Datagram PLPMTUD for UDP Options

draft-fairhurst-tsvwg-udp-options-dplpmtud-05

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draft-fairhurst-.tsvwg-udp-options-dplpmtud

- Simple mapping to DPLPMTUD (RFC8899)
- Uses ECHOREQ/ECHORES to enable non-data probes
- Mapping draft itself may have value for other protocols that intend to support DPLPMTUD
- 7 pages + appendices
Echo request (REQ) and echo response (RES)

The echo request (REQ, kind=10) and echo response (RES, kind=11) options provide a means for UDP options to be used to provide packet-level acknowledgements. One such use is described as part of the UDP variant of packetization layer path MTU discovery (PLPMTUD) [Fa21]. The options both have the format indicated in Figure 18.

```plaintext
+--------+--------+------------------+
|  Kind  | Len=6  |      nonce       |
+--------+--------+------------------+
1 byte   1 byte       4 bytes
```

Figure 18   UDP REQ and RES options format
Operation

- DPLPMTUD (RFC8899) for UDP Options
- Confirmation of Connectivity across a Path
- Sending UDP-Options Probe Packets
- Validating the Path with UDP Options
- PTB Message Handling for this Method
Changes since draft-fairhurst-tsvwg-udp-options-dplpmtud-03

- Individual draft-04
  - Reworded text on probing with data a little.
  - Removed paragraph on suspending ICMP PTB suspension.
- Individual draft -05
  - Fixed typos.
Implementations

• We have two implementations of UDP Options that integrated DPLPMTUD
  
• Scapy based tooling and test suite:
    
• https://github.com/uoaerg/udpoptions-tools
  
• FreeBSD Kernel Implementation
  
• https://github.com/adventureloop/freebsd/tree/thj/udpoptions-dplpmtud
Will TSVWG adopt the current spec for publication?

Is it possible to publish this as a document pair with UDP-Options

Input from WG is welcome
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Operation

Figure 4: DPLPMTUD Phases
RFC8899 Datagram PLPMTUD

Figure 5: State Machine for Datagram PLPMTUD