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

draft-fairhurst-tsvwg-udp-options-dplpmtud Operation

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.

```
+--------+--------+-------------------+
|  Kind  | Len=6  |       nonce       |
+--------+--------+-------------------+
  1 byte   1 byte       4 bytes
```
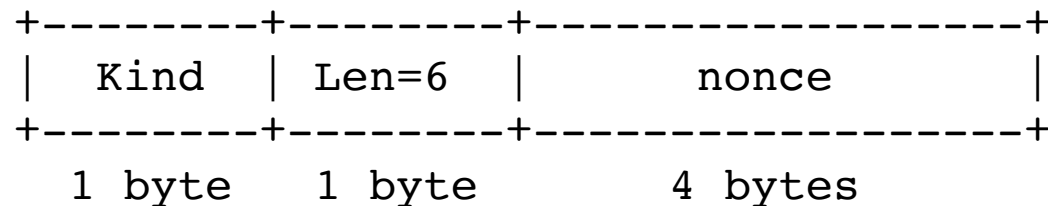
Figure 18   UDP REQ and RES options format

draft-fairhurst-tsvwg-udp-options-dplpmtud 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

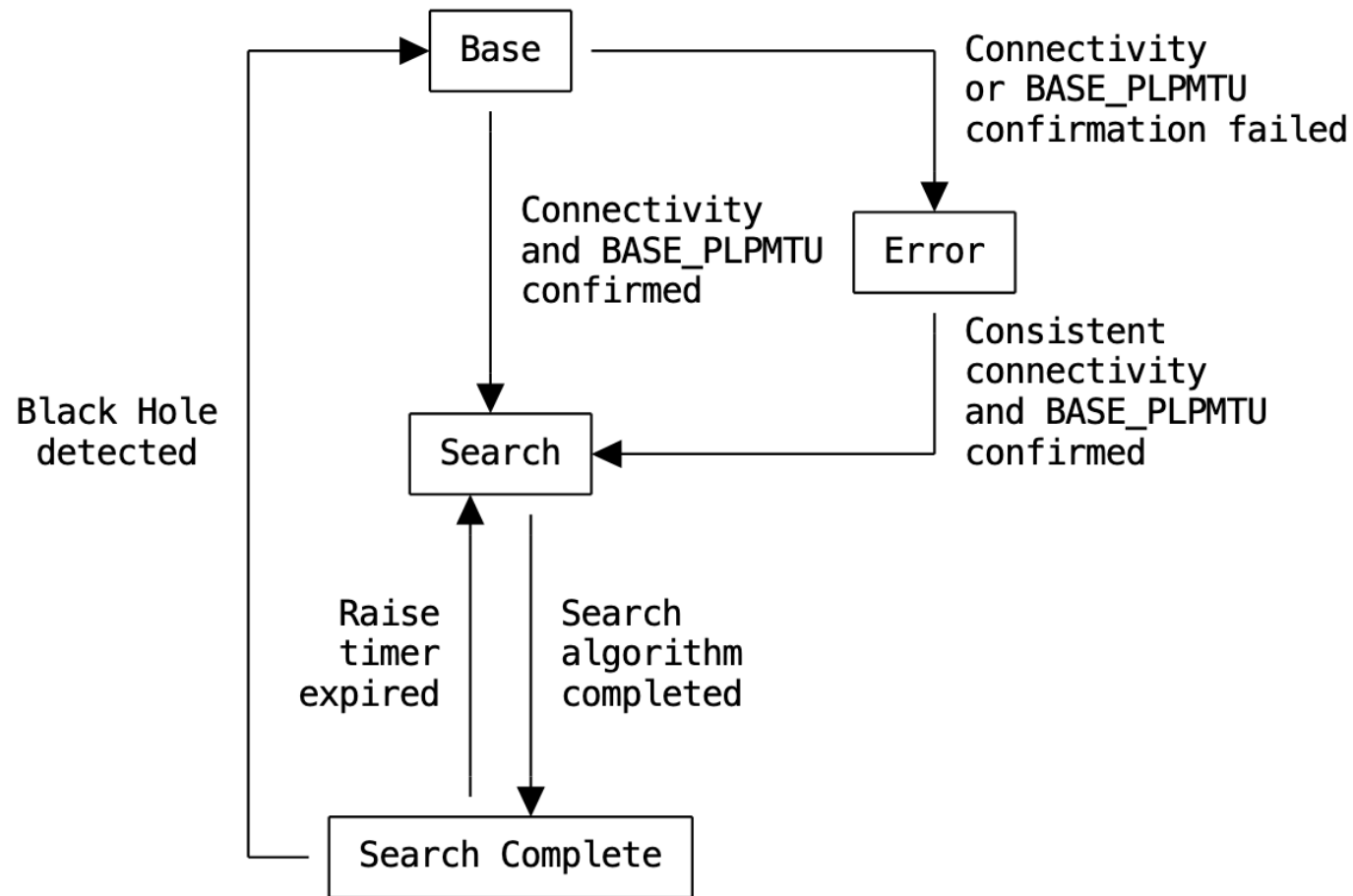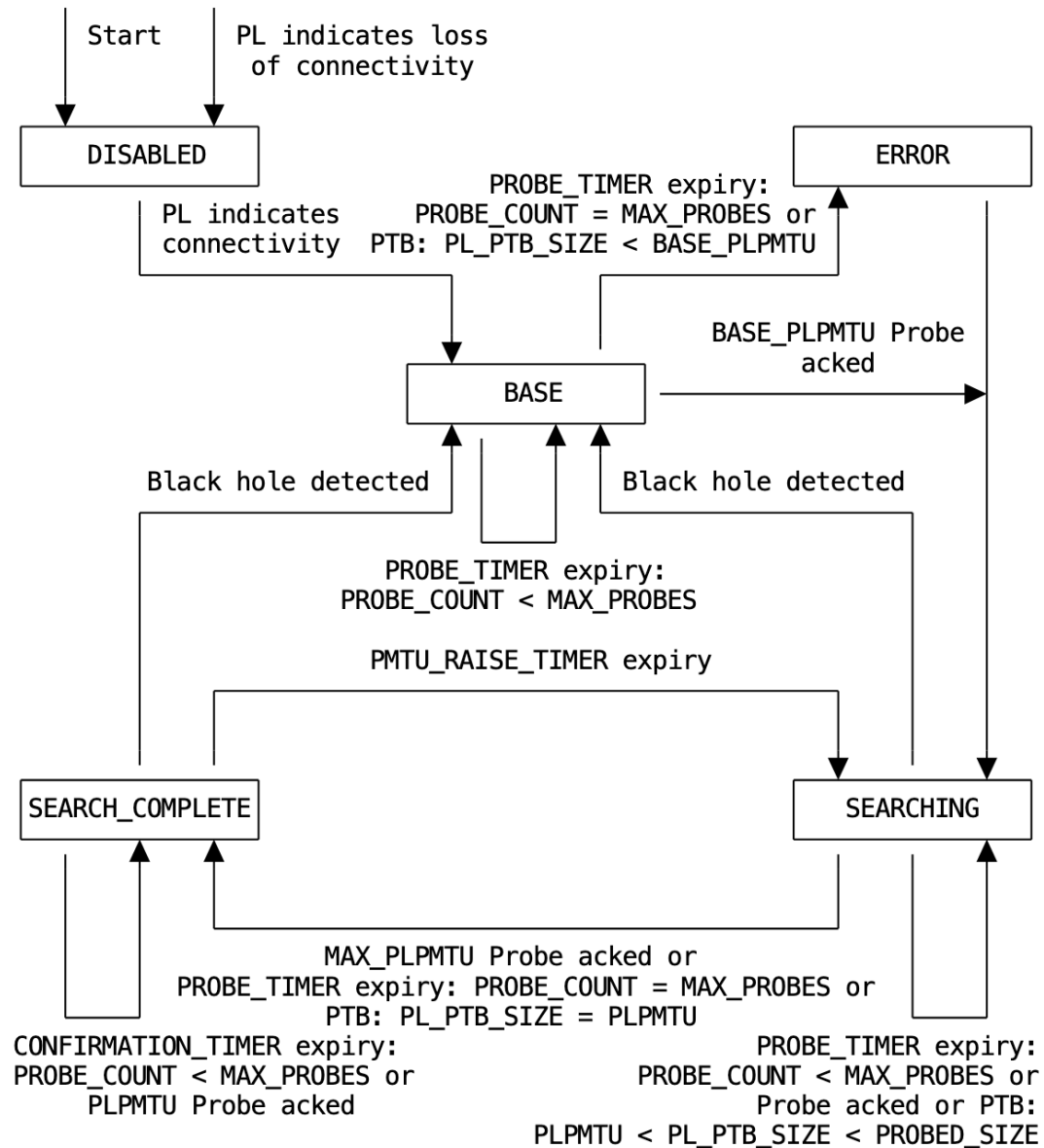# draft-fairhurst-tsvwg-udp-options-dplpmtud Operation

Figure 4: DPLPMTUD Phases

RFC8899 Datagram PLPMTUD

Figure 5: State Machine for Datagram PLPMTUD