Session Signalling

draft-ietf-dnsop-session-signal

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For managing properties of long-lived sessions (e.g. TCP)

- IN THIS DRAFT: Session timers, server retry
- DNS-SD drafts (e.g. PUSH) define other uses...

**FORMAT:** Uses **new Opcode (6)**

- RR Counts MUST be 0 -> no RRs
- New TLV format
Major issue - TLV format

- TLV:
  - Clean break (RR format overloads fields)
  - TLVs become a new (sub-)opcode space
  - Error cases…. No mixing, Shouldn’t ever reach a cache

- RR:
  - Implementation cascade: Parsing is ok but the rest of the eco system will need updating (conversion procedures, logging, capture tools, storage formats, tools,…)
  - Already handle OPT RRs
Limited Preliminary Testing..

- Deployment issues (of sending a SS message)
  - Initial testing over TCP shows BIND, Unbound return NOTIMPL
  - OpenDNS changes the OpCode to 0 in response
  - Google shuts TCP connection after 1 s
  - Knot shuts connection TCP immediately
Bigger Questions

- RFC1035 - does not discuss use of any other format
  - OPCODE: “A four bit field that specifies kind of query in this message.”
  - Does another doc clarify this?
  - Does this draft update RFC1035?
Bigger Questions
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- What does this Opcode actually specify? (Not just session signalling)
  - In this draft it appears to be solely a control channel (facilitates persistent connections)
  - But... DNS-SD transports data in these messages (Push data, mDNS messages)
  - Nothing in the spec limits what can go in the TLVs
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“DNS Session”? 
Issues in the -03 Document

- Need more clarity on update to RFC7766 - use of term ‘session’.
- 2 timers in this draft (inactive timer, keepalive timer)
  - Keepalive TLV - ‘keepalive traffic is special’, doesn’t reset inactive timer
- Ordering: “The server MUST act on messages in the order they are received” or order they are transmitted (applicability to QUIC?)
- Clarify what an in-path proxy should do with this
- Name compression: -03 forbids this, conflicts with relay draft
Historic issues (not solved in -03)

- No Additional Record Section - problem:
  - No TSIG
  - No EDNS(0) Padding Option for security (RFC 7830)
    - Solution… add a padding TLV?

- Does every message require a response? (not in draft-sctl-dnssd-mdns-relay-00)
Dependancies

• DNS-SD drafts depend normatively on this so keen to resolve the issues asap

• Ideas on how to resolve TLV vs RR debate?