



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

RIPE NCC Hackathon Version 6

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Goals of the Hackathons

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





Powered by Stroopwafels!





What is a hackathon?

- Hack-a-thon = hacking marathon
 - intensive coding on FLOSS (free and open source software)

hacker: n.

[originally, someone who makes furniture with an axe]

1. A person who enjoys exploring the details of programmable systems and how to stretch their capabilities, as opposed to most users, who prefer to learn only the minimum necessary. RFC1392, the *Internet Users' Glossary*, usefully amplifies this as: A person who delights in having an intimate understanding of the internal workings of a system, computers and computer networks in particular.

- Cooperative, collaborative, non-competitive
- Non-commercial: no monetary rewards



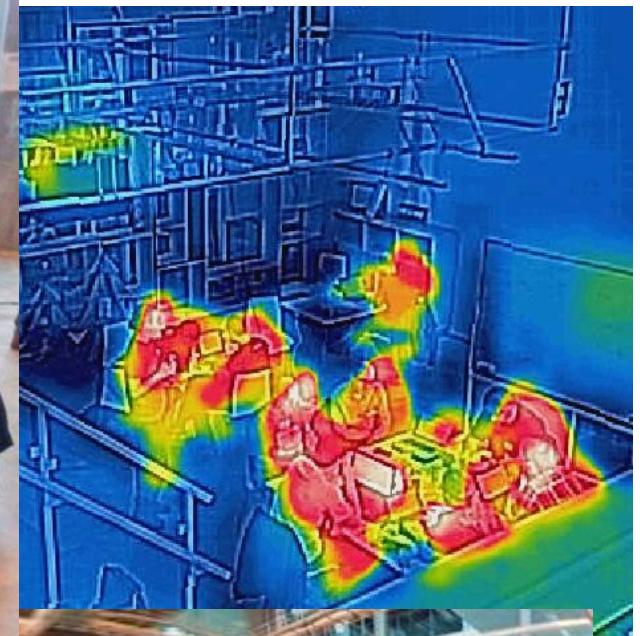
RIPE NCC Previous Hackathons

- [labs.ripe.net/hackathons](#)
 - RIPE Atlas [DataViz](#) (March 2015)
 - RIPE Atlas [Tools for Operators](#) (October 2015)
 - RIPE Atlas [Interfaces](#) (April 2016)
 - [IXP Tools](#) (October 2016)
 - [IXP Tools Code-Sprint](#) (April 2017)
 - [DNS Measurements](#) (April 2017)
- All [code on GitHub](#)



Hackathon Version6

- Part of “IPv6 Week Denmark”
 - <https://labs.ripe.net/Members/becha/join-the-ripe-ncc-hackathon-version-6>
- 4 and 5 November 2017, Copenhagen, Denmark
- Big thanks to our sponsor: Comcast
- & to our local support: DKNOG, ITU.dk
- 33 people in total
 - 24 participants, 5 jurors, 4 RIPE NCC staff support
 - from 18 different countries!
- 10 projects suggested, five final projects





All Five Projects

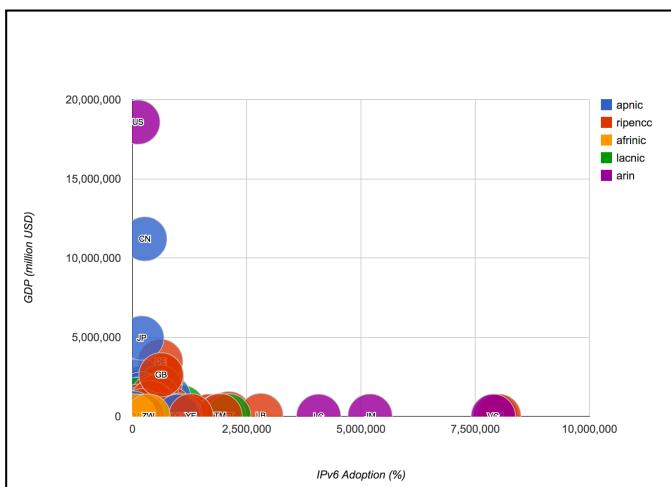
- “Pocket Internet”
- “IPv4 and IPv6 Disparities”
 - & TraceMonks
- IPviz6
- “PCAP or it didn’t happen”
- “The Status of IPv6”



Stroopwafels went to... 3rd place:

- IPvizzz6

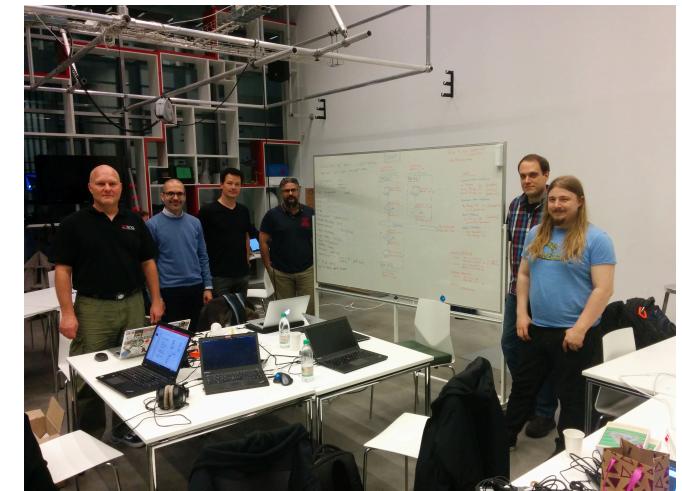
- Igor, Luuk, Nico, Pedro, Thomas
- visualising global IPv6 deployment rates, comparing with various other metrics: GDP, CO2 emissions...
- pretty, extendable, versatile, can be embedded
- good team work



Stroopwafels went to... 2nd place:



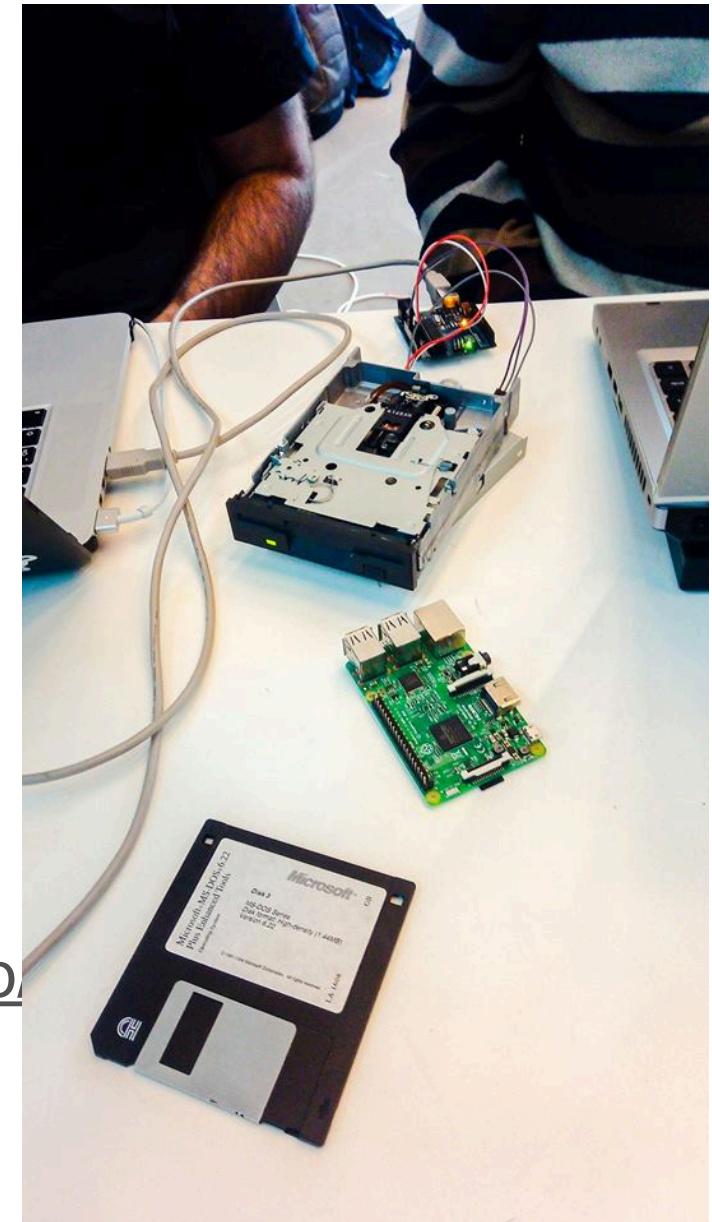
- “Pocket Internet” = educational lab in containers
 - Andy, Cristian, Henrik, Harry, Evangelos, Samer
 - use-case: teaching networking basics, including IPv6
 - easy to start-up VM with Docker containers
 - with DNS, BGP, web servers in “pods”
 - “pods” emulate inter-connected ASN





Stroopwafels went to... 1st place:

- libpcap library re-write to support IPv6 filtering!
 - Daniel, Matthias, Moritz
 - most benefits for most users
 - PLUS music by floppy-disc drive!
 - will be maintained in the future
 - pull request already accepted!
 - <https://github.com/the-tcpdump-group/libpcap/pull/660>





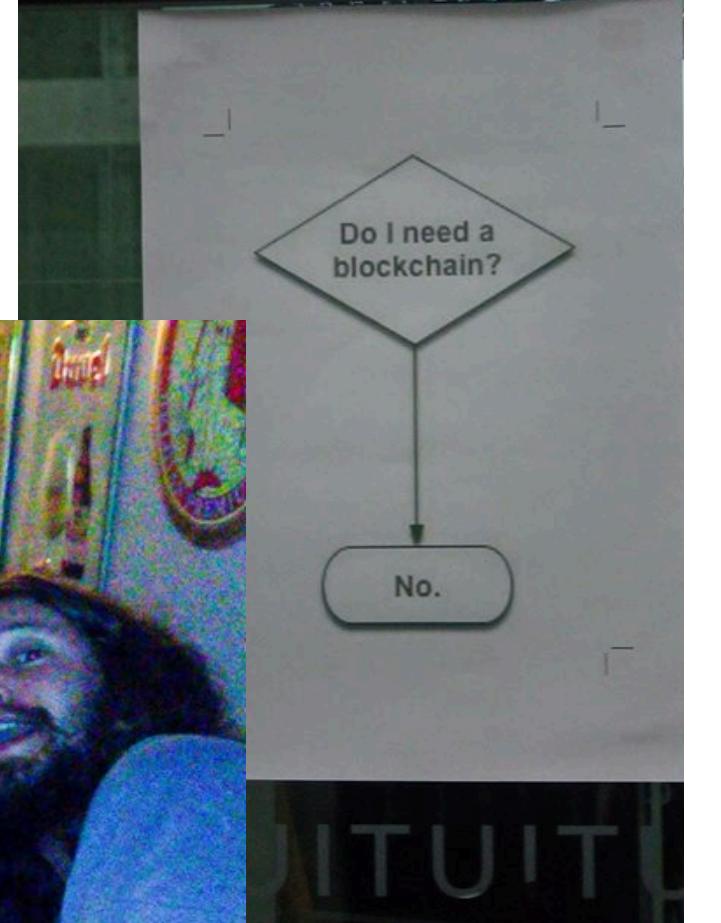
Of course, there were T-shirts...





Take Part in Our Hackathons

- Use the software and tools
 - Share your use cases and success stories
- Modify the code, contribute improvements
 - All the code is on [GitHub](#)
- Early call for 2018
 - Two events planned: Spring and Autumn 2018
 - Be a host / local partner / juror
 - Be a sponsor
- Watch this page: <https://labs.ripe.net/hackathons>





Additional Slides



IPv6-related RIPE Atlas Measurements



Maps

- 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

4 DNS measurement to 195.253.65.6 (c.flexireg)

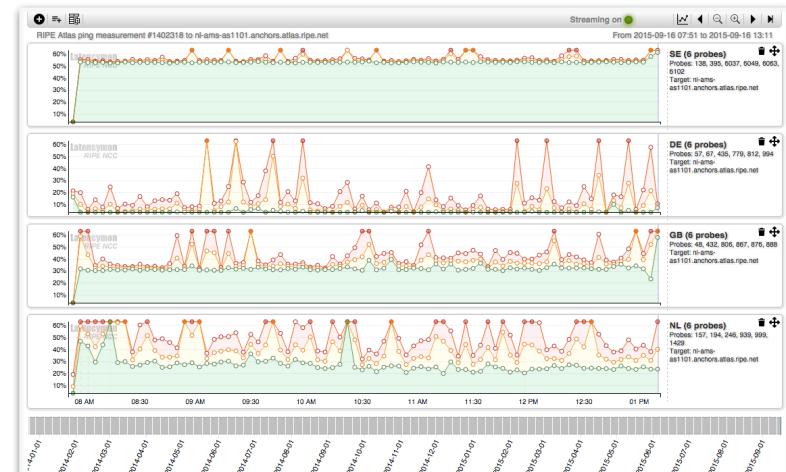
General Information		Probes	Map	LatencyMON	DNSMON	Results	Modification Log	Time Travel
Probe	ASN (IPv4)	ASN (IPv6)		Time (UTC)		Answer	Response Time	
2458	49272	49272	SE	2017-04-05 09:27		NOERROR	42.68	
15171	8473	8473	SE	2017-04-05 09:26		NOERROR	30.317	
21733	44746	44746	SE	2017-04-05 09:27		NOERROR	44.629	
24854	62094	62094	SE	2017-04-05 09:25		NOERROR	29.595	



- Map: colour-coded
by RTT

- LatencyMON:
compare multiple
latency trends

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





Most Popular Features

- Six types of measurements: ping, traceroute, DNS, SSL/TLS, NTP and HTTP (to anchors)
- APIs to start measurements and get results
- CLI tools
- Streaming data: real-time results
- “Time Travel”, LatencyMON, DomainMON, TraceMON
- OpenIPMap
- IXP-country-Jedi



More info & contacting RIPE Atlas

- <https://atlas.ripe.net>
- Use cases and updates: <https://labs.ripe.net/atlas>
- Mailing list for active users:
 - ripe-atlas@ripe.net
 - <https://www.ripe.net/participate/mail/forum/ripe-atlas>
- Questions: atlas@ripe.net
- Twitter: [@RIPE_Atlas](https://twitter.com/RIPE_Atlas) and #RIPEAtlas