Session Signalling

draft-ietf-dnsop-session-signal

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draft-ietf-dnsop-session-signal-03
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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?

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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?