage the use of RPKI
- Legacy space holders should be allowed to use RIR services and RPKI



## Data is available

- We provide this data to everyone
- All in JSON
- It is generated every 1st and 15th day of the month
- <http://103.162.143.30/route-check/data/>





# Questions ?

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