"The Floor is DNS" Themes

Eclectic group of DNS software engineers, working on:

- DNS privacy

- DNS support for specific network environments

- DNS provisioning

- Miscellaneous

DNS Privacy

- Zone transfers over TLS, a.k.a. XoT and XuD (Palavi)
  - Result: client implementation for dnsjava library for
    - draft-hzpa-dprive-xfr-over-tls
    - draft-zatda-dprive-xfr-using-dso

- DoH proxy plugin for any webserver (Petr)
  - Result: FastCGI interface
    - RFC 8484

- Preparing BIND for DoT/DoH (Witold)
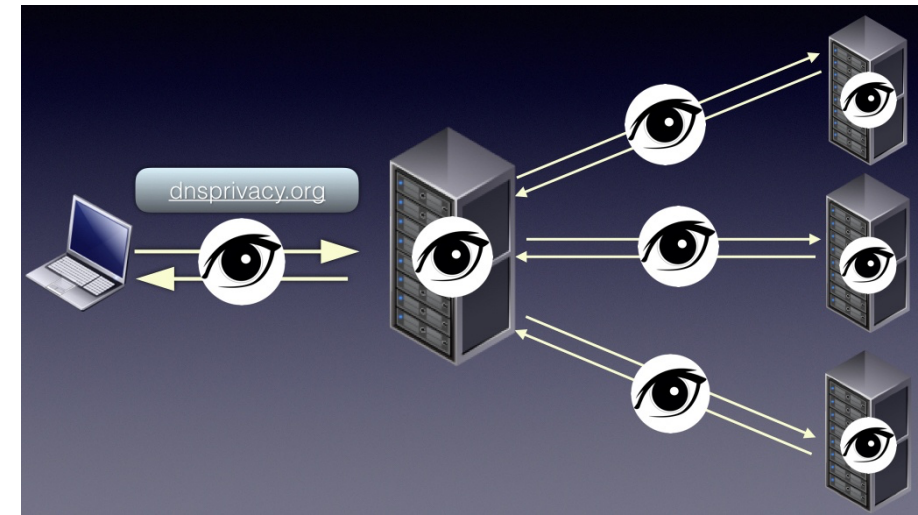
DNS Support for Specific Networks

- Identifier/Locator Network Protocol RRs (Stephane)
  - Collaboration with ILNP people here at the Hackathon
  - Query for AAAA and get NID,LP, L32, L64 for free in Unbound & Knot Resolver
  - Results: Proof-of-concept implementation is used for ILNP demo

- DNS64 prefix discovery (Mark)
  - RFC 7050

```
% dig +tries=1 @::1 -p 9053 AAAA ilnp-aa-test-a.bhatti.me.uk.

; <<>> DiG 9.11.5-P4-5.1-Debian <<>> +tries=1 @::1 -p 9053 AAAA ilnp-aa-test-a.bhatti.me.uk.
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 56285
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 7, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags: do; udp: 4096
;; QUESTION SECTION:
;ilnp-aa-test-a.bhatti.me.uk. IN        AAAA

;; ANSWER SECTION:
ilnp-aa-test-a.bhatti.me.uk. 10         IN AAAA          2001:8b0:d3:1::aaaa

;; AUTHORITY SECTION:
ilnp-aa-test-a.bhatti.me.uk. 10         IN L64 10 2001:8b0:d3:aa11
ilnp-aa-test-a.bhatti.me.uk. 10         IN L64 20 2001:8b0:d3:aa22
ilnp-aa-test-a.bhatti.me.uk. 10         IN L64 10 2001:8b0:d3:aa11
ilnp-aa-test-a.bhatti.me.uk. 10         IN L64 20 2001:8b0:d3:aa22
ilnp-aa-test-a.bhatti.me.uk. 10         IN NID 10 0:0:a:1
ilnp-aa-test-a.bhatti.me.uk. 10         IN NID 20 0:0:a:2
ilnp-aa-test-a.bhatti.me.uk. 10         IN NID 30 0:0:a:3

;; Query time: 540 msec
;; SERVER: ::1#9053(::1)
;; WHEN: Sun Jul 21 15:49:38 UTC 2019
;; MSG SIZE  rcvd: 238
```

DNS Provisioning

- Interoperable DNS server cookies (Willem, Ondrej, Witold)

  - draft-sury-toorop-dnsop-server-cookies

  - Result: for BIND and Unbound/NSD

- Timeout RR (Mark)

  - draft-pusateri-dnsop-update-timeout

  - Result: BIND

- HTTPSSVC (Ralph)

  - draft-nygren-httpbis-httpssvc

  - Result: Unbound

Miscellaneous

- YAML format for DNS packets (Evan)
    - Original RFC 8427 specifies JSON format, but author (Paul Hoffman) says YAML is fine! (readability)
    - Already in use in Paul's RSSAC proof-of-concept root server measurement framework for latency & availability!

Wrap up

Team members:
- Pallavi Aras
- Petr Špaček
- Witold Krecicki
- Stephane Bortzmeyer
- Mark Andrews
- Willem Toorop
- Ondřej Surý

- Tim Wattenberg
- Evan Hunt
- Paul Hoffman
- Ralph Dolmans
- Benno Overeinder
- Francis Dupont

Firs timers:
- Ching-Heng Ku
- Du Kuan Lin