

IETF Hackathon: Measurement and Analysis for Protocols (MAP) - Live

IETF 104
23-24 March, 2019
Prague



Hackathon Plan (Project 1)

- Analysis tool development and measurement results for Internet Draft on **Privacy & Security Issues in IPv6 Deployment**
 - Preparing I-D to share anonymized, aggregate results
 - Goal is to inform v6 address assignment in engineering and operations and inform measurement practice
- Compare, and contrast, results of independent (TU-Munich & Akamai), worldwide IPv6 traceroute surveys January 2019 having shared analysis tools: be sure we're comparing *apples to apples*

What got done

- Consider best current practice for privacy & security in “hitlists” and repositories, *e.g.*, Passive DNS databases
- Public measurements: <https://ipv6hitlist.github.io/>
- Shared analysis tools:
<http://www.cs.wisc.edu/~plonka/ipv6toolkit/>,
<http://www.cs.wisc.edu/~plonka/mac2vendor/>
- We analyzed and compared the largest public and “private” IPv6 traceroute survey results known

What we learned

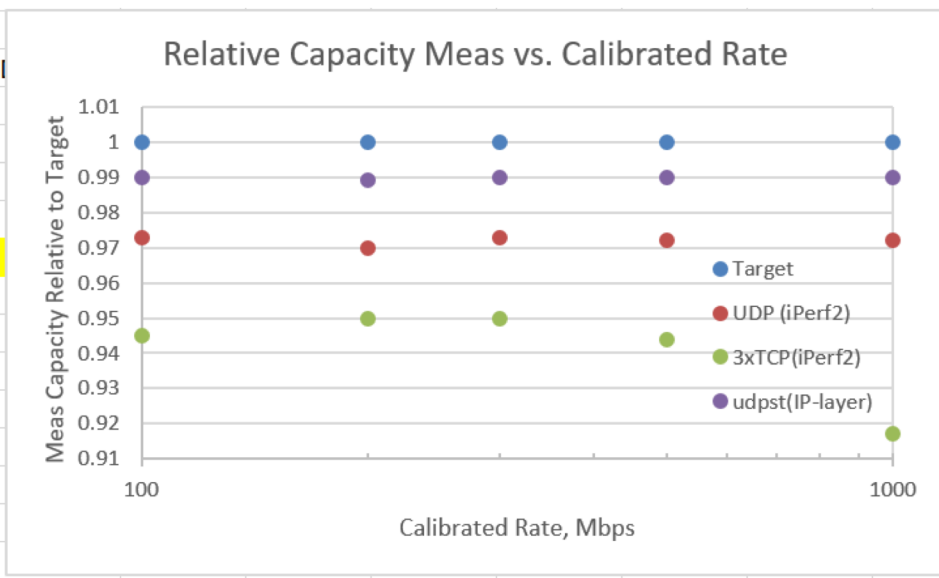
- **>1 million EUI-64 IPv6 router addresses found** in traceroute surveys and campaigns performed by industry and academia
 - This **discovery was *accidental***; a side-effect of reachability and topology studies
 - **Public and “private” results are *complementary***, each revealing unique details in different parts of the active IPv6 address space
- Surprisingly, **older “hitlists”** (seed addresses used to synthesize traceroute targets) can ***sometimes* yield more results!**
- There is likely some **follow-on BCP** work for 6man and/or v6ops working groups
- Hackathon **results** will be **reported in MAPRG meeting this week** with a new draft to be proposed as work for the research group

IP Network Performance and Capacity Measurement Method Comparisons (Project 2)

What we did & learned:

- Collected Interesting Test Conditions for Evaluation <doc>
- Calibrated Lab Setup (tc shaper) & Performed tests on 3 methods

		Hack-104		
C-Rate, MI	Target	UDP (iPerf)	3xTCP (iPerf)	udpst(IP-ls)
100	1	0.973	0.945	0.99
200	1	0.97	0.95	0.9892
300	1	0.973	0.95	0.9899
500	1	0.972	0.944	0.99
1000	1	0.972	0.917	0.99
		2-Jan		



Wrap Up

Team members:

Dave Plonka
Mirja Kühlewind
Oliver Gasser
Al Morton
Alexander Isavnin

First timers @ IETF/Hackathon:
Oliver Gasser

MAPRG meets 10:50 Thursday morning:

<https://datatracker.ietf.org/rg/maprg/about/>

<https://trac.ietf.org/trac/irtf/wiki/map>

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