DNS over HTTP: two drafts

- "survey" document
  - Covers many models of DNS over HTTP
  - Informational

- "wire format" document
  - Covers one specific production protocol
  - Standards-track?
DNS over HTTP survey

- High-level abstraction of approaches
- From most like DNS to most like the web
- Thanks to Jinmei and Stéphane Bortyzmeyer for feedback!
- One more draft likely with minor updates.
DNS over HTTP wire format

- Documents two implementations
- As simple as possible... but not simpler
- Normal HTTP POST message
- Wire-format DNS message
- Headers
  - Content-Type: application/octet-stream
  - Proxy-DNS-Transport: udp (or tcp)
Wire format scenarios

• Proxy mode
  - Either client or server can run as a proxy
  - "drop-in" support

• Direct mode
  - Support in server
    • none yet... is it useful?
  - Support in applications
    • via API
    • Better in truncation case
Wire format latest discussion

- POST vs. GET for HTTP message
- *Could* be used by web developers
- TCP/UDP flag required
- Clarification of 2-byte length field in TCP
- Expanded security section
  - A bit vague, since all DNS, HTTP, and TLS vulnerabilities may be applicable....
- /.well-known/dns-over-http
- Thanks to Bob Harold and Paul Hoffman for review!
Performance Tests

- Latency tests:
  - http://www.dnsv6lab.net/...protocol/
- UDP
- TCP
- HTTP(S) (w & w/o keepalive)
- HTTP/2
- TLS
  - TLS performance was surprisingly poor
Adoption?

- Survey
  - Informational
  - Independent Submission?

- Wire format
  - We present one solution
  - Could be informational or standards-track
  - We think it should be a dnsop document