



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

DNS Measurements Hackathon Results

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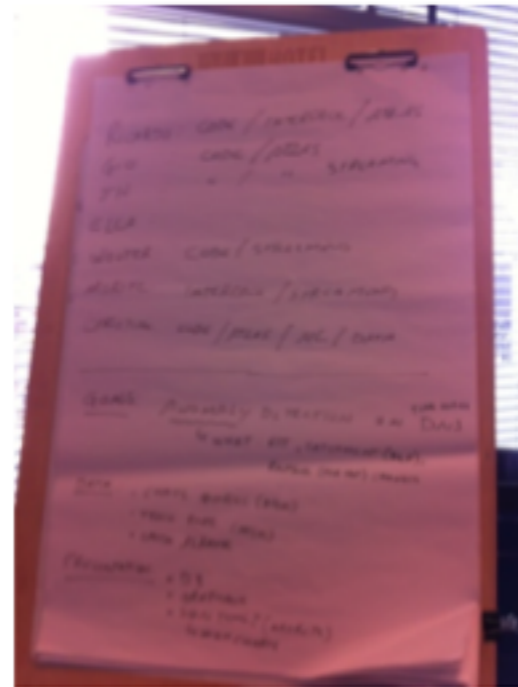


Goals of the Hackathon



- Bring together operators, researchers, designers, coders
- Combine creative skills
- Get feedback for RIPE NCC
- Contribute useful tools for DNS operators
- Make new connections
- Have fun!







Results

Summary



- 20-21 April 2017, Amsterdam
- 40 people, three sponsors, eight projects



- RIPE Labs article
 - <https://labs.ripe.net/Members/becha/results-dns-measurements-hackathon>
- Collected code in GitHub repository
 - <https://github.com/RIPE-Atlas-Community/ripe-atlas-community-contrib>



All Eight Projects

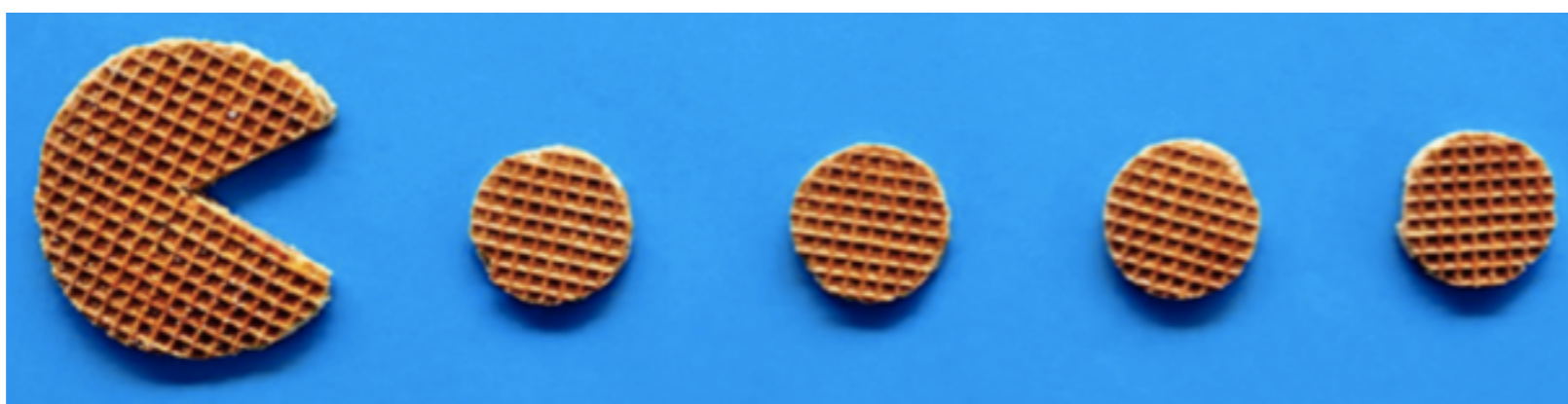


- Monitoring DNS Propagation Times
- DNS Resolver Hijack Tester
- DNS Fingerprinting
- Reverse DNS Statistics
- Everything you ever wanted to know about caching resolvers but were afraid to ask
- Passive DNS
- Anomaly Detection on DNS Auths
- RIPE Atlas Stream To Anywhere



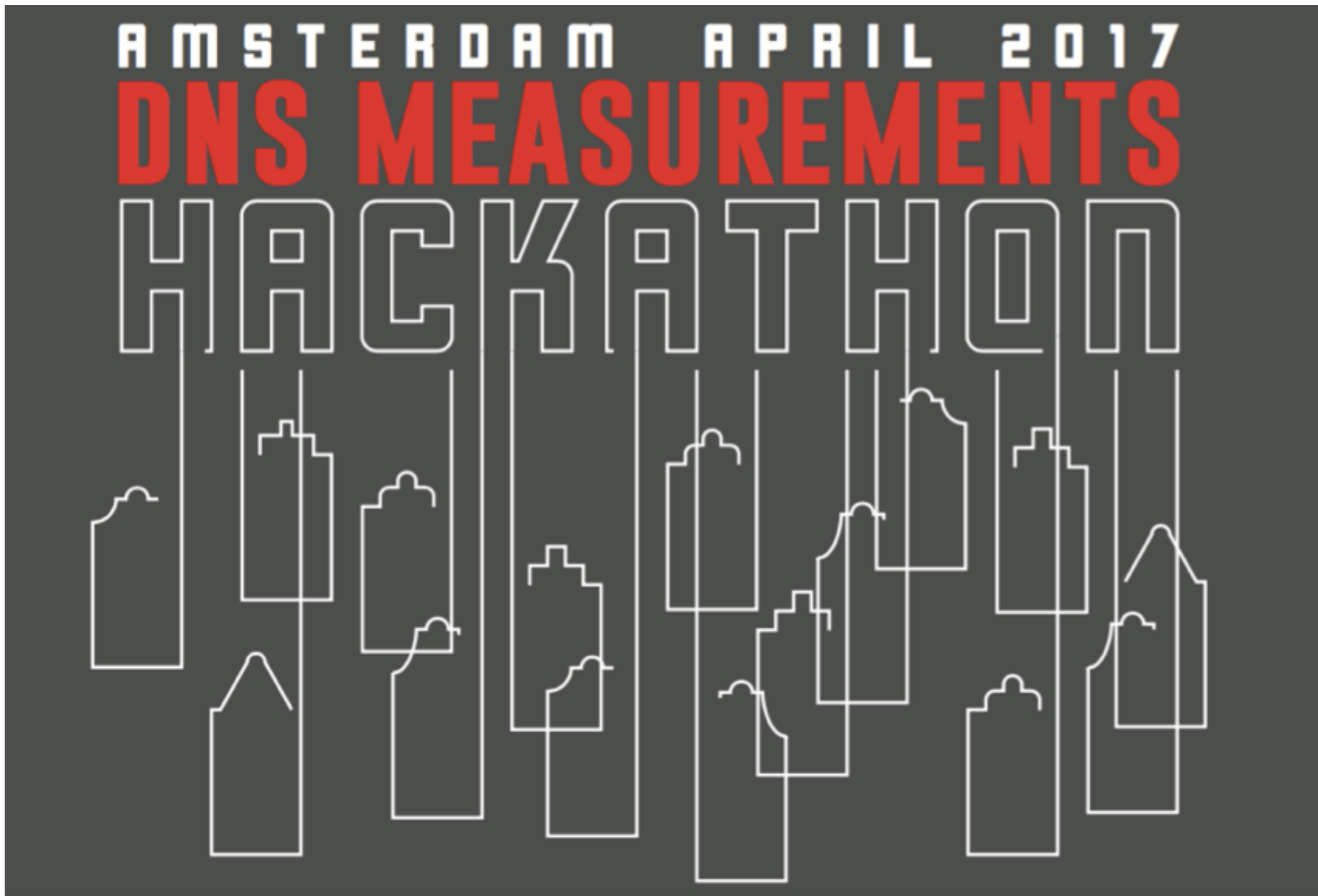
Rewards





- “Team Anomalyzer”
 - The LARGEST BOX of stroopwafels
 - For scientific approach, use of existing measurements, and good teamwork
- Two teams working on DNS censorship
 - Six packages of traditionally-tinned stroopwafels
 - Shared between two teams: for collaboration
 - “DNS resolver hijack testers” & “DNS Fingerprinting”
- Passive DNS tool: hipster-stroopwafels prize

Of course, there were T-shirts...



Take Part in Our Hackathons!



- Watch this page: <https://labs.ripe.net/hackathons>
- Join us next time!
 - October 2017: location and topic to be announced
 - Spring and Autumn 2018
 - Be a host / local partner / juror
 - Be a sponsor
- Use the software and tools
 - Share your use cases and success stories
- Modify the code, contribute improvements
 - All the code is on [GitHub](#)



DNS-related RIPE Atlas Measurements

Maps Based on DNS Measurements



- DNS Root Instances
- Comparative DNS Root RTT
- Root Server Performance

DNS Root Instances



Comparative DNS Root RTT



Root Server Performance



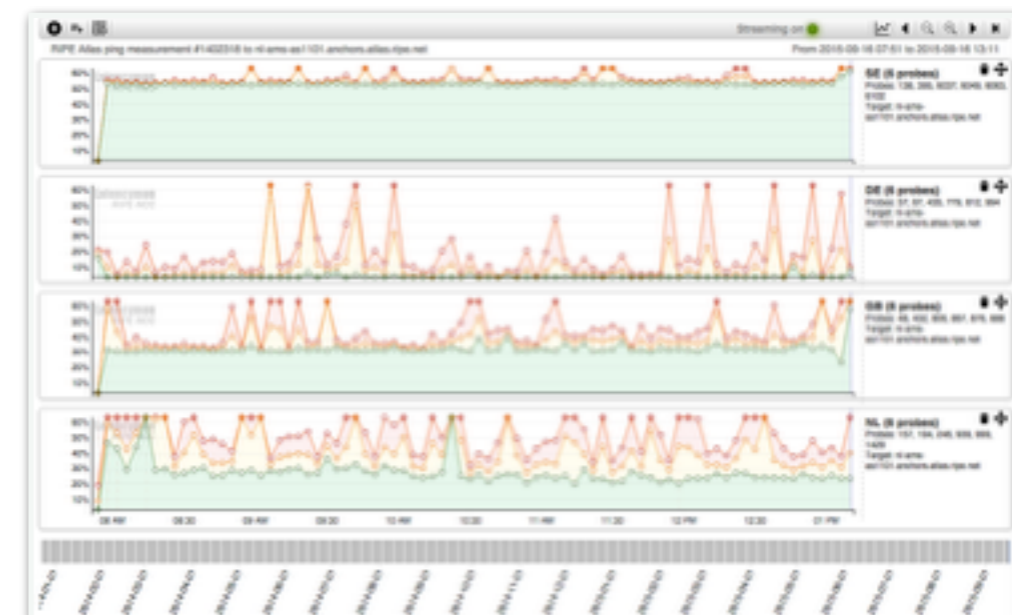
User Measurements Visualisations



- List of probes: sortable by RTT
- Map: colour-coded by RTT
- LatencyMON: compare multiple latency trends

DNS measurement to 195.253.65.6 (c.flexireg)

Probe	ASN (IPv4)	ASN (IPv6)		Time (UTC)	Answer	Response Time
2458	49272	49272		2017-04-05 09:27	NOERROR	42.68
15171	8473	8473		2017-04-05 09:26	NOERROR	30.317
21733	44746	44746		2017-04-05 09:27	NOERROR	44.629
24854	62094	62094		2017-04-05 09:25	NOERROR	29.595



- <https://atlas.ripe.net/measurements/7954428/>

DNSMON: [dnsmon.ripe.net](https://labs.ripe.net/Members/fatemah_mafi/an-updated-dns-monitoring-service)



- From anchors to ccTLDs



- https://labs.ripe.net/Members/fatemah_mafi/an-updated-dns-monitoring-service

DomainMon



- Like “DNSMON”, but
 - From probes
 - To second-level domains
- https://labs.ripe.net/Members/suzanne_taylor_muzzin/ripe-atlas-domainmon-is-here

Monitor a new domain: ripe.net.

Servers 12

- pr1.authdns.ripe.net, 193.0.9.5, 2001:67c0:0:5
- sec1.apnic.net, 202.12.29.59, 2001:dc0:2001:a:4608::59
- tinnie.arin.net, 199.212.0.53, 2001:500:13::c7d4:35
- sms-pb.isc.org, 192.5.4.1, 2001:500:2e::1
- ns3.nic.fr, 192.134.0.49, 2001:660:3006:1::1:1
- sec3.apnic.net, 202.12.28.140, 2001:dc0:1:0:4777::140

Probes 10

10 probes from Worldwide

Measurements 1

Type	Interval (seconds)	Include?
UDP SOA	3600	<input checked="" type="checkbox"/>
TCP SOA	3600	<input type="checkbox"/>
ICMP Traceroute	3600	<input type="checkbox"/>

Back Monitor

Costs summary

Daily cost: 28800 credits

You will run out of credits in about 149 days

Legend: Balance (blue), Total Expenses (orange)

New Additional DNS Measurements



- Measuring random domains
 - <https://atlas.ripe.net/measurements/30001/>
- Measuring popular domains
 - <https://atlas.ripe.net/measurements/30002/>
- https://labs.ripe.net/Members/chris_amin/new-ripe-atlas-root-zone-dns-measurements