«Citizenship» of resources

The experience gained from exploring the information from the RIPE NCC sources

Task description

The war in Ukraine caused many investigations about stealing internet resources. My fellow got a grant dedicated to the influence of the war on the Internet in Ukraine and the occupied territory.

Using open resources (RIPE NCC DB first of all) I had to build the map of resources withdrawn from Ukraine.

We decided to focus on ASNs. The inclusion of IPv4 would have increased the complexity of the task. IPv6 almost did not participate in resource movement.

Some observations seem worthy of the attention of the broad RIPE community

Used resources

- Extended Delegated Statistics (https://ftp.ripe.net/ripe/stats/)

- ASNs transfer statistics within RIPE NCC service region (https://www.ripe.net/manage-ips-and-asns/resource-transfers-and-mergers/transfer-statistics/within-ripe-ncc-service-region/asn-transfer-statistics)

- RIPE NCC API to information from RIPE NCC DB (whois)

- RIPE NCC Historical Whois (https://stat.ripe.net/widget/historical-whois)

- API for converting physical address to longitude and latitude (https://api.maptiler.com/geocoding/)

- Map from https://deepstatemap.live/ to place the markers

- Google Maps

Steps that were made

- Comparing the country attribute of ASNs: files from 23.02.2022 and 01.11.2023 from Extended Delegated Statistic

- Removing from the result of comparison ASNs which were changed during the second stage of NWI-10 deployment

- Comparing with ASNs from transfer statistics

- Collecting current LIR address information of selected ASNs

- Converting physical address information into latitude/longitude

- Revealing odd data and adjusting it using Google Maps

- Placing points on the map with the shown war areas

Some number results

- From 23.02.2022 to 01.11.2023 54 ASNs changed their «citizenship» from UA to RU.

- It looks like 33 ASNs from these 54 changed their «citizenship» during the second stage of NWI-10

- 1 of these 33 changed from RU to UA

- 4 were absent during the second stage of NWI-10 so most possibly these resources were redelegated

- 18 ASNs changed their «citizenship» from UA to RU due to reasons other than NWI-10

- Only 6 of these 18 were mentioned in RIPE NCC transfer statistics

Map
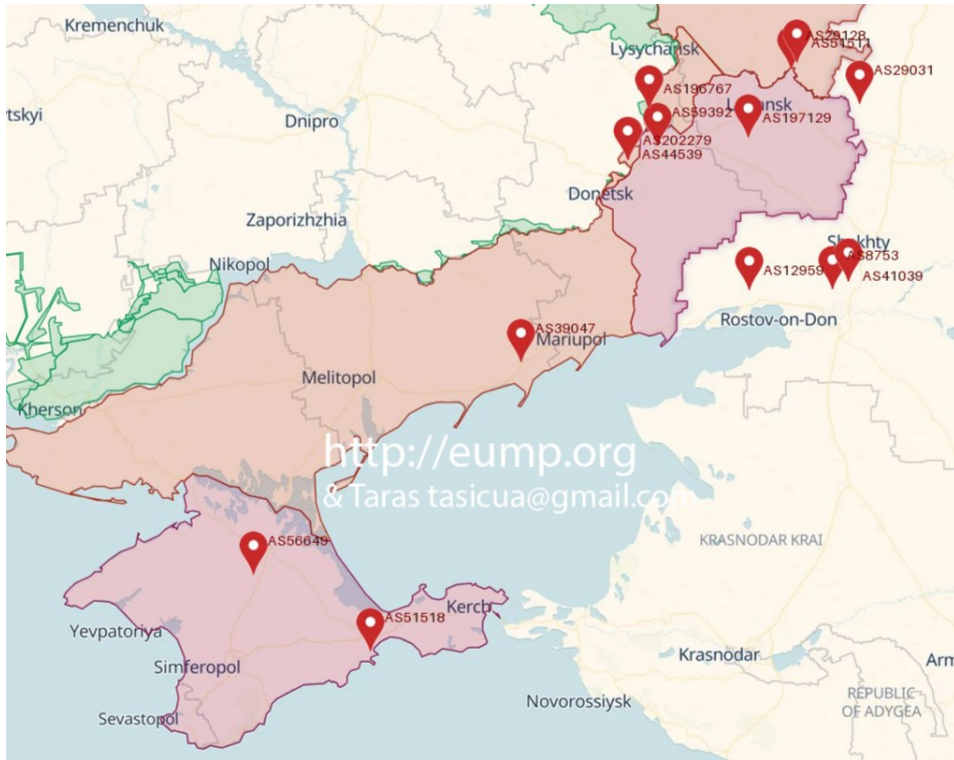
Also 4 ASNs did not fit to this map.

2 are in Moscow and
2 are in Saint-Petersburg

So what?

- Changing the resource holder information unnoticeable by RIPE NCC is possible.

- ASNs on occupied territories have the RU country attribute in Extended Delegated Statistics. Does it mean that RIPE NCC is set to RU the country attributes in the «org» handle (keeping in mind NWI-10)?

- Does RIPE NCC have a list of resources changed in the course of NWI-10 execution?

- Does all RIPE NCC policies really fit the state of war on the part of RIPE NCC service region?

- There are a lot of TODOs ahead…

Thanks!

- Oksana Pryhodko for initiating this research

- Alex Semenyaka for help in the reserch

- Laurens Hoogendoorn, Mike P. for pointing to right data sources

Questions?

Taras Heichenko

tasicua@gmail.com

1UnetID