

IETF Hackathon: DNS, DNS-SD, DPRIVE, & DOH

IETF 101
17-18 March, 2018
London



Hackathon Plan

- DoH: DNS-over-HTTPS. Multiple implementations + inter-op of *draft-ietf-doh-dns-over-https-03*
- DNS, DNS-SD & DPRIVE: Many small projects

~50/50 split of
people

What got done: DoH

Work in Progress: More details in the [DOH branch of the IETF GitHub repo](#)

Language	Code	Client	Server	Who
C	getdns	Y		Willem Toorop
Go	Go DNS CoreDNS	-	-	Miek Gieben
Python/C	github	Y	Y	Stéphane Bortzmeyer
Python	github	Y	Y	Manu Bretelle
nginx + Lua	github		Y	Tony Finch
C + PHP	github	Y	Y	Massimiliano Fantuzzi
Javascript	github	Y		Tom Puseteri
Python	Test System	-	-	Manu Bretelle

What we learned: DoH

- Full report planned at the DOH working group
- **HEADLINE: Mostly it works!**
 - Inter-op was OK (also with public DoH servers).
- Draft updates:
 - GET/POST - SHOULD vs MUST might need to be specified...
 - Error handling is unspecified - needs to be
- Minor clarifications/bugs
- DoH *not a good fit* for Go DNS library (TLS was)
- Plus you can write a Perl DoH client in 20 lines of code!

DNS and HTTP
folks talked!!

What got done: DNS/DNS-SD

- DNS-Service Discovery (Ted Lemon + Stuart Cheshire)
 - *draft-sctl-dnssd-mdns-relay*
- DNS/DNSSEC
 - DNSSEC/IXFR: implementation *draft-mekking-mixfr* (expired). Reduces bandwidth. Goal was measurements - resurrect draft?
 - Perl Net::DNS::SEC: Edwards curve validation (**RFC8080**)
 - Epic fail! Acknowledgements to Nick Harper (ASN1 surgeon)
 - KSK Sentinel: *draft-ietf-dnsop-kskroll-sentinel* issues found
 - ANAME: *draft-ietf-dnsop-aname*

What got done: DPRIVE

- **getdns/Stubby**: connect to resolver by name (*draft-ietf-dprive-dtls-and-tls-profiles*)
- **(RFC7858)** DNS-over-TLS
 - **systemd-resolved**: forwarding stub configuration work started
 - **BIND**: DNS-over-TLS, libidn 2008 support
 - **dnperf**: Adding [TLS support](#) for benchmarking
 - **EDNS0 Padding**: (**RFC7830**) in [Tenta](#), [pydig](#), CoreDNS
- **TLS DNSSEC Chain Ext**: (*draft-ietf-tls-dnssec-chain-extension*) [demo server code](#), all nameservers of andreasschulze.de, signing-milter.org or openarc.org

```
upstream_recursive_servers:  
# The SB's HTTPS server:  
- uri: "https://dns.bortzmeyer.fr"  
# The quad9 DNS over TLS server  
- name: "dns.quad9.net"
```

Teams

DNS Team members:

- Shane Kerr
- Matthijs Mekking
- Dick Franks
- Evan Hunt
- Petr Špaček

DPRIVE Team members:

- Willem Toorop
- Jim Hague
- Sara Dickinson
- Ondřej Surý
- Daniel Kahn Gillmor

Remote DPRIVE:

- Andreas Schulze
- Logan Velvindron

First timers @ Hackathon:

- Tony Finch
- Massimiliano Fantuzzi
- Logan Velvindron
- Dick Franks
- Matthijs Mekking