IRR stats for Oceania

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Introduction to Internet Routing Registry (IRR)

IRR - Internet Routing Registry

- Public registers where you write what you want to do before you actually do

- 20+ IRRs. You can run an IRR - just download IRRd from Github & you are up

- Certain IRRs are more popular because RADB mirrors them & most of tools point to whois.radb.net for config generation

- Contains route objects & AS SETs

Route object

```
whois -h whois.radb.net 216.218.186.2

route:       216.218.128.0/17 <- Prefix
descr:       Hurricane Electric
             55 South Market St
             San Jose, CA
origin:      AS6939 <- Origin AS
notify:      noc@he.net
changed:     noc@he.net 20170407
mnt-by:      HE-NOC
source:      RADB <- Source database
```

AS SET

```
whois -h whois.radb.net AS-ANURAG

as-set:      AS-ANURAG <- Name of AS SET
descr:       Anurag Bhatia's AS SET
members:     AS58901, AS132933 <- Associated members
mnt-by:      MAINT-AS58901
changed:     me@anuragbhatia.com 20200217
source:      ALTDB <- Source
```
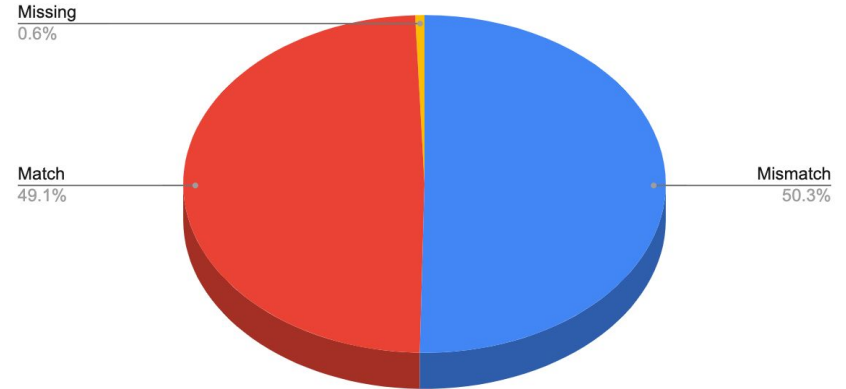
IRR stats for Australia

Total Prefixes	22833
Matching route objects	18946
Mismatching route objects	3476
Missing route objects	411

Missing
1.8%
Mismatch
15.2%
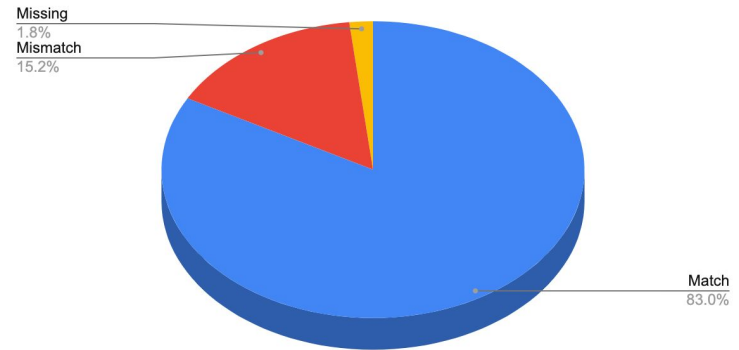
Match
83.0%

IRR stats for Fiji

Total Prefixes	322
Matching route objects	158
Mismatching route objects	162
Missing route objects	2

Missing
0.6%

Match
49.1%

Mismatch
50.3%

IRR stats for New Caledonia

Total Prefixes	72
Matching route objects	68
Mismatching route objects	2
Missing route objects	2

Missing
2.8%
Mismatch
2.8%
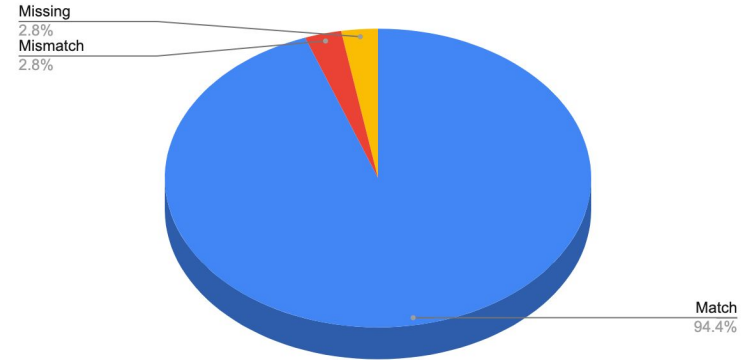
Match
94.4%

IRR stats for New Zealand

Total Prefixes	3600
Matching route objects	3178
Mismatching route objects	378
Missing route objects	44

Missing
1.2%
Mismatch
10.5%
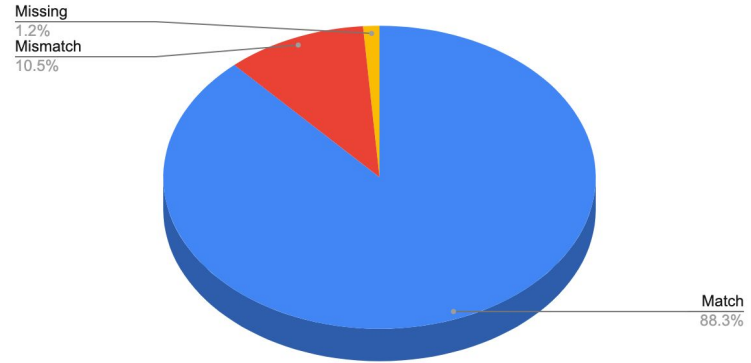
Match
88.3%

IRR stats for Papua New Guinea

Total Prefixes	108
Matching route objects	102
Mismatching route objects	5
Missing route objects	1

Missing
0.9%
Mismatch
4.6%
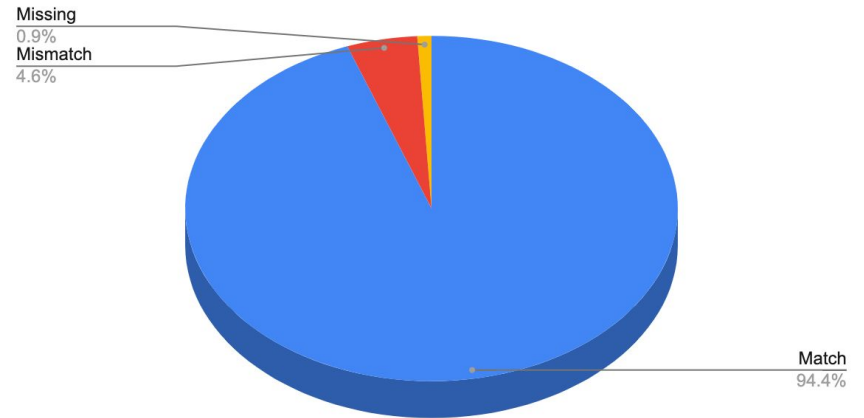
Match
94.4%

IRR stats for Vanuatu

Total Prefixes	69
Matching route objects	67
Mismatching route objects	1
Missing route objects	1

Missing
1.4%

Match
97.1%
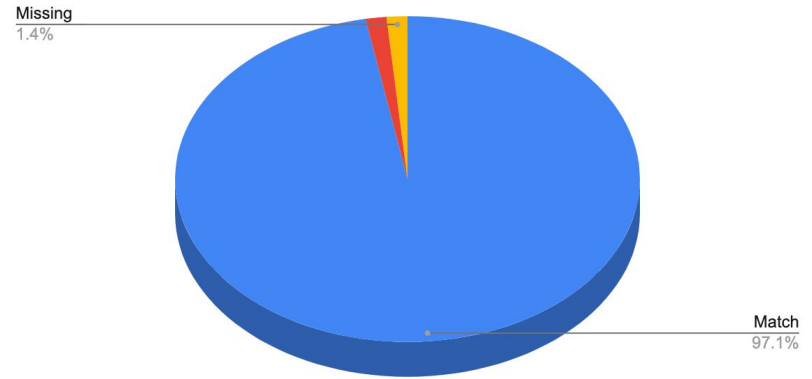
Challenges with IRR?

- Network effect - less incentive to use if less people are using & vice versa

- Multiple IRR databases can have conflicting information. Quite popular in case of route objects

- Generating config is only one part. Pushing config to the device with regular updates is something not very popular as yet

- Limited automation support in older hardware

References

1. Hurricane Electric bgp toolkit - https://bgp.he.net

2. RIPE RIS - https://www.ripe.net/analyse/internet-measurements/routing-information-service-ris

3. FCIX intro to IRR - https://fcix.net/whitepaper/2018/07/14/intro-to-irr-rpsl.html

4. IRR website by Merit - http://www.irr.net

Questions?

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