

IPv6 measurement in .RU.PΦ domains

ENOG2

Study

- AAAA for <domain>.RU, .PΦ
- try WWW, DNS, MX
- ping6
- Connection to port

Analysis – UNIX way

.RU .PΦ statistics

.RU registered 3540393 (in zone 3213020)

A-glue 131441 AAAA-glue 72

DNS servers 187098

.PΦ registered 934625 (in zone 654295)

A-glue 8976 AAAA-glue 0

DNS servers 27949

.RU .PΦ statistics

- Have AAAA - 153271 (3,35%)
- Uniq IPv6 - 2656 (2554 – correct, 533 /32s)
- Hosts up – 1490, answers - 912
- MX - 698 (unique 439)
(out of 988544 - 0,07%)
- DNSes 1584 (unique 1428)
(out of 190526 - 0,8%)

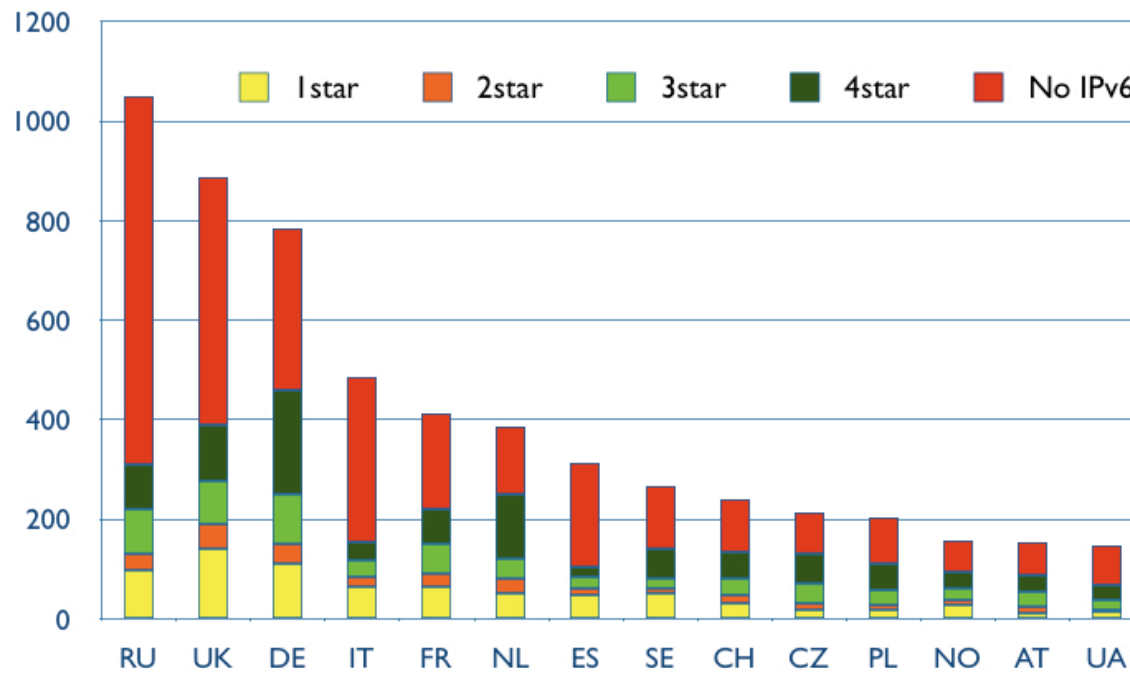
.RU domains (07.06.2011)

- have AAAA: 6562
- unique AAAA: 609 (588 correct)
- different /32: 143
- host up: 286
- answer requests: 258
- more than half probably not in Russia

Comparison

- IPv6 RIPEness of RU LIRs

IPv6 RIPEness: top-15 in number of LIRs



Comparison

<http://bgp.he.net/ipv6-progress-report.cgi>
(compare by number of AAAA records)

Prior to IPv6 day

- #10 of all domains, #4 of ccTLDs

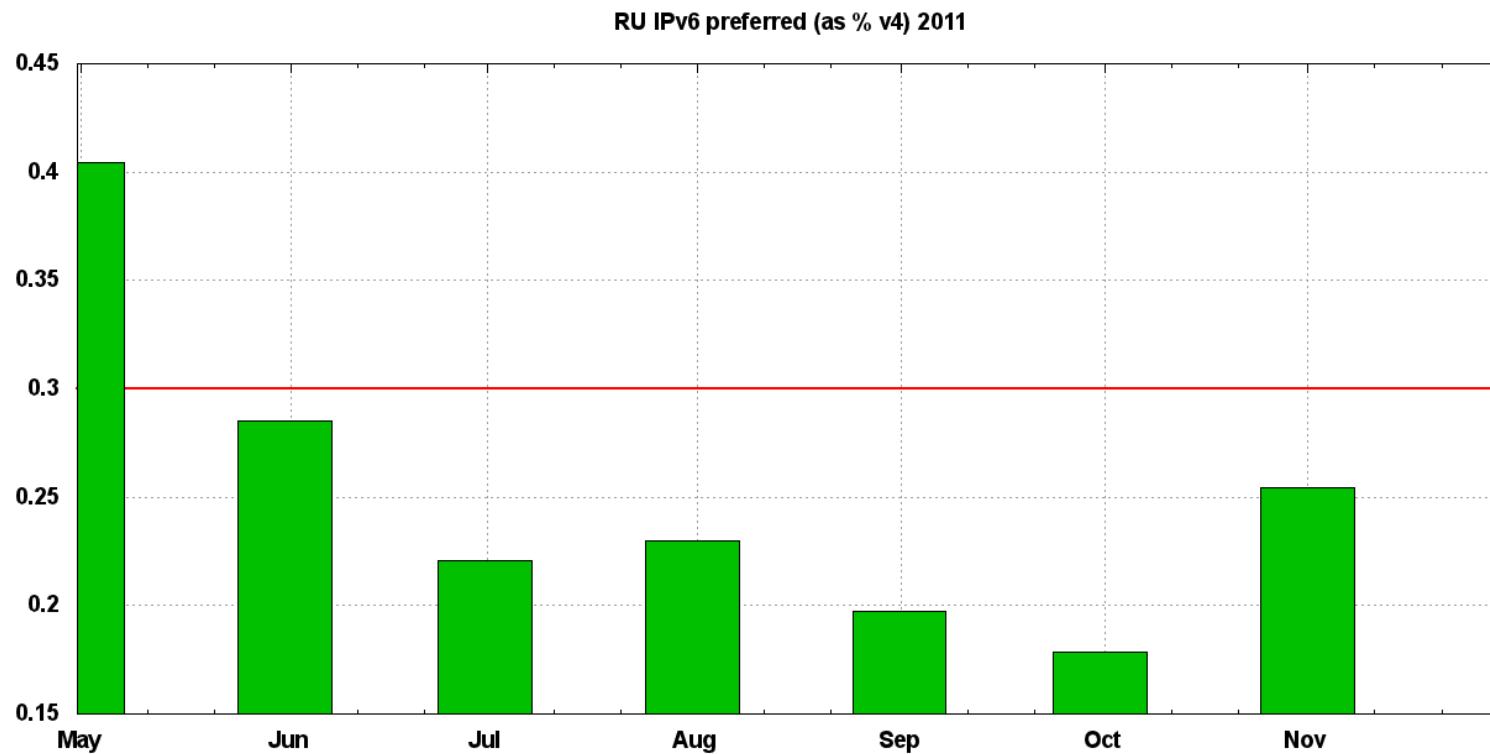
Now

- #5 of all domains, #2 of ccTLDs

Comparison

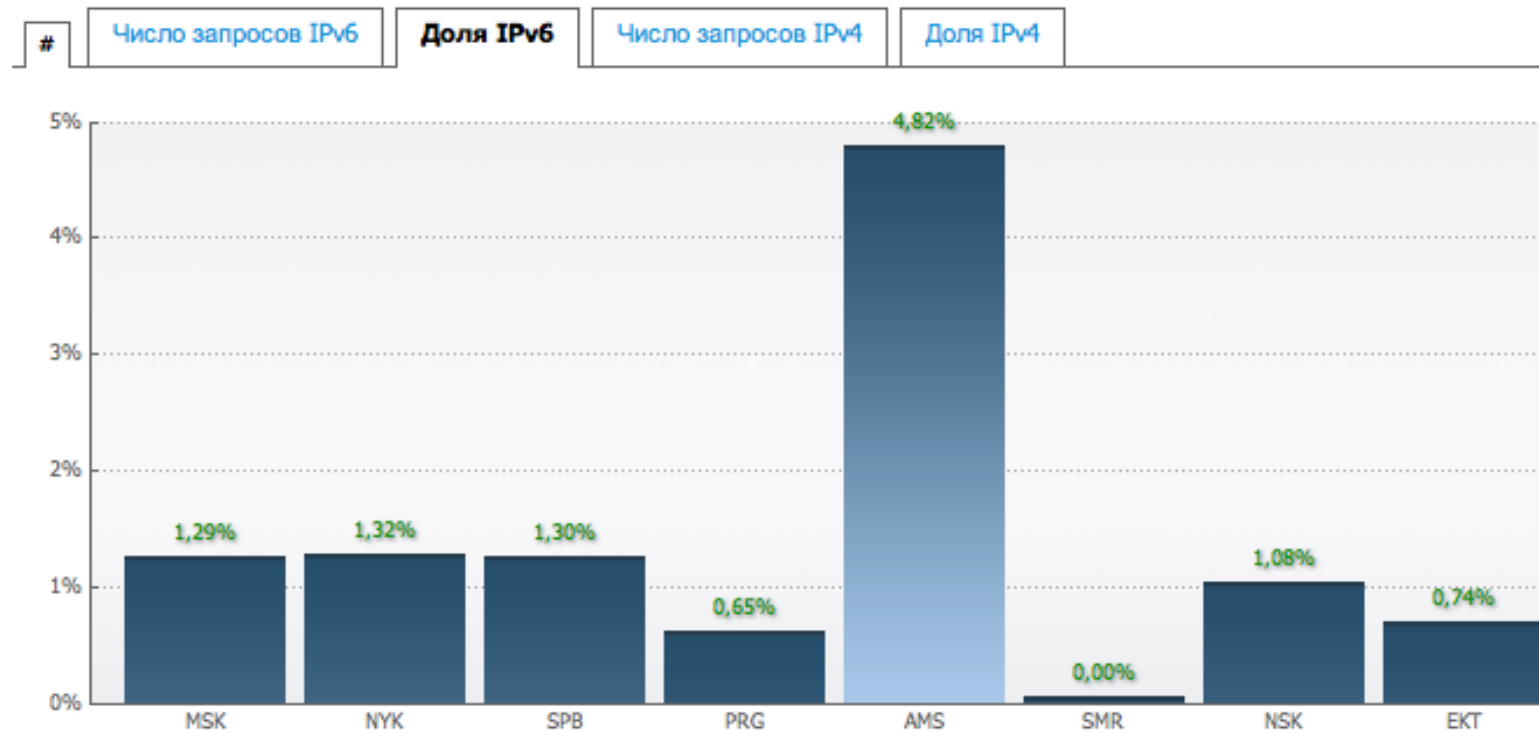
- APNIC IPv6 Measurement (by AD)

RU (72520 samples/month) ■



Comparison

- TCI (22 Nov 2011)



Comparison

- RIPE Hostcount

1994 March .SU – 2449 hosts

Old Heroes

5779 .RU & .PΦ domains pointing to 1 IPv6 address (prior to IPv6 World day):

2001:4860:800b::79

Google

New Heroes

71238 .RU & .РФ hosts pointing to 119 IPv6 addresses in one block

TimeWeb

To mention

- 71238 – TimeWeb (119 address)
- 5085 – Google (1)
- 492 – Garant Park (138)
- 470 – Hetzner (135)
- 349 – Hurricane Electric (176)
- 207 – Domain Factory (77)
- 153 – MTS (146)

Russian sites of special interest

State funded sites: 6616

Данные получены с использование API проекта [Государственная сеть](#) издания Полит.Ру

Have AAAA: 30 (0,4%)

28 – TimeWeb (SPb)

1 – Netis (Yaroslavl)

1 – Oversun-Mercury (Msk)

Conclusion

?!

How it's made

- method
 - UNIX way, brute force
 - dig, nmap, grep
- resources
 - 24 hours of Amazon EC2 large instance
 - 700MiB data in, 400MiB data out
 - 7M packets in/out

TODO:

- More domains (RU related, TLDs?)
- Optimizations
- Route analysis
- Historical view

Questions

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Media Alliance

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